UNCRPD IMPLEMENTATION
IN EUROPE - A DEAF PERSPECTIVE

V

Editor:
Goedele A.M. De Clerck

EUD

UNCRPD Implementation in Europe – A Deaf Perspective

An EUD Series

5

Article 9: Access to information and communication

Dr Goedele A.M. De Clerk (Editor)

European Union of the Deaf
Brussels, Belgium

European Union of the Deaf (EUD)

Based in Brussels, Belgium, EUD is a not-for-profit European non-governmental organisation (ENGO) comprised of National Associations of the Deaf (NADs). It is the only supranational organisation representing deaf people at a European level, and is one of the few ENGOs representing associations in all 28 EU Member States, as well as Iceland, Norway, and Switzerland.

The primary aim of the organisation is to establish and maintain EU level dialogue with European Union institutions and officials, in consultation and co-operation with its member NADs. EUD has participatory status with the Council of Europe (CoE), operates as a full member of the European Disability Forum (EDF) as well as being a Regional Co-operating Member of the World Federation of the Deaf (WFD) in tackling issues of global importance. EUD has a consultative status with UN Economic and Social Council (ECOSOC). The Directorate-General Employment, Social Affairs and Inclusion at the European Commission financially supports the organisation.

EUD's aim is to achieve equality in public and private life for deaf people all over Europe, so that they can become full citizens in their own right. The organisation's main objectives are:

- The recognition of the right to use an indigenous sign language;
- Empowerment through communication and information; and
- Equality in education and employment.

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Foreword

Helena Dalli, European Commissioner for Equality

> *"Persons with disabilities have the right to have good conditions in the workplace, to live independently, to equal opportunities, to participate fully in the life of their community. All have a right to a life without barriers. And it is our obligation, as a community, to ensure their full participation in society, on an equal basis with others."*
>
> *- President of the European Commission,*
> *Ursula von der Leyen*

The European Commission is committed to deliver on the rights of persons with disabilities through a series of specific policy priorities as well as by mainstreaming disability in all sectors. Our goal is to create a Union of Equality where everyone can assert their rights, reach their full potential, and live in freedom and equality with others.

Over the past ten years the EU made significant progress in this regard. This includes having ratified the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) and adopted the European Pillar of Social Rights and delivering on the European Disability Strategy 2010-2020. Another major milestone was the adoption of the European Accessibility Act in 2019, which is now being transposed into the national legal codes of EU countries.

Disability is high on the EU agenda and there has been tangible improvement, but more must be done to achieve a Union of Equality. This is because persons with disabilities in the EU still face considerable barriers to their participation in employment, social activities and public life and they are at a higher risk of poverty and social exclusion. Access to healthcare, lifelong learning and leisure remains difficult and more than half have felt discriminated against.

We are morally obliged to continue to take action and lead the way. This is why we presented a new Union strategy for the rights of persons with disabilities for the period 2021-2030. It builds on the previous decade's strategy and offers solutions to current challenges with direct reference to the UNCRPD. The strategy covers all aspects of the UNCRPD, turning the rights enshrined within it into action. This will provide a strong framework for the coming years, to ensure that no one is left behind.

The EU strategy will need to be supplemented by Member States' policies to progress towards a Europe where everyone can fully enjoy their

fundamental rights on an equal basis with others. Regardless of their gender, racial or ethnic origin, religion or belief, age, or sexual orientation, persons with disabilities should have equal opportunities and equal access to participation in society. They should be able to decide where, how and with whom they live, and be able to move freely in the EU regardless of their support needs.

For deaf, hard of hearing and deafblind persons, the accessibility of information, communication and knowledge is crucial to enable them to fully participate in society on an equal basis with others. This includes the accessibility of information and communication technologies (ICT) as a central issue. In this area, EU legislation has advanced substantially: the European Accessibility Act sets out requirements for developing accessible products and services, covering both the private and public sectors. The Web Accessibility Directive ensures better access to public sector websites and mobile applications and facilitates a more independent life. Under public procurement directives, accessibility is an obligation when buying goods, services and infrastructure. Accessibility standards are in place for the built environment, for ICT and for service delivery and the manufacturing processes. These developments will also improve communication opportunities for deaf people and persons with hearing impairments.

Accessibility requires constant attention and is our collective responsibility. The Commission will support timely and accurate implementation of the existing legal acts, including strong enforcement and implementation by economic operators. The Commission is already preparing the evaluation of the Web Accessibility Directive. It is also important to use the opportunities that the internal market provides for assistive technologies. Availability and affordability as well as the competitiveness of the market are key so that persons with disabilities get the assistive technology they need.

The overall participation of people with disabilities in our societies is a central point of the new strategy for the coming decade. This includes consulting persons with disabilities and their representative organisations so that they can participate throughout the policy-making process; and providing information about policy initiatives and consultations in accessible formats. Nothing about persons with disabilities should happen without their involvement.

The COVID-19 pandemic that transformed the world in 2020, made even more visible the inequalities that persons with disabilities continue to face. The impact of the pandemic was more devastating for them because of these inequalities. For the EU and its Member States, this means that greater effort must be invested in ensuring that EU rules, policies and programmes are inclusive of persons with disabilities, promote an all-

encompassing Europe and fully respect the UNCRPD. For deaf people and persons with hearing impairments, the limited accessibility of ICT tools is a significant barrier and renders even small tasks challenging. Access to teleconferencing, telework arrangements, distance learning, online shopping, and information on the virus is crucial to managing life during the crisis and after.

This book will help to draw attention to the specific needs of deaf people and persons with hearing impairments in Europe, especially those who use signed languages. The input that it provides can be harnessed to improve access that is available to deaf, hard of hearing and deafblind persons. The book addresses a broad spectrum of expertise and lived experiences that highlight essential aspects of accessibility and offer inspiring examples of good practice for stakeholders in all Member States. This book therefore makes a direct contribution to forging a *Union of Equality*.

I thank all the contributors for their insights and their support of our common goal.

Preface

Dr Markku Jokinen, President of the European Union of the Deaf (EUD)

I am pleased to welcome you to the fifth book in the EUD publication series on the UN Convention on the Rights of Persons with Disabilities (UNCRPD). The resources in this series aim to provide a deaf sign language perspective on the articles of the UNCRPD and facilitate its implementation at national levels and at the European level. This edited volume concentrates on Article 9.

The full and equal participation of deaf persons cannot be achieved without access to information, communication, and knowledge. The protection of this right is secured by the UNCRPD under Article 9 and General Comment No. 2, which covers aspects that are relevant for deaf people. The implementation of Article 9 is also vital for realising the UN's Sustainable Development Goals. This book enables the EUD to contribute to awareness raising, reflection and innovation on the many different aspects of accessibility and their intersection with other articles of the UNCRPD.

We have been honoured to work with experts, academics, policymakers, professionals, and advocates in order to produce this volume and present a varied range of good practices and examples of innovation. We are proud to provide our partners across Europe with a helpful instrument in support of the UNCRPD's implementation, which can motivate further analysis and knowledge development to equip deaf citizens with access to information and communication in all realms of life. The book has dedicated a theme to intersectionality, to highlight the needs of deaf seniors, migrants, children, youth, and women, and the myriad permutations of diversity that need to be taken into account to achieve full accessibility for all.

Another theme in the book is the COVID-19 pandemic, which has contributed to a sense of urgency and a keener awareness of the rights enshrined in Article 9. It has demonstrated that access to information and communication can be lifesaving. Advocating for this right has been a main focus of the EUD and its national members across Europe throughout the public health crisis. The contributions on this theme not only throw a light on barriers to accessing crisis information and health services, but also illustrate that major advances can be made in relatively short periods of time when national deaf associations and their stakeholders collaborate with governments and harness the combined power of the UNCRPD and national legislation.

The EUD treasures its longstanding cooperation with the European Commission, which has led to significant milestones over the last decade including the ratification of the UNCRPD, the European Disability Strategy (2010-2020), and European legislation such as the European Accessibility Act (2019). This publication series has enabled us to connect the perspectives and needs of deaf signers in the EU to our shared objective of implementing the UNCRPD. We are thrilled to continue this fruitful cooperation with the European Commission as we work toward fulfilling the aspirations set out in the 2021-2030 Strategy for the Rights of Persons with Disabilities.

Acknowledgements

Dr Goedele A.M. De Clerck

European lives are more than ever centred around information. Every minute, hour, day, we are exchanging information, communicating, and actively working with knowledge. The accessibility of information, communication, and knowledge is a human right that is present in every aspect of our lives and citizenship. Contemporary times are quite exciting, with promising and unseen technological innovations, long-standing advocacy resulting in the adoption of new legislation, and increasing awareness of the unique and diverse needs of deaf signers. Accessibility intertwines with all realms of life and with other human rights, such as health care, education, employment, and justice. When the EUD asked me to dive into this quickly changing and fascinating world of accessibility and to edit the fifth book in its series on Article 9 of the UNCRPD, I felt both honoured and energized by the challenge.

First, I would like to thank all of the authors who have contributed to this volume and made possible this exciting addition to the series. It's been a great privilege and pleasure to work with such an esteemed group of professionals, experts and activists. Many authors have been generous with volunteering their time and efforts to share their knowledge on accessibility, working in multiple signed and written languages to draft and revise their chapters. They have made every effort to provide images and URLs to complement their text, and some authors have even made short videos with signed summaries to increase access to their contribution for a broad audience. I also would like to give thanks to the organisations for whom many of the authors work, which include corporations, disability NGOs, and national deaf associations, for providing their staff members with the resources that enabled them to contribute to the volume.

Because of the topic of the book, a major consideration was how to make the editorial and writing processes, and its final presentation, as accessible as possible. It was vital to facilitate the involvement of authors from across Europe, with very diverse experiences of accessibility, as well as guaranteeing that the book would be accessible for a broad readership, including our main stakeholders, i.e. users of visual languages. For the first time in the UNCRPD series, we are working with an interactive PDF version, which allows for signed videos, URLs and images to be included in the chapters. Although the book's format has remained close to that of the other volumes in the series, the digital aspect provides a taste of technological possibilities and opportunities for future exploration and enhancement of accessibility in relation to edited volumes. I am grateful that the EUD has provided resources for this inclusive approach.

Furthermore, I would like to express my appreciation for the collaboration with the EUD's staff and its Board of Directors. I give special thanks to Executive Director Mark Wheatley for seeing the entire process through. He and I were involved in regular meetings with the 'EUD book team', who supported the invitation, selection, and revisions of contributions. It included former EUD Policy Assistant Jorge Crespo Garcia and EUD Policy Officer Martyna Balčiūnaitė, who also provided essential input during the revision of legal and policy chapters. The graphic design and the typesetting were done by EUD Digital Content Creator Simon Bak. EUD Media Officer David Hay offered technical support for the videos and arranged the webinar for the book launch. My gratitude is also extended to the EUD Board for providing editorial advice, and to EUD President Markku Jokinen for composing the Preface.

The collaboration with Jenny Webster for the copyediting of the volume has significantly improved its standard of English, and I would like to acknowledge her excellent proofreading and revisions of manuscripts as well as her constructive feedback on optimising the structure of individual chapters and the organisation of the book as a whole.

The EUD's UNCRPD series is funded by the European Commission's Rights, Equality and Citizenship Programme. We are deeply obliged to the Commission for giving us the opportunity to explore, advance, and disseminate knowledge and to contribute to debate and awareness raising in support of the implementation of the UNCRPD. Many warm thanks are due in particular to European Commissioner of Equality, Helena Dalli, for writing the Foreword to this volume.

Working on the volume has been a joyful experience for me and my colleagues at the EUD and we are pleased that the accessibility theme and the introduction of the perspective of deaf signers has received so much interest and appreciation. It inspires hope to know that so many people and organisations are thrilled to throw their weight behind the UNCRPD's implementation and collaborate towards full and equal accessibility for all in the EU.

UNCRPD Article 9 – Accessibility

United Nations Convention on the Rights of Persons with Disabilities

1. To enable persons with disabilities to live independently and participate fully in all aspects of life, States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas. These measures, which shall include the identification and elimination of obstacles and barriers to accessibility, shall apply to, inter alia:

   a) Buildings, roads, transportation and other indoor and outdoor facilities, including schools, housing, medical facilities and workplaces;

   b) Information, communications and other services, including electronic services and emergency services.

2. States Parties shall also take appropriate measures:

   a) To develop, promulgate and monitor the implementation of minimum standards and guidelines for the accessibility of facilities and services open or provided to the public;

   b) To ensure that private entities that offer facilities and services which are open or provided to the public take into account all aspects of accessibility for persons with disabilities;

   c) To provide training for stakeholders on accessibility issues facing persons with disabilities;

   d) To provide in buildings and other facilities open to the public signage in Braille and in easy to read and understand forms;

   e) To provide forms of live assistance and intermediaries, including guides, readers and professional sign language interpreters, to facilitate accessibility to buildings and other facilities open to the public;

   f) To promote other appropriate forms of assistance and support to

persons with disabilities to ensure their access to information;

g) To promote access for persons with disabilities to new information and communications technologies and systems, including the Internet;

h) To promote the design, development, production and distribution of accessible information and communications technologies and systems at an early stage, so that these technologies and systems become accessible at minimum cost.

General Comments No. 2 (2014) on Article 9 – Accessibility

The full text is available on the UN website (in PDF and accessible Word format): http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRPD/C/GC/4&Lang=en

Introduction

1. Accessibility is a precondition for persons with disabilities to live independently and participate fully and equally in society. Without access to the physical environment, to transportation, to information and communication, including information and communications technologies and systems, and to other facilities and services open or provided to the public, persons with disabilities would not have equal opportunities for participation in their respective societies. It is no coincidence that accessibility is one of the principles on which the Convention on the Rights of Persons with Disabilities is based (art. 3 (f)). Historically, the persons with disabilities movement has argued that access to the physical environment and public transport for persons with disabilities is a precondition for freedom of movement, as guaranteed under article 13 of the Universal Declaration of Human Rights and article 12 of the International Covenant on Civil and Political Rights. Similarly, access to information and communication is seen as a precondition for freedom of opinion and expression, as guaranteed under article 19 of the Universal Declaration of Human Rights and article 19, paragraph 2, of the International Covenant on Civil and Political Rights.

2. Article 25 (c) of the International Covenant on Civil and Political Rights enshrines the right of every citizen to have access, on general terms of equality, to public service in his or her country. The provisions of this article could serve as a basis to incorporate the right of access into the core human rights treaties.

3. The International Convention on the Elimination of All Forms of Racial Discrimination guarantees everyone the right of access to any place or service intended for use by the general public, such as transport, hotels, restaurants, cafes, theatres and parks (art. 5 (f)). Thus, a precedent has been established in the international human rights legal framework for viewing the right to access as a right per se. Admittedly, for members of different racial or ethnic groups, the barriers to free access to places and services open to the public were the result of prejudicial attitudes and a readiness to use force in preventing access to spaces that were physically accessible. However, persons with disabilities face technical and environmental — in most cases, human-built environmental — barriers such as steps at the

entrances of buildings, the absence of lifts in multi-floor buildings and a lack of information in accessible formats. The built environment always relates to social and cultural development as well as customs; therefore the built environment is under the full control of society. Such artificial barriers are often the result of a lack of information and technical know-how rather than a conscious will to prevent persons with disabilities from accessing places or services intended for use by the general public. In order to introduce policies that allow better accessibility for persons with disabilities, it is necessary to change attitudes towards persons with disabilities in order to fight against stigma and discrimination, through ongoing education efforts, awareness-raising, cultural campaigns and communication.

4. The International Covenant on Civil and Political Rights and the International Convention on the Elimination of All Forms of Racial Discrimination clearly establish the right of access as part of international human rights law. Accessibility should be viewed as a disability-specific reaffirmation of the social aspect of the right of access. The Convention on the Rights of Persons with Disabilities includes accessibility as one of its key underlying principles — a vital precondition for the effective and equal enjoyment of civil, political, economic, social and cultural rights by persons with disabilities. Accessibility should be viewed not only in the context of equality and non-discrimination, but also as a way of investing in society and as an integral part of the sustainable development agenda.

5. While different people and organizations understand differently what information and communications technology (ICT) means, it is generally acknowledged that ICT is an umbrella term that includes any information and communication device or application and its content. Such a definition encompasses a wide range of access technologies, such as radio, television, satellite, mobile phones, fixed lines, computers, network hardware and software. The importance of ICT lies in its ability to open up a wide range of services, transform existing services and create greater demand for access to information and knowledge, particularly in underserved and excluded populations, such as persons with disabilities. Article 12 of the International Telecommunication Regulations (adopted in Dubai in 2012) enshrines the right for persons with disabilities to access international telecommunication services, taking into account the relevant International Telecommunication Union (ITU) recommendations. The provisions of that article could serve as a basis for reinforcing States parties' national legislative frameworks.

6. In its general comment No. 5 (1994) on persons with disabilities, the Committee on Economic, Social and Cultural Rights evoked the duty of States to implement the United Nations Standard Rules on

the Equalization of Opportunities for Persons with Disabilities.[1] The Standard Rules highlight the significance of the accessibility of the physical environment, transport, information and communication for the equalization of opportunities for persons with disabilities. The concept is developed in rule 5, in which access to the physical environment, and access to information and communication are targeted as areas for priority action for States. The significance of accessibility can be derived also from general comment No. 14 (2000) of the Committee on Economic, Social and Cultural Rights on the right to the highest attainable standard of health (para. 12). In its general comment No. 9 (2006) on the rights of children with disabilities, the Committee on the Rights of the Child emphasizes that the physical inaccessibility of public transportation and other facilities, including governmental buildings, shopping areas and recreational facilities, is a major factor in the marginalization and exclusion of children with disabilities and markedly compromises their access to services, including health and education (para. 39). The importance of accessibility was reiterated by the Committee on the Rights of the Child in its general comment No. 17 (2013) on the right of the child to rest, leisure, play, recreational activities, cultural life and the arts.

7. *The World Report on Disability Summary*, published in 2011 by the World Health Organization and the World Bank within the framework of the largest consultation ever and with the active involvement of hundreds of professionals in the field of disability, stresses that the built environment, transport systems and information and communication are often inaccessible to persons with disabilities (p. 10). Persons with disabilities are prevented from enjoying some of their basic rights, such as the right to seek employment or the right to health care, owing to a lack of accessible transport. The level of implementation of accessibility laws remains low in many countries and persons with disabilities are often denied their right to freedom of expression owing to the inaccessibility of information and communication. Even in countries where sign language interpretation services exist for deaf persons, the number of qualified interpreters is usually too low to meet the increasing demand for their services, and the fact that the interpreters have to travel individually to clients makes the use of their services too expensive. Persons with intellectual and psychosocial disabilities as well as deaf-blind persons face barriers when attempting to access information and communication owing to a lack of easy-to-read formats and augmentative and alternative modes of communication. They also face barriers when attempting to access services due to prejudices and a lack of adequate training of the staff providing those services.

8. The report, Making Television Accessible, published in 2011 by the International Telecommunication Union in cooperation with the Global

1 General Assembly resolution 48/96, annex.

Initiative for Inclusive Information and Communication Technologies, highlights that a significant proportion of the one billion people who live with some form of disability are unable to enjoy the audiovisual content of television. This is due to the inaccessibility of content, information and/or devices necessary for them to access those services.

9. Accessibility was recognized by the mainstream ICT community since the first phase of the World Summit on Information Society, held in Geneva in 2003. Introduced and driven by the disability community, the concept was incorporated in the Declaration of Principles adopted by the Summit, which in paragraph 25 state, "the sharing and strengthening of global knowledge for development can be enhanced by removing barriers to equitable access to information for economic, social, political, health, cultural, educational, and scientific activities and by facilitating access to public domain information, including by universal design and the use of assistive technologies".[2]

10. The Committee on the Rights of Persons with Disabilities has considered accessibility as one of the key issues in each of the 10 interactive dialogues it has held with States parties during the consideration of their initial reports, prior to the drafting of the present general comment. The concluding observations on those reports all contain recommendations concerning accessibility. One common challenge has been the lack of an adequate monitoring mechanism to ensure the practical implementation of accessibility standards and relevant legislation. In some States parties, monitoring was the responsibility of local authorities that lacked the technical knowledge and the human and material resources to ensure effective implementation. Another common challenge has been the lack of training provided to the relevant stakeholders and insufficient involvement of persons with disabilities and their representative organizations in the process of ensuring access to the physical environment, transport, information and communication.

11. The Committee on the Rights of Persons with Disabilities has also addressed the issue of accessibility in its jurisprudence. In the case of Nyusti and Takács v. Hungary (communication No. 1/2010, Views adopted on 16 April 2013), the Committee was of the view that all services open or provided to the public must be accessible in accordance with the provisions of article 9 of the Convention on the Rights of Persons with Disabilities. The State party was called upon to ensure that blind persons had access to automatic teller machines (ATMs). The Committee recommended, inter alia, that the State party establish "minimum standards for the accessibility of banking

2 See "Declaration of Principles: Building the Information Society: a global challenge in the new Millennium", adopted by the World Summit on the Information Society at its first phase, held in Geneva in 2003 (WSIS-03/GENEVA/DOC/4-E), para. 25.

services provided by private financial institutions for persons with visual and other types of impairments; ... create a legislative framework with concrete, enforceable and time-bound benchmarks for monitoring and assessing the gradual modification and adjustment by private financial institutions of previously inaccessible banking services provided by them into accessible ones; ... and ensure that all newly procured ATMs and other banking services are fully accessible for persons with disabilities" (para. 10.2 (a)).

12. Given these precedents and the fact that accessibility is indeed a vital precondition for persons with disabilities to participate fully and equally in society and enjoy effectively all their human rights and fundamental freedoms, the Committee finds it necessary to adopt a general comment on article 9 of the Convention on accessibility, in accordance with its rules of procedure and the established practice of the human rights treaty bodies.

Normative content

13. Article 9 of the Convention on the Rights of Persons with Disabilities stipulates that, "to enable persons with disabilities to live independently and participate fully in all aspects of life, States parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communication, including information and communication technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas". It is important that accessibility is addressed in all its complexity, encompassing the physical environment, transportation, information and communication, and services. The focus is no longer on legal personality and the public or private nature of those who own buildings, transport infrastructure, vehicles, information and communication, and services. As long as goods, products and services are open or provided to the public, they must be accessible to all, regardless of whether they are owned and/or provided by a public authority or a private enterprise. Persons with disabilities should have equal access to all goods, products and services that are open or provided to the public in a manner that ensures their effective and equal access and respects their dignity. This approach stems from the prohibition against discrimination; denial of access should be considered to constitute a discriminatory act, regardless of whether the perpetrator is a public or private entity. Accessibility should be provided to all persons with disabilities, regardless of the type of impairment, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status, legal or social status, gender or age. Accessibility should especially take into

account the gender and age perspectives for persons with disabilities.

14. Article 9 of the Convention clearly enshrines accessibility as the precondition for persons with disabilities to live independently, participate fully and equally in society, and have unrestricted enjoyment of all their human rights and fundamental freedoms on an equal basis with others. Article 9 has roots in existing human rights treaties, such as article 25 (c) of the International Covenant on Civil and Political Rights on the right to equal access to public service, and article 5 (f) of the International Convention on the Elimination of All Forms of Racial Discrimination on the right of access to any place or service intended for public use. When those two core human rights treaties were adopted, the Internet, which has changed the world dramatically, did not exist. The Convention on the Rights of Persons with Disabilities is the first human rights treaty of the 21st century to address access to ICTs; and it does not create new rights in that regard for persons with disabilities. Furthermore, the notion of equality in international law has also changed over the past decades, with the conceptual shift from formal equality to substantive equality having an impact on the duties of States parties. States' obligation to provide accessibility is an essential part of the new duty to respect, protect and fulfil equality rights. Accessibility should therefore be considered in the context of the right to access from the specific perspective of disability. The right to access for persons with disabilities is ensured through strict implementation of accessibility standards. Barriers to access to existing objects, facilities, goods and services aimed at or open to the public shall be removed gradually in a systematic and, more importantly, continuously monitored manner, with the aim of achieving full accessibility.

15. The strict application of universal design to all new goods, products, facilities, technologies and services should ensure full, equal and unrestricted access for all potential consumers, including persons with disabilities, in a way that takes full account of their inherent dignity and diversity. It should contribute to the creation of an unrestricted chain of movement for an individual from one space to another, including movement inside particular spaces, with no barriers. Persons with disabilities and other users should be able to move in barrier-free streets, enter accessible low-floor vehicles, access information and communication, and enter and move inside universally designed buildings, using technical aids and live assistance where necessary. The application of universal design does not automatically eliminate the need for technical aids. Its application to a building from the initial design stage helps to make construction much less costly: making a building accessible from the outset might not increase the total cost of construction at all in many cases, or only minimally in some cases. On the other hand, the cost of subsequent adaptations in order to make a building accessible may be considerable in some cases, especially with regard to certain historical buildings. While the initial application

of universal design is more economical, the potential cost of subsequent removal of barriers may not be used as an excuse to avoid the obligation to remove barriers to accessibility gradually. Accessibility of information and communication, including ICT, should also be achieved from the outset because subsequent adaptations to the Internet and ICT may increase costs. It is therefore more economical to incorporate mandatory ICT accessibility features from the earliest stages of design and production.

16. The application of universal design makes society accessible for all human beings, not only persons with disabilities. It is also significant that article 9 explicitly imposes on States parties the duty to ensure accessibility in both urban and rural areas. Evidence has shown that accessibility is usually better in bigger cities than in remote, less developed rural areas, although extensive urbanization can sometimes also create additional new barriers that prevent access for persons with disabilities, in particular to the built environment, transport and services, as well as more sophisticated information and communication services in heavily populated, bustling urban areas. In both urban and rural areas, access should be available for persons with disabilities to the natural and heritage parts of the physical environment that the public can enter and enjoy.

17. Article 9, paragraph 1, requires States parties to identify and eliminate obstacles and barriers to accessibility to, inter alia:

> (a) Buildings, roads, transportation and other indoor and outdoor facilities, including schools, housing, medical facilities and workplaces;
>
> (b) Information, communications and other services, including electronic services and emergency services.

The other indoor and outdoor facilities, mentioned above, should include law enforcement agencies, tribunals, prisons, social institutions, areas for social interaction and recreation, cultural, religious, political and sports activities, and shopping establishments. Other services should include postal, banking, telecommunication and information services.

18. Article 9, paragraph 2, stipulates the measures States parties must take in order to develop, promulgate and monitor the implementation of minimum national standards for the accessibility of facilities and services open or provided to the public. Those standards shall be in accordance with the standards of other States parties in order to ensure interoperability with regard to free movement within the framework of liberty of movement and nationality (art. 18) of persons with disabilities. States parties are also required to take measures to ensure that private entities that offer facilities and services that are open or provided to the public take into account all

aspects of accessibility for persons with disabilities (art. 9, para. 2 (b)).

19. Since a lack of accessibility is often the result of insufficient awareness and technical know-how, article 9 requires that States parties provide training to all stakeholders on accessibility for persons with disabilities (para. 2 (c)). Article 9 does not attempt to enumerate the relevant stakeholders; any exhaustive list should include the authorities that issue building permits, broadcasting boards and ICT licences, engineers, designers, architects, urban planners, transport authorities, service providers, members of the academic community and persons with disabilities and their organizations. Training should be provided not only to those designing goods, services and products, but also to those who actually produce them. In addition, strengthening the direct involvement of persons with disabilities in product development would improve the understanding of existing needs and the effectiveness of accessibility tests. Ultimately, it is the builders on the construction site who make a building accessible or not. It is important to put in place training and monitoring systems for all these groups in order to ensure the practical application of accessibility standards.

20. Movement and orientation in buildings and other places open to the public can be a challenge for some persons with disabilities if there is no adequate signage, accessible information and communication or support services. Article 9, paragraph 2 (d) and (e), therefore provides that buildings and other places open to the public should have signage in Braille and in easy-to-read and understand forms, and that live assistance and intermediaries, including guides, readers and professional sign-language interpreters should be provided to facilitate accessibility. Without such signage, accessible information and communication and support services, orientation and movement in and through buildings may become impossible for many persons with disabilities, especially those experiencing cognitive fatigue.

21. Without access to information and communication, enjoyment of freedom of thought and expression and many other basic rights and freedoms for persons with disabilities may be seriously undermined and restricted. Article 9, paragraph 2 (f) to (g), of the Convention therefore provide that States parties should promote live assistance and intermediaries, including guides, readers and professional sign language interpreters (para. 2 (e)), promote other appropriate forms of assistance and support to persons with disabilities to ensure their access to information, and promote access for persons with disabilities to new information and communications technologies and systems, including the Internet, through the application of mandatory accessibility standards. Information and communication should be available in easy-to-read formats and augmentative and alternative modes and methods to persons

with disabilities who use such formats, modes and methods.

22. New technologies can be used to promote the full and equal participation of persons with disabilities in society, but only if they are designed and produced in a way that ensures their accessibility. New investments, research and production should contribute to eliminating inequality, not creating new barriers. Article 9, paragraph 2 (h), therefore calls on States parties to promote the design, development, production and distribution of accessible information and communications technologies and systems at an early stage, so that these technologies and systems become accessible at minimum cost. The use of hearing enhancement systems, including ambient assistive systems to assist hearing aid and induction loop users, and passenger lifts pre-equipped to allow use by persons with disabilities during emergency building evacuations constitute just some of the examples of technological advancements in the service of accessibility.

23. Since accessibility is a precondition for persons with disabilities to live independently, as provided for in article 19 of the Convention, and to participate fully and equally in society, denial of access to the physical environment, transportation, information and communication technologies, and facilities and services open to the public should be viewed in the context of discrimination. Taking "all appropriate measures, including legislation, to modify or abolish existing laws, regulations, customs and practices that constitute discrimination against persons with disabilities" (art. 4, para. 1 (b)) constitutes the main general obligation for all States parties. "States parties shall prohibit all discrimination on the basis of disability and guarantee to persons with disabilities equal and effective legal protection against discrimination on all grounds" (art. 5, para. 2). "In order to promote equality and eliminate discrimination, States parties shall take all appropriate steps to ensure that reasonable accommodation is provided" (art. 5, para. 3).

24. A clear distinction should be drawn between the obligation to ensure access to all newly designed, built or produced objects, infrastructure, goods, products and services and the obligation to remove barriers and ensure access to the existing physical environment and existing transportation, information and communication, and services open to the general public. Another of the States parties' general obligations is to "undertake or promote research and development of universally designed goods, services, equipment and facilities, as defined in article 2 of the Convention, which should require the minimum possible adaptation and the least cost to meet the specific needs of a person with disabilities, to promote their availability and use, and to promote universal design in the development of standards and guidelines" (art. 4, para. 1 (f)). All new objects, infrastructure, facilities, goods, products and services have to be designed in a way that makes them fully accessible for persons with

disabilities, in accordance with the principles of universal design. States parties are obliged to ensure that persons with disabilities have access to the existing physical environment, transportation, information and communication and services open to the general public. However, as this obligation is to be implemented gradually, States parties should establish definite time frames and allocate adequate resources for the removal of existing barriers. Furthermore, States parties should clearly prescribe the duties of the different authorities (including regional and local authorities) and entities (including private entities) that should be carried out in order to ensure accessibility. States parties should also prescribe effective monitoring mechanisms to ensure accessibility and monitor sanctions against anyone who fails to implement accessibility standards.

25. Accessibility is related to groups, whereas reasonable accommodation is related to individuals. This means that the duty to provide accessibility is an ex ante duty. States parties therefore have the duty to provide accessibility before receiving an individual request to enter or use a place or service. States parties need to set accessibility standards, which must be adopted in consultation with organizations of persons with disabilities, and they need to be specified for service-providers, builders and other relevant stakeholders. Accessibility standards must be broad and standardized. In the case of individuals who have rare impairments that were not taken into account when the accessibility standards were developed or who do not use the modes, methods or means offered to achieve accessibility (not reading Braille, for example), even the application of accessibility standards may not be sufficient to ensure them access. In such cases, reasonable accommodation may apply. In accordance with the Convention, States parties are not allowed to use austerity measures as an excuse to avoid ensuring gradual accessibility for persons with disabilities. The obligation to implement accessibility is unconditional, i.e. the entity obliged to provide accessibility may not excuse the omission to do so by referring to the burden of providing access for persons with disabilities. The duty of reasonable accommodation, contrarily, exists only if implementation constitutes no undue burden on the entity.

26. The duty to provide reasonable accommodation is an ex nunc duty, which means that it is enforceable from the moment an individual with an impairment needs it in a given situation, for example, workplace or school, in order to enjoy her or his rights on an equal basis in a particular context. Here, accessibility standards can be an indicator, but may not be taken as prescriptive. Reasonable accommodation can be used as a means of ensuring accessibility for an individual with a disability in a particular situation. Reasonable accommodation seeks to achieve individual justice in the sense that non-discrimination or equality is assured, taking the dignity, autonomy and choices of the individual into account. Thus, a

person with a rare impairment might ask for accommodation that falls outside the scope of any accessibility standard.

Obligations of States parties

27. Even though ensuring access to the physical environment, transportation, information and communication, and services open to the public is often a precondition for the effective enjoyment of various civil and political rights by persons with disabilities, States parties can ensure that access is achieved through gradual implementation when necessary as well as through the use of international cooperation. An analysis of the situation to identify the obstacles and barriers that need to be removed can be carried out in an efficient manner and within a short- to mid-term framework. Barriers should be removed in a continuous and systematic way, gradually yet steadily.

28. States parties are obliged to adopt, promulgate and monitor national accessibility standards. If no relevant legislation is in place, adopting a suitable legal framework is the first step. States parties should undertake a comprehensive review of the laws on accessibility in order to identify, monitor and address gaps in legislation and implementation. Disability laws often fail to include ICT in their definition of accessibility, and disability rights laws concerned with non-discriminatory access in areas such as procurement, employment and education often fail to include access to ICT and the many goods and services central to modern society that are offered through ICT. It is important that the review and adoption of these laws and regulations are carried out in close consultation with persons with disabilities and their representative organizations (art. 4, para. 3), as well as all other relevant stakeholders, including members of the academic community and expert associations of architects, urban planners, engineers and designers. Legislation should incorporate and be based on the principle of universal design, as required by the Convention (art. 4, para. 1 (f)). It should provide for the mandatory application of accessibility standards and for sanctions, including fines, for those who fail to apply them.

29. It is helpful to mainstream accessibility standards that prescribe various areas that have to be accessible, such as the physical environment in laws on construction and planning, transportation in laws on public aerial, railway, road and water transport, information and communication, and services open to the public. However, accessibility should be encompassed in general and specific laws on equal opportunities, equality and participation in the context of the prohibition of disability-based discrimination. Denial of access should be clearly defined as a prohibited act of discrimination. Persons with disabilities who have been denied

access to the physical environment, transportation, information and communication, or services open to the public should have effective legal remedies at their disposal. When defining accessibility standards, States parties have to take into account the diversity of persons with disabilities and ensure that accessibility is provided to persons of any gender and of all ages and types of disability. Part of the task of encompassing the diversity of persons with disabilities in the provision of accessibility is recognizing that some persons with disabilities need human or animal assistance in order to enjoy full accessibility (such as personal assistance, sign language interpretation, tactile sign language interpretation or guide dogs). It must be stipulated, for example, that banning guide dogs from entering a particular building or open space would constitute a prohibited act of disability-based discrimination.

30. It is necessary to establish minimum standards for the accessibility of different services provided by public and private enterprises for persons with different types of impairments. Reference tools such as the ITU-T recommendation Telecommunications Accessibility Checklist for standardization activities (2006) and the Telecommunications accessibility guidelines for older persons and persons with disabilities (ITU-T recommendation F.790) should be mainstreamed whenever a new ICT-related standard is developed. That would allow the generalization of universal design in the development of standards. States parties should establish a legislative framework with specific, enforceable, time-bound benchmarks for monitoring and assessing the gradual modification and adjustment by private entities of their previously inaccessible services into accessible ones. States parties should also ensure that all newly procured goods and services are fully accessible for persons with disabilities. Minimum standards must be developed in close consultation with persons with disabilities and their representative organizations, in accordance with article 4, paragraph 3, of the Convention. The standards can also be developed in collaboration with other States parties and international organizations and agencies through international cooperation, in accordance with article 32 of the Convention. States parties are encouraged to join ITU study groups in the radiocommunication, standardization and development sectors of the Union, which actively work at mainstreaming accessibility in the development of international telecommunications and ICT standards and at raising industry's and governments' awareness of the need to increase access to ICT for persons with disabilities. Such cooperation can be useful in developing and promoting international standards that contribute to the interoperability of goods and services. In the field of communication-related services, States parties must ensure at least a minimum quality of services, especially for the relatively new types of services, such as personal assistance, sign language interpretation and tactile signing, aiming at their standardization.

31. When reviewing their accessibility legislation, States parties must consider and, where necessary, amend their laws to prohibit discrimination on the basis of disability. As a minimum, the following situations in which lack of accessibility has prevented a person with disabilities from accessing a service or facility open to the public should be considered as prohibited acts of disability-based discrimination:

(a) Where the service or facility was established after relevant accessibility standards were introduced;

(b) Where access could have been granted to the facility or service (when it came into existence) through reasonable accommodation.

32. As part of their review of accessibility legislation, States parties must als consider their laws on public procurement to ensure that their public procurement procedures incorporate accessibility requirements. It is unacceptable to use public funds to create or perpetuate the inequality that inevitably results from inaccessible services and facilities. Public procurements should be used to implement affirmative action in line with the provisions of article 5, paragraph 4, of the Convention in order to ensure accessibility and de facto equality for persons with disabilities.

33. States parties should adopt action plans and strategies to identify existing barriers to accessibility, set time frames with specific deadlines and provide both the human and material resources necessary to remove the barriers. Once adopted, such action plans and strategies should be strictly implemented. States parties should also strengthen their monitoring mechanisms in order to ensure accessibility and they should continue providing sufficient funds to remove barriers to accessibility and train monitoring staff. As accessibility standards are often implemented locally, continuous capacity-building of the local authorities responsible for monitoring implementation of the standards is of paramount importance. States parties are under an obligation to develop an effective monitoring framework and set up efficient monitoring bodies with adequate capacity and appropriate mandates to make sure that plans, strategies and standardization are implemented and enforced.

Relationship with other articles of the Convention

34. The duty of States parties to ensure access to the physical environment, transportation, information and communication, and services open to the public for persons with disabilities should be seen from the perspective of equality and non-discrimination. Denial of access to the physical environment, transportation, information and communication, and services open to the public constitutes an act of disability-based

discrimination that is prohibited by article 5 of the Convention. Ensuring accessibility pro futuro should be viewed in the context of implementing the general obligation to develop universally designed goods, services, equipment and facilities (art. 4, para. 1 (f)).

35. Awareness-raising is one of the preconditions for the effective implementation of the Convention on the Rights of Persons with Disabilities. Since accessibility is often viewed narrowly, as accessibility to the built environment (which is significant, but only one aspect of access for persons with disabilities), States parties should strive systematically and continuously to raise awareness about accessibility among all relevant stakeholders. The all-encompassing nature of accessibility should be addressed, providing for access to the physical environment, transportation, information and communication, and services. Awareness-raising should also stress that the duty to observe accessibility standards applies equally to the public and to the private sector. It should promote the application of universal design and the idea that designing and building in an accessible way from the earliest stages is cost-effective and economical. Awareness-raising should be carried out in cooperation with persons with disabilities, their representative organizations and technical experts. Special attention should be paid to capacity-building for the application and monitoring of the implementation of accessibility standards. The media should not only take into account the accessibility of their own programmes and services for persons with disabilities, but should also take an active role in promoting accessibility and contributing to awareness- raising.

36. Ensuring full access to the physical environment, transportation, information and communication, and services open to the public is indeed a vital precondition for the effective enjoyment of many rights covered by the Convention. In situations of risk, natural disasters and armed conflict, the emergency services must be accessible to persons with disabilities, or their lives cannot be saved or their well-being protected (art. 11). Accessibility must be incorporated as a priority in post-disaster reconstruction efforts. Therefore, disaster risk reduction must be accessible and disability-inclusive.

37. There can be no effective access to justice if the buildings in which law-enforcement agencies and the judiciary are located are not physically accessible, or if the services, information and communication they provide are not accessible to persons with disabilities (art. 13). Safe houses, support services and procedures must all be accessible in order to provide effective and meaningful protection from violence, abuse and exploitation to persons with disabilities, especially women and children (art. 16). Accessible environment, transportation, information and communication, and services are a precondition for the inclusion of persons with disabilities in their respective local communities and for them to have an independent life (art. 19).

38. Articles 9 and 21 intersect on the issue of information and communication. Article 21 provides that States parties "shall take all appropriate measures to ensure that persons with disabilities can exercise the right to freedom of expression and opinion, including the freedom to seek, receive and impart information and ideas on an equal basis with others and through all forms of communication of their choice". It goes on to describe in detail how the accessibility of information and communication can be ensured in practice. It requires that States parties "provide information intended for the general public to persons with disabilities in accessible formats and technologies appropriate to different kinds of disabilities" (art. 21 (a)). Furthermore, it provides for "facilitating the use of sign languages, Braille, augmentative and alternative communication, and all other accessible means, modes and formats of communication of their choice by persons with disabilities in official interactions" (art. 21 (b)). Private entities that provide services to the general public, including through the Internet, are urged to provide information and services in accessible and usable formats for persons with disabilities (art. 21 (c)) and the mass media, including providers of information through the Internet, are encouraged to make their services accessible to persons with disabilities (art. 21 (d)). Article 21 also requires States parties to recognize and promote the use of sign languages, in accordance with articles 24, 27, 29 and 30 of the Convention.

39. Without accessible transport to schools, accessible school buildings, and accessible information and communication, persons with disabilities would not have the opportunity to exercise their right to education (art. 24 of the Convention). Thus schools have to be accessible, as is explicitly indicated in article 9, paragraph 1 (a), of the Convention. However, it is the entire process of inclusive education that must be accessible, not just buildings, but all information and communication, including ambient or FM assistive systems, support services and reasonable accommodation in schools. In order to foster accessibility, education as well as the content of school curricula should promote and be conducted in sign language, Braille, alternative script, and augmentative and alternative modes, means and formats of communication and orientation (art. 24, para. 3 (a)), with special attention to the appropriate languages and modes and means of communication used by blind, deaf and deaf-blind students. Modes and means of teaching should be accessible and should be conducted in accessible environments. The whole environment of students with disabilities must be designed in a way that fosters inclusion and guarantees their equality in the entire process of their education. Full implementation of article 24 of the Convention should be considered in conjunction with the other core human rights instruments as well as the provisions of the Convention against Discrimination in Education of the United Nations Educational, Scientific and Cultural Organization.

40. Health care and social protection would remain unattainable for persons with disabilities without access to the premises where those services are provided. Even if the buildings where the health-care and social protection services are provided are themselves accessible, without accessible transportation, persons with disabilities are unable to travel to the places where the services are being provided. All information and communication pertaining to the provision of health care should be accessible through sign language, Braille, accessible electronic formats, alternative script, and augmentative and alternative modes, means and formats of communication. It is especially important to take into account the gender dimension of accessibility when providing health care, particularly reproductive health care for women and girls with disabilities, including gynaecological and obstetric services.

41. Persons with disabilities cannot effectively enjoy their work and employment rights, as described in article 27 of the Convention, if the workplace itself is not accessible. Workplaces therefore have to be accessible, as is explicitly indicated in article 9, paragraph 1 (a). A refusal to adapt the workplace constitutes a prohibited act of disability- based discrimination. Besides the physical accessibility of the workplace, persons with disabilities need accessible transport and support services to get to their workplaces. All information pertaining to work, advertisements of job offers, selection processes and communication at the workplace that is part of the work process must be accessible through sign language, Braille, accessible electronic formats, alternative script, and augmentative and alternative modes, means and formats of communication. All trade union and labour rights must also be accessible, as must training opportunities and job qualifications. For example, foreign language or computer courses for employees and trainees must be conducted in an accessible environment in accessible forms, modes, means and formats.

42. Article 28 of the Convention addresses an adequate standard of living and social protection for persons with disabilities. States parties should take the necessary measures to ensure that both mainstream and disability-specific social protection measures and services are provided in an accessible manner, in accessible buildings, and that all information and communication pertaining to them is accessible through sign language, Braille, accessible electronic formats, alternative script, and augmentative and alternative modes, means and formats of communication. Social housing programmes should offer housing that is, inter alia, accessible for persons with disabilities and the elderly.

43. Article 29 of the Convention guarantees persons with disabilities the right to participate in political and public life, and to take part in running public affairs. Persons with disabilities would be unable to exercise those rights equally and effectively if States parties failed to ensure that voting

procedures, facilities and materials were appropriate, accessible and easy to understand and use. It is also important that political meetings and materials used and produced by political parties or individual candidates participating in public elections are accessible. If not, persons with disabilities are deprived of their right to participate in the political process in an equal manner. Persons with disabilities who are elected to public office must have equal opportunities to carry out their mandate in a fully accessible manner.

44. Everyone has the right to enjoy the arts, take part in sports and go to hotels, restaurants and bars. However, wheelchair users cannot go to a concert if there are only stairs in the concert hall. Blind persons cannot enjoy a painting if there is no description of it they can hear in the gallery. Hard of hearing persons cannot enjoy a film if there are no subtitles. Deaf persons cannot enjoy a theatrical play if there is no sign language interpretation. Persons with intellectual disabilities cannot enjoy a book if there is no easy- to-read version or a version in augmentative and alternative modes. Article 30 of the Convention requires that States parties recognize the right of persons with disabilities to take part in cultural life on an equal basis with others. States parties are required to take all appropriate measures to ensure that persons with disabilities:

> (a) Enjoy access to cultural materials in accessible formats;
>
> (b) Enjoy access to television programmes, films, theatre and other cultural activities, in accessible formats;
>
> (c) Enjoy access to places for cultural performances or services, such as theatres, museums, cinemas, libraries and tourism services, and, as far as possible, enjoy access to monuments and sites of national cultural importance.

The provision of access to cultural and historical monuments that are part of national heritage may indeed be a challenge in some circumstances. However, States parties are obliged to strive to provide access to these sites. Many monuments and sites of national cultural importance have been made accessible in a way that preserves their cultural and historical identity and uniqueness.

45. "States parties shall take appropriate measures to enable persons with disabilities to have the opportunity to develop and utilize their creative, artistic and intellectual potential" (art. 30, para. 2). "States parties shall take all appropriate steps, in accordance with international law, to ensure that laws protecting intellectual property rights do not constitute an unreasonable or discriminatory barrier to access by persons with disabilities to cultural materials" (art. 30, para. 3). The Marrakesh Treaty to

Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired, or Otherwise Print Disabled of the World Intellectual Property Organization, adopted in June 2013, should ensure access to cultural material without unreasonable or discriminatory barriers for persons with disabilities, including people with disabilities living abroad or as a member of a minority in another country and who speak or use the same language or means of communication, especially those facing challenges accessing classic print materials. The Convention on the Rights of Persons with Disabilities provides that persons with disabilities are entitled, on an equal basis with others, to recognition and support of their specific cultural and linguistic identity. Article 30, paragraph 4, stresses the recognition of and support for sign languages and deaf culture.

46. Article 30, paragraph 5, of the Convention provides that, in order to enable persons with disabilities to participate on an equal basis with others in recreational, leisure and sporting activities, States parties shall take appropriate measures:

> (a) To encourage and promote the participation, to the fullest extent possible, of persons with disabilities in mainstream sporting activities at all levels;
>
> (b) To ensure that persons with disabilities have an opportunity to organize, develop and participate in disability-specific sporting and recreational activities and, to this end, encourage the provision, on an equal basis with others, of appropriate instruction, training and resources;
>
> (c) To ensure that persons with disabilities have access to sporting, recreational and tourism venues;
>
> (d) To ensure that children with disabilities have equal access with other children to participation in play, recreation and leisure and sporting activities, including those activities in the school system;
>
> (e) To ensure that persons with disabilities have access to services from those involved in the organization of recreational, tourism, leisure and sporting activities.

47. International cooperation, as described in article 32 of the Convention, should be a significant tool in the promotion of accessibility and universal design. The Committee recommends that international development agencies recognize the significance of supporting projects aimed at improving ICT and other access infrastructure. All new investments made within the framework of international cooperation should be used to encourage the removal of existing barriers and prevent

the creation of new barriers. It is unacceptable to use public funds to perpetuate new inequalities. All new objects, infrastructure, facilities, goods, products and services must be fully accessible for all persons with disabilities. International cooperation should be used not merely to invest in accessible goods, products and services, but also to foster the exchange of know-how and information on good practice in achieving accessibility in ways that will make tangible changes that can improve the lives of millions of persons with disabilities worldwide. International cooperation on standardization is also important, as is the fact that organizations of persons with disabilities must be supported so that they can participate in national and international processes to develop, implement and monitor accessibility standards. Accessibility must be an integral part of any sustainable development effort, especially in the context of the post-2015 development agenda.

48. The monitoring of accessibility is a crucial aspect of the national and international monitoring of the implementation of the Convention. Article 33 of the Convention requires States parties to designate focal points within their governments for matters relating to the implementation of the Convention, as well as to establish national frameworks to monitor implementation which include one or more independent mechanisms. Civil society should also be involved and should participate fully in the monitoring process. It is crucial that the bodies established further to article 33 are duly consulted when measures for the proper implementation of article 9 are considered. Those bodies should be provided with meaningful opportunities to, inter alia, take part in the drafting of national accessibility standards, comment on existing and draft legislation, submit proposals for draft legislation and policy regulation, and participate fully in awareness-raising and educational campaigns. The processes of national and international monitoring of the implementation of the Convention should be performed in an accessible manner that promotes and ensures the effective participation of persons with disabilities and their representative organizations. Article 49 of the Convention requires that the text of the Convention be made available in accessible formats. This is an innovation in an international human rights treaty and the Convention on the Rights of Persons with Disabilities should be seen as setting a precedent in that respect for all future treaties.

A deaf perspective on access to information and communication in Europe[3]

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Introduction

The accessibility of information, communication, and knowledge is crucial to enable the full and equal participation of deaf persons.[4] This right is protected by Article 9 of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), which prescribes obligations for the States Parties with regards to accessibility.[5] In addition, these obligations and their practical implementation are covered in General Comment No. 2 on Article 9,[6] which mentions elements that are particularly important for deaf people. However, since it encompasses accessibility for all disability groups, these elements are not addressed in detail. As a deaf-led organisation advocating for these rights at the European level, it is vital for the European Union of the Deaf (EUD) to explore what access to information and communication entails and how it can be defined from a deaf sign language perspective. The EUD also aims to highlight the connection and interdependency between the UNCRPD and the Sustainable Development Goals (SDGs), because the full implementation of Article 9 supports the achievement of the SDGs and the 2030 Agenda for Sustainable Development for the deaf community.

Access to sign language, from the earliest stages of life, is fundamental to ensuring that deaf people can seek, receive, and provide information as well as communicate on an equal basis with others. Therefore, the accessibility of information and communication through sign language must be guaranteed to the same extent as access through spoken language for hearing persons. For deaf signers to exercise their human rights, it is necessary that they have information presented to them in sign language as well as the option to communicate in sign language, either directly or

3 This chapter draws on the EUD's (2018) position paper on the accessibility of information and communication; the contents of the paper have been integrated, amended, and reproduced in this introduction with permission. The position paper is available at https://www.eud.eu/about-us/eud-position-paper/accessibility-information-and-communication/

4 This edited volume concentrates on deaf signers; for this reason, and also to provide room for the flux of deaf identities (Fjord, 1996 in Breivik, Haualand, & Solvang, 2002) the d/D distinction is not employed.

5 Article 9 is available at https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/article-9-accessibility.html (Accessed on the 26 October 2018).

6 General Comment No. 2 is available at https://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRPD/C/GC/2&Lang=en

through the provision of sign language interpretation.[7]

The World Federation of the Deaf (WFD) and the Swedish National Association of the Deaf (SDR) find that the recognition of national sign languages and access to it, along with access to bilingual education and sign language interpreters, as well as general access to information, media, and public services are vital for human rights (Haualand & Allen, 2009). As addressed in various articles of the UNCRPD, sign language interpretation and spaces for direct signed communication are necessary for deaf persons to participate equally in society in all areas of public and private life (Reilly, 2007; De Clerck & Paul, 2016). For instance, all information and communication pertaining to core human rights such as access to health care should be accessible through these means. Moreover, deaf signers cannot effectively bring their capacities to the labour market if none of the information pertaining to selection processes and workplace communication is accessible through sign language (Fundamental Rights Agency, 2014). Furthermore, if debates, meetings and materials produced by political parties and individual candidates participating in elections are not available in sign language, deaf persons are deprived of their fundamental right to political participation (Wheatley & Pabsch, 2012). These are just a few examples of how a lack of access to information and communication in national sign languages can create disadvantage and inequality for deaf people.

In a first attempt to deepen the interpretation of Article 9 (1) (b) of the UNCRPD, in 2018 the EUD published a position paper on the accessibility of information, communication, and knowledge.[8] Then, in September 2019, to expand and refine this initial interpretation and highlight further angles and applications of accessibility, the EUD invited authors from different domains of expertise and experience to contribute to this edited volume. But rather than focusing exclusively on Article 9, the book aims to highlight the connections between Article 9 and other articles of the UNCRPD. To explore a range of deaf perspectives and possibilities that relate to this synergy, the volume is organised into seven interlinking and overlapping themes.

The first theme, which has an introductory chapter and three main chapters, explores the legal frameworks for **accessibility in the UNCRPD**

7 These services are provided by qualified sign language interpreters, who are trained to work between a spoken and a signed language or between two signed languages. States Parties must ensure access to national sign languages through e.g. the provision of interpreters and/or coverage of interpretation costs to enable deaf individuals to fully and meaningfully participate in all areas of life – private and public. Importantly, sign language interpretation must also be of high quality, which is not a factual value, but is contextually determined (Kopczynski, 1994). It is crucial that States Parties to the Convention take measures to improve the availability and skill of sign language interpreters. This includes the establishment of sign language interpretation studies in tertiary education and the recognition of the profession at national and European levels.

8 The link to this paper has been provided in footnote 1.

and the EU. The chapter by Alejandro Moledo concentrates on advocacy at the European Disability Forum, and the next one by Inmaculada Placencia Porrero, the European Commission's Expert in Disability and Inclusion, discusses an ambitious transposition of the European Accessibility Act (EAA). The last chapter illuminates the relationship between EU legislation, technology, and access to services by looking at next-generation emergency services at the Swedish company Omnitor, which employ a system of real-time text and video known as Total Conversation (Ulfsparre, this volume).

The second theme highlights how the sense of urgency that came with the **COVID-19 pandemic** became a catalyst for new initiatives facilitating **access to information and communication.** These unprecedented circumstances inspired creativity and innovation among national deaf associations (NADs), NGOs, and deaf professionals, who worked with their governments and stakeholder partners to respond to deaf signers' needs. This theme, which has 7 contributions, begins with an introductory chapter by the EUD on the impact of COVID-19 on deaf people's rights (Balciunaite & Wheatley, this volume). The next four chapters present a selection of good practices by NADs. These include the British Deaf Association (BDA) Scotland, who worked with the Scottish Government and the National Health Service to ensure access to public health information for British Sign Language users (Hepner, this volume); the Hellenic Federation of the Deaf (HFD), who advocated for equal access to educational television for deaf learners in Greece (Gaitani, this volume); the Danish National Association of the Deaf (*Danske Døves Landsforbund, DDL*), who arranged a video hotline and the interpretation of government briefings on COVID-19 (Johannsen Eskelund, this volume); and the Irish Deaf Society (IDS), who liaised with the Health Service Executive to secure access to communication support for deaf patients. The last two chapters discuss innovative partnerships, in which the Italian National Deaf Association (*Ente Nazionale per la protezione e l'assistenza dei Sordi, ENS*) received support from Telecom Italia to provide electronic tablets and organise video relay services for deaf people in hospital (Samueli, this volume); and the Dutch Disability Council, *Ieder(in)*, cooperated with the Dutch NAD *Dovenschap* to advocate for access to crisis information, which increased the visibility of Sign Language of the Netherlands and prompted the government to recognise it as an official national language in October 2020 (Bolier, this volume).

Continuing the focus on health, the three chapters within third theme on **access to social and mental health services** represent the intersection of Articles 9 and 25 on the right to health care, and Article 17 on the right to the protection of physical and mental integrity. After the introductory chapter (De Clerck, this volume), the UK charity SignHealth presents a model of good practice providing deaf-led services through sign language in psychotherapy, social care, and domestic abuse support (Gorman, this

volume). Then, the Lithuanian Association of the Deaf (*Lietuvos kurčiųjų draugija*) describes how free mental health and social support services were established to meet the needs of deaf signers for direct communication with specialists in Lithuanian Sign Language (Vaišnora & Lukošienė, this volume).

The fourth theme of the book is that the accessibility of information and communication can also be approached from an intersectionality perspective. This theme, which is introduced with the EUD statement on intersectionality (De Clerck, Wheatley, & Balciunaite, this volume), is comprised of five chapters covering a range of good practices in training and services. These include a programme of activities for deaf seniors organised by the Turin Institute of the Deaf in Italy (Ebouaney, this volume); the creation by Spain's Confederation of Deaf People (*Confederación Estatal de Personas Sordas*, CNSE) of a video-assistance and accompaniment service called vidAsor (Obiang Estepa, de la Hoz Barrera, & Pinto Muñoz, this volume); provisions for accessibility at the Gelderhorst, a residential care centre for deaf elders in the Netherlands (Reiff-de Groen & de Ronde, this volume); work by DeafKidz International to establish training initiatives and support services for deaf children at risk of abuse (Crump, this volume); and the CNSE's care and information service for victims of gender-based violence in Spain, which is called ALBA (Prado Mendoza & López Arellano, this volume).

The fifth theme relates to justice and employment, and its four chapters exemplify Article 9's links with two other parts the UNCRPD, namely Article 13 on access to justice and Article 27 on work and employment. The first chapter after the introduction presents findings from a research project called Justisigns, which was funded by the European Commission's Leonardo da Vinci Lifelong Learning programme and generated training resources for sign language interpreters in legal settings as well as for legal professionals working with interpreters (Leeson, Napier, Haug, Lynch, & Sheikh, this volume). In the next chapter, the Swiss Federation of the Deaf (SGB-FSS) explains how it has provided deaf signers with access to legal services (Reber, this volume). The final chapter discusses some of the findings of a European Erasmus+ project called DESIGNS, which resulted in the creation of research-informed training materials for deaf job seekers, employers, and sign language interpreters in Ireland, Germany, and the UK (Sheikh, Napier, Cameron, Leeson, Rathmann, Peter, Conama, & Moiselle, this volume).

The EUD also advocates for access to audiovisual content and information, emphasising that high quality is necessary to ensure meaningful access for the user; this is explored in the three chapters that make up the sixth theme on audiovisual media services. Following the introductory chapter by De Clerck, Jorn Rijckaert and Alexander Dhoest from the University

of Antwerp impart findings from their study on the comprehension of sign language interpretation in Flemish television news broadcasts. Next, Karolien Gebruers and Thierry Haesenne describe a model for co-interpreting crisis information in the complex language context of Belgium; and in the last chapter under this theme, Dennis Hoogeveen discusses how volunteers from the Dutch deaf-led organisation DoofCentraal launched the *Coronakanaal* (Coronavirus channel) to provide deaf signers with access to public health information on COVID-19.

The seventh and final theme is on **accessibility, artificial intelligence, and technologies**. Investment in new technologies, including those based on artificial intelligence, are a major focus of the EUD's advocacy due to their role in the realisation of access to information, communication, and knowledge. This theme is explored in an introduction by De Clerck, Wheatley, and Balciunaite, and contributions by four technology companies: Apple, Huawei, Google, and Microsoft. These chapters provide insight into perspectives on inclusive design and the involvement of deaf consumers and deaf experts in ICT design processes.

By including diverse contributions ranging from research articles to policy contributions and examples of good practice from NADs, this volume endeavours to introduce a deaf sign language perspective into the debate on Article 9 while stimulating further advocacy and exploration of different angles of accessibility. The interactive pdf version of the volume optimises its accessibility for the EUD's main stakeholders, i.e. users of visual languages, by showcasing visual resources and short videos.

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Accessibility in the UNCRPD and in the EU

Introduction[9]

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Mark Wheatley, EUD Executive Director
Martyna Balčiūnaitė, EUD Policy Officer

As the role of technology is continuously increasing, ensuring the accessibility of information and communication technologies (ICTs)[10] for deaf people is particularly important. Indeed, ICTs have the potential to provide deaf persons with a wide range of services, transform existing services, and expand access to knowledge. The UNCRPD is the first international human rights treaty to address access to ICTs, and the EUD is committed to improving the access enjoyed by deaf people. European legislation plays a crucial role in this, so the chapters in this theme discuss laws such as the revised AudioVisual Media Services Directive (AVMSD), which supports the provision of subtitles and signed language interpreting on TV; the Web Accessibility Directive and the Electronic Communications Code (ECC), which facilitate access to communication between people; and the EU's most recent landmark, the European Accessibility Act (EAA), which regulates the accessibility of emergency services and other ICTs.

Major advocacy work for this legislation has been carried out by the European Disability Forum, an umbrella organisation defending the interests of over 100 million people with disabilities, and bringing together representative organisations such as the EUD. The chapter by Moledo not only enables readers to gain a glimpse of this work, but also discusses access to EU institutions and the role of resources in supporting disability organisations' negotiations with national governments on the transposition of the legislation at Member State level. It ends with thoughts on the potential of technological innovation and universal design. The EUD agrees that manufacturers should fully apply universal design to all new goods, products, facilities, technologies and services when designing accessible ICT products. This would ensure full access for all potential consumers, including deaf persons. Universal design means that the design of products, environments, programmes and services is usable by all to the greatest extent possible, without the need for adaptation or specialised design (Petrie et al., 2016). It is easier and more cost-efficient to design a product following universal design principles from the beginning

9 This chapter draws on the EUD position paper on the accessibility of information and communication; the contents of the paper have been integrated, amended, and reproduced in this introduction with permission. See https://www.eud.eu/about-us/eud-position-paper/accessibility-information-and-communication/

10 ICT is an umbrella term that includes any information-and-communication device or application (including televisions, mobile phones, computers, and network hardware and software) as well as their content.

and throughout the entire design and implementation process, rather than retroactively building in accessibility features for specific target groups later (World Federation of the Deaf, 2014). These issues are also integral to the transposition of the EAA, which is the focus of the chapter by Placencia Porrero, the European Commission's Expert in Disability and Inclusion. She looks into accessibility standards for ICTs[11] and their potential impact on deaf people.

Because these impacts are so far-reaching, the EUD advocates for the development and updating of accessibility standards[12] to take place in close consultation with deaf people's representative organisations as well as ICT and standardisation experts. Standards must define the relevant accessibility requirements and how quality implementation can be achieved. Legislation should ensure mandatory application of accessibility requirements and sanctions, including fines, for those who fail to apply them. And finally, disability rights laws dealing with equal access to various areas of life, such as employment and education, should include access to and use of ICTs.

More specifically, the EUD advocates for the provision of signed language interpreting and/or captioning on websites. It is important for national sign languages to be among the language options on websites to provide deaf signers with equal access and ensure that signed languages are on an equal footing with spoken/written languages. To enable this, web browsers should have built-in accessibility features to display these accessible formats and languages.[13] To ensure that users can fully access the features, users should have controls allowing them to set the displays according to their own needs and preferences. Equally, the quality of captions, both open and closed, pre-recorded and live, must be guaranteed through EU-wide standards.[14] Other entertainment, such as video games that contain

11 The UNCRPD at Article 9, paragraph 2, stipulates the measures that States Parties must take in order to develop, promulgate and monitor the implementation of minimum national standards for the accessibility of facilities and services open or provided to the public. Those standards must be in accordance with the standards of other States Parties in order to ensure interoperability with regard to free movement within the framework of liberty of movement and nationality.

12 See footnote 9.

13 These should conform to standards (set by European legislation such as the AVMSD) such as that the window of the in-vision translator must be of a sufficient size, occupying a space no smaller than one sixth of the picture, and it should contrast with the surrounding material and must not cover important visual information on the main screen.

14 Independent of how captions are created – whether they are produced by captioning professionals or through a combination of automatic speech recognition and human editing, for example – the following five elements must be guaranteed: (1) captions must be accurate, which means that the content must be rendered without errors; (2) captions must be consistent with regard to style and presentation of all captioning features to ensure viewer understanding; (3) captions must be clear and contain a complete textual representation of the audio, including speaker identification and non-speech information, to provide clarity for the viewer; (4) captions must be readable, meaning that they are displayed with enough time to be read completely, are in synchronisation with the audio, and are not obscured by (nor do they obscure) the visual content; and (5) captions must ensure equal access, by completely preserving the meaning and intention of the material.

audiovisual content, must be made accessible for deaf users, e.g. by allowing them to receive audio signals visually or through haptic feedback. Audiovisual content is also transmitted over a wide range of applications in physical settings such as on public transport, and must be made accessible for deaf users to ensure that they have equal access to information in all areas of life.[15] In this vein, the chapter on access to emergency services by Ulfsparre provides insight into the interaction between EU legislation, technological developments, and next-generation emergency services at the Swedish corporation Omnitor. These services draw on Total Conversation systems that amalgamate voice communication, real-time text, and video. This highlights the fact that accessible telephony and emergency services necessitate quality high-speed internet access, both wired and wireless, as well as widespread mobile coverage, especially in rural areas. It also emphasises the need for greater awareness-raising measures about 112, the European emergency phone number that is reachable everywhere in the EU, free of charge. Information about the accessibility features of 112 in different EU countries (e.g. SMS, real-time text, sign language interpreting through video-relay services) must be provided in a consistent manner to all travellers, so that citizens are aware of how they can contact emergency services while they are abroad.

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15 See Sustainable Development Goal 11, "Sustainable Cities and Communities," at https://sustainabledevelopment.un.org/sdg11 (Accessed on 26 October 2018).

The European Disability Forum's advocacy for access to information and communication for persons with disability in the EU

Alejandro Moledo, EDF Head of Policy

As the main organisation for persons with disabilities, the European Disability Forum (EDF)[16] has been advocating for access to information and communication technologies (ICTs) from the very beginning. In the 2000s, the EU was keen on creating and regulating a harmonised approach to the legal framework for ICTs. The EU saw the benefits of having coordinated legislation and, as the EU became more active in this domain, the disability movement also responded to this challenge. In the past 20 years, technologies have played an increasingly significant and central role in our everyday lives, and as such it is vital for people with disabilities to be involved in the conversation.

The EDF's approach to this sector has always been two-fold. On the one hand, it focuses on disability-specific legislation such as the Web Accessibility Directive of 2016 and the European Accessibility Act (EAA) of 2019. The EDF called for this legislation for many years and was finally successful in getting it passed. On the other hand, there is sectoral legislation on different aspects of technologies such as media and electronic communications, such as electronic IDs. The EDF's key objective when it comes to new technologies is the 'triple A' condition, which is that technologies need to be available, affordable and accessible. This guiding principle has been useful in advocating in the context of sectoral legislation that the EU has put forward in recent years and will continue to be helpful in the future.

European legislation on accessibility benefits EU citizens for two reasons: In the first place it allows countries that did not have legislation before to develop it. In the second place, having legislation at the European level facilitates updates of national legislation. It ensures that industry can benefit from being able to apply the same set of rules across Europe, so they may sell their products and their services regardless of the country, and know that they are in compliance with at least the minimum standard of accessibility. As such it is vital that EU citizens realise that legislation affecting ICTs may come from the European level and need to be transposed into laws at the national level to become applicable to people's daily lives. This also means that national advocacy is needed wherein organisations and people with disabilities get involved in negotiations with their

16 The EDF is an umbrella organisation that defends the interests of over 100 million people with disabilities in Europe, and brings together their representative organisations from across the continent. For further information see https://www.edf-feph.org/.

governments on how the European legislation will be transposed.

This chapter discusses European legislation that aims to ensure accessibility for deaf people, including the AudioVisual Media Services Directive, which increases the availability of sign language interpreting and subtitles on TV; the Web Accessibility Directive and Electronic Communications Code, which support access to interpersonal communications; and the EAA, which includes accessibility requirements for a broad range of ICTs, including for emergency communication. The chapter also touches on access to the EU institutions, resources for disabled people's organisations and national deaf associations, and an exploration of universal design and future objectives for advocacy.

AudioVisual Media Services Directive

The Audiovisual Media Services Directive (AVMSD)[17] of 2018 is important for increasing the availability of sign language interpretation and subtitling on TV and video-on-demand platforms. Prior to 2018, some countries already had advanced media accessibility, e.g. the UK, France, and Spain. When it comes to audiovisual media, for some issues the quality can be set at the European level, whereas for other accessibility issues national campaigning is needed. The European legislation only specifies that the country needs to progress constantly with regard to access for people with disabilities. It does not specify the pace of development or the means by which access to services should be provided. This means that, regarding subtitling, sign language interpreting and audio description for the blind, it is the responsibility of national associations of people with disabilities to talk to their governments and agree on a road map that can achieve this goal. These associations need to make sure that all of their members are represented and involved in the decisions on how the EU legislation is actually implemented in practice. For example, an issue that needs to be discussed by deaf organisations at the national level is where to place the window for the sign language interpreter in a TV broadcast. They will need to advocate for a standard that the broadcasters in their country can implement.

This directive also includes access to emergency information and communication through media, which has always been a high priority in the disability movement. At the beginning of the pandemic, the EDF witnessed how persons with disabilities were in many cases neglected by their governments. But as the public health emergency unfolded, more and

17 Directive (EU) 2018/1808 of the European Parliament and of the Council of 14 November 2018 amending Directive 2010/13/EU on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audiovisual media services (Audiovisual Media Services Directive) in view of changing market realities; see https://eur-lex.europa.eu/eli/dir/2018/1808/oj

more governments provided sign language interpreting and live subtitling for crisis information. This illustrates that European standards need to be set so that national broadcasters and governments can follow an agreed protocol to make sure the information they broadcast to the population is accessible (on access to crisis information during the pandemic also see the chapters by Balciunaite & Wheatley, Hepner, Johannsen Eskelund, Gebruers & Haesenne, and Hoogeveen).

Web Accessibility Directive

The Web Accessibility Directive[18] of 2016 was the first disability-specific legislation on accessibility in the EU. Since the initial proposal from the EU Commission covered only 12 very specific public online services, it was a great success that the disability movement managed to broaden the scope to cover all public sector websites, plus mobile applications which were not even considered by the Commission. In 2009 and 2010, before the Web Accessibility Directive was introduced, disability organisations had already managed to get accessibility included, albeit in a rather general way, in sectoral legislation such as the AVMSD in 2010 and the Universal Service Directive in 2009, which dealt with electronic communications. An example of how this legislation supports deaf people is that it facilitated the Web Content Accessibility Guidelines (WCAG), which include requirements for public websites and apps such as that pre-recorded videos must be captioned.

European Electronic Communication Code

In 2016, the disability movement had the opportunity to go further through revising sectoral legislation and making accessibility mandatory in the case of the AVMSD. More provisions were included in the telecommunications legislation, which was now called Electronic Communications Code (ECC)[19] instead of the former Universal Service Directive. The ECC aims at making electronic communications more accessible to persons with disabilities through, for example, real-time text, Total Conversation and relay services at the national level. It allows NADs to advocate for more availability and affordability of video and text relay services.

18 Directive (EU) 2016/2102 of the European Parliament and of the Council of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies; see https://eur-lex.europa.eu/eli/dir/2016/2102/oj

19 Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code (Recast) Text with EEA relevance; see https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2018.321.01.0036.01.ENG

European Accessibility Act

The EDF's flagship initiative, the European Accessibility Act (EAA),[20] also has a very strong component on new technologies. At the time of writing, they are being transposed into national legislation in all EU countries. This legislation will provide European standards on accessibility for all the products and services included in the Directive, such as video conferencing tools (e.g., Zoom and other applications that have been used during the COVID-19 pandemic). These standards specify the minimum rate of frames per second that will allow for a comprehensible interaction in sign language. Also, subtitles done by artificial intelligence or machine learning alone are avoided as they are often full of mistakes. Countries may differ in how they actualise these technologies. In some countries, the preference is to have different colours of text to distinguish the utterances of different characters, while others use names to indicate which character is speaking.

Accessibility of emergency services

The EDF has long advocated for a harmonised approach to contacting the EU emergency number 112 for people with disabilities. There is a legal requirement for all Member States to implement the accessibility standard by 2027 (on emergency services also see Ulfsparre, this volume). But this advocacy has encountered a number of challenges, and in 2021 there are still EU countries in which a fax is considered to be an accessible way of contacting the emergency number.

This number should already have been accessible following the 2009 Universal Service Directive. However, since accessibility was not defined or detailed in terms of specific requirements, each country interpreted it in their own way. Many countries implemented a mobile app; others used an old-fashioned fax machine, while some adopted SMS. Disability organisations knew that technology should allow for a harmonised way of contacting 112, because one of the values of the European Union is that citizens can move freely between Member States. So if a deaf person travels to another country and has to call 112, they need to know how to do it without having to look up the procedure. Therefore, the EDF advocated for Total Conversation[21] as a single accessible way to contact 112 across the EU (also see the chapters by Placencia Porrero and Ulfsparre).

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20 Readers who would like to learn more about the EAA may want to consult the EDF's (2020) Toolkit for transposition, which is available at https://www.edf-feph.org/content/uploads/2020/12/final_edf_transposition_toolkit_accessibility_act.pdf
The EUD's International Sign version can be accessed at https://www.eud.eu/news/training/european-accessibility-act-toolkit-transposition/

21 Total Conversation is the combination of video, audio and real-time text.

The EAA is a turning point for accessibility in Europe because it is supported by standards and it specifies how to accomplish accessibility in practice. So in the case of emergency services, industry leaders know how to implement this solution across Europe. Citizens can call 112 with their mobile phones, using Total Conversation or real-time text, regardless of the country they happen to be in. The disability movement needed the EAA to complement the obligation of providing access to 112 that was already included in the 2009 Universal Service Directive and is still there in the ECC. It is now a matter of developing the technical standards and for Member States to start to implement the measures by the 2027 deadline. In addition to Sweden, which has a 24/7 emergency service with Total Conversation (see Ulfsparre, this volume), there are other countries that have solutions at the national and sometimes even regional level. In Spain, a range of apps are in use, and the UK also offers real-time text. The key is to have a common standard across Europe.

Accessibility of the EU institutions

It may be surprising that none of the abovementioned legislation and standards are applicable to the EU institutions. The Web Accessibility Directive, EAA, and AVMSD are only for the Member States, and the EU institutions have their own policies, although they are bound by the UNCRPD as institutions of public administration. Therefore they also need to implement accessibility and they are slowly moving forward on this.

The fourth European Parliament of Persons with Disabilities was a huge event at the EDF, organised in December 2017 by members of the EU Parliament, filling the hemicircle with more than 600 delegates with disabilities from all over Europe, for whom accessibility features were maximised.

In the European elections of 2014, none of the candidates' debates were accessible. There was no sign language interpretation or subtitling. In the run-up to the 2019 elections, the EDF advocated for the Parliament, Commission and candidates to make preparations that would ensure the debates were accessible. As a result, sign language interpretation and subtitling were provided for one of the 2019 debates in the Parliament.

The EUD is very active in ensuring that citizens can submit a petition to the European Parliament in their national sign language. Disability organisations want live subtitling to be available for the petition meetings at a minimum, and expect that the advancement of technologies, along with the stronger political commitment of the institution, will increase their accessibility.

Resources for national disability organisations and deaf associations to advocate for the implementation of EU legislation

Since EU legislation is difficult to understand, with technical standards aimed at engineers, architects and other experts, the EDF[22] and EUD[23] provide reports, toolkits and webinars for their members at the national level so that they can comprehend and navigate the European initiatives that are useful for their country. This enables people with disabilities, as experts on their own experiences, to bring their perspective into how the European legislation on accessibility should be rolled out in practice.

An example can be found in the advocacy for the implementation of the Web Accessibility Directive. When the directive was adopted, the EDF advised its members to be careful because there are some exceptions and they may want to advocate for a broader scope at the national level. Some countries took the opportunity of using the directive to cover private websites as well, for instance. So the EDF conveyed to its members that this was an important opportunity to go beyond what the EU was calling them to do. The EDF also asks its members to share their national-level issues and challenges, and check among each other in order to understand best practices and what worked or did not work.

Furthermore, the EDF creates groups on particular topics to combine the expertise on a specific domain. For example, there are expert groups on new technologies, transport, and refugees, guided by specialists from industry

22 These toolkits, reports and webinars are available on the EDF website, www.edf-feph.org. The webinars include information on International Sign and edited subtitles that respect diverse reading speeds. The EDF's human rights reports include one from 2019 with data from across Europe on the social exclusion and poverty of persons with disabilities; one from 2020 on the impact of COVID-19; another from 2020 that compiled information on all of the rights that people with disabilities have achieved with the involvement of the EU institutions; and finally one from 2021 about political participation and the right to vote.

23 EUD toolkits for training on these laws are available at https://www.eud.eu/news/training/

and academia who are committed to the cause of people with disabilities. This brings people together under a common cause, while remaining sensitive to specific demands and discrepancies among different disability groups. It enables organisations to develop a strong message and go to the government to explain their position.

Accessibility is a human right for persons with disabilities. As such it should be incorporated as a precondition in all of the activities and initiatives that a government carries out. The disability movement needs to keep raising awareness about this and pay close attention when politicians discuss the issue of balancing the needs of the disability community with the interests of private sector companies. The latter are stakeholders, whereas the former are rights-holders under the UNCRPD, which has accessibility as one of its principles. Accessibility should also be a mandatory component of university courses for architects, engineers, and designers so that more professionals gain expertise in this area.

Universal design and the way forward

Universal design, as defined in the UNCRPD, aims to apply to the greatest extent of people. It is important for industry developers and designers to understand this concept and incorporate its principles such as design for all (on universal and inclusive design also see the chapters by Herrlinger, Herrero Estalayo et al., Patnoe et al., and Lay-Flurrie). The EDF have contributed to European standards on this so that any company, organisation, NGO or public body can adopt a universal design approach. Accessibility for people with disabilities is one of the positive outcomes of universal design.

Whereas accessibility refers to the characteristics of products, services, systems or infrastructure that need to be defined and tested according to requirements and legislation, universal design is an approach which aspires to go beyond the need for add-ons and adaptations. For example, in order to be accessible, a TV programme must have sign language interpretation and audio description. In contrast, under universal design, the TV producer would plan their programme in such a way that accessibility is incorporated into the output as an integral component.

While legislation is yet to catch up with technology, when it comes to accessibility, legislation may push accessibility forward. For example, with the EAA, all TVs for sale in the EU will have the same minimum set of accessibility features. Some of the EDF's upcoming priorities and advocacy initiatives include advising the EU Commission to set up a new agency for accessibility, to cope with the very technical nature of it and details that may not be understandable for industry professionals and/or policy

makers at the national level. This agency would be tasked with supporting and monitoring the implementation of the abovementioned accessibility legislation and the development of new laws (e.g., on artificial intelligence and digital platforms), as well as defining the technical specifications necessary to comply with the legislation. The agency would be a point of convergence for disability organisations, persons with disabilities, industry, procurers, and other stakeholders who want to discuss what accessibility means in practice. In the new European Disability Rights Strategy 2021-2030,[24] the Commission has proposed that this agency be conceived as a knowledge centre called AccessibleEU, that supports Member States in implementing the accessibility legislation discussed in this chapter.

24 See https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1614872097963&uri=COM%3A2021%3A101%3AFIN

The importance of an ambitious transposition of the European Accessibility Act for deaf people in the EU[25]

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The information and views set out in this article are those of the author and do not necessarily reflect the official opinion of the European Commission.

In recent years, the European Union has adopted a number of important pieces of legislation that inter alia aim at increasing accessibility for persons with disabilities, including the revised Audiovisual Media Services Directive (AVMSD)[26] and Electronic Communications Code (ECC). The revised versions of both of these directives were introduced in 2018.[27] In addition, there are two Acts that focus specifically on accessibility for people with disabilities. These are the Web Accessibility Directive[28] of 2016 and the EU's milestone achievement, the European Accessibility Act (EAA)[29] of 2019 (for a discussion of this legislation also see the chapter by Moledo). The EAA is interlinked with the ECC and AVMSD; they employ the same definitions and their obligations complement each other. All of these laws[30] have a massive potential to bring about long-awaited changes and make audiovisual media, telecom services, emergency communication, and other products and services more accessible for, inter alia, deaf people in the EU.

After being adopted at the European level, these laws must be transposed into Member States' national legislation so that they can be implemented subsequently in the everyday lives of citizens. The period of transposition is crucial, as each government is responsible for adopting new legislation or reforming existing laws in order to comply with the new obligations.

25 This chapter draws on Inmaculada Placencia Porrero's presentation in the EUD Webinar on the EAA transposition on 19th June 2020, which can be viewed at https://www.eud.eu/news/webinar/past-webinars/transposing-eu-accessibility-legalisation-national-laws-role-national-associations-deaf

26 Directive (EU) 2018/1808 of the European Parliament and of the Council of 14 November 2018 amending Directive 2010/13/EU on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audiovisual media services (Audiovisual Media Services Directive) in view of changing market realities; see https://eur-lex.europa.eu/eli/dir/2018/1808/oj

27 Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code (Recast); see https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2018.321.01.0036.01.ENG

28 Directive (EU) 2016/2102 of the European Parliament and of the Council of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies; see https://eur-lex.europa.eu/eli/dir/2016/2102/oj

29 Directive (EU) 2019/882 of the European Parliament and of the Council of 17 April 2019 on the accessibility requirements for products and services; see https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019L0882

30 EUD toolkits for training on these laws are available at https://www.eud.eu/news/training/

This chapter concentrates on the EAA,[31] and explores why an ambitious transposition of it by national governments can improve deaf people's daily lives.[32]

The EUD's EAA Toolkit of transposition (see footnote 29)

The EAA is an internal market directive that imposes common accessibility requirements on certain key products and services responding to the needs of people with disabilities (EDF, 2020). Member States are required to transpose the EAA before 28 June 2022, and apply their regulations by 28 June 2025.[33]

The Act contains two main sets of provisions. The first imposes accessibility requirements for specific, mainly digital, products and services; and the second uses these requirements for other EU laws such as the public procurement directives. It also can be used in relation to European funds to require accessibility at all stages of implementation of the funding. Although the EAA contains provision related to the built environment where the service is provided (EDF, 2020), domains such as healthcare services, education, housing, and household products are not in its scope.

31 Readers who would like to learn more about the user's perspective of the EAA, may want to consult the EDF's (2020) Toolkit for transposition at https://www.edf-feph.org/content/uploads/2020/12/final_edf_transposition_toolkit_accessibility_act.pdf. The International Sign version can be accessed at https://www.eud.eu/news/training/european-accessibility-act-toolkit-transposition/

32 Editor's note: The EAA is not directly about users' rights; rather, it is about obligations on (mainly digital) products and services. Therefore, the law itself is aimed at providers of digital technologies, and although attempts have been made in this chapter to use plain language, the chapter still retains some amount of technical detail.

33 There are a few exceptions, which cannot be covered within the scope of this chapter, but it is worth mentioning that the deadline for implementing responses to the emergency 112 number is 2027. However, the deadline for the obligations on service providers to provide emergency communications remains 2025. The deadline for implementing responses to 112 is later because first the Telecom operators have to provide the infrastructure and the service before the public authorities can reply in accessible formats when they receive an emergency communication.

This chapter first looks into the products, services and other elements that fall within the scope of the EAA, such as the built environment and responses to the emergency 112 number. Then an overview of the Member States' main obligations is provided. The chapter concludes with a discussion of additional requirements for electronic communications such as real-time text, Total Conversation, and the provision of signed language interpretation.

Products, services and other elements in the scope of the EAA

The EAA imposes specific obligations on the economic operators that deal with products, encompassing the manufacturers, distributors, and importers, to ensure that the items are accessible. These products include computers and operating systems; self-service payment terminals and cashpoints; equipment for telecommunications including phones and tablets; e-readers; and devices for audiovisual media services such as TVs and decoders.[34] Regarding the services in the scope of the EAA, those that provide electronic communication are included, apart from transmission services used for the provision of machine-to-machine services.[35] This scope also includes consumer banking and e-commerce as well as services providing access to audiovisual media services and some elements of transport such as the delivery of real-time travel information.[36]

Two other elements that the EAA covers are the built environment and answering emergency communications. For deaf people, one of the most important elements of the Act is the obligation to answer communications to the single European emergency number 112 by using the most appropriate Public Safety Answering Point (PSAP).[37] In practice this means that PSAPs must be able to reply to emergency communications with synchronised voice and real-time text,[38] and where video is provided, synchronisation of these components as Total Conversation.[39] For this,

34 More details about products that fall under the EAA are available in the recitals of the EAA at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32019L0882

35 This is a part that was lost in the negotiations, although the Commission's proposal included it. These services are relevant for example in relation to the internet of things.

36 More details about services that fall under the EAA are available in the recitals of the EAA (see footnote 8).

37 This complies with the specific accessibility requirements listed in Section V of Annex I (Part 2.14, Article 4.8). PSAPs are the centres that receive and respond to emergency calls, and send help (e.g. firefighters, police, or ambulance). According to the EDF Toolkit for transposition (2020, p. 9), PSAPs are "established by responsible authorities to cover emergency communications from a certain area or for certain type of emergency communications".

38 Article 3 (14) defines real-time text as a form of text conversation in point to point situations or in multipoint conferencing where the text being entered is sent in such a way that the communication is perceived by the user as being continuous on a character-by-character basis.

39 Article 3(9) defines Total Conversation by reference to point 35 of Article 2 of Directive (EU) 2018/1972, as a multimedia real-time conversation service that provides bidirectional symmetric real-time transfer-of-motion video, real-time text and voice between users in two or more locations.

the current telecommunication technologies and equipment used by the designated PSAP must be enhanced by technologies for example based on IP (Internet Protocol) networks. PSAPs need to be equipped with state-of-the-art communication tools allowing accessible communication, which means being able to respond to calls using real-time text or Total Conversation.

The other special-treatment element is the built environment where the service is provided, such as customer service centres related to electronic communications or audiovisual media. To make the built environment accessible is an option but not an obligation in the EAA, as it is up to the Member States to choose to adhere to this provision. Nevertheless, once adhered to, they become an obligation. This means that for example call centres are made accessible only if the Member State in which they are located agrees to comply with the provision. Therefore, this is a point that national associations of the deaf could address with their governments during the transposition period.

The Member States' main obligations

There is an obligation on Member States to ensure that products comply with accessibility requirements when economic operators place them on the market. Once a product is compliant, it can circulate in the whole internal market of the EU. The enforcement of the obligations affects all of the economic operators involved in the process of making the product available for sale, from the manufacturer to the distributor.

First, the economic operators self-declare that they fulfill the requirements, and they put a CE marking[40] on the product, which stands for *Conformitè Europëenne* ('European Conformity'). Then the market surveillance authorities complement this self-declaration with safeguarding checks.

The model for services is similar but simplified. Services also have to comply with accessibility requirements in order to get access to the EU's internal market. There is also an obligation for service providers to declare that they comply with the accessibility requirements, and this has to be put in the 'terms and conditions' of the service contract and be checked by the authorities responsible for compliance of services. The requirements for services state that four main aspects must be accessible: the products used in the provision of the services; the information about the functioning of

40 According to the Europa website, the letters 'CE' appear on many products traded on the extended Single Market in the European Economic Area (EEA). They signify that products sold in the EEA have been assessed to meet high safety, health, and environmental protection requirements. When a customer buys a new phone, a teddy bear, or a TV within the EEA, they can find the CE mark on the item. CE marking also supports fair competition by holding all companies accountable to the same rules.

the services; the help desks and user support facilities; and the websites and mobile apps related to the service.

Key provisions for products

- **Accessibilty obligations** (Art 4)
- **Free movement of products** and **services** meeting the accessibility requirements (Art 6)
- Obligations for **manufacturers, authorized representatives, importers, distributors** (Chapter III) (Based on Decision 768/2008)
- **Self-declaration of conformity** (Art 16)
- **CE marking** (Regulation 765/2008) (Art 18)
- **Market surveillance (compliance, safeguards)** (Chapter VIII) (Based on Regulation 765/2008)

This screenshot of Placencia Perrero (2020) provides an overview of the EAA's key obligations related to products (also see footnote 1).

Key provisions for services

- **Accessibilty obligations** (Art 4)
- **Free movement of products** and **services** meeting the accessibility requirements (Art 6)
- Obligations for **service providers** (Art 13)
- **Authority responsible for compliance of services** (Art 23)
- **Procedures for:** (Art 23)
  - **Checking compliance with obligations and safeguards**
  - **Complaints and corrective measures**

This screenshot of Placencia Perrero (2020) provides an overview of the EAA's key obligations related to products (also see footnote 1).

The accessibility obligations can be further described and elaborated by the use of standards. In other words, the EAA allows the establishment of harmonised European standards that give more detail about the technical requirements. It also permits the use of technical specifications under certain conditions. In addition, it allows the European Commission to complement the accessibility requirements in Annex I, for example for matters of interoperability. This is done through delegated Acts. It is important for example when the obligations themselves are not enough to produce the intended effect. For example, real-time text and Total Conversation need to be interoperable and to ensure this, when the

accessibility requirements would not be enough to achieve it, it would be possible to adopt delegated Acts with binding technical specifications for interoperability.

The EAA also has provisions that require interoperability with assistive devices and information about how the mainstream technology works with the assistive technology. These also require the product to provide software and hardware for interfacing with the assistive technologies. In fact, the EAA contains a very specific requirement relevant for deaf and hard of hearing people, indicating that when the product uses audio or audible signals, it shall be compatible with assistive technologies available at EU level, including hearing aids, telecoils, cochlear implants and assistive listening devices. Under the Act, the publicly-available instructions for using a product (e.g. instructions displayed on a website) have to explain the accessibility functions of the product, how to activate them, their interoperability with assistive solutions, a description of the software and hardware that enable the product to interface with assistive devices, and a list of the assistive devices that have been tested together with the product.

Regarding access to audiovisual media services, the Act contains requirements for electronic programme guides (EPGs) that must be perceivable, operable, understandable and robust, and provide information about the accessibility. This includes ensuring that components such as subtitles, audio description, and signed language interpretation, are fully transmitted with adequate quality for accurate display, and synchronised with sound and video, while allowing the user to customise and control them.

Additional requirements for electronic communications

The additional requirements for electronic communications services are the obligations to provide real-time text in addition to voice, and Total Conversation where video is provided. In addition, telephone products have to be able to deal with real-time text.

Where the service provides video, then it is an obligation to incorporate Total Conversation. This needs to be understood in conjunction with the ECC, under its Article 35 on the provision of affordable universal service, where it indicates that

> *Member States shall ensure, in light of national conditions, that support is provided, as appropriate, to consumers with disabilities, and that other specific measures are taken, where appropriate, with a view to ensuring that related terminal equipment, and specific equipment and specific*

> *services that enhance equivalent access, including where necessary total conversation services and relay services, are available and affordable.*

The next requirement for services ensures that emergency communications will provide voice and text – including real-time text – and that the text is synchronised with video when video is provided. In relation to the accessibility of emergency communication (also see the chapters by Moledo and Ulfsparre), all the elements in the chain of accessibility are present. This encompasses the device, for example the telephone, which has to be accessible; and the telecom operators' obligation to provide accessible communications to 112 (i.e. real-time text, and when video is provided, also Total Conversation). But what is new in the EAA, is that for the first time it introduces the obligation for those providing the services – so the public authorities responding to the phone when someone calls 112 – to also have to do this in an accessible format.

Products, namely consumer terminal equipment with interactive computing capability, used for electronic communication services, also need resolutions that enable sign language communication, including high-speed internet connections. Additionally, products used for audiovisual media services, such as digital televisions, have to be able to transmit and properly display the accessibility features of the content.

The EAA is very explicit on requirements and obligations that address real-time text and Total Conversation and certain conditions for the use of sign language. Although it will take a few more years for the Act to be fully implemented such that these accessibility measures are fully realised in the related products and services, it is already clear that deaf people's access to telecommunications and audiovisual media services is on a trajectory toward significant improvement across the EU.

Access to emergency services

Christer Ulfsparre, Omnitor[41]

Background

Voice calls have traditionally been the only way to contact the emergency services, which means that large groups of citizens with disabilities experience discrimination through being denied equal access to these services. The single European emergency number 112 was adopted in 1991 by the EEC (European Economic Community).[42] Using a common emergency number would avoid issues for the increasing number of business and private travellers.

It is estimated that over 100 million people with disabilities are living in the EU[43], especially with European demography shifting towards an older population. In recent years, access to emergency services has increased, and a wide variety of solutions are deployed in the EU. However, some of these solutions, such as email, fax and analogue text phones, are obsolete and/or too slow to be effective. The most common one is SMS via mobile phone, which is used in 24 Member States.[44] However, SMS conversations tend to be slow. They can also be unreliable: some countries do not support receiving SMS from the European emergency number 112, and roaming (i.e. sending SMS outside one's home country) may not work. Unfortunately, today's emergency communication solutions deployed for citizens with disabilities in the Member States still suffer from missing functionality.[45]

This chapter illustrates how Total Conversation emergency services guarantee accessibility for all, including for deaf users. After a short discussion on the EU legislation which has supported the use of 112 and technological innovations to optimise the accessibility of emergency services, this chapter highlights technological refinements through projects on next-generation emergency services and good practices by Omnitor, a company based in Sweden. Omnitor pioneers in remote communication services and products that aim to provide harmonised solutions for real-time interaction through video, audio and text.

41 Omnitor (www.omnitor.com) is a business based in Sweden that falls into the category of small or medium sized enterprises (SMEs). Omnitor is involved in standardisation activities and projects related to next-generation emergency services, which enables increased accessibility for citizens with disabilities.

42 See https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31991D0396:en:HTML
The EEC was later incorporated into the EU.

43 See https://www.edf-feph.org/newsroom-news-how-many-persons-disabilities-live-eu/

44 See https://ec.europa.eu/digital-single-market/en/news/2019-report-implementation-european-emergency-number-112

45 Missing functionality includes not using the single European emergency number 112, requiring pre-registration, not being free of charge, not sharing location with the emergency service, not supporting European roaming, and not informing travellers with disabilities about how to contact the locally accessible emergency service.

EU legislation related to emergency services and technological innovation

Technological innovations related to the accessibility of emergency services were stimulated by changes in European legislation, including the 2002 Universal Service Directive, the 2009 amending Directive, the 2018 Electronic Communications Code (ECC), and the 2019 European Accessibility Act (EAA).[46] In 2009, Directive 2009/136/EC was added to the 2002 Universal Service Directive, thereby emphasising the concept of equal access to emergency services for citizens with disabilities, "*in particular deaf, hearing-impaired, speech-impaired, and deaf-blind users*". The Directive requires EU Member States to amend existing laws or create new legislation that will comply with the minimum standards imposed by the Directive, but leaves the individual countries to decide how to achieve this.[47]

Directive (EU) 2018/1972, also known as the Electronic Communications Code (ECC), regulates electronic communications networks and services. By December 2020, national policies must be adapted to it. The ECC introduces articles on universal and emergency service access that are specifically crucial for deaf and hard of hearing persons.[48] Finally, the latest milestone of EU accessibility legislation is the 2019 European Accessibility Act (EAA)[49], as it ensures access to certain electronic communication services by harmonising requirements for related products and communications to the single European emergency number, 112. In this way, the EAA compliments the ECC.[50]

Major innovations

The most significant recent innovations in access to emergency services were generated in three Omnitor projects that began in 2009, 2015, and 2020 respectively. Because of the Universal Service Directive, in 2009, five

46 For a discussion of this European legislation, also see the chapters by Moledo and Placencia Porrero.

47 See https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:337:0011:0036:en:PDF

48 Article 2 (38) of the ECC defines "emergency communication" as "communication by means of interpersonal communications services between an end-user and the PSAP [Public Safety Answering Point] with the goal to request and receive emergency relief from emergency services". Article 109 also deals with emergency communication, and Article 111 specifically requires "EU countries to ensure that end-users with disabilities have equivalent access to electronic communication services (…); and benefit from the choice of undertakings and services available to the majority of end-users". Readers who would like further information on Article 109 may consult the EUD toolkit at https://www.eud.eu/index.php?cID=2164#4-emergency-communications-and-the-single-european-emergency-number-112-article-109-eecc-

49 See https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019L0882

50 For further details on European legislation related to emergency access for citizens with disabilities, see the European Emergency Number Association's document *Emergency Services Accessibility for Persons with Disabilities* at https://eena.org/knowledge-hub/documents/emergency-services-accessibility-for-person-with-disabilities/

European countries[51] started offering accessible remote communication to citizens with disabilities, including for both everyday and emergency needs, through the project REACH112 (which stands for REsponding to All Citizens needing Help via 112). The REACH112 project proved that it was possible to fulfil existing European directives and was a motivation for further legislation. One of its key concepts was Total Conversation[52], a multimedia service that combines audio, video, and real-time text (RTT)[53] for synchronous bidirectional communication between users in two or more locations. Total Conversation services are deployed in several countries in Europe, e.g. Sweden, France, Norway, and the Netherlands. RTT is sent instantly while being typed and displayed immediately for the recipient, making the communication fast and interactive enough to be effective in an emergency. When using RTT there is no need to press a key to send the characters as in chat or SMS[54]. In Sweden, a one-year pilot was conducted with real emergency calls. When a deaf person called 112, a call handler and sign language interpreter were connected so that the interpreter could translate between Swedish Sign Language and spoken Swedish.

Importantly, the project provided this service around the clock, whereas Sweden's usual sign language service was not available at night. The project showed that Total Conversation was more interactive and conversational than the SMS 112 option that had been available prior to the project. A relay service such as that used in REACH112 is another way to reach the emergency services and may provide equal access for deaf citizens. However, relay services are not available in all Member States and are not always open around the clock. In Sweden, at the time of writing, the video relay service (VRS) in Swedish Sign Language is open 24/7 and prioritises emergency calls. This means that deaf citizens can reach the emergency services through VRS.

Emergency applications have changed because of the rapid adoption of smartphones and the need to provide more precise caller locations to dispatch resources to incident sites. These applications, however, typically use proprietary protocols to share information and do not support roaming.

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51 France, the Netherlands, Spain, Sweden, and the UK

52 See https://www.itu.int/rec/T-REC-F.703/en

53 See https://tools.ietf.org/html/rfc4103

54 In the United States, the traditional way to contact emergency services has been legacy text phones (TTYs). According to ADA (Americans with Disabilities Act) regulation, all PSAPs (Public Safety Answering Points) shall provide access to TTYs. However, in recent years a transition to real-time text has progressed as a replacement to the outdated legacy text phones. The FCC (Federal Communications Commission) have set timelines for wireless carrier providers and wireless equipment manufacturers: "Manufacturers of handsets for use with wireless IP-based voice services must implement RTT in all handsets manufactured after December 31, 2018". Real-time text is now available in the United States for at least the two major mobile operating systems iOS and Android. See https://www.ada.gov/911ta.htm; https://www.fcc.gov/sites/default/files/real-time-text.pdf; https://support.apple.com/en-us/HT208254; https://support.google.com/accessibility/android/answer/9042284?hl=en

A proprietary protocol is owned by a vendor, usually not published and not free for other vendors to use. Hence, a proprietary protocol is not suitable when different vendors are involved e.g. in roaming scenarios. In 2014, the European Emergency Number Association (EENA)[55] started to work on an app specification which was later called PEMEA (Pan-European Mobile Emergency Application). PEMEA became a published specification and an open protocol that different vendors could use.

Figure 1: The start screen of the AIMES emergency app before a call

Figure 2: The app during an emergency call

In 2015, researchers in a new Omnitor project called NEXES (Next Generation Emergency Services) started testing how modern communication over the Internet could improve efficiency and situational awareness in emergencies. In NEXES, Total Conversation was used in emergency apps to achieve accessible communication. Other important aspects of the project were interoperability, roaming, and sharing of vital information with the emergency service. PEMEA was important in realising these aspects. PEMEA was tested and was extended with functionality during the project. Sharing of the caller's language preference was essential to provide the means to connect to a sign language interpreter; however, it was also useful for other citizens who did not know the local language. In 2018, PEMEA became a standard in the European standards organization ETSI (European Telecommunications Standards Institute). The PEMEA standard is an open protocol published at ETSI.

55 See https://eena.org/

In 2020, a project called AIMES (Advanced Internet-based Multimedia Emergency Services) was initiated by Omnitor (see Figures 1 and 2). Leveraging the work in NEXES, this project will bring an accessible and interoperable solution close to the market with the PEMEA standard as a foundation. The AIMES solution will be extended with innovative public alerts and text communication capabilities extending accessibility for citizens with disabilities. Public alerts provide information from authorities when a disaster has struck to make citizens stay safe. Innovative public alerts could be alerts that work in roaming and adapt the content of the public alert to the citizen, e.g. through automatic language translation.

Conclusion and the way forward

In recent years, access to emergency services in Europe has improved, which has entailed the deployment of more modern provisions. However, these provisions still often do not conform to the same requirements as regular emergency calling by voice. New legislation such as the ECC and the EAA clarifies and puts the same requirements on all emergency communication. The REACH112 project showed the benefits of Total Conversation and RTT in real emergencies. The NEXES and AIMES projects have demonstrated European interoperability and roaming of emergency apps by using the standards of Total Conversation, RTT, and PEMEA. The inclusion of real-time text in mobile devices in the US and most likely in Europe in the coming years will increase communication access for large groups of citizens. It is vital to ensure that there is two-way accessibility: user to PSAP (Public Safety Answering Point) and PSAP to user. For example, when the PSAP operator can see the caller, but the caller cannot see the PSAP operator, there is no two-way accessibility.

Worth mentioning is that all call handling elements must support RTT under the new ETSI standard for Next Generation 112 (NG112)[56] which enables emergency communication with video and text. The standard also references Total Conversation. Emergency solutions fostered by the standard are slowly being cascaded throughout Europe. Finally, apart from technological challenges, there are also human and managerial challenges, e.g. the availability of sign language interpreters and/or PSAPs knowing sign language, which is a vital aspect for deaf citizens. Citizens with disabilities should be involved in the piloting of new provision to make sure that it really caters to their needs. The Swedish example illustrates that these challenges can be resolved.

56 See https://www.etsi.org/deliver/etsi_ts/103400_103499/103479/01.01.01_60/ts_103479v010101p.pdf

Access to information and communication during COVID-19

The impact of the COVID-19 pandemic on the rights of deaf persons in Europe

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Introduction

The outbreak of the COVID-19 pandemic has posed unprecedented challenges globally. After its arrival in Europe in February 2020, the rapid spread of the virus triggered containment measures by the government authorities in all of the EU Member States that have had as a consequence the limitation of rights and freedoms of all persons in Europe.

Throughout 2020, a variety of measures were taken at different levels of governance to prepare for, respond to, and manage the impact of the pandemic. However, they have not been adequate and/or sufficient enough to ensure the safety of persons with disabilities, as required by the UN Convention on the Rights of Persons with Disabilities (UNCRPD) under Article 11 on situations of risk and humanitarian emergencies.

Deaf sign language users, as linguistic minorities, have encountered new communicational and environmental barriers as a result of the measures adopted in the context of COVID-19. The EUD collected information from its member organisations, Europe's National Associations of the Deaf (NADs), in 31 countries through consultative virtual regional meetings at the end of May 2020 (EUD, 2020a)[57].

In light of this, the EUD produced a position paper entitled 'Impact of the COVID-19 pandemic on the rights of deaf persons in Europe' (EUD, 2020b)[58] to provide recommendations to policy-makers. These recommendations, which are discussed in section 4 of this chapter, tackle key aspects so that preparations for, responses to, and management of a crisis such as the pandemic, fully respect, protect and fulfil the rights of deaf persons.

Section 2 provides a summary of four of these UNCRPD rights and to what extent they were upheld in Europe during the pandemic. First, the right to access to information and communication in national sign languages,

57 See https://www.eud.eu/files/4715/9492/4634/EUD_report_on_COVID-19_-_July_2020.pdf

58 See https://www.eud.eu/about-us/eud-position-paper/impact-covid-19-pandemic-rights-deaf-persons-europe/

as enshrined in Articles 9 and 21 of the UNCRPD, is explored in section 2.1. This is followed by a discussion of the right to health (Article 25) in section 2.2, and then the right to education (Article 24) in section 2.3. Finally, section 2.4 covers the right to work and employment which is set out in Article 27. Next, section 3 provides a list of promising practices that were carried out during the pandemic by NADs in Europe (EUD, 2020a)[59].

Lastly, section 4 details the aforementioned recommendations as they pertain to each of the four rights discussed in section 2: information and communication (4.1), health (4.2), education (4.3) and employment (4.4). All of these rights are interconnected and mutually reinforcing, which means that full realisation of one right needs the realisation of all other rights. For deaf persons across Europe, COVID-related barriers to the right to access communication and information have obstructed the exercise of other rights. For instance, a breach of the right to communication in national sign languages leads to violations of the right to health.

The four rights and their realisation in the context of Covid-19

The right to access information and communication in national sign languages

The right to access information and communication in national sign languages is enshrined in Articles 9 and 21 of the UNCRPD. Throughout the pandemic, the right to access information has become more prominent than ever before, as European governments have taken unprecedented decisions that limit freedoms in an effort to contain the spread of COVID-19. Access to information and communication in national sign languages allows deaf persons to stay up to date on the rules and guidelines that apply at any given time, and make informed decisions on an equal basis with others. This section highlights the main developments in Europe regarding deaf people's access to COVID-19 information, e.g. about containment measures and income support schemes.

The EUD recognises the efforts put forward by countries in Europe to increase the provision of information in national sign languages during the pandemic. As showcased in a new section of the EUD's website about the accessibility of information on COVID-19,[60] all Member State governments as well as the governments of Iceland, Norway, Switzerland and the UK have provided sign language interpretation during press conferences and

59 See https://www.eud.eu/files/4715/9492/4634/EUD_report_on_COVID-19_-_July_2020.pdf

60 See https://www.eud.eu/news/covid-19/

briefings throughout the pandemic. However, the EUD notes that in most cases this was only done after deaf people had made continuous requests through their NADs. Likewise, despite the clear obligation to ensure accessibility under Articles 9 and 21 of the UNCRPD, equal access to the information provided by national authorities is still insufficient, and many deaf Europeans fear that the increased provision of signed information will not continue after the pandemic.

The EUD also notes that many measures put in place by European governments to contain the spread of COVID-19, such as the obligation to wear face covering masks, have created new barriers to deaf people's right to access communication. Moreover, alternatives to enable communication, such as face shields and transparent masks, have not been made available or affordable.

Nonetheless, NADs in 16 countries reported an increase in the provision and quality of information in national sign languages.[61] For instance, the Lithuanian Deaf Association reported that a sign language interpreter stood beside the President for the first time. This increase has resulted in a larger number of sign language interpreters working with the government and public authorities. As reported by the Federation of Flemish Deaf Organisations (*Doof Vlaanderen*), deaf interpreters have been used in daily TV broadcasts for the first time in Belgium (also see Gebruers & Haesenne, this volume). NADs in 12 countries also informed the EUD about an increase in the visibility of national sign languages.[62] The Danish Deaf Association said that the number of people enrolled in Danish Sign Language classes grew during the pandemic.

As reported by NADs in 12 countries, information did not become accessible by default, even in this emergency situation. Rather, it took a lot of advocacy work by deaf people through their NADs. In the Netherlands, information only became accessible after a deaf man carried out his own campaign and stood behind a reporter with a sign that read 'where is my sign language interpreter?' (also see the chapters by Bolier & Hoogeveen).

Despite the increase in sign language interpreting provision, nine NADs reported that accessible information about COVID-19 remains insufficient or of poor quality.[63] The German Association of the Deaf stated that COVID-19 information did not become accessible until two months after the first official public health press conference was held. Furthermore, the

61 NADs in Austria, Belgium (FL), Belgium (W), Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Lithuania, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Spain, Sweden, Switzerland, Norway, and the United Kingdom (Scotland).

62 NADs in Denmark, Estonia, Finland, France, Ireland, Latvia, the Netherlands, Poland, Romania, Slovakia, Sweden and Switzerland.

63 NADs in Austria, Bulgaria, Croatia, Denmark, Estonia, France, Germany, Malta and Slovakia.

Estonian Association of the Deaf reported that 'accessible' government videos on YouTube were of poor quality.

It has become clear that there are gaps in awareness about accessibility between different ministries and political domains. In France, the National Federation for the Deaf informed the EUD that, while press conferences by the Prime Minister were accessible, this was not the case for information coming from other Ministries, such as Education. Similarly, the Maltese Deaf People's Association said that 'relations with Ministries such as Finance or Tourism have been really poor'. There have also been disparities in awareness at different levels of administration, with local and regional governments often providing less accessible information. The Austrian Deaf Association explained that 'while the federal government's announcements are accessible, the accessibility of regional press conferences depends on regional policies'. In four countries, the claims put forward by NADs were overlooked. In Denmark, the Department of Health has only provided written information, despite the efforts of the Danish Deaf Association. In Latvia, the Latvian Association of the Deaf has struggled to raise the budget for more sign language interpretation and subtitling on TV announcements.

In relation to communication, the NADs of nine countries indicated that the obligation to wear face-covering masks has significantly reduced accessibility.[64] These included the Croatian Association of the Deaf and Hard of Hearing and the Spanish National Confederation of Deaf People, who also reported that even while groups of volunteers were making transparent masks, there was a lack of clarity from the government on whether such masks could be certified as safe. The Union of the Deaf in Bulgaria said that transparent masks did not provide a good solution, as they do not ensure a good level of safety. As an alternative to face-covering masks, the Luxembourgian Association of the Deaf and Hard of Hearing promoted the use of face shields through a nationwide campaign. Seven NADs reported that their countries did not have strict requirements to wear masks.[65]

In the unstable, constantly-evolving context of COVID-19, making informed decisions requires full access to information and communication about all aspects of the virus and containment measures. However, European governments have been unable to guarantee equal access for deaf sign language users.

64 NADs in Austria, Belgium (FL), Belgium (W), Croatia, Czech Republic, France, Ireland, Slovakia, Spain.

65 NADs in Bulgaria, Germany, Hungary, Poland, Slovakia, Slovenia, Switzerland.

The right to health

COVID-19, classified as a pandemic by the World Health Organisation (WHO) on the 11 March 2020, reinforced the paramount importance of access to health care without discrimination.[66] As laid down by Article 25 (a) of the UNCRPD, 'States Parties shall provide persons with disabilities with the same range, quality and standard of free or affordable health care and programmes as provided to other persons'.

For deaf people, especially those infected by COVID-19, truly equal access to health care services includes access to communication with healthcare professionals in national sign languages. During lockdown, access to hotlines is also vital for safeguarding both physical and mental health, as in-person provision of health care is restricted.

The EUD was pleased to notice an increase in the availability of sign language hotlines in Europe, which was a result of the advocacy efforts of deaf people through NADs in partnership with key stakeholders. However, a consequence of the unprecedented rules to contain the virus were new barriers to health care, such as limitations on sign language users' communication with medical staff.

NADs from eight countries reported that sign language hotlines were made available for the first time or increased their hours of operation.[67] For example, the Portuguese Federation of Associations of the Deaf reported that their country's COVID-19 health hotline became accessible through video-relay services.

Two NADs reported a positive engagement with national UNCRPD monitoring bodies over their hotlines. The Spanish National Association of the Deaf said that a COVID-19 hotline with a video interpretation platform was put in place by the Spanish Disability Council.[68] In Belgium, the Federation of Flemish Deaf Organisations liaised with the Belgian Equality Body, who contacted hospitals to remind them that a failure to provide sign language interpretation is discriminatory and unlawful.

The right to communication while receiving treatment at hospitals and other healthcare facilities was often hindered. In many countries, strict rules preventing anyone from accompanying patients inside these facilities meant that sign language interpreters were not allowed to accompany deaf people. As a result, many deaf patients relied on technology to communicate

66 UN Committee on Economic, Social and Cultural Rights, Article 12, General Comment No 14: 'The Right to the Highest Attainable Standard of Health', see https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=E%2fC.12%2f2000%2f4&Lang=en

67 NADs in Austria, Belgium (FL), Denmark, France, Ireland, Italy and Spain.

68 SVIsual Platform, see http://www.svisual.org/SvisualCERMI/VideoWeb-CERMI.aspx

with medical professionals through video remote interpreting. In Ireland, the Health Service Executive approved guidelines to enable communication between deaf persons and healthcare professionals through remote interpreting or directly in Irish Sign Language (also see the chapter by Grehan, Conama, & Sherwin).[69] The Norwegian Association of the Deaf expressed concerns that remote interpreting cannot be seen as an equal alternative to in-person interpreting, as technology poses challenges to the quality of communication. The British Deaf Association said that sign language interpreters were being denied entry into hospitals, and medical personnel were refusing to communicate with deaf people through video remote interpreting. In 12 countries, the authorities allowed sign language interpreters to carry out in-person interpretation, so long they wore a transparent mask and followed social distancing.[70] The Czech Republic Union of Deaf and Hard of Hearing reported that up to two sign language interpreters could accompany a deaf person if they wore transparent masks.

Such barriers, in addition to the impact of COVID-19 itself, have adversely affected the mental health of deaf persons, with elderly people at particular risk. Many NADs highlighted that there is a digital gap between younger and elder persons, with the latter being less familiar with video remote interpreting services and technology. This has created a situation in which lockdown measures have often forced deaf seniors into isolation, as pointed out by the British Deaf Association. At least eight NADs made efforts to increase sign language users' access to mental health hotlines. The French-speaking Federation of the Deaf Belgians coordinated a group of volunteers (psychologists and social workers) to provide mental health support and assistance to victims of domestic violence.

During the pandemic, the right to health has been at stake for everyone. Deaf people have faced new barriers obstructing their right to access healthcare services on an equal basis and communicate with healthcare professionals.

The right to education

To prevent the spread of COVID-19, learners and education authorities have had to adapt their teaching methodologies and move to online platforms. Millions of learners across Europe have been kept at home, far from from their teachers and classmates.

69 'Approved Communication Support for Deaf Patients in health care services' see https://www.irishdeafsociety.ie/2997-2/

70 NADs in Belgium, Bulgaria, Czech Republic, Germany, Hungary, Ireland, Luxembourg, Poland, Slovakia, Slovenia, Switzerland, Sweden.

Nine NADs reported that deaf learners' right to education was disrupted during the pandemic, meaning that they were not able to benefit equally from distance education. There were delays in arrangements for sign language interpreting online, which adversely impacted deaf learners. For young children, many European countries have provided educational TV programmes, and many of these have not been interpreted into national sign languages.

Moreover, a digital and technological gap has become yet more apparent during distance education, as access to technology and equipment has been unequal. Deaf learners, especially those living in poverty, often did not have the equipment or devices necessary for home schooling and many people in rural areas did not have fast enough Internet connections. NADs who raised these concerns included the Romanian National Association for the Deaf and the Swiss Federation of the Deaf.

In the case of young children, many families received guidance from professionals on how to provide basic education at home. However, this impacted on deaf children's right to a sign language environment, as many parents do not sign and lack awareness about national sign languages, as noted by the Maltese Deaf People's Association and the National Federation for the Deaf in France. The Spanish National Confederation of Deaf People explained that some schools terminated their employment contracts with sign language interpreters. In relation to additional inequalities, the Hellenic Federation of the Deaf reported that even when distance education was provided in Greek Sign Language, it was still not accessible for deaf learners with multiple disabilities and/or economic disadvantage (see Gaitani, this volume).

The right to work and employment

The measures adopted to contain the spread of COVID-19 have impacted people's right to work, and led to higher unemployment rates and an increase in levels of poverty and social exclusion. According to Eurostat, unemployment in the EU rose from 6.5% in February 2020 to 7.2% in July 2020.[71] This increase is more likely to have a disproportionate impact on people with disabilities, as indicated by the European Disability Forum in their 2020 report.[72] NADs including the Slovak Association of the Deaf and the Union of the Deaf in Bulgaria have noticed a worrisome increase

71 Eurostat's press release about this is available at https://ec.europa.eu/eurostat/documents/2995521/10568643/3-01092020-BP-EN.pdf/39668e66-2fd4-4ec0-9fd4-4d7c99306c98#:~:text=In%20July%202020%2C%20a%20month,from%207.1%25%20in%20June%202020.

72 The European Disability Forum's 2020 Report on Poverty and Social Exclusion is available at https://mcuser-content.com/865a5bbea1086c57a41cc876d/files/ad60807b-a923-4a7e-ac84-559c4a5212a8/EDF_HR_Report_final_tagged_interactive_v2_accessible.pdf

in unemployment among deaf people since early 2020. The Austrian Deaf Association reported that deaf self-employed people have suffered a loss of 80-90% of their income. Coupled with the reality that deaf persons face more discrimination in the open labour market generally, it is clear that they are disproportionately affected by the socioeconomic impact of the COVID-19 pandemic.

Many countries in Europe have put in place income support schemes to prevent an increase in poverty and guarantee that people can maintain an adequate standard of living. However, it has become apparent that while information about COVID-19 in national sign languages has been made widely available, deaf signers' access to details about specific measures such as these schemes has often been insufficient, leaving many of them at risk of being excluded from financial support. The shift to from in-person to remote working has also had adverse impacts on deaf people, as pointed out by NADs including the Irish Deaf Society. For instance, many deaf workers in Europe lost their access to sign language interpreting when telework was introduced.

Promising practices by national associations of the deaf during covid-19

NADs have played an essential role in the realisation of deaf people's rights during the pandemic, advocating for their access to health care, education, information and communication in a number of ways. This section summarises the most notable of these practices, including providing access to signed government briefings; offering sign-language-based distance learning and educational programmes; ensuring that deaf people have interpreting services in healthcare settings; and creating hotlines for deaf people to receive signed information on mental health and domestic violence.

First, several NADs ensured that government briefings were available in the national sign language. In Belgium, Deaf Flanders lobbied both the Belgian and French governments to guarantee that their COVID-19 briefings would have sign language interpretation and deaf interpreters, and that this provision would continue after the pandemic. This was also achieved by the deaf association in Lithuania, who secured not only interpreted pandemic briefings but also round-the-clock interpreting services on a permanent basis. In Scotland, the British Deaf Association used funding from the Scottish government to provide daily culturally appropriate sign language presentations of the official briefings in Scotland. These were written and presented by deaf people along with emergency updates and COVID-19 myth-busting information clips from the WHO (also see the chapter by Hepner). Other countries whose NADs successfully advocated

for the provision of interpretation and subtitling of government briefings on COVID-19 include Latvia, the Czech Republic, Ireland, Germany, Romania, and Iceland. Some deaf associations, including those of Italy, Croatia, and Slovakia, also took it upon themselves to produce and disseminate signed translations of information about the pandemic and related legal and health measures, e.g. through their websites.

Secondly, NADs worked with public authorities and audio-visual broadcasters to provide distance education in national sign languages and guarantee that deaf children could access educational TV programmes. For example, advocacy by the Hellenic Federation of the Deaf in Greece resulted in a deaf sign language interpreter playing a deaf role model on the public broadcasting channel's daily school programme. The aforementioned funding provided to the British Deaf Association by the Scottish government included provision for a weekly live-stream session on deaf children's education at home, while in Latvia, the deaf association liaised with social workers to help families ensure that their deaf children received education in Latvian Sign Language.

European NADs also successfully installed various adjustments in healthcare settings to facilitate access to information, communication and interpreting services. The Czech Republic Union of Deaf and Hard of Hearing, for instance, advised the government to approve the provision of in-person interpreters wearing certified transparent masks. In Belgium, the NAD educated the Flemish Federation of Hospitals about software that enables video remote interpreting, and requested that the contact-tracing consortium hire a fluent sign language user for its outreach in the deaf community. To allow deaf patients to communicate with their families and doctors and access remote interpreting, the Italian Association of the Deaf cooperated with Telecom Italia (TIM) (see Samueli, this volume), and the German Association of the Deaf asked the government to make electronic tablets available at hospitals. Guidance for healthcare staff about how to communicate with deaf people and work with interpreters was created by the Irish Deaf Society through its liaison with the Irish Health Service Executive, which also resulted in the translation into sign language of a series of key documents about COVID-19 symptoms, testing, and isolation (see Grehan, Conama, & Sherwin, this volume). Similarly, the Slovak Association of the Deaf cooperated with its government's Regional Department of Public Health to produce a guide for healthcare workers on how to communicate with deaf COVID-19 patients and ensure that they understand the procedures.

Several NADs also created hotlines so that deaf people could receive signed information on COVID-19 as well as on mental health and domestic violence. For example, in Denmark the NAD cooperated with the Danish Red Cross to establish a COVID-19 hotline for deaf people (see the chapter

by Johannsen Eskelund). In Spain, signed videos on mental health were disseminated during lockdown through a network of psychologists and regional deaf organisations created by the Spanish National Confederation of Deaf People, who also published specific guides for deaf victims of domestic violence (see Prado Mendoza & López Arellano, this volume).

Other efforts included employment advocacy, disseminating communication devices to isolated deaf people, and advising the government on how masks affect visual communication. The Finnish NAD organised remote access to volunteers for deaf persons suffering from isolation during lockdown. In Iceland, the NAD made a video for elderly deaf people about COVID-19, explaining what to do if they have symptoms and how to access interpreting services. They also cooperated with their government's Directorate of Labour to ensure that deaf people would not lose their jobs. Hungary's NAD produced video tutorials for deaf workers about the changes to labour law that the government was making during the crisis. Finally, the deaf associations of Bulgaria, Croatia and Luxembourg liaised with their governments to highlight that face-covering masks create a communication barrier for deaf people, and health officials made allowances and adjustments for this. For example, in Luxembourg, a social service centre distributed face shields, and a countrywide information campaign was launched about the need to wear a shield instead of a mask when communicating with deaf people. Slovakia's NAD provided deaf people with masks featuring an ear symbol to enable others to more easily recognise their need for visual communication.

Recommendations and conclusions

This last section briefly offers the EUD's recommendations in relation to each of the four interconnected rights outlined in section 2 above, i.e. the rights to information and communication, health, education, and employment.

The right to information and communication

European countries must place NADs and other representative organisations of people with disabilities at the core of decision-making when preparing for and managing crisis situations and humanitarian emergencies. As laid down in Articles 4(3) and 33(3) of the UNCRPD, States Parties have the obligation to ensure the effective and meaningful participation of persons with disabilities through their representative organisations in such scenarios. This will ensure that crisis responses are UNCRPD compliant and prevent a disproportionate impact on the rights of persons with disabilities. For NADs, meaningful consultation must be guaranteed in national sign languages.

European countries must also ensure that all of the relevant information and communication in emergencies are accessible in national sign languages, without delay, without the need for NADs to make requests, and on an equal basis with provision in the country's national written and spoken languages, in line with Articles 9, 11 and 21 of the UNCRPD. This must be done at all levels of administration, including regional and local levels, and across all policy areas. NADs must be at the centre of assessing the quality of accessibility. Articles 9, 11 and 21 of the UNCRPD also require European countries to ensure that measures put into place to guarantee deaf people's right to communication, such as the use of face shields and transparent masks during the pandemic, uphold the highest standards of safety.

The right to health

European countries must make sure that deaf signers can access quality communication with medical professionals in national sign languages safely and at no cost during crises and emergency situations. This should happen through in-person sign language interpreting and/or video remote interpreting (VRI) services. Deaf sign language users must not carry the burden of organising and/or paying for these services. This corresponds with Article 25 of the UNCRPD, under which every deaf person should have equal access to healthcare services without discrimination.

The right to education

European countries must guarantee that all deaf learners have access to education in national sign languages to the highest standard of safety, including in exceptional situations of risk and humanitarian emergencies such as the COVID-19 pandemic. When distance education is put in place, governments have to ensure that this does not discriminate against deaf learners, including those living in poverty and/or in disadvantaged areas. This may include providing safe in-person education for those who lack the equipment, technology and/or internet access necessary to engage in distance education on an equal basis with others.

The right to work and employment

European countries must ensure that measures to respond to exceptional crisis situations do not have a disproportionate impact on deaf persons in employment. All information about work, including income support schemes, must be accessible in national sign languages so that deaf signers can benefit equally from the assistance offered by various State authorities. Finally, governments need to make certain that deaf persons in employment

are provided with reasonable accommodation when new employment settings (e.g. telework) are introduced as a result of a humanitarian emergency. New platforms and/or working methods must be accessible in national sign languages so that deaf signers can continue to carry out their employment responsibilities on an equal footing with others.

Deaf people's access to information and communication in Scotland during the COVID-19 pandemic

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COVID-19 changed the world in 2020, and created considerable disadvantages for many individuals and groups. However, in Scotland, close co-operation between the British Deaf Association Scotland (BDA Scotland)[74] and the Scottish Government had already been established prior to COVID-19, and had increased awareness and understanding of British Sign Language (BSL) throughout the public sector. This facilitated several initiatives that have optimised deaf[75] BSL users' access to communication and public health information and services during the pandemic. This chapter outlines the underlying legislation that made this possible, before describing four of the aspects of this good practice, namely the provision of a BSL Policy Officer, BSL translations of written materials on COVID-19, BSL summaries of government briefings, and two-way signed interaction allowing people to ask questions and counter their isolation.

The British Sign Language (Scotland) Act 2015

A key element to guaranteeing deaf people's access to information during the pandemic has been the BSL (Scotland) Act 2015. Following the passing of this Act, public authorities in Scotland had the responsibility of creating and implementing BSL Plans to promote the usage and understanding of the language. The devolved government in Scotland has a range of responsibilities that include the economy, education, health, justice, rural affairs, housing, environment, equal opportunities, consumer advocacy, transport and taxation. Through the BSL (Scotland) Act 2015, the Scottish Government has a commitment to promote BSL as a full and proper language across the Scottish public sector, and has a BSL National Plan in place for 2017 to 2023, with 70 actions across ten long-term ambitions, the first of which is: 'Across the Scottish public sector, information and

73 With thanks to the Scottish Government and Frankie McLean, previously BSL Policy Officer, for contributing to this chapter.

74 Founded in 1890, the British Deaf Association (BDA) is a national organisation with a strong presence in Scotland. It empowers deaf people to embrace their independence, culture and identity, and champions their rights and interests, especially in relation to the use of British Sign Language. The BDA is the largest Deaf-led organisation in the UK, with 3,300+ members. It has constituent offices in each of the UK's home nations (Scotland, Northern Ireland, Wales and England) as well as a UK-wide Visual Language Team which produces BSL videos and other online material.

75 Although it is common for the BDA to use 'Deaf' to refer to deaf members of the British Sign Language community, the d/D distinction isn't employed in this edited volume that is oriented towards a deaf sign language perspective (also see Introduction, this volume).

services will be accessible to BSL users'.[76]

The Scottish Government's long-term aim is for people whose primary language is BSL to be fully involved in all areas of public life in Scotland. To this end, Scottish national public bodies, local authorities, colleges, universities, and regional boards of the National Health Service (NHS) are required to publish their own BSL Local Authority Plans. This allows individual bodies to commit themselves to other specific actions to promote BSL. The government also funds four organisations to support BSL planning and implementation throughout the public sector, including BDA Scotland,[77] whose role is to assist 32 local authorities and 14 NHS boards with their BSL Plans. Such support includes providing information, advice and guidance to relevant bodies on BSL users' participation, engagement and empowerment. These two-way relationships have allowed for the views and needs of BSL users to be considered in a range of work both locally and nationally, including during COVID-19. BDA Scotland also produces regular briefings for the BSL community through social media and administers a Facebook group dedicated to the BSL (Scotland) Act 2015.

Built into the Act is a regular reporting cycle, whereupon BSL Progress Reports must be submitted to the Scottish Parliament by the Scottish Government. The first-ever Progress Reports, due in October 2020, were deferred until October 2021 because of the pandemic. But BDA Scotland submitted interim reports summarising the progress being made by Scottish Local Authorities and NHS Boards towards the aims outlined in their BSL Plans and describing good practice examples and challenges arising from COVID-19.[78]

BSL Policy Officer

Having a dedicated BSL Policy Officer in the Scottish Government[79] has had a positive influence in ensuring that COVID-19 information is provided in BSL. It was the BSL Policy Officer who encouraged the concept of having BSL/English interpreters present at Scotland's coronavirus briefings. As a consequence of having this in-house officer, various departments of the Scottish Government have already arranged for their relevant COVID-19

76 The BSL National Plan is available at https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2017/10/british-sign-language-bsl-national-plan-2017-2023/documents/00526382-pdf/00526382-pdf/govscot%3Adocument/00526382.pdf

77 This network of four organisations is called the BSL Partnership, and the other members are Deaf Action, Deafblind Scotland, and National Deaf Children's Society Scotland.

78 See http://bslscotlandact2015.scot/summaries-progress/

79 This role was established to support the work arising from the 2015 Act, but the Act itself did not specify the creation of this role.

information to be translated into BSL, while others are in the process of organising this.

Because the BSL Policy Officer is a deaf signer, his lived experience renders him empathetic to the deaf community and able to articulate its needs. For example, he has a deep and personal knowledge of the challenges that deaf people face regarding access and inclusion. As a staff member within the hearing environment of the Scottish Government, his position enhances the status of BSL. His counterpart in BDA Scotland, with whom he works closely to consult with and represent Scottish deaf people, is its Community Development Manager. She is also a deaf BSL user, and through their cooperation and use of a common language and shared goals of access and inclusion, they aim to form a bridge of communication between the Scottish Government and the deaf community.

BSL translations of written materials and access to NHS services

The government has made key communications about COVID-19 available in BSL, including its 'door-drop' leaflets, and NHS Inform (Scotland's national health information service) produces COVID-19 information in BSL as well (see Figure 1).[80] Signed translations were also provided for instructions on how to download and use the 'Protect Scotland: Test & Protect' app[81] for tracking and tracing close contacts and giving advice about self-isolating to individuals who may have contracted or been exposed to COVID-19. NHS Greater Glasgow and Clyde employ a deaf BSL user as a Health Improvement Practitioner, who is the main point of contact for signers within that region seeking advice about aspects of the app and any alerts they have received. This is an example of direct communication and engagement between a health service employee and local deaf people.

A dedicated COVID-19 website for the Scottish deaf community was also established by BDA Scotland, and operated as a central hub for news and information in BSL including articles from the government's website, BBC News Scotland, and NHS Inform. The site was created by the BDA's Visual Language Team and updated on a regular basis with headline news displayed in a deaf-friendly, accessible interface.[82] This site and its output did not go unnoticed by other Local Authorities and NHS boards, many of whom shared the information on their own networks and websites in order to reach out to their local deaf communities. Doing this also satisfied part of their BSL Plan commitment to promote and share signed resources. A staff member at one Local Authority joined a local BSL messaging group

80 See NHS Inform: https://www.nhsinform.scot/translations/languages/british-sign-language-bsl

81 See Protect Scotland Explainer: https://www.youtube.com/watch?v=F4Yox4vVwf4

82 See https://bda.org.uk/covid19/

and shares BDA Scotland's output with its members.

Figure 1: 'What Happens When a Test and Protect Contact Tracer Calls You' – BSL Version of NHS information video

BSL summaries of government briefings

The Scottish Government has said that providing vital health information in a variety of formats helps to reduce the inequality that many people face.[83] As part of this commitment, BSL/English interpreters have been present at the Scottish Government's coronavirus briefings which are broadcast on national TV, following the guidance provided jointly by the World Federation of the Deaf and the World Association of Sign Language Interpreters.

At the beginning of the pandemic, the government also made funding available to stakeholders including BDA Scotland to ensure they were able to produce targeted information for BSL users who experience barriers when accessing written English. It was the BSL Policy Officer who made the government aware of this. BDA Scotland then generated news summaries and Live Stream output in BSL, delivered by five deaf presenters, to keep Scotland's deaf community fully informed.

The provision included explanations in BSL of key points and messages from the Scottish Government's coronavirus briefings,[84] which were uploaded onto social media that same day. While the briefings themselves

83 See the evidence of Christina McKelvie, Minister for Older People and Equalities, at https://archive2021.parliament.scot/parliamentarybusiness/report.aspx?r=12721

84 For example, see https://www.gov.scot/publications/coronavirus-covid-19-update-first-ministers-statement-monday-22-february-2021/

were interpreted, it was felt that having linguistically and culturally appropriate summaries with illustrations of how deaf lives might be affected would broaden the choice for BSL users and offer them the option of being reviewing the material at their own pace (also see Rijckaerts & Dhoest, this volume on tailoring tv news to deaf signers and Hoogeveen, this volume on providing signed public health information during the pandemic). However, there was often a delay in getting the script and it was often quite challenging to make sure that the summary was produced, edited and uploaded on social media on the same day the briefing was broadcast. With the presenters and editors working from home and based all over the UK, it was necessary to transfer large video files on a daily basis, which was time consuming and resource intensive. In addition to BSL summaries, BDA Scotland also published 'myth buster' videos to counter misinformation. These videos were scripted and signed by a pool of five deaf BSL presenters.

However, having a good working relationship with the BSL/English interpreters working at the Government's coronavirus briefings meant BDA Scotland staff were alerted to the updates and could prepare and present the news items swiftly following the broadcast, with support and guidance from the government's BSL Policy Officer. This was vital in the early days of the pandemic when briefings were called with very little notice. The interpreters themselves also benefitted from this output by deaf native BSL signers and adopted some of the signs and strategies they used.

Two-way interaction in BSL

Starting in March 2020, each week BDA Scotland hosted a Live Stream event relating to COVID-19 topics to facilitate two-way conversations and help ascertain any collective queries or concerns in addition to sharing government advice. Deaf people across Scotland could join these events, and the videos were uploaded onto social media afterward.

In December 2020, the Scottish Government funded BDA Scotland to produce a 'Winter Package' designed to support deaf people through the difficult months and build upon the work described above. This will allow the organisation to continue to empower the deaf community by sharing updates from the Scottish Government in BSL via Live Stream engagement.

Additional funding from the National Emergencies Trust has facilitated the BSL Companion project, which runs from October 2020 to June 2021. This project has enabled BDA Scotland to support the wellbeing of older deaf people who are isolated and/or live alone. Many of them also have

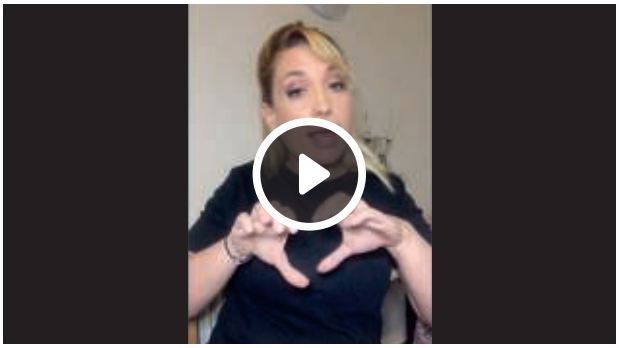
no access to technology. A person from the team of four professional Deaf Befrienders visits them for about an hour a week (observing social distancing and other regulations), or calls them online for a social chat. All four are trained in working with individuals who have dementia, and are experienced in deaf advocacy as well as care work. One feature of this project has been to post or drop off copies of BDA's 125th-anniversary history book[85] whenever visits have not been possible, to inspire memories that they can discuss with their Befriender during their next conversation.

It can be seen that during the pandemic, the deaf community and government accelerated and built on the foundations set out in the BSL (Scotland) Act 2015 and further developed the Local BSL Plans. It is hoped that the examples of good practice illustrated in this chapter will continue to be expanded. The government wants Scotland to be 'the best place for Deaf people to live, work, study and visit', and its commitment towards its deaf people has been unstinting, representing the very best intentions of the Act.

85 Created by the BDA and the British Deaf History Society, the book is entitled *A pictorial history of the British Deaf Association, 1890-2015*, and is edited by Ian Depledge, Alan Murray, Ian Urquhart and Diane Webb. Also see https://bda.org.uk/heritage/

Ensuring equal access to educational television for deaf and hard-of-hearing learners in Greece during the COVID-19 pandemic

Anna Gaitani, Delegate of the Hellenic Federation of the Deaf



International Sign video of this chapter

https://vimeo.com/552365603/fb0f9c2ecc

As part of the Greek government's responses to the unprecedented conditions of the COVID-19 pandemic, on 30 March 2020 it launched a special television channel providing distance learning for primary school pupils. The Hellenic Federation for the Deaf (HFD), the national deaf association of Greece, approached the government's special education department the very next day to make the needs of deaf learners visible and ensure their access to distance education. The government agreed to provide sign language interpreting on the channel, and a few lessons on COVID-19 were also delivered through co-teaching, with a deaf teacher as a role model. Since both deaf and hearing students had access to educational television in Greek Sign Language (Ελληνική Νοηματική Γλώσσα, or ΕΝΓ), the initiative had a major impact on the community. The HFD's 21 board members and the community they serve hope that this example of good practice may inspire and inform the work of other national deaf associations and educators who are working on solutions for accessible education.

In Athens there are two deaf schools that both offer primary and secondary education, and there is also one deaf school in the north. Additionally Greece has mainstreaming, with a deaf child supported by a special education teacher with qualifications in ΕΝΓ, or groups of deaf children who may receive parallel education for some classes. These institutions have their own materials, curriculum and school boards, and their connections to the mainstream education department are minimal. But during the pandemic, all of the schools were closed, including the deaf schools, and the children all had to stay home in lockdown. Therefore, the Ministry of Education felt that Educational TV needed to be set up to facilitate distance learning for students at primary level, while digital platforms were organised for those

at secondary level. Educational TV, Εκπαιδευτική Τηλεόραση,[86] covered a range of subjects such as mathematics and history. Unfortunately, the presenters delivered the lessons in spoken Greek, and there were no subtitles or sign language interpretation for deaf learners. Therefore, HFD took on the responsibility of cooperating with the Ministry to make the provision inclusive.

Figure 1: Two board members (in the middle) and two members of the Greek Association of Sign Language Interpreters

Figure 2: A hearing ΕΝΓ interpreter interprets a pre-recorded primary school lesson in theatre education for grades 4 to 6.

86 For example, see http://www.edutv.gr/index.php/mathainoume-sto-spiti/mathainoume-spiti-mathimatika-c7-noimatikh-glwssa

So on 31 March 2020, one day after Educational TV was launched, the HFD explained to them that the deaf community needed a means of using the service, because the current approach was not accessible. The HFD already had contacts at the Ministry of Education through the instructors in its special education department, which includes a deaf education unit. Also, the HFD were able to draw on the UNRCPD as well as national legislation (Law No. 2817/2000, which concentrates on learners with special educational needs).[87] Through dialogue, lobbying, sharing ideas, and working together for two weeks, the HFD and the Ministry devised a project that would give deaf learners access to Educational TV through sign language.

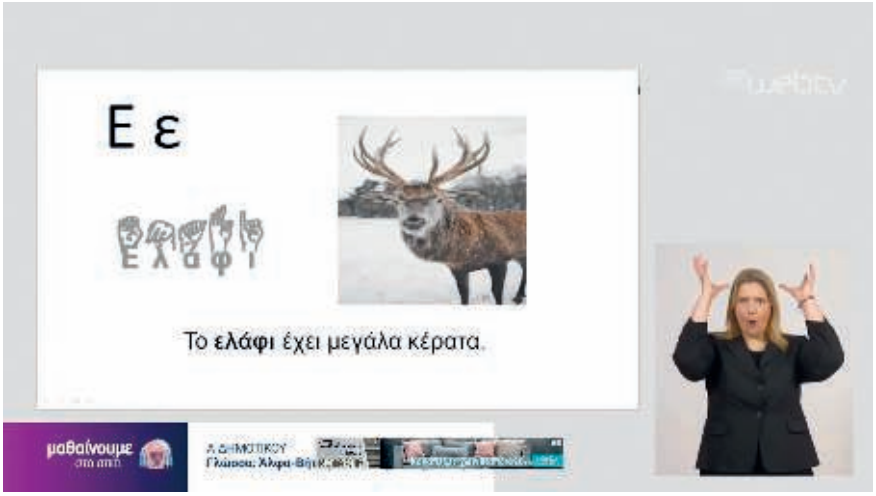


Figure 3: Language lesson with hearing interpreter for grade 1: Alpha-Beta with Vocabulary of Greek Sign Language

Two members of the HFD's Scientific Committee, who also work for the Ministry, were instrumental in this. Dr Vassilis Kourbetis,[88] a senior counsellor of special education at the Ministry, was responsible for designing and implementing the project. Another Ministry expert, certified ΕΝΓ interpreter Dr Marianna Hatzopoulou,[89] was asked to coordinate and support the interpretation of the TV lessons. The Greek Association of Sign Language Interpreters (see Figure 1) recruited 14 certified hearing ΕΝΓ interpreters and two deaf interpreters who were prepared to volunteer, and arranged for them to interpret 160 pre-recorded primary school

87 Law no. 2817/2000, Government Gazette 78 / A / 14-3-2000. Training of applications with special distinctions and distinctions. Chapter A: Education of people with special educational needs. 4a) Greek Sign Language is the language of deaf and hard of hearing students; 4b) Exceptionally, other aids that are feasible and scientifically acceptable may be used during teaching, as they are determined by a decision of the Minister of Education and Religious Affairs following a recommendation of the Special Education Department of the Pedagogical Institute.

88 https://epale.ec.europa.eu/el/blog/vassilis-kourbetis-community-story-greece

89 CV: http://www.pi-schools.gr/special_education_new/html/gr/tmima/biograf/mhatz1.htm

lessons during the first wave of the pandemic, from the end of March to the beginning of June (see Figures 2 and 3). The version that appeared online (on YouTube) had closed captions as well, even though the broadcast on Educational TV did not.

However, the HFD felt that this was not sufficient for a true equal and bilingual approach, and wanted to make sure that the lessons were optimally accessible for deaf children, with signing instruction at their level. This necessitated the involvement of professionals who were not only interpreters, but also deaf role models. Two deaf native signers were therefore selected to interpret six of the 160 lessons (see Figure 4). They were qualified teachers with university degrees, who had experience in instructing deaf children at primary level. They also had many years of experience in interpreting, even though they were not certified interpreters. Also, a hearing and a deaf kindergarten teacher developed and bilingually presented two courses in ΕΝΓ . The courses for pupils from kindergarten to primary grade 2 were entitled "I'm learning about the Coronavirus" and "Grammar of ΕΝΓ" (which was intended for deaf learners specifically; see Figure 5). This co-teaching was enthusiastically received.

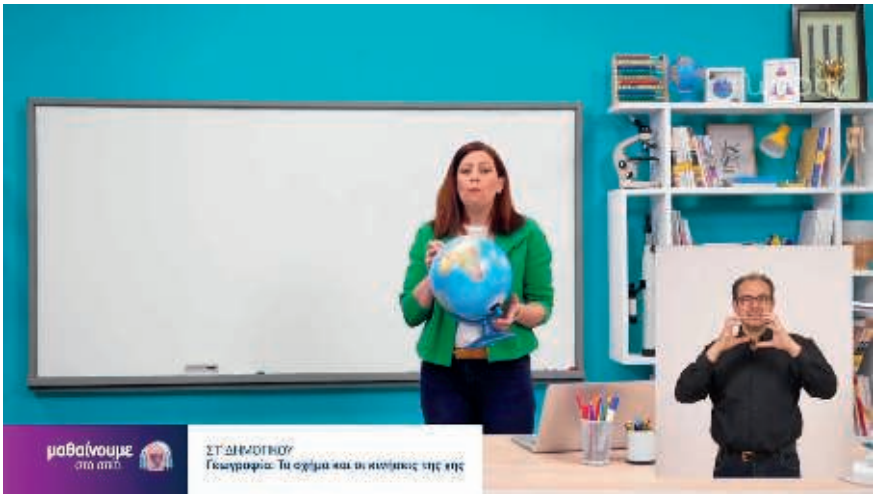


Figure 4: A deaf interpreter interprets a geography lesson for grade 6: "The Shape and Movements of the Earth"

The teachers at the deaf schools also developed online learning materials and provided distance-learning lessons to keep their students motivated, although this was challenging. Through recording themselves and creating educational resources in sign language, they adapted the standardised primary and secondary curricula and materials used by the Ministry's special education department for their deaf learners. They also consulted a set of deaf-friendly, subject-specific learning materials that are available on the government's website. Because these were so helpful, the

HFD advocated for the development of more educational materials and videos for deaf learners in ΕΝΓ. For example, the resources enabled some primary-level teachers to discuss and elaborate on the topics covered on Educational TV, and to bring current affairs into the classroom.

Figure 5: Bilingual lesson with deaf and hearing kindergarten teachers for Kindergarten to primary grade 2: "Grammar of ΕΝΓ - Exploration of semantic areas"

Figure 6: The Ministry of Education, represented by Deputy-Ministry of Education Sofia Zacharaki, honours the HFD and the interpreters and kindergarten teachers for their voluntary work during the first wave of the COVID-19 pandemic

The HFD received thanks for its work not only from deaf learners and their families, and from the Ministry of Education (see Figure 6), but also people whose hearing children had seen bilingual instruction on Educational TV. These parents said that the children really enjoyed seeing a deaf signing

instructor next to the hearing instructor. This is a promising development and may influence future provision such that learners can access lessons not only through interpreters but also directly from a deaf signing presenter.

During the second wave of the pandemic in November and December 2020, the Greek government re-initiated Educational TV, and this time the HFD had less advocacy work to do, as the access had already been put into place and the teachers and interpreters were experienced in the delivery of distance education, and were paid for their work. Parallel to Educational TV, deaf schools and special needs institutions continued to be open, even when all other schools were closed, because of the technical barriers that may prevent some deaf learners from accessing distance education. This illustrates an increased governmental awareness of ΕΝΓ and deaf learners' needs. The HFD hopes that the government will provide a budget to create more learning materials in sign language. This is a strong possibility given its close working relationship with the Ministry of Education and the commitment to deaf children's right to accessible education, which is held across the Greek deaf community.

Providing health information for deaf people in Denmark: a video hotline and interpreted government briefings on COVID-19

Katrine Johannsen Eskelund, Project Leader at Danske Døves Landsforbund (DDL)

In March 2020, Denmark was hit by the coronavirus along with many other countries throughout the world, bringing about dramatic changes to daily life. In addition to coping with the unprecedented personal and societal impacts of the crisis, the deaf community had to surmount the obstacle of attaining access to public health information. The Danish Deaf Association tackled this problem by lobbying for sign language interpreters to be provided at government press briefings, working with the government to establish and run a COVID-19 hotline, and advocating for the health department's website to be translated into sign language.

At the beginning of March, the Danish Government had its first press conference about the pandemic, but there was no sign language interpreter. The government only provided live text captions, which were difficult to understand for people whose first language is a sign language. Many deaf and hard of hearing people felt really troubled at not getting the information like everybody else. The Danish Deaf Association (*Danske Døves Landsforbund*, or DDL) contacted the government and health department and explained that the press conferences needed to include a sign language interpreter. DDL leaders found that it was a struggle to convince government officials of this. For example, the officials said they expected that the text captioning was sufficient for deaf people to access, and that if it was not, then they could watch the signed version on the news later in the day, which featured a sign language interpreter. DDL leaders defended their argument by relying on the UNCRPD, which states that deaf people need to receive information in equity with the rest of society. Therefore, the DDL stated that it is unjust to deny deaf citizens access to the broadcasts of public health briefings at the same time that everybody else is receiving them. Members of the wider Danish deaf community supported the DDL by sending messages to the government asking for an interpreter, and further pressure was applied through the press and on social media. After several days of lobbying, on the 9th of March live sign language interpreting was featured at a press conference for the first time ever in the history of Denmark. The government have provided interpreters since then at every public health briefing (see Figure 1), and continue to do so at the time of writing.

The DDL also wanted the deaf community to be able to access web-based health information in their own language. The Danish government's health department publishes a wide range of information about the coronavirus, e.g. symptoms, prevention measures, lockdown restrictions, where to turn

for help, and how to be COVID-secure. The text is translated into various languages, but not sign language. In fact, Danish Sign Language does not feature at all on the health department's website. The DDL has told the government that sign language should not be such a low priority, but they have yet to offer sign language on their website.

Figure 1: Interpreters work at a live COVID-19 briefing with the *Statsministeriet* (Office of the Prime Minister).

When Denmark went into lockdown in March 2020, its public authorities, police and Red Cross set up a telephone hotline so that people could ask questions about COVID-19 and the public health measures, but this was not accessible to deaf people. So the DDL approached the authorities and argued again for deaf people's right to request and receive information relating to the pandemic in their own language, and an unprecedented collaboration was established between the authorities and DDL. The latter were granted permission to open a video hotline for deaf signers to ensure that they had the same opportunity as hearing people to get as much information about the pandemic as possible. The hotline was called *Coronalinje på tegnsprog* in Danish, which in English literally means 'coronavirus line in sign language'. The sign used to refer to the hotline in Danish Sign Language also translates as 'coronavirus line' (see Figure 2). The Danish Red Cross was responsible for advising the DDL on how to organise an information hotline, whereas the DDL was tasked with administrating it. The priority was for the staff of the DDL's secretariat to work together with volunteers to answer the incoming questions.

The eight volunteers were primarily students with sign language skills who had responded to the recruitment call that the DDL released on social media. Together with the staff, they received a one-hour training session from the Danish Red Cross, which included a short introduction to

conversations about health measures and guidelines for providing accurate information from the Danish government. The hotline focused on the provision and clarification of information produced by the government, rather than signposting to other organisations or answering questions about callers' individual circumstances.

Figure 2: The sign used to refer to the hotline (*Coronalinje på tegnsprog*) in Danish Sign Language, which combines the sign for 'coronavirus' with the sign for 'line'.

Figure 3: DDL staff member Brit Holm Andersen, who worked at the hotline in spring 2020 (pictured at the association's secretariat in Aarhus)

To ensure that the service was COVID-secure, the volunteers worked from home and used their own equipment. A DDL staff member from the secretariat (see Figure 3) directed the hotline on a temporary basis, keeping in contact with the volunteers to check for any difficulties they

were experiencing and make sure they were receiving all of the updates to the government's rules, e.g. changes to the numbers of people who were allowed to mix from different households. The secretariat also organised the schedules for the volunteers and secured permancy for the hotline. The hotline was open every day, including during weekends and public holidays. People could call in during the hours of 10am to 1pm; there was no need for an appointment. During the first month (March to April 2020), over 50 deaf people contacted the hotline, which used the platform Whereby.[90] They had all kinds of questions related to the pandemic, most commonly related to worries about whether they had understood the government's messages and guidelines correctly. At the end of May 2020, the DDL closed the hotline and it remains closed at the time of writing because COVID-19 information videos and news updates in sign language are now available on the DDL's website.[91] However, an agreement with the volunteers is in place that will allow the hotline to be reopened at short notice if needed.

90 Whereby is a free secure platform for online meetings, which is owned by the Norwegian telecommunications company Videonor. It is commonly used in Europe, for example for online consultations between psychologists and clients.

91 See https://ddl.dk/for-medlemmer/corona-paa-tegnsprog/

Approved communication support for deaf patients in Ireland during COVID-19[92]

Elaine Grehan,[93] Dr John Bosco Conama[94] and John Sherwin,[95] Irish Deaf Society[96]

International Sign video of this chapter

https://vimeo.com/542012467/dd3588d53b

Ireland's social services are often considered similar to those of the United Kingdom due to the shared history. Yet, in reality, they are starkly different, as Ireland's were developed and shaped with the Catholic Church in a leading role. This complicated history has resulted in a two-tier health service: public and private. The Health Service Executive (HSE) is responsible for the former, including the provision of public health information. Therefore, the Irish Deaf Society's interactions have mostly been with the HSE during the pandemic.

At the beginning of the pandemic, the HSE responded to the consultation with deaf community stakeholders on access to coronavirus information and immediately improved the level of public health messages accessible to all. The HSE has been consistent in engaging interpreters for their daily briefings during the pandemic. However, there have been challenging issues, including the different government bodies (other than the HSE) not recognising the impact on linguistic minorities when a majority of their communications are only available in English. Also, the dissemination of misleading information about the pandemic on social media created uncertainty and mistrust. By way of illustration, some members of the deaf

92 This article is mainly based on a webinar presentation made by Elaine Grehan on 21 October 2020 as part of the EUD Covid-19 Webinar Series entitled 'Accessibility in Hospitals', but with some additional context and updated information. Also see https://www.eud.eu/news/webinar/past-webinars/covid-19-series-accessibility-hospitals/

93 Advocacy Manager, Irish Deaf Society

94 Board Director, Irish Deaf Society

95 Chief Executive Officer, Irish Deaf Society

96 Founded in 1981, the Irish Deaf Society is Ireland's national representative organisation for deaf people as a community, and its main offices are located at Deaf Village Ireland, in Cabra, Dublin.

community (like many hearing people) asserted publicly that lockdown and restrictions were unnecessary and part of a conspiracy against liberty. Such information left a sizable number of vulnerable deaf people doubtful about the restrictions, and the Irish Deaf Society (IDS) has taken steps, including making direct representations to local members of parliament and various government bodies, to ensure that communications from the government are presented accurately to the deaf community and are clearly understood. This chapter begins by briefly outlining the legislative background that affects deaf people's access to public health information and services in Ireland, before describing the engagement that took place between the IDS, HSE and other stakeholders during the pandemic.

The Irish Sign Language Act[97] was enacted on 24 December 2017, and many of the articles were in the process of being implemented during the coronavirus crisis. The Act obliges public bodies to employ competent practitioners for interpreting assignments, and this necessitated the setting up of a national register of interpreters, which was launched by the Sign Language Interpreting Service (SLIS)[98] a little over three years later, in January 2021[99]. Several other pieces of legislation support the Irish Sign Language Act and place pressure on public bodies to use an equitable approach when providing services and information. Article 24 of the Irish Human Rights and Equality Commission Act 2014 creates a 'public sector duty' requiring authorities to ensure their policies and services are equitable and fair to all citizens,[100] and the Equality Status Act (2000-2018) outlaws discrimination on nine grounds, including disability. The Irish government has also ratified the UNCRPD. Ireland therefore has a legislative basis for public bodies to facilitate access for deaf and hard of hearing citizens, but the lived experiences and dissatisfaction of those in receipt of services suggest that there is still much work to do.

In March 2020, COVID-19 arrived, and Ireland's health services scrambled to adapt and provide testing and contact tracing services. Many initiatives were hastily developed without time for consultation and stress testing. At the start of the pandemic, the IDS consulted with deaf community organisations to create an online document detailing accessibility gaps in the government's response to the crisis. Many stakeholders provided input including the board and senior staff of the IDS; organisations running deaf residential services (e.g. the Catholic Institute for Deaf People); and interpreter organisations and service providers (e.g. the Council of Irish Sign Language Interpreters, the SLIS, the agency Bridge Interpreting,

97 The text of the Irish Sign Language Act is available at http://www.irishstatutebook.ie/eli/2017/act/40/enacted/en/html

98 The SLIS (Sign Language Interpreting Service) was established in 2007 with state aid through the Citizens Information Board and the Department of Social Protection.

99 The Register of ISL Interpreters is available at https://risli.ie/

100 An explanation of Article 24 in ISL is available at https://vimeo.com/467731986

and Chime[101] which is an NGO that is largely funded by the HSE). The IDS collated the feedback into the online document and, in partnership with Chime, engaged with HSE staff to discuss several accessibility gaps. Firstly, no information was being made available in ISL initially, so deaf people did not have access to COVID-19 public health guidance and were vulnerable to the spread of misinformation. Secondly it was difficult for them to contact their GPs, as the public were advised not to go to GP surgeries but to phone them, and there was no provision made to text or email, as deaf people were used to doing before the pandemic. Also, only those with a medical card[102] or GP card were entitled to have an ISL interpreter for a consultation, making it prohibitively expensive for some deaf people to see their GP. Within the COVID-19 testing process, there were communication barriers for deaf people due to ISL interpreters not being provided and healthcare staff wearing face masks, making lip-reading impossible. Finally, positive cases were contacted by phone call only, meaning that a deaf person could not receive their result. To mitigate some of these problems, the IDS made representations to the HSE and the Minister for Health which resulted in the creation of a document that deaf people could take with them to healthcare appointments (see Figure 1).

In April 2020, the HSE, IDS and Chime agreed to set up a small project team involving their representatives and began addressing these accessibility gaps. The type of engagement is vital to note. From the beginning, the HSE staff were committed to weekly meetings to discuss the challenges, take the deaf community's feedback to the relevant units in the Department of Health, and report on the progress. The conversation went back and forth as the challenges were discussed over many weeks and the collaborators made compromises and shared ideas. This process was more successful when the IDS brought creativity and solutions to the meeting, not only problems. For example, they advised on how to make ISL translations of websites and essential information leaflets on the pandemic. The HSE staff provided a single point of contact and helped guide and co-ordinate the IDS's feedback and the government's responses. This would likely have been impossible if the IDS had to engage in discussions separately with all of the parties involved, e.g. the Minister of Health, Department of Health, private health providers and private health insurers.

During the discussions, it became clear that many healthcare workers had little to no experience engaging with deaf people and did not know what commitments the Department of Health had already made in terms of accessibility. For example, many healthcare staff did not know that there

101 Prior to its rebranding in 2018, Chime (https://www.chime.ie) was known as DeafHear.

102 This card entitles a patient to access healthcare services free of charge, but it is restricted to those who earn less than a certain threshold (see https://www2.hse.ie/services/medical-cards/medical-card-application-process/how-much-you-can-earn-and-still-qualify-for-a-medical-card.html).

was a duty to organise an interpreter; some were not allowing deaf people to use their smartphones for remote interpreting; and some refused to lower their face masks or find a suitably distanced location to facilitate visual communication. The IDS therefore decided that it would be beneficial to produce a concise document listing the guidelines, that a deaf person could bring with them to a healthcare setting either as a paper printout or on their phone. The document was uploaded to the IDS's website and the HSE posted it on their own website, newsletters, and communications to all healthcare staff. A link to it was also sent out to stakeholders including GPs and NGOs throughout the country.[103]

Healthcare staff have access to guides on communicating with deaf people and working with interpreters on the HSE Partner Resources web page.
Healthcare staff will book a sign language interpreter, which may be face-to-face or remote interpreting.*
A patient can bring their smart device to facilitate remote interpreting using WiFi.
If an onsite interpreter is required (for example, tactile interpreting for Deafblind) healthcare staff will provide PPE.
Face masks should be removed at a social distance to facilitate lip-reading if required. Healthcare staff do not need to wear a facemask if physical distance can be maintained.**
Lip reading comprehension can be lower than 30%; please support communication by writing information.

Figure 1: The document intended for use by HSE staff and deaf patients whose first language is ISL, detailing approved communication support that should typically be provided in healthcare settings

The HSE, to date, have been mostly cooperative with the IDS despite some hiccups and tensions along the way, such as difficulties in identifying the appropriate contact persons and procuring interpreters, and the need to dispel inaccurate assumptions about certain linguistic and cultural issues (for example, the erroneous assumption that deaf people are a homogenous group). This work during the pandemic has resulted in several engaging lessons that the IDS can draw on to develop future relationships with public bodies. For example, by engaging with the HSE about deaf awareness on a regular basis, it was possible to ascertain what knowledge they needed, which is likely to be similar for other public bodies. Having addressed the barriers in this dialogue and created a partnership in which the HSE agreed to provide interpreters and find ways to make services more accessible for deaf people, the IDS is now better equipped to do the same in other policy areas in the future.

103 See https://www.hse.ie/eng/services/news/newsfeatures/covid19-updates/partner-resources/covid-19-irish-sign-language-isl-resources/

Such cooperation was virtually non-existent a decade ago and became a reality within a brief timeframe. This is a tribute to all concerned in the many levels of cooperation. The HSE's Communications Department were highly involved and helpful. There was an immense amount of goodwill on all sides, which charities might feel is not always the case. This process has enabled the IDS to strengthen its advocacy for a more rights-based approach to accessibility and consideration of Universal Design principles at the very beginning of service planning. Delivering on the commitments of the ISL Act and the UNCRPD should result in deaf people being empowered to lead full and independent lives of their choosing with equal access to the range of services that other citizens enjoy.

Ensuring access to communication and information for deaf COVID-19 patients in Italian hospitals

Pier Samueli, Italian National Deaf Association (ENS)

Because Italy was the first European country to be affected by the coronavirus pandemic, the Italian National Deaf Association (*Ente Nazionale per la protezione e l'assistenza dei Sordi* or ENS), had to react proactively and with little precedent to deal with communication barriers caused by the lockdown, the use of masks, and the high number of deaf COVID-19 patients in hospitals. This chapter describes some of the solutions that were devised to surmount these barriers, including the provision of tablets to hospitals and the establishment of VRS services.[104]

Background

After initially hitting China, the coronavirus reached Europe and Italy was the first country affected. The number of infections rose very quickly, especially in the north of Italy, and the government was faced with several challenges including how to tackle the virus, how to cope with the spread of infection, and how to manage people's access to health care. But in this unprecedented situation, no template was available. One of the first places in the world to go into total lockdown was northern Italy. People were not allowed to go to work, socialise, or visit each other. The ENS was faced with having to figure out how deaf people could communicate and access interpreter services in a context where only telephone helplines were being provided, and the government was under incredible pressure responding to the crisis.

One key response to the pandemic was the creation of several COVID-19 wards in hospitals, and among the infected patients that they admitted were many deaf people, particularly in the north. Across Italy, there were about 40 deaf people who were officially diagnosed and hospitalised in the first phase. Some of them experienced devastating effects and some died. At that early stage of the crisis, the only helplines available to patients were reachable by phone. They were overwhelmed, and people had to wait for a long time before speaking to an adviser. And they were completely inaccessible for deaf people.

104 This chapter is based on a webinar presentation made by Pier Samueli on 21 October 2020 as part of the EUD Covid-19 Webinar Series entitled *Accessibility in Hospitals*. Also see https://www.eud.eu/news/webinar/past-webinars/covid-19-series-accessibility-hospitals/

Advocacy actions by the ENS

The government was unable to address these kinds of gaps, because they were in a state of panic trying to deal with all the aspects of the crisis, and there was no attention for the specific difficulties that deaf people face. Doctors and nurses in hospitals had to wear masks, making visual communication impossible. It became clear that it was up to the ENS itself to guarantee access to emergency information and healthcare for the deaf community.

First, the ENS contacted Italy's largest mobile phone company, Telecom Italia (TIM), and asked if they could help create a joint solution. After some reflection, TIM decided to launch a collaborative project with the ENS, and provided the association with 1,000 electronic tablets to support deaf people's communication in hospitals through remote interpreting. These were distributed to 1,000 COVID wards in 1,000 hospitals across Italy. The ENS also contacted the Italian Sign Language Interpreters' Association, and reached an agreement with them that enabled 12 volunteer interpreters to work in rotation so that at any given time, some were available to provide video interpreting for deaf patients. The aim of this service was to facilitate relatively short priority conversations between deaf hospital patients and their families, as well as between the patients and medical staff. This meant that when a deaf person entered a hospital, they could open a video connection and an interpreter could then facilitate their communication with hospital staff by translating between spoken Italian and Italian Sign Language (*Lingua dei Segni Italiana*, or LIS). It also meant that families could communicate with their loved ones in hospital. The tablets and workforce of volunteer interpreters were vital in ensuring that hospitals could include equitable access to communication as part of their protocol.

Before the tablets were distributed, the ENS gave training sessions to hospital staff about communication challenges, deaf culture, sign language, and interpretation. Information was provided to them on how to work with and meet the needs of deaf patients, especially those who are elderly and therefore often face greater challenges.

So, because of the tablets, training sessions, and volunteer interpreters, there was access to live interpretation within hospitals, and deaf patients had the means to communicate with their doctors and nurses and with the outside world. Apart from using the tablets to access the interpreting service, they could also chat with their family members via video apps.

However, the provision of 1,000 tablets was only the first phase of support from TIM. In the second phase, another 250 tablets were distributed to COVID wards because as time went on, the infections were no longer concentrated in the north, and hospitals in the south were admitting more

and more patients. At the time of writing (winter 2020), it is actually the south that is the hardest-hit region.

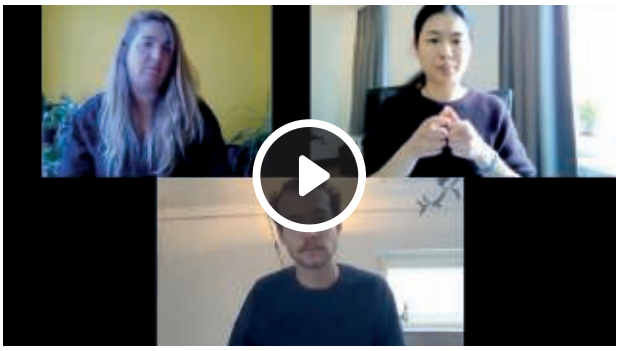
In addition, for deaf people in lockdown or quarantine, the ENS launched a video helpline which was initially open only during the day. This enables the ENS to provide support to the deaf community by answering questions about coronavirus measures and access to hospitals. The helpline has been organised by a mixed deaf and hearing team of ENS staff members, and is available to deaf people as well as their hearing family members, neighbours, friends and colleagues. This is because when deaf people are hospitalised or infected, it is often their friends or family members who contact the ENS to ask for information and practical advice on how to organise support and access to communication and services.

The ENS is profoundly grateful to TIM for their generous donation and support of the deaf community, which has also helped the association to make the Italian government more aware of deaf people's emergency healthcare needs. The ENS is also immensely thankful to the workforce of volunteer interpreters, who dedicated their skills and time in this emergency at no cost. It is expected that the Ministry of Health will now allocate funding to improve communication access in Italy's COVID wards. The ENS has documented and submitted the case for this to the government and they are confident that the initiatives described here (including the working hours of the interpreters as well as the technical equipment and coordination) will be funded by the government both retroactively and in the future.

Although deaf people were impacted by severe communication obstacles in the early phase of the pandemic, the situation has improved since the ENS-TIM project was implemented in hospitals. Now, when a deaf person is hospitalised with COVID-19, it is more likely that the staff will have been trained on the ways in which they can enable communication and use the electronic tablets. This has had the overall effect of improving accessibility and creating substantial differences between deaf patients' experiences in the first wave versus the second.

Sign Language of the Netherlands: From media spotlight to legal recognition in 2020

Wouter Bolier, Policy Officer at Ieder(in) (the Dutch Disability Council), with input from Jos de Winde and Peter Hagel, ambassadors to the EUD from Dovenschap (the Dutch Association of the Deaf)



International Sign video of this chapter

https://vimeo.com/529262314/6097b2279a

Introduction

In the first months of 2020, COVID-19 made its appearance in Europe. Across the world, countries began taking measures to combat rapidly increasing numbers of infections, announcing these measures at so-called COVID-19 press conferences or briefings. In the Netherlands, due to swift campaigning by the deaf community and *Ieder(In)*, the Dutch Disability Council,[105] every press conference apart from the very first one has featured an interpreter using Sign Language of the Netherlands (*Nederlandse Gebarentaal*, or NGT). This chapter looks at how this increased visibility was quickly followed by the legal recognition of NGT, for which the deaf community had been lobbying for 30 years. The chapter first briefly outlines the bodies involved in organising sign language interpreters for crisis communication, and describes how this provision originated in 2019 following the terrorist attack in Utrecht. Then the use of NGT interpreters at COVID-19 briefings, and the surrounding media attention, is described in section 3. The last section looks at the legislative progress in the autumn of 2020 in the wake of NGT's increased profile, which resulted in the Parliament's unanimous adoption of the bill legally recognising NGT.

105 Ieder(in) is the Netherlands' national umbrella organisation for people with disabilities and chronic illness. It has 250 member organisations, including local disability platforms and national associations for specific groups.
With the UNCRPD as its compass, the aim of Ieder(in) is for people with disabilities to have full freedom of choice in terms of where they want to live, learn, work, travel and spend their leisure time.

Origins of NGT provision for crisis communication

In the Netherlands, a number of public bodies and disability organisations are involved in guaranteeing accessible communication in a national crisis. The Ministry of Justice and Security is the primary government body responsible for crisis communication, while the Ministry of Health, Welfare and Sports coordinates the implementation of the UNCRPD. The Ministry of Education, Culture and Media is responsible for the Media Act and the Public Broadcasting Service, and determines funding for audiovisual services including sign language interpreters. The actual transmissions of the broadcasts are the responsibility of the Public Broadcasting Service. The disability organisations that are involved include *Dovenschap* (the Dutch Association of the Deaf), which is a member of the EUD and represents deaf people and sign language users across the country; and *Ieder(in)*, which acts on behalf of the collective interests of people with disabilities and chronic illness in the Netherlands, who number more than two million. All of these parties play a role in making sure that an NGT interpreter is present at COVID-19 press conferences.

Cooperation between these bodies to provide accessible crisis communication for deaf signers began in 2019. On the morning of Monday 18 March, there was a terrorist attack on a tram in Utrecht, a large city in the middle of the country. Four people died and six were injured. The news broadcasted about the attack during the rest of that day was in Dutch, and was not accessible to NGT signers as no interpreter was provided. This led to a storm of criticism from deaf people on social media about the government's failure to offer access to essential crisis information. That evening, a deaf activist from Utrecht, Lisa Hinderks, posted a tweet about this that was shared hundreds of times.[106]

The terrorist attack was a few hundred metres away from *Ieder(in)*'s office, and its staff could see officers with machine guns through the window, which was very frightening. That morning, the deaf project officer Caroline Smits was working. There was no interpreter present at the time and nobody in the office had sign language training yet, as Smits and the other hard-of-hearing member of staff, Wouter Bolier, had only just been hired. (Bolier was not in that morning.) A hearing colleague who had experience as a notetaker noticed Smits looking worried and supported the provision of information by captioning it live for her on a computer screen.

Bolier had worked for deaf organisations from 2012 to 2018 on civil alerts and emergency number 112, so he was well acquainted with the subject of accessible crisis communication. In addition, hearing colleague Renée

106 See https://twitter.com/enikheetlisa/status/1107742562746621953 https://twitter.com/enikheetlisa/status/1107742562746621953

Tuijnman, a press officer who was hired by *Ieder(in)* at the same time as Smits and Bolier, had many contacts in the media. This meant that in the wake of the online criticism from deaf people, *Ieder(in)* were able to proactively raise the issue with national media and put members of the press in touch with the individuals involved, such as Hinderks and Smits.[107]

Ten days after the attack, on 28 March, *Ieder(in)*, together with other deaf organisations including *Dovenschap*, sent a letter to the Dutch Parliament.[108] This letter contained three arguments in favour of accessible crisis communication. The first was that Article 11 of the UNCRPD, which was ratified by the Dutch government in 2016, obligates governments to implement all necessary measures to guarantee the protection and safety of people with disabilities in emergency situations. The second argument was that the provision of sign language interpretation during disasters and crises is specifically required by European Resolution 2016/2952 (RSP), which had been introduced by the deaf Flemish MEP Helga Stevens.[109] The third argument was based on a research report from 2017 about alerting and informing vulnerable groups in crisis situations, which had been commissioned by the Scientific Research and Documentation Center, a knowledge institute of the Ministry of Justice and Security. The report stated that 'the safety of vulnerable groups in (imminent) calamities can be increased by offering warnings and information in different languages and modalities such as sign language'. The media attention on the inaccessible information in the days after the terrorist attack and *Ieder(in)*'s letter one week later to Parliament led to parliamentary questions about the three arguments. In response to these questions, on 12 June the Justice and Security Minister, Ferdinand Grapperhaus, promised to develop an action plan for accessible crisis communication including NGT interpretation. Following this promise, *Ieder(in)* kept in constant contact with government officials about the action plan.

NGT provision during the pandemic: Machiel's posterboard and *Niet hamsteren!* ('Don't panic-buy!')

At the beginning of 2020, more than half a year after Minister Grapperhaus made his promise, the action plan for accessible crisis communication was still not ready. And then the coronavirus came to the Netherlands. On 9 March, the first COVID-19 press conference was given at the Ministry of Justice and Security in the Dutch political capital, The Hague, by Prime Minister Mark Rutte and the director of the Centre for Infection Control, Jaap van Dissel. There was no NGT interpreter present, so deaf viewers

107 See https://iederin.nl/tag/crisiscommunicatie/

108 See https://iederin.nl/kabinet-regel-gebarentolk-en-ondertiteling-bij-crises/

109 See https://www.europarl.europa.eu/doceo/document/TA-8-2016-0442_EN.html?redirect#def_1_26

had no access to what was said. This was particularly troubling because at the end of the press conference, Mark Rutte shook hands with Jaap van Dissel in front of the cameras, whereas only minutes before, they had just announced that shaking hands was no longer allowed. While hearing people could take note of the discrepancy, the deaf audience had not been privy to anything that was said, so many were left with the impression that shaking hands was still fine.

Figure 1: Interpreter Irma Sluis's sign for *Niet hamsteren!* ('Don't panic-buy!)

The next day, on 10 March live on the evening news, millions of people saw a young deaf man, Machiel Ouwerkerk, hold up a piece of posterboard behind an on-location reporter,[110] across which he had written 'Where is the sign language interpreter in times of crisis?' He explained later that he was at work when he spotted the news van with its satellite dish, so he spontaneously picked up a piece of posterboard and wrote his question on it. The next morning, on 11 March, as his appearance was being shared on social media, Jos de Winde and Wouter Bolier happened to be in a meeting talking about cooperation between *Dovenschap* and *Ieder(in)*, and were interrupted multiple times by journalists from several major news media organisations. After answering the journalists' questions, they called a senior government official at the Ministry of Justice and Security about organising an NGT interpreter at the next COVID-19 press conference,[111] which was planned for the following day, 12 March (also see Hoogeveen, this volume).

110 See https://www.ad.nl/binnenland/dove-machiel-26-protesteerde-tijdens-journaal-gebarentolk-essentieel-bij-coronacrisis~a927c876/

111 The authors would like to thank the staff of the Netherlands' national sign language telephone video relay service (https://www.kpnteletolk.nl/), who facilitated these conversations with journalists and government officials.

As a result, the first national press conference with an NGT interpreter, a historic moment for the deaf community, took place on 12 March. The interpreter was Irma Sluis, who was nearby as she lives in The Hague. Her work was well received by the deaf community, and she also became increasingly known among the hearing public because the Ministry of Justice and Security was not using any other interpreters initially. A few weeks later other interpreters NGT also started to interpret in teams. After the press conference on March 15, Sluis went viral on social media with her sign for *Niet hamsteren!* which means 'Don't panic-buy!'[112] (see Figure 1).

This led to NGT trending on social media, and newspapers and TV programmes featuring interviews with the press conference interpreters.[113] Deaf people and organisations such as *Dovenschap* took advantage of this by publishing educational videos about NGT and deaf culture. Following the media attention, the public evening news programme started to use interpreters regularly. Initially this was only on a temporary basis, but later it was extended to the remainder of 2020, and in 2021 it was made permanent. The lobbying work by *Ieder(in)* and *FODOK,* the Dutch federation of parents of deaf children,[114] also led to NGT interpreters being featured on an educational television programme for primary school children who were learning at home in March and April due to the lockdown.[115] The number of registrations for the country's only NGT interpreter training programme, based at Hogeschool Utrecht,[116] increased significantly in the wake of the media attention.

Legislative changes: Media Act amendment and recognition of NGT

After so much positive attention for sign language and deaf culture, it is perhaps unsurprising that 2020 also saw two NGT-related legislative changes. First of all, there was the transposition of the European Audio Visual Media Services Directive, which includes a chapter on accessibility, into the Dutch Media Act. *Ieder(in)*, together with other like-minded organisations and activists, campaigned for this in Parliament. During a legislative consultation in the House of Representatives on 26 May 2020, members referred multiple times to the importance of NGT interpreters at the COVID-19 briefings.[117] The resulting amendment to the Media Act says

112 Also see https://www.facebook.com/watch/?v=606197629961977

113 See https://www.npostart.nl/irma-sluis-corrie-tijsseling-en-sam-onclin-over-de-noodzaak-van-gebarentolken-in-crisistijd/27-03-2020/POMS_BV_16049007

114 See https://fodok.nl/

115 During the first week, this programme did not have sign language interpreters, but because of the lobbying campaign, interpreters appeared from the second week onward.

116 See https://nos.nl/artikel/2353950-hogeschool-utrecht-ziet-irma-effect-gebarentolkopleiding-flink-populairder.html

117 See https://www.tweedekamer.nl/debat_en_vergadering/commissievergaderingen/details?id=2020a02248

that national and local broadcasters should make *inspanningsverplichting* ('best efforts') toward ensuring that their news programmes are accessible to people with a hearing or visual disability during crisis situations such as pandemics or terrorist attacks.

By this time, the Dutch deaf community, led by *Dovenschap*, had been lobbying for the legal recognition of NGT for over 30 years. A bill was submitted in 2016, and amended in 2019 following advice from the Council of State. A mere three months before COVID-19 hit the Netherlands, the amended bill had been re-submitted and the deaf community were awaiting confirmation of when it would be debated in Parliament.

The parliamentary discussions of the bill in the autumn of 2020 in the House of Representatives and the Senate were broadcasted live with NGT interpreters for the first time in parliamentary history. This may have been catalysed by NGT's visibility at the COVID-19 press conferences. During one of the plenary sessions in September, which opened with the President of the House of Representatives using NGT signs while she spoke,[118] the House agreed to investigate how the NGT interpreters could be provided at the next major plenary debates, such as the Accountability Day debate. A month later, when the final vote about the bill in the Senate was broadcast live on TV, a deaf NGT interpreter was featured on screen, which was another first.[119]

For the deaf community, who had lobbied for more than 30 years, it seemed like the stars had finally aligned for NGT; because of its salience in 2020, awareness among the Members of Parliament who were putting the bill to the vote was at an all-time high. In fact, when discussing the UNCRPD, the MPs mentioned explicitly how the NGT interpreters at the COVID-19 press conferences had increased the visibility of sign language. All the media attention had created a political momentum that led to the bill for the legal recognition of NGT being adopted unanimously in both the House of Representatives and the Senate, to the delight of the entire Dutch deaf community.

118 See https://www.facebook.com/watch/?v=313948103018196

119 The deaf interpreter worked with a hearing 'feeder' interpreter, whose job it is to translate the spoken words into sign language. The deaf interpreter then translates this input from the feeder interpreter into a more understandable sign language for the deaf audience.

Access to mental health and social care services

Introduction

Dr Goedele A.M. De Clerck, Editor

This volume has predominantly focused on aspects of the accessibility of information and communication covered by Article 9 of the UNCRPD. However, as an article of general application, Article 9 is applicable to the complete protocol. As such, it secures access "to other facilities and services open or provided to the public", including health care (Lord, Guernsey, Balfe, Karr, & deFranco, 2012). Article 25 promotes the right of persons with disabilities to "the enjoyment of the highest attainable standard of health without discrimination on the basis of disability". General comment 14 of the International Covenant on Economic, Social, and Cultural Rights (ICESCR) highlights four "interrelated elements" which are vital to the right to health and come to the fore in Article 25: availability, accessibility, acceptability, and quality. Accessibility here is specified as non-discrimination and as physical, economic and information access (Lord et al., 2012).

An important aspect of Article 25 is the protection of "free and informed consent" in decision making in health care, which includes "raising awareness of human rights, dignity, autonomy and needs of persons with disabilities through training and the promulgation of ethical standards for public and private health care".[120] Also relevant are Article 17 on the protection of physical and mental integrity and Article 22 on the right to respect for the privacy of personal, health, and rehabilitation information. The chapters on this theme explore this issue of access to mental health and social care services through the documentation of best practices in deaf-led services in Lithuania and in the United Kingdom.

The chapter by Vaišnora and Lukošienė discusses how the Lithuanian Association of the Deaf (Lietuvos kurčiųjų draugija, or LKD) successfully developed alternatives for public mental health helplines and support services which were previously only accessible through a sign language interpreter. After finding that deaf people needed specialised and direct services in Lithuanian Sign Language, the LKD drew on national legislation to organise the coordination of regional case managers to support individuals and families. The LKD also secured funding for four

120 An informative and useful toolkit on the Right to Health is Chapter 8, part 2 of the book *Human rights. Yes! Action and advocacy on the rights of persons with disabilities* (2nd edition, University of Minnesota Human Rights Centre, available at http://hrlibrary.umn.edu/edumat/hreduseries/HR-YES/Human%20Rights%20YES%20Final%20PDF.pdf).

psychologists to work with individuals and families, which was especially vital when mental health support needs increased during the COVID-19 pandemic. Finally, the chapter looks into how reports from emergency services prompted the LKD to expand its services to cater for deaf victims of domestic abuse and gender-based violence.

The chapter by Gorman starts with a discussion of a 2014 study on British deaf people's experiences of health care. The study resulted in the "Sick of It" report, which revealed major inequalities and inspired the NHS Accessible Information Standard 2016. This standard aims to guarantee deaf people's access to health care, including communication. The chapter also discusses its recommendations including the creation of career opportunities for deaf professionals in health care to ensure linguistically and culturally appropriate services. Then, the author describes the services of SignHealth, the UK's leading deaf-led organisation for deaf people's health and wellbeing, which employs deaf professionals and ensures that deaf individuals are able to access high quality services and make informed decisions. It provides services directly in British Sign Language (BSL), such as psychological therapies, social care services with care homes, and support for deaf victims of domestic abuse. During the pandemic, SignHealth's remote interpreting service, BSL Health Access, secured 24/7 access to health care for BSL users.

Access to mental health and social care services is covered not only in this theme but also in the COVID-19 and intersectionality themes. Advocacy for deaf people's rights to health care became much more visible during the pandemic, and this is discussed in a number of chapters (e.g., Balciunaite & Wheatley; Johanssen Eskelund; Grehan, Conama, & Sherwin; Samueli). Best practices of culturally and linguistically appropriate care services for deaf people are also presented in the chapter by Crump on deaf children at risk of abuse; the chapter by Prado Mendoza and López Arrellano on gender-based violence; and two of the chapters on deaf seniors (Reiff-de Groen & de Ronde; Obigan Estapa, de la Hoz Barrera, & Pinto Muñoz).

References

J. E. Lord, K. N. Guernsey, J. M. Balfe, V. L. Karr, & Allison S. deFranco (2012). *Human Rights. Yes! Action and advocacy on the rights of persons with disabilities*. Minnesota: University of Minnesota Haman Rights Centre. Retrieved from: http://hrlibrary.umn.edu/edumat/hreduseries/HR-YES/Human%20Rights%20YES%20Final%20PDF.pdf

Advocacy by the Lithuanian Association of the Deaf (LKD) for access to social support and mental health support services

Kęstutis Vaišnora, President of LKD
Donata Lukošienė, Project Manager at LKD

This chapter describes the provision of social support and mental health services for deaf people in Lithuania that resulted from advocacy by the Lithuanian Association of the Deaf (Lietuvos kurčiųjų draugija, or LKD). The LKD's motivations and the legal framework they used to establish this provision are explained first. Then, the chapter discusses the setup of each of these services, and briefly looks at the association's work on an additional service for victims of domestic violence.

Figure 1: The logo created by the LKD in 2020 to celebrate the 25th anniversary of the recognition of Lithuanian Sign Language (LGK)

The LKD has often declared that deaf people must have services in their mother tongue – Lithuanian Sign Language (Lietuvių gestų kalba, or LGK), which was recognised by the government in 1995 (see Figure 1). But most social workers, psychologists and other specialists do not sign. In Lithuania, hearing people have many mental health helplines to call if needed, and direct access to various services from which they can get help. But traditionally, deaf people have needed an interpreter to contact and use these services. This is not an appropriate means of access to social and mental health support, because psychological difficulties and social services case work are very sensitive and complex, so having a third person involved in these consultations is not an option for many people. Deaf people, like hearing people, need direct contact in their own language with the specialist providing their services. In this way the client is more likely to feel safe and able to discuss deep personal issues, thereby

making it possible to receive appropriate and effective treatment. The LKD saw the experience of the other countries where such direct provision was available, so they aimed to have it in Lithuania too. Specifically, the LKD was inspired by Latvia's strong networks of social and psychological services. LKD members made a few official visits and business trips to the Latvian Association of the Deaf, and brought home the idea of having easily accessible social services for deaf people in sign language, and funding the services directly through LKD. That was the first step toward the services that LKD provides now.

After some time, when the board of LKD changed in 2018, among its new members were people who had learned about the Latvian model and the experiences of other organisations in Lithuania such as deaf schools and interpreting centres. So the new board decided to make it the priority of LKD to secure access to direct services in sign language without the need for an interpreter. This vision included deaf service users not only in cities but also rural areas, as well as those who are less skilled in using technology. Lithuania already had a few highly qualified signers with degrees and experience in working with deaf individuals, so the staffing for direct services in sign language was theoretically available, but funding was needed so that the LKD could meet the aim of providing them at no cost to the user.

Figure 2: The LKD's five case managers pictured in 2020 (from left to right: Raimonda Vaiceliuniene, Rita Navitske, Aurelija Bartkeviciute, coordinator Donata Lukosiene, and Rima Paulauskiene)

Therefore, the LKD began liaising with the government, including the Office of the President, the Ministry of Social Security and Labour, and the Department for the Affairs of Disabled People. It took some time for the government to understand the position of the LKD and the needs of deaf service users. The board relied on the legal framework and regulations

that could facilitate the government's funding of direct social and mental health support services for deaf people such as the 1995 Resolution[121] that recognised Lithuanian Sign Language. Finally, officials from these departments began to agree with the LKD about the need for social and mental health funding. However, the LKD's aim was to go beyond informal agreement, and secure the right to this funding through legislation. That is how LKD brought about the 2018-2020 Action Plan[122] for the social participation of deaf people. Approved by the Department for the Affairs of Disabled People, this was the first funding plan in the country's history to be dedicated to provision for deaf individuals and specify the areas of support, institutions involved, and exact amounts of money for each action. The same provision was again approved in the next two-year plan, but this time other disability groups were incorporated as well so it was called the 2021-2023 Action Plan[123] for the social integration of the disabled.

As a result, Lithuania now has two new groups of specialists who work directly with deaf individuals in Lithuanian Sign Language: case managers and psychologists. Uptake of these services is steadily increasing. At first, in 2018, the LKD started by coordinating five case managers, each covering one of the five main regions of the country (see Figure 2). These case managers provide services in LGK either directly or online, and can travel to the municipality where the client is if needed. Case management for social services includes support for deaf people and families in crisis and/or with complex needs, for example due to advanced age. A mixed group of deaf and hearing professionals, the team of five work with for more than 100 people per year, at 20 hours per person on average. The case manager's role is to prepare the support plan for a person or family, which commonly involves deaf organisations and other institutions such as child protection and adoption services. The plan includes a list of the specific specialists as well as their aims and objectives with respect to provision for the client. These plans enable the case manager to arrange and track the processes and practitioners involved in the support, thereby maximising the chance for a successful outcome for the deaf individual and their family.

Then in 2020, the LKD secured funding for mental health services, which are provided by four hearing psychologists who work with clients and families directly in LGK (see Figure 3). In addition to individual and family consultations, these practitioners also give signed lectures and group sessions on topics such as positive parenting. Initially, it was necessary to do a great deal of work to publicise the mental health services, so the LKD made videos in sign language and posters which were circulated on its

121 See https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.17838?jfwid=-fxdp7rct

122 See https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/5c91dd46758a11e8a76a9c274644efa9?jfwid=zaydj44xo

123 See https://www.e-tar.lt/portal/lt/legalAct/8c27c230f1b211eaa12ad7c04a383ca0

website,[124] through social media, and via deaf organisations. The LKD has now observed that demand for the services is expanding, particularly as more and more clients find out about them and see that they are provided on a continuous basis, which allows people to become more confident in engaging with the psychologists and learning about the support that is available. Moreover, the pandemic made psychological help perhaps more vital than at any time in living memory. Deaf people in particular have often been isolated and at risk during the crisis, leading to depression and major challenges for families. This has also been a factor in the increasing numbers of people seeking help.

Figure 3: Details about the four psychologists as displayed on the LKD's website

More recently, reports from the emergency services have brought forth the need for the LKD to advocate for deaf victims of domestic abuse and gender-based violence.[125] On 1 July 2020, Lithuania's emergency services launched an app[126] through which deaf people can access a sign language interpreter through a Skype chat at any time of day or night in order to call an ambulance, police, or the fire brigade. The app also has pictures representing the emergency and the options of text chatting or video calling, and the user can choose the one they require (see Figure 4). After its launch, specialists from the emergency services contacted the LKD to raise their concerns regarding domestic violence in deaf families, having suddenly received many calls from deaf victims. The likely reason for this large increase is that the new app had vastly improved the accessibility of emergency services for deaf people. Previously, they often had to ask a

124 See www.lkd.lt

125 The services will assist all deaf victims of violence, but the main focus in 2021 is on harm prevention and support mechanisms targeting deaf women and girls.

126 See https://bpc.lrv.lt/lt/lt/pagalbos-iskvietimas/mobilioji-programele

hearing person to make a voice call on their behalf, which meant that they could not get help at the time it was needed.

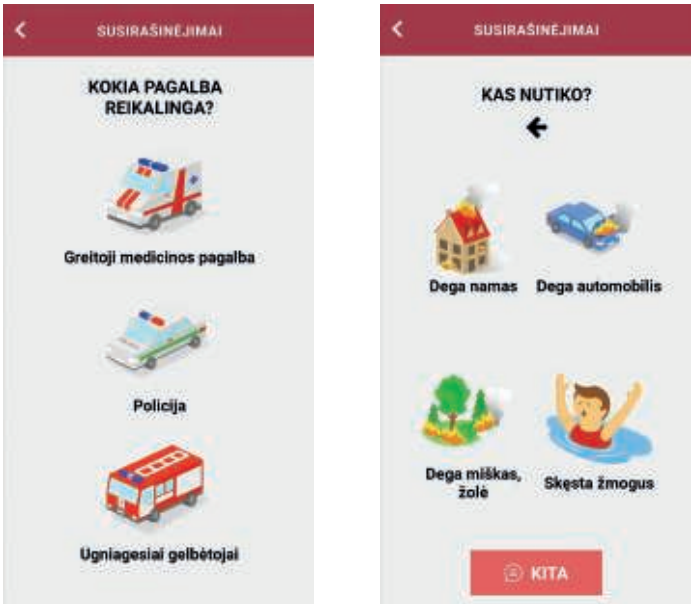


Figure 4: The interface of the emergency app

The LKD is now working to maintain these existing services, i.e. the case managers, psychologists, and emergency app, in the face of a new government in Lithuania. As the next step, in 2021 the association will be preparing further mechanisms to help deaf victims of violence. This includes training social workers and case managers to recognise different types of violence and work with mainstream crisis centres, and helping these centres and other services to make a wider range of their provision available to LGK users.

Access to information and communication from a perspective of deaf mental health and wellbeing from SignHealth, a deaf charity in the UK

Abigail Gorman, Policy and Public Affairs Manager

SignHealth is a unique deaf-led organisation that was founded in 1985 by Lady Annaly, with sites in Beaconsfield, Birmingham, Leeds, London and Manchester. As the leading UK organisation for deaf people's health, it focuses on cultural competence, i.e. the knowledge that stems from the deaf community's shared lived experiences of systemic barriers. This enables the organisation to adapt to meet clients' needs and support them to build their own narratives and personal autonomy. SignHealth strives to ensure that deaf professionals and British Sign Language (BSL) users are employed within all tiers of the organisation and recognises that for optimal health outcomes to be achieved, deaf people need equitable access to services and the ability to make informed decisions. Over 30 years of working with deaf people has given SignHealth a deep understanding and appreciation of these needs and made the organisation one of the largest employers of deaf people in the UK. Its staff provide a range of services directly in sign language in areas such as psychotherapy, social care, and support for victims of domestic abuse (see Figures 1 and 2).

To explore SignHealth's approach to accessibility, this chapter first summarises its ground-breaking 2014 report that sparked reform in Britain's National Health Service (NHS), and then describes four of the bespoke services that it offers to deaf clients: direct access to psychotherapy, a domestic abuse service, social care provision, and a remote interpreting service that was established in response to COVID-19.

Figure 1: Samantha Pearsall, SignHealth's Manchester service manager, talks with a client

Figure 2: Heather Warren, team leader at SignHealth Bowfell Road, makes sandwiches with a client

SignHealth's research and 'Sick of It' report

In the UK, the NHS is something to be proud of. It offers direct access to health care for free at the point of need. But like any machine, all cogs need to turn in order for it to work effectively. For many deaf people, systemic and institutional barriers and a lack of cultural competence in medical settings mean that those cogs do not always turn when they need to, which prevents deaf citizens from navigating the healthcare system effectively. Therefore, in 2014, SignHealth completed the first major review on the health inequalities experienced by deaf people, focusing largely on accessibility and communication barriers. The data was published in the 'Sick of It' report (SignHealth, 2014). This report highlighted the disparity between deaf patients' needs and the services they are receiving. This research revealed that 41% of respondents were unable to get in touch with their doctor and 70% did not attend appointments or avoided seeing their doctor when they needed to. There was also an alarming discrepancy between how deaf people wanted to communicate with medical professionals and what happened in practice. A majority of 80% wanted to use BSL, but less than a third were provided with this option. Around 40% were using spoken English and lip-reading to communicate, while only 3% said that they wanted to communicate this way. This mismatch has considerable ramifications, because clear communication is essential to patient understanding, compliance with treatment and health outcomes (McAlinden, 2014). The report helped inform and shape policy decisions, leading to the NHS Accessible Information Standard 2016, which creates legally enforceable requirements to improve communication and access for NHS service users with disabilities. The NHS and adult social care services are legally obliged to comply with it. The requirements are that staff must:

1. Find out the service user's communication and information needs
2. Record these communication and information needs clearly and consistently on the service user's record
3. Flag these needs, so that when a member of staff opens the service user's record, it is clear what their communication and information needs are
4. Share the service user's information and communication needs when necessary, for example if they are being referred to another service
5. Take action to give the service user the right support, for example by offering them easy-read information or making sure someone is there to support them with communication

The inequalities documented in this research also highlight the need for best practice to be shared and for organisations to reflect on how they provide services to the deaf community. Access to making appointments might be improved, for example, by exploiting online/text based booking systems and remote video interpreting. Deaf awareness and a firm understanding of various language access needs should be embedded in training and inductions for those working in health and social care to ensure needs are met, especially where there is a high turnover of staff. Epistemic injustice is common within marginalised communities and represents the cumulative emotional toll that comes from advocating for one's basic rights (Fricker, 2007). For deaf people who require access to mental health support, this burden is amplified. Deaf people may not have the resilience or capacity required to advocate for themselves, so the prospect of receiving appropriate care diminishes.

Another need that the research underscored is for more structured career pathways to be available for deaf professionals in the healthcare sector. This is an essential ingredient for the growth of language concordant services for the deaf community, and the resultant linguistic and cultural understanding.

Direct psychotherapy in British Sign Language

The 'Sick of it' report found that deaf people's physical health suffered as a result of their poor access to health care; for example, deaf people are twice as likely to have high blood pressure as their hearing counterparts. The consistent lack of communication access often results in deaf people neither booking nor attending check-up appointments with their GP, and this also means primary care providers miss out on opportunities to assess their patients' overall mental health and well-being. On occasions when an interpreter is provided, the deaf person may not have any knowledge

or assurance of the interpreter's proficiency. Additionally, interpreters not trained to work in the mental health domain may be unable to cope effectively with the discourse and therefore inadvertently conceal causes for concern. A study by Raval (1996) showed that hearing Mental Health Practitioners (MHP) often feel detached and powerless when working through an interpreter. Deaf people often prefer to have therapy with mental health practitioners who are fluent in BSL and can directly assess them (Cabral, 2013).

In the UK, there are secondary and tertiary services; secondary is when a medical condition cannot be treated at primary level and requires specialist support, and tertiary is provided in hospital settings. Tertiary services also support secondary services when necessary. Pathways leading to mental health interventions are not directly accessible by deaf signers because they are not provided in sign language, meaning the process is convoluted, which can lead to significant delays in treatment. Research suggests that a deficit of linguistically and culturally appropriate services can mean that deaf patients end up being on the most severe end of the patient continuum by the time they do present themselves (Jones et al, 2006). There are currently significant barriers to the direct provision of services in BSL due to the low number of providers who are able to meet deaf people's linguistic needs. It is difficult to admit deaf people into specialised hospitals because of the low number of hospitals that are aware of their needs. Additionally, such hospitals accept referrals from secondary services as opposed to walk-ins, but many secondary services do not refer because they opt to handle the care themselves and/or do not know about the specialised provision that is available.

Figure 3: Sarah Powell, a clinical psychologist at SignHealth, engages with a client

Mental health is a topic with a legacy of stigma within the deaf community and is rarely discussed, in part due to a lack of resources and accessible services. However, legislative changes and a national drive in the 1960s to improve mental health and well-being led to consideration being given to mental health services for the deaf community. As a result, the UK now has a number of accessible mental health services from early intervention therapies to secure facilities for intensive support. SignHealth provides psychological therapies in BSL, and some of its trained therapists are deaf themselves (see Figure 3). It is the only deaf service in the UK that is compliant with the NHS standard called Improving Access to Psychological Therapies (IAPT).[127]

It is worth noting at this point that SignHealth's successes do not come easily, and it faces particular challenges not found within mainstream services. As a specialised service, it must routinely process Individual Funding Requests which are submitted to regional NHS Clinical Commissioning Groups (CCGs) in order to obtain funding. This includes attending a panel interview to present justification for why the particular direct service is needed and why a more cost saving, mainstream alternative cannot be used. Unfortunately, some CCGs recommend that the deaf person access a local, non-specialist IAPT service via a sign language interpreter. SignHealth has engaged with NHS England about this and at the time of writing, they are planning to tender a contract for the national provision of psychological therapy in BSL. This will finally remove the need for repeated requests for funding and enable more deaf people to access mental health services.

Domestic abuse service

SignHealth also provides the UK's only domestic abuse service specifically for deaf victims, which is staffed by an Independent Domestic Violence Advocate, Young Person's Violence Advocate, and Children and Families Worker. They work with deaf women, men and children on the basis that a shared language is necessary for achieving optimal outcomes and avoiding third party communication support. Engaging with a domestic abuse service is part of the therapeutic process for many survivors on their journey towards healing. Describing (and therefore re-experiencing) their trauma time and again in front of new participants (e.g. multiple sign language interpreters) can be disruptive to that healing and may result in disengagement from vital support.

A practitioner's lived experience as a deaf citizen affords them an advantage in being able to accurately identify culturally specific signs of abuse that

127 The IAPT standard is a programme that aims to improve access to evidence-based psychological therapies such as Cognitive Behavioural Therapy (CBT) for people experiencing anxiety, depression and obsessive compulsive disorders.

hearing professionals may not be aware of, such as audism,[128] which can include withholding information, refusing to use sign language, ignoring a person's auditory needs and disparaging a person's written and verbal language (Swann and Frost, 2016). This is why knowledge of the dynamics and power structures in the deaf community is an additional advantage. The achievements of this service have ranged from seeing a client move on with a new partner, to a child gaining new-found confidence. Ultimately, SignHealth's priority is to ensure that the final outcome enables clients to live free from fear and for their case to be closed.

However, there are also challenges; being a member of the community leaves staff with the added burden of advocacy. Although it is not within their occupational remit, insufficient deaf awareness within the judicial system, social services, and health care makes it a necessity. In addition to this, deaf signers are a diaspora community and cover a wide geographical area. Consequently, the process of establishing and maintaining professional contacts often necessitates the building of new networks for each individual case.

Figure 4: SignHealth team meeting

Domestic abuse resources are available in SignHealth's comprehensive and free video library,[129] which was created with the aim of sharing knowledge on a range of health topics and supporting the deaf community to make informed decisions about their lives. These materials include information

128 Audism, according to Humphries (1975), 'appears in the form of people who continually judge deaf people's intelligence and success on the basis of their ability in the language of the hearing culture. It appears when the assumption is made that the deaf person's happiness depends on acquiring fluency in the language of the hearing culture. It appears when deaf people actively participate in the oppression of other deaf people by demanding of them the same set of standards, behavior, and values that they demand of hearing people'.

129 See https://signhealth.org.uk/health-video-library/

on how to spot the signs of domestic abuse, what to do if it happens, and how to leave safely. The deaf community is small and friends and family networks often overlap, which can deter people from seeking help. Deaf victims therefore need to be able to access a safe space and ensure anonymity. The resources that SignHealth provides can bridge that gap, supporting someone to become informed until they are ready to seek professional support and/or to take proactive steps for themselves.

Social care provision

In England, under the Care Act 2014, local authorities are required to meet the 'eligible' care needs of disabled people at home and in a residential care home if required. Article 19 of the UNCRPD requires that 'Persons with disabilities have access to a range of in-home, residential and other community support services, including personal assistance necessary to support living and inclusion in the community, and to prevent isolation or segregation from the community'.

SignHealth manages five registered care homes that serve deaf people with complex and long-term mental health conditions, and all of them are rated 'Good' by the UK government's Care Quality Commission. These were among SignHealth's first services. They provide residents with their own flats and support from staff to build independence and confidence. All residents and staff are BSL users, which helps to prevent the isolation many deaf people experience within hearing services. The support is provided by mixed teams of deaf and hearing professionals (see Figure 4), and managed by experienced deaf and hearing leaders who are experts in deaf culture.

Figure 5: Marlene Wilson, outreach support worker at SignHealth, talks with a client

Figure 6: Simon Grey, a support worker at SignHealth Claridge Road, teaches a client how to manage his finances

Figure 7: A support worker goes out on a walk with a client

SignHealth's care homes are safe, supportive, linguistically accessible environments in which individuals can work through their difficulties, explore their own potential and move toward more independent living. The safety of residents is paramount and each one has their own individual risk assessment. All houses are fitted with deaf-friendly technology including text telephones, visual fire alarms, bed sensors and doorbell alert systems.

To develop a care plan that meets their current needs and helps them plan for the future, the staff use a person-centred approach, where the resident is at the core of all decision making. With a resident's permission, SignHealth will also involve their family and friends in the care planning

process. Staff help them understand how to make healthy life choices and monitor their health (see Figures 5, 6 and 7). Residents are medically checked by a GP and have ongoing reviews with other allied professionals. General health checks such as blood pressure, cholesterol and medication reviews are conducted regularly by the GP. If there is a need for follow up care, SignHealth puts a support plan in place for that. The challenges are that wider statutory policies are determined by external bodies who are not aware of deaf people's particular needs and the residents tend to be the passive recipients of that information, rather than active participants.

BSL Health Access: A response to COVID-19

BSL Health Access is a remote interpreting service that was established in April 2020 by SignHealth in response to the global pandemic. SignHealth identified that the deaf community were in a position of increased risk due to local lockdown rules preventing travel to and from face-to-face appointments, as well as requirements for staff to wear face masks that left deaf people unable to rely on lip-reading or cues from facial expressions.

BSL Health Access is free to the end user and the cost of provision for the first eight months was shouldered by SignHealth, after which NHS England provided a grant to cover the next four months of operation. It offered a choice between a Video Relay Service (VRS), where the parties are in different locations and connected via the internet, and Video Remote Interpreting (VRI), where the communication partners are situated together and the interpreter is based at a remote location.[130] The interpreters had access to clinical supervision, but it was recognised during the operation of the service that there is a need for more targeted, specialised training for interpreters working in the medical domain.

The long term benefits of this provision cannot be overstated: implementing this service meant that the deaf population had access to health care 24 hours a day, seven days a week. BSL Health Access empowers deaf people to make autonomous, informed decisions about their health care, and this ability to self-actualise is likely to lead to better overall health outcomes. However, from April 2021, the NHS did not commit to any further funding to cover the costs of the service, effectively closing it down. Nonetheless, SignHealth is still able to use the data gathered from operating it for a year and are continuing to work together with NHS England and individual NHS providers to find a long-term sustainable solution for deaf people.

130 NB SignHealth advocates for in-person provision as the default, and considers technology and remote interpreting to be supplementary tools for when face-to-face interpreting is not possible.

Further recommendations and conclusion

Whilst progress has been made, SignHealth wants to continue to contribute to best practice within deaf mental health and wellbeing services. For that to happen, the following actions are recommended:

Appointment booking systems should be amended to be more convenient and accessible, so people can have a sense of autonomy. This can be done in a variety of ways, such as online/text based booking systems and the availability of Video Relay Services.

Interpreters should be present during face-to-face bookings. Deaf people should have the option to contact health professionals at any time, like their hearing peers are able to do. This can be made possible by VRS/VRI technology, as described above.

More structured career pathways for deaf people should be established in order to facilitate entry into specific professional fields. This will result in the growth in language concordant services for the deaf community, addressing the need for linguistic and cultural understanding.

Deaf awareness and a firm understanding of various language access needs should be embedded in training and inductions for those working in health and social care to ensure needs are met. This is vital, especially in areas where there is a high turnover of staff.

Primary care staff need to understand how to share information about patients' communication needs, in accordance with the Accessible Information Standard (AIS), as and when referrals are made to ensure that those needs are met straightaway, without barriers.

As an organisation, SignHealth shows that it is possible for services to be delivered in sign language, thus removing barriers for deaf people. Receiving and accessing support using one's first language can make a significant difference to one's mental health and wellbeing, and this is why SignHealth continues to advocate for external services to be accessible. Its staff are committed to strengthening the organisation by expanding its services so that more people are able to receive support, continuously participating in training and career development activities, and developing SignHealth's profile to ensure that mainstream health professionals are aware of its work and research.

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Accessibility from an intersectionality perspective

Introduction

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On 27 February 2021, the EUD published its Statement on Intersectionality,[131] which is included below. When exploring different angles of accessibility, it is vital to highlight an intersectionality perspective in the interpretation and realisation of full access to public and private realms of life. The chapters in this theme illuminate how to include the intersectional perspectives of deaf elders, women, and youth, by providing examples of good practices.

The first three chapters concentrate on deaf elders. Ebouaney presents an intergenerational project on deaf senior education by the Turin Institute of the Deaf in Italy, which enables young deaf people to support activities with deaf seniors in order to foster their social inclusion and wellbeing. Social participation and independence is also inspired Spain's Confederation of Deaf People (*Confederación Estatal de Personas Sordas*, CNSE) to establish VidAsor, a video-assistance and accompaniment service for deaf seniors in Spain, which is organised by qualified deaf professionals, known as mediators or *adecosores*. The philosophy of deaf seniors being in control of their lives, with deaf culture and Sign Language of the Netherlands as connecting factors, can also be found in the chapter by Reiff-de Groen & de Ronde about the Gelderhorst care centre.

The perspectives of deaf youth are at the core of the chapter by Crump on DeafKidz International's work with children who are at risk of abuse. As a deaf-led organisation based in the UK, DeafKidz International has built multidisciplinary partnerships in South-Africa, Jamaica, and in Europe. Since access to information and communication are essential elements of access to prevention initiatives, support services, and humanitarian services, deaf awareness and sign language training are a main focus in their working.

The chapter by Prado Mendoza & López Arellano on the CNSE's services for victims of gender-based violence in Spain underlines the perspectives of deaf women. These services include accessible awareness materials, including a guide for prevention, as well as a virtual support platform which is accessible in sign language through video calling. Professionals

131 See https://www.eud.eu/news/statement-intersectionality/

with expertise in gender-based violence as well as deaf culture assist the female victims and are able to accompany them through the specific services.

EUD Statement on Intersectionality

The aim of EUD is to achieve equality, equity, diversity and non-discrimination by protecting the human rights of all deaf people. All of us are deaf and united through sign languages but we must remember that our unity, acceptance and respect for everyone in our rich communities is a precondition for our success when achieving this goal.

Acknowledging the diversity of the deaf communities, EUD assumes the responsibility to strengthen its efforts to empower its marginalised groups. For this reason, EUD will ensure that intersectionality perspectives are at the core of its work, as EUD is strongly committed to leave no one behind.

As the diversity is a part of our collective richness, we must ensure intersectionality is fully reflected throughout our work. We will strengthen our advocacy for inclusion, equality and equity in all of its senses. We will strive to ensure that, through our work the perspectives of all deaf persons, irrespective of their sex, racial or ethnic origin, religion or belief, age, sexual orientation, language and gender identity, are equally visible. Furthermore, we will ensure that EUD is represented by those who at all times adhere to the principles of equality, equity, diversity and non-discrimination.

EUD will set up a working group focusing on intersectionality. The aim of the working group will be to mainstream intersectional perspectives in EUD policy work and other activities of EUD and EUD member organisations. The working group will investigate how EUD can collaborate with other organisations representing deaf women, deaf LGBTIQ+ persons, deaf elderly, deaf refugees, deaf BIPOC persons, deafblind persons, deaf with additional disabilities and other deaf persons with intersectional experiences. Working Group's aim will be to increase EUD's efficiency mainstreaming intersectionality and to expand EUD's range of action. It will also provide EUD full members with guidance and tools to promote the inclusion of deaf people with intersectional experiences within their organisational structure as well as their activities. The working group on Intersectionality will empower the representatives from the marginalised groups to lead the work on mainstreaming of intersectional perspectives.

Understanding our capacity but maximising feasibility, we will focus our efforts to ensure that our advocacy work for the full and meaningful implementation of the United Nations Convention on the Rights of Persons

with Disabilities through the upcoming European Disability Rights Strategy synergises with and is mainstreamed in the implementation actions of the EU Gender Equality Strategy 2020-2025, LGBTIQ+ Equality Strategy 2020-2025, EU Anti-racism Action Plan 2020-2025, EU Roma Strategic Framework for Equality, Inclusion and Participation 2020-2030. Moreover, EUD will aim at empowering its members to use various European legislative and policy instruments when advocating for the deaf perspectives to be included in national legislation, policies and action plans on disability rights, gender equality, LGBTIQ+ equality, anti-racism, Roma equality, inclusion and participation and other.

EUD is committed to achieve the vision of the President Ursula von der Leyen of the European Commission and the European Commissioner for Equality Helena Dalli – to make the European Union the Union of Equality. We will play an active role in mainstreaming a deaf perspective and supporting all the EU level initiatives that will put in place mechanisms, policies and actions which will challenge structural discrimination and the stereotypes that are often present in our societies. Through our work the EUD will contribute to the Union of Equality for all deaf people and will not rest until everyone in our communities are ensured equal rights and enjoy diversity.

Per una Vita Attiva dei Sordi Senior: An initiative to promote deaf senior education in Turin, Italy

Andre Ebouaney,[132] *Project Director*

Keywords: elderly, senior, deafness, sign language, intergenerational exchange.

International Sign video of this chapter

https://vimeo.com/555109506/59b99158c0

Rationale for the project

Deaf people in Italy, especially the older ones, are often forgotten by public service providers. Deaf seniors are unable to access most of the support offered to people of their age due to communication barriers and insufficient interpreting services. This has been the case for deaf individuals who have tried to access adult education courses,[133] as well as those who have wanted to take part in other types of events and enrichment opportunities such as conferences at libraries and guided tours at museums. For this reason, in early 2019 the Turin Institute of the Deaf[134] conceived a project called *Per una Vita Attiva dei Sordi Senior* [For an active life for deaf seniors], which lasted until November 2020. This project aimed to improve the social inclusion of elderly deaf people and enable them to remain active through learning, volunteering and contributing to the well-being of society (see Figure 1).

Because of the UNCRPD, in recent years the intersecting effects of older age and disability have finally begun to be addressed. Although there is

132 The author is a youth and community worker with a degree in Educational Sciences. Since 2017, he has worked at the Turin Institute for the Deaf as a project manager, facilitator, trainer, and intercultural mediator.

133 For instance at the Centri provinciali per l'istruzione degli adulti [Provincial centres for adult education], which are state schools that offer services and activities for education in adulthood to Italian and foreign citizens for their personal, cultural, social, and economic growth; and at the Università della Terza Età [University of the third age], which provides courses and activities for seniors and is recognised by Italy's Ministry of Labour and Social Policies as a free Voluntary Association of Social Promotion.

134 The Turin Institute of the Deaf was founded in 1814 to provide education to deaf children and train their teachers. Since the 1990s, its activities have expanded into the adult sector, and more recently to provision for seniors. This is due in part to European projects in which the Institute has participated, and also stems from the Institute's attempts to respond to deaf elderly people's explicit requests for support.

no international consensus on how to define vulnerability in relation to elderly individuals, some factors are recognised as contributing to it in terms of general health decline and a loss of physical, mental and social capabilities. This vulnerability can be a precursor to exclusion or at least a risk factor for it, which can have a negative multiplier effect when associated with deafness. The difficulties that senior citizens face are often worsened by the ubiquity and rapid pace of change of digitisation and new technologies. For example, basic financial, banking and social security operations increasingly require digital skills. This can have the effect of isolating certain segments of society, especially elderly and retired people who may also be coping with the loss of their previous professional and/or social roles.

Figure 1: The project logo, in which SS stands for Sordi Senior [Deaf Seniors]

For deaf seniors in particular, the communication problem compounds this isolation while further reducing access to opportunities for learning informally through mass media, which typically does not include subtitles or sign language. This quickens the rate at which these individuals lose their quality of life and independence. As a result, they are likely to spend their time at home with minimal interaction. When they do attempt to engage in training or learning opportunities, they are confronted with communication barriers that prevent them from taking part. They are therefore effectively excluded from meaningful involvement in lifelong learning activities.

The Turin Institute with the support of its partner organisation, the Ergon Association of the Deaf,[135] decided to address the abovementioned

135 The Ergon Association of the Deaf (Associazione Ergon a Favore dei Sordi) was founded in 2010 to support a group of young adults, alumni of the Turin Institute for the Deaf, to develop entrepreneurial skills and be more

challenges by enhancing what is on offer to deaf seniors in the education sector. Older people today are likely to have higher expectations regarding their quality of life; most aspire to a lifestyle that is based on being active, optimising their health, engaging in meaningful and mentally stimulating social interactions, and paying careful attention to their physical appearance and environment. To accord with these expectations, training that is offered to them must be of a high quality and give them the possibility of being involved in activities that facilitate socialisation and spending their free time on useful pursuits. Senior citizens tend to consciously select activities by evaluating their utility, enjoyableness, and accessibility. Sometimes they choose activities that allow them to pursue passions that they could not afford or make time for at an earlier stage of their life. Also, many seniors are becoming more interested in broadening and updating their ICT knowledge so that they can be involved in the digital world.

However, this process of selection, and the range of choices from which to select, are frequently denied to deaf elderly people. For them, accessible information on training courses is often difficult or impossible to find, and even if they surmount that obstacle, they are then likely to discover that the courses are not open to them and/or do not have any means of facilitating their participation.

Seniors are a group with specific individual needs and different professional, family, social, educational, health and cognitive experiences (e.g. in relation to memory and attention). So the methods and forms of education used should be universal enough to meet the needs of a diverse group and at the same time individually adapted to the specific needs and abilities of the individual. The ultimate aim of this project was thus to offer deaf elderly people flexible and accessible training and recreational paths that meet the various needs of the group and can be adapted to the individual as well. Because deaf seniors are acutely aware of their increasing marginalisation due to the expansion of digital technologies, the Institute determined that the project's aim could be achieved through training them in the use of technology in an accessible way, in sign language, with the support of younger digital natives to provide intergenerational dialogue and engagement in Italian Sign Language (*Lingua dei Segni Italiana*, or LIS). The idea behind the intergenerational dialogue was for the young people to show the deaf seniors how to move around the digital world, while the seniors could teach the young people about the history of their deaf culture, the origin of LIS signs, and how older signs differ to newer ones, especially those related to the topics of the activities. Therefore, the project team attempted to create a bespoke learning path for deaf seniors, dedicated to the use of digital technologies for personal finance (e.g. home banking;

active in the world of work. See https://ergon4deaf.weebly.com/european-solidarity-corps.html

online transactions and payments; access to banking, insurance and social security portals; and the creation of digital profiles and passwords). The trainers were five young deaf millennials aged between 18 and 25 (see Figure 2).

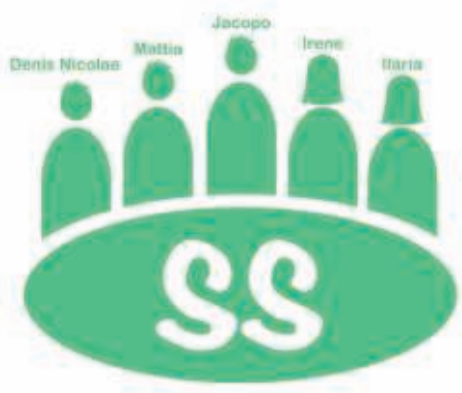

Figure 2: A logo showing the names of the five young deaf trainers, which was designed by Denis

The remainder of this text describes the three main phases of the project. In the first phase, which was carried out in 2019, a training programme was held to prepare these five trainers to work with deaf seniors, and data were collected from deaf seniors through questionnaires and focus groups (see section 2). The next phase was for the activities and group outings that were held for the deaf seniors (section 3). The final part was the evaluation of the project's outcomes and impact (section 4), which began in 2020 but was delayed because of COVID-19 restrictions.

Instructing the five young deaf trainers and gathering data from the deaf seniors

The first phase took place throughout 2019 and was funded by a grant that the Bank of Italy[136] gave to the Turin Institute for the Deaf. This grant made it possible to organise the training of the five young deaf people from the Ergon Association, who were Denis, Jacopo, Mattia, Irene and Ilaria. They were chosen internally by the two deaf organisations from among their student members. They were instructed by Enrico Dolza, the director of the Institute and teacher of special pedagogy at Turin University, alongside the Institute's researcher and ICT coach Sofia Mastrokoukou. The training

136 See https://www.bancaditalia.it/chi-siamo/impegno-ambientale-sociale/index.html

was conducted in LIS. The Institute[137] provided the educational expertise and facilities including training rooms.

The programme included sessions on how to plan a teaching unit, elements of psychology, and content related to geriatric and adult education sciences. The project director supported the five young people and provided feedback on their proposed modules and activities. Each month, a supervision meeting was held between the director, the five young people, and their instructor Enrico, to ascertain how their activities were progressing and discuss any difficulties they were facing and how to solve them. At the end of the period funded by the Bank of Italy, in December 2019 the five of them worked together to apply for financial support from the European Solidarity Corps[138] to continue implementing the project in 2020. Their application was successful, and as this scheme is part of the Erasmus+ programme, Youthpass certificates[139] were given to the young people to encourage them to reflect on the professional competences they had gained.

Figure 3: Screenshot of the online questionnaire

137 See http://www.istitutosorditorino.org/

138 This is a European Commission programme; see https://europa.eu/youth/solidarity/solidarity_projects_it

139 See https://www.youthpass.eu/en/

During the early months of 2019, the project team also asked the deaf seniors to complete online questionnaires in LIS[140] and invited them to participate in focus groups to better understand their needs and necessities (see Figure 3). This process allowed the team to evaluate which activities should be proposed and which methods should be used to optimise the deaf seniors' participation. The team then recruited participants by contacting those who had provided data via the questionnaires and focus groups, and proposing various activities based on their input.

Figura 4: Flyer for the computer course

Series of training activities and group outings: 3XDEAF Senior Academy

The series of activities for deaf seniors, which was called 3XDEAF Senior Academy, took place from April 2019 to November 2020 and consisted of three sessions per week lasting two hours each. Each session was attended by 10 deaf seniors and held in a classroom equipped for the activities. Some of the activities are shown on the project's Facebook page[141] and Instagram account.[142] They were led by the five young deaf people along with two other volunteers from the Turin Institute who became interested in taking part in the project in 2020. The content and materials were chosen by the team on the basis of the data provided by the deaf seniors. The most commonly expressed needs were for ICT training courses (see Figure 4) to equip them to use smartphones and personal computers (see Figure 5 and Figure 6) to read online news and access banking apps as well as emailing and word processing facilities. They also requested LIS courses,

140 See https://forms.gle/zxn7PqhMT2gxiRa17

141 See www.facebook.com/activingdeafsenior

142 See www.instagram.com/perunavitaattivadeisordisenior

card games, and signed museum tours. Therefore, in addition to the computer course, the team organised one field trip each week (see Figure 7), including to museums,[143] OGR (*Officine Grandi Riparazioni di Torino*, a cultural venue in Turin), Juventus football stadium, *Basilicata di Superga* (a cathedral), and the Aquarium of Genoa. This fostered solidarity between the older and younger deaf people, and gave them more opportunities to share experiences and engage in intergenerational dialogue and knowledge exchange.

Figure 5: Two young trainers interact with a deaf senior during the computer course activities

Figure 6: Nicola, one of the young trainers, explains to deaf seniors how to use a personal computer

143 E.g. Museo della Rai, Museo del Cinema, and Museo Egiziano

Figure 7: Group picture after a field trip to the Múses – Accademia Europea delle Essenze (Múses – European Academy of Essences) in Savigliano, Italy

Evaluation of the project's outcomes and impact

The tool used to evaluate the project's impact was the International Classification of Functioning, Disability and Health, or ICF (World Health Organization, 2007), which is based on the idea of a bio-psychosocial approach to the person and their well-being. It focuses not only on the person's characteristics but also on the context in which they live and the barriers they encounter. Using the ICF allowed the team to make a precise and detailed description of the functioning of each participant, including all of the deaf seniors as well as the five young trainers.

The evaluation of the project's outcomes showed that deaf seniors are interested in participating in group activities that are accessible in their own language, LIS. They appreciated being able to participate in training led by young deaf signers, because this facilitated a sense of belonging as well as full access to information and communication, which were all important factors in their motivation and enjoyment. Through the intergenerational exchange, the young deaf people derived a benefit as well because the deaf seniors were able to impart their knowledge about deaf culture, the history of their shared sign language, and the preservation of older signs that are no longer in frequent use.

The project, therefore, has resulted in the creation of a physical space and facilities for the training of deaf seniors, as well as the establishment of an intergenerational exchange wherein younger deaf individuals impart their knowledge of IT while deaf seniors share their cultural and historical expertise. Given these promising results and the team's curiosity as to

whether there were similar experiences elsewhere in Europe, in 2020 the Turin Institute joined a 27-month project called DESEAL (Deaf Seniors for Active Living), which is funded by the Erasmus+ programme.[144] The other partners in the project include the EUD, the Austrian company Equalizent, and the regional deaf organisation IRSAM in France.[145] The partners are working together to evaluate at the European level what activities exist for deaf seniors and what difficulties they encounter in accessing them. This will enable them to provide training materials for deaf seniors, e.g. to help them acquire digital skills and manage their banking and finances.

144 For more information on DESEAL (project number 2020-1-IT02-KA204-09227), see www.deseal.eu.

145 IRSAM stands for Institution Régionale des Sourds et Aveugles de Marseille [Regional Institute for the Deaf and Blind in Marseille].

vidAsor: Video-assistance and accompaniment service for deaf seniors in Spain

Susana Obiang Estepa, Clara Isabel de la Hoz Barrera, and José Antonio Pinto Muñoz, deaf mediators, CNSE (Spanish National Confederation of Deaf People)

Deaf seniors who use sign language need to have an adequate communication channel that represents the first step towards accessible remote assistance which promotes their inclusion, social participation, and achievement of an independent life. This is the rationale behind vidAsor, a video-assistance and accompaniment service specially designed for this sector of the deaf population, as it offers the possibility of establishing direct communication in Spanish Sign Language (*Lengua de Signos Española*, or LSE), without intermediaries. vidAsor was launched in 2017 by Spain's National Confederation of Deaf People (CNSE), whose programmes and services all focus on increasing deaf people's empowerment and quality of life. The service is funded by the Spanish government's Ministry of Social Affairs and Agenda 2030, and by the ONCE Foundation.[146] In 2018, vidAsor won the BBVA Integra Award (see Figure 1).[147] It has since gone on to reach more and more deaf elderly people, a particularly vulnerable collective with their own specific needs and limited public resources at their disposal due to a lack of access to services in sign language.

Figure 1: Deaf mediator Susana Obiang (third woman on the back line) received the BBVA Integra Award for CNSE's vidAsor service

146 ONCE stands for Organización Nacional de Ciegos Españoles ('National Organisation of Spanish Blind People'). The original organisation called ONCE was founded in 1938 in Madrid. In 1988, the ONCE Foundation for the Cooperation and Social Inclusion of People with Disabilities was established as an offshoot of the original, to provide solidarity with other groups of people with disabilities. It is also based in Madrid.

147 BBVA, which stands for Banco Bilbao Vizcaya Argentaria, is a major bank based in Bilbao, Spain. In 2009 it introduced the BBVA Integra Award to recognise initiatives that promote the creation of quality employment for people with disabilities.

vidAsor is a free service for deaf signers who are aged 65 and over, as well as for younger deaf people who require assistance because of additional disabilities, medical conditions, or personal or social circumstances. It is particularly suited to people who are exposed to age-related risks, live alone, spend much of the day without company, are geographically isolated, and/or are living in residential and care homes.

Figure 2: Deaf seniors participate in a leisure activity at Cantabria, Spain

Since its launch, vidAsor has become an essential service for its users. In addition to accompanying them in their daily lives, it provides them with personal assistance in remembering medical appointments, seeking consultations on medication and self-care, requesting document management support, and encouraging contact with family members and even other deaf seniors. Users have appointments arranged with vidAsor's deaf assessors either daily or every other day, depending on their needs. At the appointments, decisions are made regarding accompaniment and follow-up actions. These can range from reminders of appointments through to physical exercises that promote mobility and visits with family members. Whenever circumstances permit, a volunteer service is offered, which can support them in the arrangements they have to make or simply keep them company in their homes. This service is run by professionals and volunteers from the CNSE associative network, who visit the service users periodically and organise their participation in leisure and sports activities (see Figure 2). This is not an interpretation service, but rather aims to address social needs by giving the service users an opportunity to talk to other deaf people and discuss news and current events in LSE.

This service aims to fill a distinct gap in the provision available to deaf elderly people in Spain, by taking advantage of new technologies.[148] For ease of use, the service is offered through conventional television and only requires an internet connection. For the user, a specific computer and webcam are connected to the television, to add to its conventional channels a specific channel through which the user can access vidAsor (see Figure 3).

Figure 3: A deaf service user in Valencia accesses vidAsor through his television. Deaf mediator José Antonio Pinto appears on the screen.

At the time of writing, the service has three video supporters who assist a total of 57 users[149] from all over Spain every day with their daily schedule, medications, healthy habits, etc. These supporters are deaf professionals who have completed specific degree-level training to become communicative mediators or Deaf Community Development Agents (known as *adecosores*). The fact that these professionals are deaf people who belong to the deaf community means that they know its culture and language, and can make deaf seniors feel understood right away. Their communication is done directly in sign language, without intermediaries, which offers the service user complicity, trust and the ability to be open and honest about any sensitive concerns. Elderly deaf people in Spain tend to use older LSE signs and lip reading, but as cultural experts, the deaf professionals are knowledgeable about these linguistic characteristics and adapt their communication accordingly.

148 Videos showing how vidAsor works, presented in LSE with Spanish captioning, are available on YouTube at https://www.youtube.com/watch?v=Y-b40xFuCJw. Testimonies of vidAsor service users, family members, and professionals in residential centres can be consulted at https://www.youtube.com/watch?v=QX7RBCmH5O4&t=11s. This video calls for new volunteers to accompany deaf seniors through face-to-face interaction: https://www.youtube.com/watch?v=6e76ZeJtoBY&t=75s

149 Many users find out about the service through the CNSE's advertising campaigns and dissemination to its federations, associations and social networks.

vidAsor is therefore equipped to provide deaf seniors with a window to the outside world, and give their families peace of mind and security they may not have had before. This feedback has been communicated to CNSE by the users themselves as well as their family members and professionals from residential and senior centres:

> *"In the residence I felt lonely and isolated because I could not communicate with anyone. Now, with viAdsor I feel accompanied and happy."*

> *"By establishing a daily contact with the user, vidAsor fills a very important void. Reaching a residential environment where communication is limited causes isolation, and this service allows you to socialise, keep your time busy in a useful and productive way, and regain a more cheerful and active character."*

> *"Thanks to vidAsor, we can contact my father by video call, which is reassuring. I'm connected to my cell phone from morning to night, so I know how it is at all times."*

However, the service has not been without its challenges. The work of recruiting staff has been difficult, because apart from the specific training, they must have a particular personal and emotional profile that includes sensitivity, empathy, patience and resilience. The team copes with substantial amounts of stress, e.g. when working with service users for whom psychiatric conditions or bereavement are causing severe difficulties. Staff are also sometimes faced with technical issues, as the service requires an internet connection in the user's home.

When the COVID-19 pandemic began, the workloads and stress levels greatly increased, and deaf seniors had a lot of uncertainty because of their lack of access to public health information. It became necessary for vidAsor staff to keep themselves up to date on all of the coronavirus news in order to be able to reduce service users' fear and anxiety by explaining clearly what is happening and what the guidelines are. This has been very difficult on an emotional level. But it also demonstrates what an essential service vidAsor provides. The technical language used in television broadcasts and briefings on the pandemic is not comprehensible for the vast majority of the service users, but vidAsor's expert staff have been able to alleviate confusion and inspire calm by ensuring that service users understand the information.

A home full of signs: Accessibility at the Gelderhorst, a residential care centre in the Netherlands

Judith Reiff-de Groen (CEO of the Gelderhorst) and Tobias de Ronde (Manager of the Gelderhorst's department of Communication, Training and Advice)

The Gelderhorst is a unique rural residential care centre for elderly deaf people in Ede. Ede is a medium city in the middle of the Netherlands. The organisation's founding dates back to 1953, but its current site in Ede was established more recently, in 1997. It consists of five buildings with a total of 200 residents from across the Netherlands. In four of the buildings, they live independently and any required care and supervision is provided by an extramural care team in their home environment. The other building is a five-storey nursing home where residents stay who are no longer able to live independently and need (partly intensive) care and supervision. The nursing home also has a large entrance hall and a restaurant which can be used by the residents of all five buildings. Non-residents are also welcome in the restaurant and deaf people throughout the Netherlands make use of these facilities. The Gelderhorst has 220 employees, 40% of whom are either deaf or hard of hearing. This organisational profile is certainly unique in the Netherlands and possibly even in the whole of Europe. Its philosophy is that all residents and employees should feel at home and control their own destiny, and this is achieved by supporting and stimulating their development and respecting deaf culture. Sign Language of the Netherlands (*Nederlandse Gebarentaal*, or NGT) is the connecting factor in everything at the Gelderhorst.

But it is not an island for deaf residents where only deaf people work. Its objective is to provide a residential and working environment with both internal and external focus. A small example of this is that employees encourage primary school children from the neighbourhood adjoining the Gelderhorst to engage in activities with the residents. This could be playing games, working together in the school's vegetable garden or celebrating Easter together. In preparation, the children are given tailored lessons in sign language (see Figure 1). Another example is that employees educate personnel from local healthcare providers and shops about NGT and deaf culture. This stimulates understanding for the Gelderhorst's residents and helps them to feel at home outside the organisation as well.

This approach started to develop in 2018, when a new vision for the future of the Gelderhorst was defined. Residents and employees got together to think about what kind of organisation the Gelderhorst should be. This is a process where they worked together with the residents, particularly with drawings and images of what they wanted their own future to look like. Employees also sought inspiration outside the boundaries of the Gelderhorst. They then tapped into the expertise and ideas of several

external guests[150] during round table meetings later that same year.

Figure 1: School children learning NGT at the Gelderhorst

Everyone agreed that independence and control of one's own destiny were very important. This is a significant change for many of the deaf residents and employees, because the organisational culture used to be mainly concerned with the limitations of being deaf. This meant that people would often come to the Gelderhorst specifically to be catered to and have things done for them. This paternalist culture also sometimes affected the deaf employees, who would for example avoid telephoning the GP, hospital, or chemist. Since the summer of 2020, all deaf employees are expected to subscribe to *Tolkcontact*.[151]

As a result of this consultation among residents and employees, the Gelderhorst now has three core values, namely pride, equality and innovation, as well as three key commitments for the next three years (2021-2024):

- To offer a wide range of care and services, from assistance for independent living to the provision of complex care;

- To do this in a future-proof environment for living and working with both an internal and external focus, integrating those within and outside the organisation;

150 These included members of Dutch deaf societies, a sign language teacher, the CEO of a nursing home in Ede, and a member of the Gelderhorst's Supervisory Board.

151 Tolkcontact is a tele-interpreting and remote interpreting service provided by Dutch phone company KPN Telecom and marketing agency Berengroep. The subscription is covered by the organisation's health insurance provider.

- To inspire the deaf community both domestically and abroad through the Expertise Centre: this is about spreading the Gelderhorst's knowledge about communication, encouraging cooperation between deaf and hearing people, and educating other organisations about the opportunities inherent in working with deaf individuals.

Figure 2: The three core values of the Gelderhorst: *trots* ('pride'), *gelijkwaardig* ('equal') and *vernieuwend* ('innovative')

The rest of this chapter explores how these values and commitments are operationalised by the residents and employees. In particular, it looks at how accessibility is maximised through a robust communication policy and an innovative environment with specialised technology.

Environment and technology

The main elements of the built environment at the Gelderhorst are shown in Figure 3. When the buildings were designed in 1996, residents wanted open spaces so that they could easily sign to each other. Nowadays, in the nursing home, the residents' feedback has indicated that it is important for them to have more privacy and access to other solutions for optimal communication.

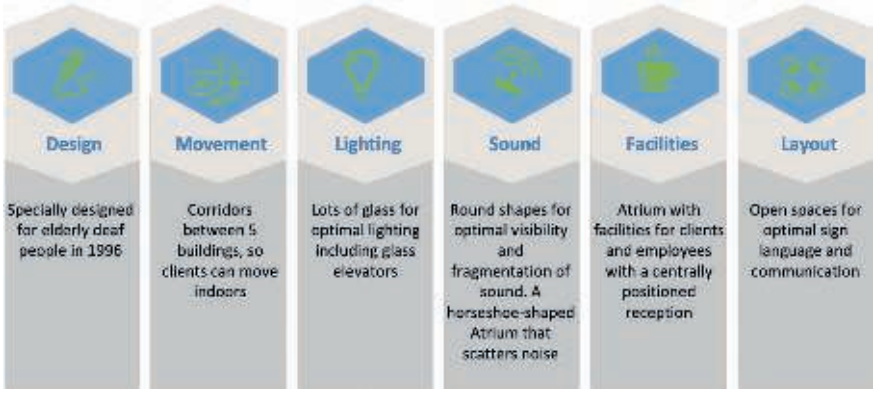

Figure 3: The six elements of the Gelderhorst's built environment that foster accessibility

As a consequence, the Gelderhorst's departments for Communication Training and Advice (CTA) and Communication and Public Relations both contribute toward the implementation of video technology. All residents that live independently have a video phone in their apartment (see Figure 4). They can use it to open the front door, communicate with the receptionist and make video calls to other residents. There are also buttons on the video phone. These include an exercise button that gives access to a pre-recorded weekly gym class; a 'corona button' which was launched when the pandemic hit the Netherlands in March 2020 and provides NGT summaries of news about COVID-19 public health measures; and a news button with the latest news from the Gelderhorst, presented in NGT. These fixed video phones are soon to be replaced with mobile ones that also enable the residents to communicate with the outside world.

Figure 4: Video communication in the apartments

This video communication is one of the pillars that differentiates the Gelderhorst from other healthcare organisations, and ensures that residents feel less isolated in their apartments and keeps them involved in the day-to-day activities. This has been particularly important during the pandemic, when it has not been possible to carry out as many activities as usual with the residents.

Communication policy

In 2020, the Gelderhorst devised a new communication policy for its residents, employees, volunteers, and suppliers. It was drawn up from both a deaf and hearing perspective so that its implementation is in line with the organisation's core value of equality. The policy is based on seven pillars:

3. **The resident comes first.** It is important that the resident's communication preferences and requirements are registered in the residential care plan and that the organisation acts accordingly.

4. **All employees do their absolute best to understand each other** and adhere to the Gelderhorst's communication regulations (see pillar 7).

5. **All employees have a basic attitude of openness** and demonstrate whether they understand their conversation partner and are not afraid to show emotions and use signs. A little understanding is not good enough.

6. **NGT is the cornerstone of communication** at the Gelderhorst, and it is the language that all employees learn when they join the organisation.

7. **All employees can read and write Dutch** to an appropriate level, as this is the language used at the Gelderhorst for written communication. As with NGT, the supervisors forecast on an individual basis how long it is likely to take for an employee to familiarise themselves with the language.[152]

8. **All employees are role models** and are constantly aware of this. They adhere to and execute the communication policy both internally and outside the organisation.

9. **The following communication regulations apply always and everywhere at the Gelderhorst:** Employees relate to the perception of the residents, and communicate at a slow tempo, at eye level. They accommodate the fluency level of their conversational partner; for example, a deaf employee might sign quickly to another deaf employee, but if a hearing employee with less fluency in NGT joins the discussion, the deaf employees may need to adapt by signing more slowly. When employees wish to discuss something quickly in their native language in the presence of others who have less fluency, they should do this somewhere private or ask the others present if they have any objections. It is not acceptable to sign or say 'never mind' when someone does not understand. Rather, the employee should keep trying to make clear what they want to say, using different strategies if necessary. When outside the Gelderhorst, employees help residents to communicate. Communication in written Dutch is also provided to the residents in NGT, including information on the Gelderhorst's

152 Specifically, for both NGT and Dutch, employees are expected to reach level B1 of the European Framework of Reference for Languages (CEFR).

internal network, website, social media, and Quality Manual.[153]

Complying with this policy makes significant demands on the organisation and requires careful and repeated communication. It also necessitates strict discipline and a bilingual culture that encourages feedback. It can be difficult for a hearing employee to become and remain skilled in NGT. Every employee who comes to work at the Gelderhorst takes 40 hours of NGT lessons in the first year and 10 to 20 hours in each year after that. In that first year, the employee is also immersed in a training programme that covers many aspects of what it means to be deaf. Employees whose reading and writing skills need improvement are given extra lessons during working hours. This is important so that all staff can work with the Electronic Client Dossiers. The Dutch text on the website, social media, intranet, and other important notices such as emergency evacuation instructions are translated and presented in NGT. To achieve all this, the Gelderhorst's CTA department is staffed by NGT lecturers and communication specialists who are responsible for carrying out the policy. With 220 employees and 200 residents, adherence to the policy requires an investment of around 5,000 hours of effort (around 13 hours per person) every year. That is without taking into account the hours that employees invest annually in maintaining their expertise in sign language.

The Gelderhorst has been in operation for nearly 70 years and has grown from a small villa supporting 13 people, to a large home for 200 residents because of the increase in demand for elderly deaf people to live together with their peers. Scale is a requirement to run the Gelderhorst, as it enables financial sustainability, local community outreach, and the execution of a robust communications policy. To maintain the organisation at a reasonable scale, it must remain appealing to the market for elderly deaf people, which will evolve in the coming decades as the impact of more widespread cochlear implantation and NGT-Dutch bilingual and mainstream education becomes apparent. This means staff at the Gelderhorst must work constantly to ensure that this 'home full of signs' continues thriving and offering a future-proof living and working environment to deaf people for a long time to come.

153 This is a manual produced by the Gelderhorst which contains all of the organisation's quality-control and quality-assurance procedures.

Signing safe futures for deaf children at risk of abuse: the DeafKidz International perspective

Steve Crump, Founder & Chair, DeafKidz International

Founded in 2013 in response to the abuse of deaf children in Sub-Saharan Africa, DeafKidz International is the UK-based, global leader working to ensure deaf children and young people are able to live their lives safely and without fear of physical, sexual, or emotional abuse or neglect.[154]

Through its safeguarding and protection work, DeafKidz International, as a deaf-led organisation, has seen first-hand that deaf children and their families are denied accessible information in sign language on how to assert their right to services such as health care, education and criminal justice. The reasons why are complex and multi-faceted. In the first instance, many low-resource and developing countries do not have community-based public health programmes that screen for hearing loss (Santana-Hernández, 2014). Consequently, deaf children are often not diagnosed as deaf and are therefore denied access to the support they need, including access to sign language. Instead, many are simply abandoned because their families believe that they bring shame and represent an economic imposition – another mouth to feed.

The incidence of deafness in low-resource and developing countries can be high. As many as two in ten children may experience some form of deafness from slight to profound. A community-based study conducted in rural Malawi reported a high (11.5%) rate of hearing loss in children aged 4–6 (Hunt et al., 2017). Much of this deafness will relate to treatable infections and conditions such as otitis media. If these are not identified early on and treated (see Figure 1), they can lead to irreversible and permanent deafness.

The situation for deaf children is further exacerbated by the refusal of many countries to recognise sign language and develop deaf-friendly educational and schooling programmes. It is DeafKidz International's experience that deaf children are denied access to sign language because in many cases, few people actually know it exists. In rural and remote areas, where education is difficult to access and high levels of illiteracy persist, there is often little understanding of spoken language, let alone sign language. This inability to access sign language and acquire the means to communicate, creates a safeguarding and protection challenge. For example, it prevents deaf children and young people from having the means to exercise their right to escape from abuse and exploitation and say 'No!' to physical, sexual, and emotional abuse.

154 More information on DeafKidz International is available at www.deafkidzinternational.org

Figure 1: DeafKidz International supports the development of early detection and identification of deafness in an audiology clinic at Ndola Hospital, Zambia, including onward referral to sign language training for children that might benefit from it. © DeafKidz International / Emma Case

The situation for deaf children is further exacerbated by the refusal of many countries to recognise sign language and develop deaf-friendly educational and schooling programmes. It is DeafKidz International's experience that deaf children are denied access to sign language because in many cases, few people actually know it exists. In rural and remote areas, where education is difficult to access and high levels of illiteracy persist, there is often little understanding of spoken language, let alone sign language. This inability to access sign language and acquire the means to communicate, creates a safeguarding and protection challenge. For example, it prevents deaf children and young people from having the means to exercise their right to escape from abuse and exploitation and say 'No!' to physical, sexual, and emotional abuse.

Through its advocacy, programmatic and consultancy work, DeafKidz International has evidenced that deaf children experience endemic abuse. Indicative of such is the programme that it has undertaken in South Africa in partnership with Childline South Africa (CSA) and two deaf organisations, DeafSA and Kwa-Zulu Natal Deaf Association. Funded by the British charity Comic Relief, this three-year programme commenced in 2014 and documented numerous instances of abuse including the rape of young deaf children in the belief that sex with a virgin cured HIV/AIDS; deaf girls forced into early marriage and raped; and deaf children forced into gun and drug running in the belief that the police cannot interview and question them.

This evidence was reinforced by two schools for the deaf in South Africa's Gauteng Province who reported that an approximate 75-85% of their pupils

were victims and survivors of abuse. At another deaf school in Kwa-Zulu Natal, the principal advised that most of the children were from hearing households where they experienced stigma, neglect and sexual violence. For example, the boyfriends of the mothers used economic leverage as a weapon to facilitate sexual abuse (Crump & Harrison, 2014). DeafKidz International's response was to work with the two deaf associations to develop CSA's ability to assist these children by creating support pathways that are accessible to them, and by reaching out into the deaf community. This saw the design of a multi-disciplinary programme that sought to build a number of inter-related and mutually reinforcing capabilities.

Figure 2: In 2015 in Durban, South Africa, DeafKidz International consultant Byron Campbell trains South African police officers in basic sign language skills – it is essential that criminal justice processes are accessible to deaf children. © DeafKidz International

Designed by the deaf professionals of DeafKidz International, the Kwa-Zulu Natal Deaf Association and DeafSA, in partnership with CSA's protection experts, this programme includes deaf awareness for CSA's outreach teams, communication skills training for its online counsellors and the teaching of basic sign language skills to officers in the South African Police Service (see Figure 2). In addition, it saw the creation of an integrated pathway of care aimed at ensuring that deaf victims and survivors of abuse are able to access clinical, social welfare and criminal justice support. The programme also tested the use of video relay technologies to enable deaf children and young people to access CSA counselling support in real time and with South African Sign Language interpretation. Unfortunately, the broadband capacities were not able to cope with the digital loads required to carry video, but the overall intervention was a considerable success with more than 1,392 deaf children (665 girls and 727 boys) accessing targeted abuse prevention and safeguarding activities. All of these initiatives emphasised the need for good communication practice so that deaf children can engage

with child protection agencies in their language of choice. Today, this work continues with DeafKidz International partnering with DeafSA to develop and deliver a youth leadership programme that seeks to empower young deaf people aged 14-18 to recognise and address abuse. Utilising the power of film, this initiative, funded by the UK's Arts and Humanities Research Council, is currently being tested in the East Rand from where it is to be cascaded across South Africa and then globally, through the membership organisations of the World Federation of the Deaf.

Drawing from the United Nations Convention on the Rights of the Child (UNCRC), as well as the UNCRPD and SDG 16.2 (end abuse, exploitation, trafficking and all forms of violence against and torture of children), DeafKidz International works with local deaf partner organisations, government entities and other civil society stakeholders to:

1. Empower deaf children and young people to recognise abuse and reduce their vulnerability to it;

2. Ensure governments, civil society and other service providers in low-resource and complex humanitarian settings are able to safeguard and protect deaf children, and respond to the clinical, social welfare and criminal justice needs of deaf survivors of abuse; and

3. Ensure deaf children and their families have equal access to education, communication, health care (including ear and hearing care), and economic opportunities through which they can realise their rights to be safe from abuse whilst maximising their potential to achieve.

This approach is evident with DeafKidz International's work in Jamaica. In a joint initiative by the deaf professionals of DeafKidz International and the Jamaican Association for the Deaf, the three-year 'Signing Safe Futures' partnership began in 2014 with the aim of developing an island-wide capacity that would enable deaf children to reduce their risk and vulnerability to abuse. A three-part programme was designed, comprising a) sports activities through which deaf children learnt safe behaviours – namely how to stay safe from abuse, how to recognise abusive behaviours, and how to disclose to a trusted adult; b) a sign language course aimed at empowering the parents of deaf children to communicate better with their children; and c) an organisational development track aimed at building the capacity of social services – including the Ministry of Social Services, the Office of the Children's Advocate and the Jamaican Constabulary Force – to respond to the needs of deaf victims of abuse. This significant programme again highlighted the need for deaf children to access sign language, and for statutory agencies to be both deaf aware and able to communicate

with deaf children and their families. More than 2,700 children accessed the programme and some 151 parents and other stakeholders attended the sign language course, 97 of whom graduated with a Level 1 certification in Jamaican Sign Language (see Figure 3). For DeafKidz International and its partners, this was a notable success.

Figure 3: In 2016 in May Pen, Jamaica, the hearing parents of deaf children celebrate their success on attaining their Level 1 qualification in Jamaican Sign Language. Through developing their communication skills, they also forged links with other parents, with whom they can share positive parenting experiences.
© DeafKidz International

The need for deaf children and their families to access sign language is a theme that cuts across DeafKidz International's work as it looks to respond to the safeguarding and protection needs of the most vulnerable. This has included deaf children and young people caught up in the so-called European refugee crisis which has seen over a million refugees and migrants, a third of whom are children, seeking to flee conflict and persecution in their countries of origin (see Figure 4). Within this crisis, DeafKidz International has encountered deaf children and their families who, whilst seeking refuge or economic opportunity, have found themselves subject to discrimination and abandonment. Originating from countries such as Syria, Iraq and northern Kurdistan, many of these children failed to access the questionable and contradictory humanitarian support offered by the aid community and European 'receiving' governments. For DeafKidz International, the crisis highlighted that through a lack of deaf awareness and a failure to provide communication support, deaf children and their families became 'invisible' to the aid community and were lost to follow up measures.

Figure 4: In 2018 in Hamburg, Germany, a young deaf refugee accesses support in sign language. Deaf children in European refugee camps, transit centres and holding centres are rarely able to access information and communication in sign language. © DeafKidz International / Rinkoo Barpaga

In response and with reference to its published strategy, DeafKidz International has worked with humanitarian aid and refugee response agencies such as Save the Children and UNICEF to act as deaf role models and advocates in refugee camps and transit centres in Greece, Germany and France. This has included generating awareness of the communication needs of deaf people and introducing best practices such as using sign language interpreters, meeting requirements for accessible information, and adopting safeguarding and protection procedures that are inclusive of the needs of deaf children and their parents, who may be deaf as well. All of this is aimed at ensuring that deaf children and young people are safe from harm, that where appropriate their families can secure asylum and, if the children have become separated from their families, they can be reunited.

DeafKidz International's global work is enshrined in the rights of deaf children and especially deaf girls, to live safely and without fear of abuse and exploitation. They should be able to access information and communication which supports and guides their decision making. There is much to do to address the stigma and discrimination that so many deaf children face. But DeafKidz International is confident that attitudinal and systematic change will be engendered through the partnerships described previously and with the likes of its newly signed partnerships with the World Federation of the Deaf, the Global Partnership to End Violence Against Children, and the WeProtect Global Alliance. To protect deaf children from harm, it is vital for deaf communities across the Global South and North to be valued and for their sign language rights to be recognised, applauded and upheld. The safeguarding and protection of children is humankind's collective responsibility.

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ALBA: Care and information on gender-based violence for deaf people

Alba Prado Mendoza and Cristina López Arellano, ALBA Service Officers at the CNSE (Spain's Confederation of Deaf People)

The mission of Spain's Confederation of Deaf People (*Confederación Estatal de Personas Sordas*, or CNSE) is to defend the rights of deaf individuals and their families so that they can enjoy full participation in society as Spanish citizens. This involves strengthening their ability to take action collectively, and safeguarding their sign languages and linguistic identity. The gender perspective and the protection of deaf women's rights are included in all of the CNSE's policies in accordance with its strategic plan, in which the fight against gender-based violence is one of the priority actions. This priority has been realised through establishing a dedicated commission, setting up a helpline with video interpretation, and launching a service called ALBA[155] which provides support to women deaf victims of domestic and gender-based abuse.

In 1994, the CNSE established a Commission for Deaf Women, and satellite commissions gradually emerged in the local federations and associations[156] that make up its national associative network. Thus began the prolific work of coordinating and raising awareness about gender equality policies. At the time of writing, the CNSE actively participates in the Commission for Women with Disabilities at CERMI[157] and maintains contacts with various women's organisations and public bodies that work in the field of gender equality in order to guarantee equal opportunities for women with disabilities.

Through its Commission for Deaf Women, the CNSE has undertaken various lines of work to tackle gender-based violence since 1999, and has drawn up Gender Equality plans for its associative network. It has also published a range of informative, awareness-raising materials (see Figure 1), and implemented numerous training programmes[158] aimed at deaf women and professionals who care for this group. In 2012, the CNSE organised the First State Congress of Deaf Women, which attracted more than 130 deaf women from all over Spain. Then in 2018, the CNSE collaborated with the EUD to organise the First Deaf Women's European

155 The word *alba* in Spanish means 'first light of dawn'. Therefore, the name of the service is not an acronym, but is intended to reflect the fact that the service brings light to the lives of deaf victims of gender-based violence who have been existing in a place of darkness caused by communication barriers and societal inequality, as well as the abuse they are facing.

156 See https:/www.cnse.es/index.php/cnse/miembros

157 CERMI stands for Comité Español de Representantes de Personas con Discapacidad ('Spanish Committee of Representatives of People with Disabilities').

158 For example, presentations and webinars related to empowerment and comprehensive health care for women.

Forum, which was attended by over 250 deaf women from 18 countries. These events aimed to make the reality of deaf women's lives visible, and contribute to their demands becoming a social priority, both within and outside the deaf community.

Figure 1: Some of the awareness-raising materials produced by the CNSE's Commission for Deaf Women: (clockwise from upper left) guide for the prevention of gender-based violence against deaf people, publication on deaf female victims of gender-based violence, poster about subtle male chauvinism, and poster about the ALBA service

Prior to launching ALBA, the CNSE was successful in securing deaf women's access to Spain's emergency assistance number for victims of gender-based violence. The service, Telephone 016, was activated by the Spanish government in 2007 but had no visual or video component and thus deaf people could not use it. After years of campaigning by the CNSE, in 2015, it became accessible thanks to SVisual,[159] a service that deaf people can use to call 016 through video interpretation. In this sense, one of the main concerns of the CNSE is the implementation of specific measures for deaf women in the government's State Pact against Gender Violence, such that health, legal, security and social services would accommodate deaf women's reality and become accessible to them. This includes access to government awareness campaigns and the technologies, applications and websites that are used to support victims.

In 2018, the CNSE launched the ALBA virtual platform (see Figure 2) for care and advice on gender violence for deaf women to mitigate the barriers they experience when accessing communication, information and resources in this area. ALBA is a pioneering service provided in sign language by video call, as well as through text-based chat and email. ALBA is funded by Spain's Ministry of Social Rights and Agenda 2030, the Government Delegation for Gender Violence, and the ONCE Foundation.[160] The service is aimed mainly at deaf women who are actual or potential victims of gender-based violence,[161] with the aim of advising, guiding and accompanying them and serving as a space for solace. The fact that they are assisted by professionals who are knowledgeable about the deaf community from a linguistic and cultural minority perspective, and who are experts in gender-based violence, contributes to making these women feel more comfortable and secure. Family, friends, neighbours, and witnesses can also use the service to receive guidance and learn how to support the victim.

The objective of ALBA is, therefore, to offer deaf women an accessible service, complementary to those offered by public institutions, aimed at facilitating an escape from situations of gender-based violence. For this, it counts on the collaboration and work of affiliated associations and federations to guarantee adequate attention to victims through a common protocol to accompany and advise them. The federations and associations accompany victims to specific services for them (police stations, refuges, courts, etc.) and guarantee accessibility throughout the process through

159 https://www.svisual.org/ser_inter.html

160 The ONCE Foundation for the Cooperation and Social Inclusion of People with Disabilities was founded in 1988 as an instrument of solidarity so that Spanish people with visual impairment could unite with other groups in the disability community and improve their quality of life.

161 In Spain, legislation and services for gender-based violence are different to those targeted at domestic abuse. The ALBA service is directed only at gender-based violence (violence against women because they are women), not to domestic or intrafamily violence.

the use of sign language interpreters or mediators.

Figure 2: (clockwise from upper left) The logo of the ALBA service, the video call page, and the front page of the ALBA virtual platform

Between 2019 and 2021, the ALBA website[162] received 7,506 visits from 90 different countries; its professionals have attended 15 incidents; and numerous consultations have been provided by both public and private entities specialised in caring for victims of gender violence. This suggests that the need for such specific and accessible virtual services is high. The CNSE is encouraged by the outreach that has been achieved so far by ALBA in the national and international deaf community, and the contributions that it has made toward the safety and wellbeing of deaf women.[163]

162 See http://www.cnse.es/proyectoalba/contacto.php

163 ALBA is focused on the issue of violence against women for being women, which can occur anywhere and at any time, not only in the home. The specific issue of domestic abuse in the family environment, including against male victims, does not fall into the remit of ALBA.

Access to justice and employment

Introduction

Dr Goedele A.M. De Clerck, Editor

This theme explores the intersection of Article 9 on access to information and communication and other articles of the UNCRPD that relate to the domains of law and employment, including Articles 12, 13 and 27. Article 12, which is on equal recognition before the law, secures the right to equality of legal capacity as well as to access to support services to exercise this capacity, while Article 13 protects access to justice. Article 13 not only secures the participation of persons with disabilities in all aspects of legal proceedings, but also addresses the training of staff in police departments, prison services, and judicial administration.

The recognition of the right to work and employment is the focus of Article 27, which protects people with disabilities from discrimination in all aspects of employment processes, from recruitment to working conditions. This article also ensures the right to opportunities for career development, as well as to reasonable accommodation in the workplace and support for seeking and returning to a job.

This theme has three chapters. The first two highlight different aspects of the intersection of legal/justice rights with the right to access to information and communication. The chapter on the Justisigns project (Leeson, Napier, Haugh, Lynch, & Sheikh, this volume) presents research findings and training resources related to signed language interpreting in legal settings. Funded by the European Commission's Leonardo da Vinci Lifelong Learning programme, the project sought insight into the needs of stakeholders in these settings. After documenting the provision of legal training and accreditation for signed language interpreters through a pan-European survey, the project team created resources including guides for interpreters and legal professionals, and information toolkits for deaf signers.

Barriers to mainstream legal services and the need for deaf citizens to be able to access specialised knowledge motivated the Swiss Federation of the Deaf to begin organising legal advice in 2007 (Reber, this volume). In 2016, the Federation established a new Legal Service to offer this support on a larger scale, with opportunities for deaf people to receive legal information in their preferred language mode (writing, video messages, or video calls in sign language). The chapter summarises an exemplar case where a deaf employee was denied access to training, which touches on the intersection of all of the above-mentioned UNCRPD articles. Another

important component of the Legal Service is its policy work on recording discrimination cases and statistics, and publishing yearly reports on this.

The third and final chapter in this theme discusses the findings and training resources generated by DESIGNS, a European Erasmus+ project that brought together experts on employment, advocacy, sign language interpreting, and training and education, from seven organisations in four countries (Sheikh, Napier, Cameron, Leeson, Rathmann, Peter, Conama, & Moiselle, this volume). Their research documented the experiences of three stakeholder groups in employment: deaf graduates (jobseekers and employees), employers, and sign language interpreters. The findings identified a number of knowledge gaps affecting all three groups, and informed the creation of training materials to address these gaps such as a signed guide for deaf jobseekers, and toolkits to help employers work with sign language interpreters.

Access to justice for deaf signers: the Justisigns project[164]

Lorraine Leeson, Jemina Napier, Tobias Haug, Teresa Lynch, and Haaris Sheikh

Introduction

Recent decades have seen a steady increase in the recognition of sign languages at the pan-European, national, and regional levels of government (Council of Europe, 2003, 2018; De Meulder, Murray, & McKee, 2019; European Parliament, 1988, 1998, 2016; Timmermans, 2005; Wheatley & Pabsch, 2012). While we consider deaf signers as members of a linguistic and cultural minority group, in legal settings, linguistic accommodations are typically met through provisions under disability discrimination law. Such provisions seek to ensure that deaf signers can access and navigate the legal justice system, and usually entail the use of signed language interpreters, or SLIs (Brunson, 2007; Skinner, Napier & Fyfe, 2021). Further, the UNCRPD is very clear about the fact that persons with disabilities enjoy legal capacity on an equal basis with others in all aspects of life (Art. 12) and have full access to justice (Art. 13). In particular, Article 13 stipulates that:

1. States Parties shall ensure effective access to justice for persons with disabilities on an equal basis with others, including through the provision of procedural and age-appropriate accommodations, in order to facilitate their effective role as direct and indirect participants, including as witnesses, in all legal proceedings, including at investigative and other preliminary stages.

2. In order to help to ensure effective access to justice for persons with disabilities, States Parties shall promote appropriate training for those working in the field of administration of justice, including police and prison staff.

Against this backdrop, this chapter points to common themes in the results of a growing number of studies from around the world that look at access to justice for deaf individuals. These include limitations faced by deaf signers because of inadequate or poor quality interpreting provision, and/or insufficient SLI training, accreditation, and/or standards. Further, the lack of training for other stakeholders in the system facilitates the persistence of systemic barriers that inhibit access for all parties, which is also directly relevant to Article 13.

164 This chapter draws heavily on Napier and Haug (2016).

Figure 1: A glimpse of activities in the Justisigns project (2013-2016)

Figure 2: A flyer promoting the Justisigns project

A team of deaf and hearing researchers and interpreter practitioners from across Europe sought to address some of these issues under the Justisigns project,[165] which ran from 2013 to 2016 (see Figures 1 and 2). It represented a

165 This project was funded through the European Commission's Leonardo da Vinci Lifelong Learning programme, and conducted in collaboration with Interesource Group (Ireland) Ltd, Trinity College Dublin, KU Leuven in Belgium, the European Forum of Sign Language Interpreters (efsli), and the European Legal Interpreters and Translators Association (EULITA). More information is available at www.justisigns.com.

ground-breaking initiative focusing on key stakeholders including police, SLIs (new and experienced), and other legal professionals. The project team established collaborative work across disciplines and developed training materials for SLIs, legal professionals and deaf signers in Ireland, Belgium, Switzerland, the UK, and beyond. As of the time of writing, these materials have also been shared with SLIs in the Balkans, and with police officers in Kenya and Uganda.

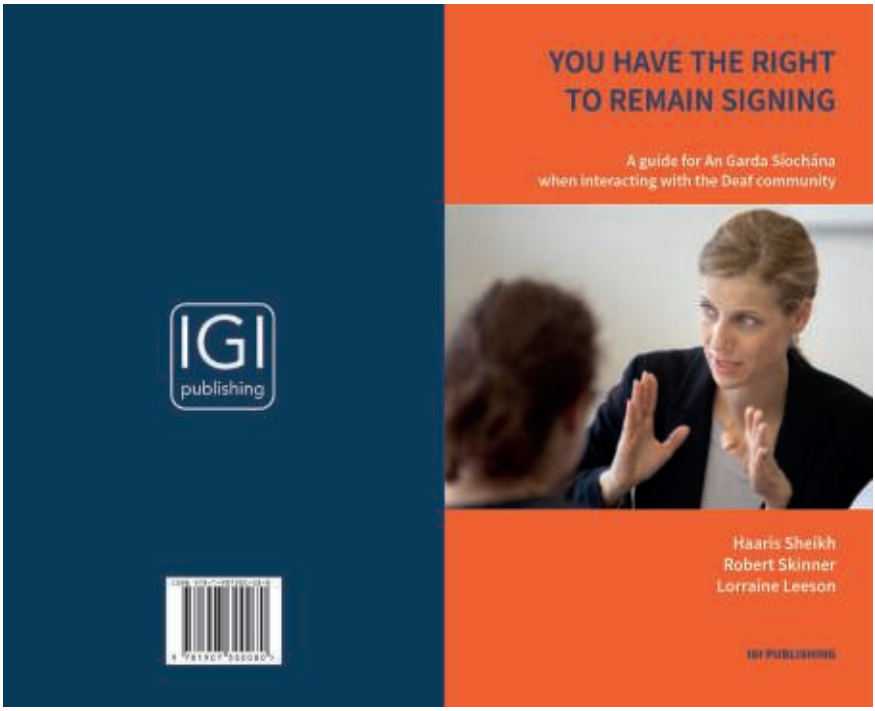

Figure 3: Guide for interpreter-mediated interactions in settings involving the Garda Síochána, the national police service of the Republic of Ireland

Figure 4: Cards promoting the use of Irish Sign Language (ISL) for equal access to information and communication in legal settings

The resources that were produced for the stakeholders included two European guides, one for interpreters practising in legal settings, and one for legal professionals working with deaf communities and SLIs (see Figure 3).[166] An information toolkit was also created for deaf signers in the national sign languages[167] of the project partners to improve their understanding of the legal framework in their country (see Figure 4). The team compiled case studies of best practice and experiences from deaf signers; ran European outreach seminars and awareness sessions; and created a range of project information leaflets and training posters with practical tips on sign language, deaf culture and communication.[168] To empirically document the needs of stakeholders in legal settings so that all of these resources would be evidence-based, a mixed-methods scoping study was carried out to examine the experiences and perceptions of deaf sign language users, interpreters and legal professionals. The researchers did this through questionnaires, focus groups, and a qualitative linguistic case study of an authentic SLI-mediated legal interview (Skinner, Napier & Böser, forthcoming). The project also involved a pan-European survey of deaf organisations, professional associations and educational institutions in order to gain a snapshot of the training and accreditation available to legal SLIs across Europe. The findings highlighted gaps in police engagement with interpreters and deaf communities.

The rest of this chapter is organised as follows. First, section 2 sets out the basis for European standards in legal interpreting in general, and for SLIs specifically. Then, in section 3, the pan-European survey and its results are described in detail. Lastly, section 4 offers some conclusions about the impact of the project.

European standards for legal interpreting and SLIs

There are two relevant European directives to consider in relation to legal interpreting more generally, which also impact on deaf communities: (1) Directive 2012/29/EU establishing minimum standards on the rights, support and protection of victims of crime, and (2) Directive 2010/64/EU on the right to interpretation and translation in criminal proceedings. Following from these, EU Member States are bound to safeguard quality control for all spoken and signed language interpreters in criminal proceedings. Article 5 of Directive 2010/64 states that quality control should be carried out through the establishment of a national register of

166 Attention was mainly focused on police settings and interactions, as these underpin many other kinds of contact with legal systems (e.g. court settings), and the broader scope of legal engagement was too extensive and under-researched to deal with in one project.

167 Irish Sign Language (ISL), British Sign Language (BSL), Flemish Sign Language (VGT), Swiss German Sign Language (DSGS), and International Sign (IS).

168 These are all open access and can be viewed at www.justisigns.com/JUSTISIGNS_Project/Results.html.

interpreters, but no definitions or guidance are provided on how this should be conducted, and in many countries, no register has been established. The provision of legal interpreting even *within* many countries is inconsistent (see Leung, 2003 regarding the situation in the regions of the UK).

But a number of projects have focused on promoting access to quality and standards in legal interpreting (Hertog, 2010, 2001, 2003), and a survey of legal (spoken language) interpreting in Europe was commissioned by the European Commission's Directorate General (DG) for Interpretation (Hertog & van Gucht, 2008). The survey found that most Member States do not offer any specific training in legal interpreting, and courses tend to be locally organised and inaccessible to interpreters in the rest of the country. Additionally, there is considerable disparity in the level and quality of training across the EU with no EU-wide code of ethics, certification or registration, and insufficient exchange of best practices between institutions that provide legal interpreter training (ibid). Following from this survey, the DG for Interpretation established an independent expert group of representatives from the legal profession and interpreter training institutions who devised recommendations for legal interpreting in the EU (European Commission, 2009), including that legal services and professionals should recognise the professional profile of legal interpreters.[169] They also identified a list of modules that should be offered in a core curriculum for legal interpreting and suggested a certification and accreditation procedure that led to the EU-funded Qualitras project on assessment of legal interpreter quality (Giambruno, 2014).

Another recommendation was for EU Member States to provide appropriate training for new and existing legal interpreters, that would lead to a nationally recognised professional certification. They underscored the fact that equivalent training and a common code of conduct should be available throughout the EU to ensure consistency, mutual trust and cooperation, and that training should also be provided to legal professionals on how to work with interpreters. But these recommendations all related to spoken language interpreting (Gallai, 2012), and prior to the Justisigns project, no-one had conducted a pan-European survey of legal signed language interpreting.

There are an estimated 7,500 SLIs across Europe, a number that urgently needs to be increased according to the EUD and European Forum of Sign Language Interpreters (efsli) (Wheatley & de Wit, 2014). Processes of registration, where they exist, increasingly codify minimum criteria (Leeson & Venturi, 2017), but the profession does not hold any official status in Europe (de Wit, 2012) and there is no standard to determine what

169 This profile encompasses their bilingual (or multilingual) proficiency, interpreting skills, knowledge of relevant countries and cultures, interpersonal skills and attitudes, knowledge of the legal system, and integration of ethics.

it means to be a qualified SLI in many countries.

Legal discourse and terminology is challenging for non-legal professionals in general, but this is especially true for linguistic minorities who rely on interpreters (Shuy, 2003). Deaf people who are not highly fluent in a sign language are even more disadvantaged in legal domains (e.g. see Miller & Vernon, 2001; Vernon, 2010; Vernon & Miller, 2005). Research shows that it is often difficult to ensure that signed language interpreting is provided, and even when it is, deaf signers have little control over the quality and do not always understand the proceedings (Brennan, 1999; Brennan & Brown, 1997; Russell, 2002; Tester, 2018). It is also the case that interpreters and legal personnel may have conflicting ideas about the SLI's role (Brunson, 2007; Kermit, Mjøen, & Olsen, 2014; Napier & Banna, 2016). A common theme then, is that deaf signers experience significant challenges and systemic barriers in gaining access to justice, and that a major element of this is the lack of documentation of their experiences in legal settings (see Leeson, Flynn, Lynch, & Sheikh, 2020 on the Irish context; Skinner & Napier, submitted on the UK; and also Roberson, Russell, & Shaw, 2011 on the situation in the USA). Following Perez and Wilson (2011), the Justisigns project sought to interlink the training of legal personnel and interpreters to maximise the knowledge and experience of both professional groups and promote cross-cultural awareness.

The pan-European survey and its results

In July 2014, the team's pan-European survey of 21 countries documented a snapshot of the status of SLI in legal settings and the training needs of interpreters, police officers, and deaf people, focusing on eight main research questions:

1. Are SLIs consistently provided in legal settings across Europe?
2. Who is responsible for organising and paying for SLIs in legal settings?
3. Which are the most common legal settings where SLIs are required to work?
4. What qualifications are required of SLIs in legal settings?
5. Is there any specific legal interpreter education available?
6. What CPD training is available for professional interpreters on working in legal settings?
7. Is specific legal interpreter certification available for SLIs?
8. Can SLIs specialise in legal interpreting in Europe?

The team's online survey instrument was produced in written English and

contained 30 items that drew on questions from a previous project on SLIs working in healthcare settings.[170] The 49 organisations that completed the survey included national deaf associations, professional SLI associations and other relevant SLI service and training providers that were identified through the membership databases of the EUD and efsli. The answers that these organisations provided gave the team background information about deaf communities and sign languages in each country, and details on the availability, training and remuneration of SLIs in legal settings. The countries with the most responses were the UK and Switzerland, and 21 different sign languages were represented among the organisations.[171] The largest proportion were SLI associations (43%), followed by service providers and educational/research institutions (each 24%) and then deaf associations (9%). The low response from deaf associations may have arisen because this survey was circulated only in English.

In terms of the number of deaf signers per SLI in each country, there is great variation across Europe (see Table 1). While the size of the deaf signing population is proportionate to general population figures, the number of qualified interpreters is not, so that in some cases a country with a large population has a disproportionately small number of SLIs (e.g. Serbia).

Country	Estimated population of deaf signers	Number of interpreters
Austria	10,000	80
Belgium (Flanders)	5,000	400
Czech Republic	10-15,000	40-100
Finland	5,000	700-800
Germany	200,000	Unknown
Greece	Unknown	47
Hungary	5,000	450
Iceland	250	48
Ireland	5,000	40-60
Italy	Unknown	250

170 This previous project was called Medisigns. It ran from 2010 to 2012 and was coordinated by Interesource Group (Ireland) Ltd. It can be considered a 'sister' project to Justisigns. The methodologies applied successfully in Medisigns, which considered access to healthcare settings, were adopted and adapted for work in legal settings.

171 The official sign languages reported were Austrian SL, Belgian-Flemish SL, British SL, Catalan SL, Czech SL, Dutch SL, French SL, Finnish SL, German SL, Greek SL, Hungarian SL, Icelandic SL, Irish SL, Italian SL, Norwegian SL, Polish SL, Romanian SL, Slovene SL, Serbian SL, Spanish SL, and Swiss-German SL (Napier & Haug, 2016). See Tupi (2019) for a more recent overview of the legal status of European sign languages.

Netherlands	3-10,000	780
Norway	5-6,000	300-400
Poland	50,000	Unknown
Romania	Unknown	69
Serbia	30,000	90
Slovenia	1,000	46
Spain	150,000	~ 5,000
Switzerland	8-10,000	60 (German) 30 (French) 10 (Italian)
UK (England, Scotland, Wales and Northern Ireland)	70,000 (Scotland 7-8,000)	(Scotland 70-100)

Table 1: Estimations of deaf population size and number of qualified interpreters in each country (as reported in Napier & Haug, 2016)[172]

The team found that interpreting is most commonly provided where deaf people are involved as complainants, defendants, or witnesses, rather than for deaf people serving as jurors (see Table 2). This finding is not surprising as most countries do not allow deaf people to serve as jurors (Napier & McEwin, 2015; Spencer et al., 2017). However, this is changing in some countries such as Australia and Ireland.[173]

Settings	**Response percent**	**Response count**
Court	97.9 %	46
Police interviews	93.6 %	44
Meetings with solicitor/lawyer	89.4 %	42
Jury duty[174] (criminal, civil, coroner's court)	46.8 %	22
Jury selection	40.4 %	19
Other	38.3 %	18
Answered question		47
Skipped question		2

Table 2: Availability of signed language interpreting services in specific legal settings (N=47) (Napier & Haug, 2016)

172 Updated figures for some countries are available via national registers of interpreter portals, where these exist.

173 For examples, see Gallagher (2020), Napier et al. (2019), and Carolan (2017).

174 Not all European countries have a jury system, which might account for the lower figures as compared to 'court'.

Further analysis was carried out to explore who is responsible for providing interpreting services in each of these settings, e.g. whether they come from SLI-specific services or generic legal services that provide both spoken and signed language interpreting. Table 3 reveals that in the majority of cases, services are provided by SLI-specific agencies, that is, those with specialist knowledge of the local deaf communities, who are usually in a better position to match the individual needs of deaf signers (Deysel, Kotze, & Katshwa, 2006; Harrington, 2001). This is particularly important in the legal context, given the potential impact if the deaf person cannot understand an interpreter.

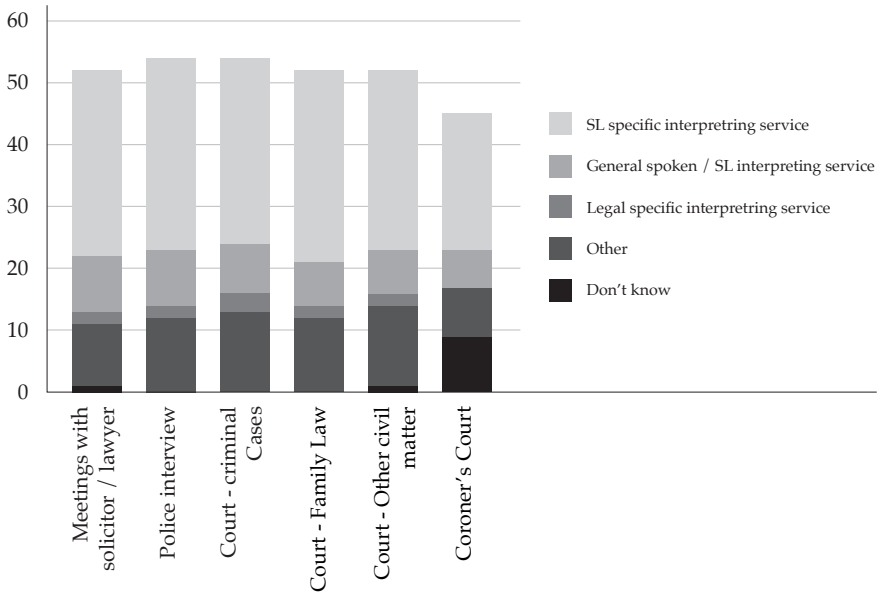

Table 3: Legal signed language interpreting service providers in Europe (N=43) (Napier & Haug, 2016)

Table 4 shows who pays for SLI provision in a range of legal contexts. Most typically, costs are covered by government funding or agents of the justice system (i.e. police or courts). However, the deaf signer is often expected to pay for SLI provision in solicitor meetings.

Another challenge was that of finding an interpreter; respondents were most likely to rate this as 'sometimes difficult' (see Table 5). This may be due in part to interpreters' reticence to work in legal settings, which many view as high risk, that is, having significant potential consequences for participants (e.g. loss of liberty).

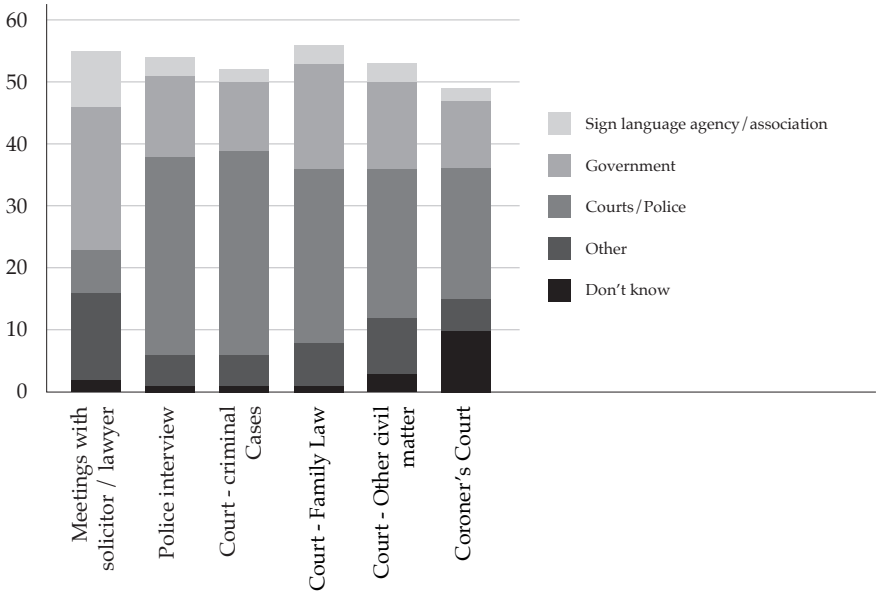

Table 4: Who pays for signed language interpreting in legal settings (N=41) (Napier & Haug, 2016)

Settings	Very esay	Quite easy	Sometimes difficult	Always difficult	Don't know	Response count
Meetings with solicitor/lawyer	4	13	19	6	2	41
Police interviews	5	11	14	10	3	41
Court - Criminal Cases	5	10	15	10	4	41
Court - Family Law	5	12	16	8	3	41
Court - Other civil matters	4	10	17	8	4	41
Coroner's Court	3	8	10	8	11	41
Answered question						41
Skipped question						8

Table 5: Respondents' evaluations of the level of difficulty when booking interpreters in legal settings (N=39) (Napier & Haug, 2016)

About half (51%) of the respondents said there were no specific university modules for legal professionals on how to work with SLIs and deaf people, and an even larger proportion (54%) said no CPD opportunities for this existed. Roughly a quarter (24%) confirmed that there were short courses available for them, of e.g. 6-20 hours. With respect to training for SLIs in legal settings, only 10 respondents answered this question, and their comments suggest that where this is available, there is inconsistent quality and content.

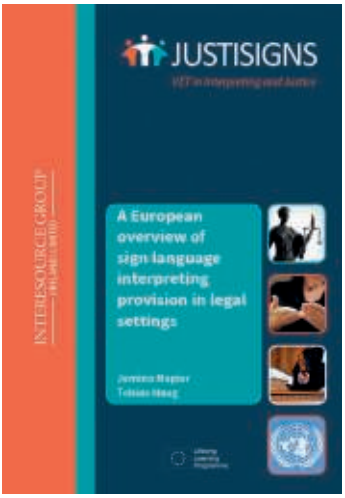

Figure 5: The findings of the Pan-European survey offered insight into the provision of signed language interpreting in legal settings

There is also little consistency across Europe regarding what it means to be 'qualified' to interpret in legal settings: some countries are stringent, requiring legal exams or training, while others only require a general SLI qualification, and some have no requirements at all.[175] Just 17% of respondents reported that their country has a specific legal interpreting qualification that is separate from a general SLI certification. Only about one-third of countries have legal modules available in their formal SLI education programmes and/or legal CPD training for interpreter practitioners. Moreover, a majority (56%) of survey responses confirmed that there are no systems in place for quality assurance of signed language interpreting in legal settings (e.g. monitoring, revalidation), apart from the informal practices and opportunities undertaken among interpreters themselves. A similar majority (54%) of countries have no specific code of ethics or conduct for SLIs working in legal settings. In summary, it is evident that there is a lack of safeguarding and quality control of legal signed language interpreting across Europe, even though this is required by European Directive 2010/64/EU. This is quite worrying as it renders

175 Indeed, many countries still do not have any formal training pathways for interpreters.

practitioners, policy-makers and service users unable to meaningfully evaluate the efficacy of protections being delivered in accordance with Article 13 of the UNCRPD.

The findings reveal that the majority of legal SLI services across Europe are provided by sign-language-specific interpreting agencies. However, provision does not equal availability, and the majority of respondents stated that it is difficult to secure an interpreter. Furthermore, the majority of respondents said that there is no training available for deaf signers on how to work with interpreters in legal settings (see Figure 5).

These results should be interpreted with caution, as there were some limitations in this study. First, its sample of 49 respondents from 21 countries is relatively small, self-selected, and not readily generalisable. Not all efsli members responded, so it is difficult to evaluate how accurately these findings reflect the realities on the ground in each Member State. Finally, it is noted that delivering a survey in English only may have excluded potential respondents. Ideally, this survey would have been available in several written and signed languages.

Conclusions

The Justisigns project helped to raise awareness of the gaps in deaf signers' access to legal settings in several European countries, and helped to open up a discussion around the need for specialist training for interpreters and other stakeholders (Napier et al., in press). The pan-European survey added valuable data to the evidence base on legal interpreting in the EU, which had been initiated by the European Commission's survey in 2008. The findings presented here suggest that there is a need to promote a consistent approach to access to justice for deaf signers and make the relevant training available on more than an ad hoc basis. Although there are now some established provisions for legal signed language interpreting in Europe, as with spoken language interpreting provision, it is inconsistent. It appears that there is no uniform approach to the training or certification of legal interpreters. These findings have major implications in terms of safeguarding the rights of deaf signers and actualising the protections promised under Article 13 of the UNCRPD.

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Access to legal services provided by the Swiss Federation of the Deaf (SGB-FSS)

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Deaf people face numerous challenges in their daily lives, and sometimes it is necessary for them to find legal solutions to protect their rights and raise awareness of discrimination. The Swiss Federation of the Deaf[176] (SGB-FSS)[177] was quick to recognise the need for legal support to enable deaf people to stand up for their rights, since the mainstream legal services were not accessible due to language barriers and often lacked the specialised knowledge and capacity necessary to serve the deaf community. Thus, in 2007 the SGB-FSS started to offer legal advice through a deaf lawyer. The deaf people who used this service felt that their needs were understood and well represented. This experience confirmed the Federation's belief that, often, rights can only be asserted through the legal system. In 2016, the SGB-FSS therefore decided to build out the legal support on a larger scale and established its new Legal Service. This service has been fully funded by the SGB-FSS through its fundraising activities, and operates currently with a team of three lawyers who support the Federation's policy work as well as advising deaf people in legal matters.

Policy work

The Legal Service forms an integral part of the Law and Policy Taskforce at the SGB-FSS and is responsible for handling the legal and strategic aspects of its various initiatives. Politically important issues such as the legal recognition of Switzerland's sign languages[178] are addressed by the Law and Policy Taskforce, with the aim of enabling deaf people to fully participate in society. The Legal Service is also involved in the consultation procedure[179] as part of the national legislative process. As the member organisations of the SGB-FSS are active regionally, the Legal Service also has the task of supporting the regional organisations in their political work at local level. A further important job of the service is to publish a yearly report on the number of discrimination cases it has recorded and the main

176 The Swiss Federation of the Deaf (https://www.sgb-fss.ch) was founded in 1946 and represents the deaf community throughout Switzerland. It has offices in the country's French-speaking, Italian-speaking and Swiss German-speaking regions (in Lausanne, Lugano and Zurich respectively).

177 SGB stands for the Swiss German name of the organisation, which is Schweizerischer Gehörlosenbund, and FSS represents the French and Italian names, which are Fedération Suisse des Sourds and Federazione Svizzera dei Sordi.

178 Three sign languages are used in Switzerland: Swiss-German Sign Language (Deutschschweizer Gebärdensprache, DSGS); French Sign Language (langue des signes française, LSF); and Italian Sign Language (Lingua dei Segni Italiana, LIS).

179 During the national legislative process, the civil society has the possibility of submitting a statement regarding the changes in the law. This is an important tool used by the Legal Service for awareness-raising.

areas of life[180] in which deaf people have experienced discrimination, such as in the workplace. Every year, the online report attracts a great deal of interest from the media. These statistics are currently the only figures available in Switzerland on discrimination against deaf people. The Legal Service also works closely with the regional advisory bodies for deaf people. Many of the people who are supported by these organisations would not be able to assert their rights without the encouragement of the case workers, often because they are afraid of the possible repercussions.

One such person, who is referred to here by the pseudonym Anton, contacted the Legal Service when he was denied access to a professional training course. After completing an apprenticeship, he began the process of applying for jobs in his chosen profession, but discovered that these jobs also required an additional diploma. When he asked the relevant local public authorities to cover the cost of sign language interpreters so that he could access the course, they rejected his request, stating that he did not fulfil the requirements for the funding because the additional diploma would not help him in his professional life. Despite the Legal Service believing that there was a good chance this rejection could be overturned, Anton did not want to appeal the decision because he feared this might have negative consequences for him if he had to seek support or interpreting services from the same authorities again in the future. But after seeing the legal arguments, which explained how the authorities had clearly misapplied the law, he decided to appeal with support from the Legal Service. In all of its activities, the service aims to raise awareness of the difficulties faced by people like Anton. Its staff believe that the published discrimination statistics are just the tip of the iceberg, as large numbers of incidents remain unreported because people fear the consequences of reporting and do not have access to information about their rights and the possibility of legal support.

Legal information and advice

The service also offers legal advice in public law matters to individuals, specialist organisations and other bodies, particularly in the areas of education, equality, and social security/insurance.[181] The first two hours of legal advice are free of charge for deaf people and for individual or collective members of the SGB-FSS.[182] The legal issues that it deals with typically relate either directly or indirectly to deafness and hearing impairment. For other legal matters such as divorce, consumer law, and disputes with neighbours, it recommends other competent services such

180 See https://www.sgb-fss.ch/wp-content/uploads/2021/02/Diskriminierungsmeldungen-im-Jahr-2020-0012463.pdf

181 In Switzerland, support and interpreting services for deaf people are provided under social insurance law.

182 Further details about the service and fees are available at https://www.sgb-fss.ch/angebot/rechtsdienst/.

as lawyers or counselling centres specialised in the given subject or in advising deaf clients. The two types of support that the Legal Service offers are legal information and legal advice. The former is given on request as a one-off interaction, either in writing or through a video message or video call in sign language. The latter is provided in all matters that require ongoing support rather than just one-off information; in other words, the Legal Service takes over the mandate in the given affair and accompanies the affected person throughout the entire procedure.

In the past five years, the Legal Service has been contacted by a growing number of people, and awareness has been raised about discrimination against them thanks to the service's efforts in the legislation process, in particular through successful cases that were published in the discrimination report. The service has increasingly won the trust of the deaf community over the years, with more deaf people daring to stand up for their rights and defend themselves against unfair treatment.

Access to employment for deaf graduates, employees and jobseeking signers: findings from the DESIGNS project

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Employment represents a central component in most adults' lives, providing economic security and social stability, and satisfying psychological needs (Blustein, 2008). Deaf people face structural challenges when accessing and maintaining employment when compared to their hearing counterparts, as well as large gaps in earnings (e.g. Walter et al, 2013). There has been limited research on the experiences of deaf job-seekers, employees, and sign language interpreters, and there have been few if any evidence-based resources that can address or mitigate these challenges. The Erasmus+ funded DESIGNS project (2016-2019) used an action research approach to explore the situation of deaf graduates[183] who are employees or jobseekers as well as employers and sign language interpreters, to inform and produce training materials for these stakeholder groups in Ireland, Germany and the UK. The overall aims of DESIGNS were to create evidence-based resources for Vocational Education and Training (VET) and Continuing Professional Development (CPD) and to share exemplar practices from across Europe to facilitate greater participation of deaf signers in employment; encourage employers to understand and to accomodate the needs of deaf employees; and provide employment-context training to sign language interpreters. The project team included seven organisations and institutions from four European countries who contributed their expertise in the fields of education and training, employment, sign language interpreting and deaf community advocacy. This chapter presents a summary of the study including its background, methodology, and findings (see Figure 1).[184]

183 'Graduates' refers to people that have completed further or higher education to obtain profession-relevant qualifications.

184 This chapter draws on Napier et al. (2020). Some content has been used, adapted and reproduced with the kind permission of the project coordinator, Interesource Group (Ireland) Limited and the SLSCS/CDS Monograph series editor Lorraine Leeson.

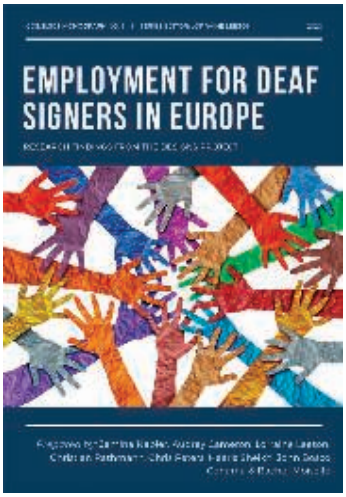

Figure 1: Employment for deaf signers in Europe. Research findings from the DESIGNS project.

Background: Deaf signers and employment

Studies on the sociology of work have moved away from analysing what constitutes a profession, and toward examining the relationship between societal forces and occupational strategies and a person's ability to obtain a professional status and identity (Klegon, 1978). Studies of employees with disabilities, however, have found that regardless of the occupational strategies utilised, they still experience various social and environmental barriers in the workplace (Barnes & Mercer, 2005). Various legal instruments identify people with disabilities as a protected group, which should prevent discrimination in the workplace, but employees with disabilities still experience stigmatisation due to the stereotypical assumptions of others (Mik-Meyer, 2016). In order to do their job, many people with disabilities require adjustments/accommodations that have to be negotiated on an ad hoc basis with managers who may have little understanding of what is needed (Foster, 2007). Legislatively, in occupational contexts, deaf people are also situated as 'disabled', and for them the adjustment/accommodation is typically a sign language interpreter.

There has been a contentious debate between the societal perceptions of deaf people as being disabled, and their status as 'sign language peoples' (De Meulder, 2015; Napier & Leeson, 2016). This is because legislative instruments often frame sign language rights within the context of disability rights (De Meulder, 2015; World Federation of the Deaf, 2018) and regard deaf signers' linguistic status as a disability access issue. The World Federation of the Deaf (2018, pp. 10–11) argues that an intersectional stance should be taken that situates deaf signers as part of both language and disability minority groups:

> *...deaf people differ from other linguistic minorities in one important way – while many users of minority languages are able to learn and function in majority languages, deaf people are usually unable to fully access the spoken languages of their surrounding environment because of their auditory-vocal transmission. Therefore, sign languages are not only linguistically and culturally important, they can be the sole means of language development and accessible communication for deaf people.*

For deaf signers in the workplace, a typical adjustment/accommodation is the provision of a sign language interpreter. Research on deaf people's lived experiences in employment indicates that in addition to this, it is valuable for employers to take positive steps to become *au fait* with deaf awareness and culture; understand preferred communication norms, and foster inclusion in social settings (Sheikh, forthcoming).

In Ireland there is funding available to cover the costs of interpreters for job interviews and initial training, but not for on-going accommodation in the workplace. However, the Irish Sign Language Act 2017 included a plan to introduce a voucher-based system for deaf people to pay for interpreters, and this is being piloted at the time of writing (2021). In Germany, there is government support, for example through *Agentur für Arbeit* (the federal agency of employment, under the Ministry of Labour), where an employer hiring a job applicant with disabilities receives a higher allocation of funding in their first year of work, which is gradually reduced so that after four years, the employer is expected to pay a full salary. Moreover, funding for German Sign Language interpreters for work-related matters comes from the government's Integrationsamt/Inklusionsamt's scheme. In the UK, funding for British Sign Language interpreters mostly comes from the government's Access to Work scheme[185] (with employers also expected to make a contribution towards interpreting costs).

There is an increasing demand for interpreters to facilitate interactions in the workplace between deaf professionals and their non-signing counterparts. An emerging body of work in deaf and sign language interpreting studies has examined the role of the interpreter in this context (Dickinson, 2014; Feyne, 2015, 2018; Miner, 2017; Napier, Carmichael & Wiltshire, 2008), including from a deaf perspective (Burke, 2017; Haug et al., 2017; Napier, 2011). This has led to the development of the 'deaf-professional-designated interpreter' model (Hauser, Finch & Hauser, 2008), which details the practices of deaf professionals and interpreters who work together on a regular basis.

There is a direct link between educational qualifications, social inclusion,

185 See www.gov.uk/access-to-work

and advancement in the labour market. Apart from financial autonomy, work and paid employment serves to develop a sense of belonging with benefits in terms of mental health and identification with the wider community. Previous research has identified that deaf signers tend to have lower status jobs than hearing people (Capella, 2003); experience communication difficulties at work (Foster & MacLeod, 2003, 2004); tend to work in different sectors than hearing people (Rydberg, Gellerstedt & Danermark, 2011); experience a lack of support in finding, maintaining and progressing in employment (Total Jobs, 2016). However, to date there has been little consideration of deaf signers' lived experiences of work from a sociological perspective. Explorations of deaf employment tend to focus on barriers, inequalities, and accommodations or adjustments, and any reference to interpreters is primarily in relation to cost or availability (Hogan et al., 2009; Punch, Hyde & Power, 2007; Willoughby, 2011).

Figure 2: Triangulation of perspectives on deaf employment

In order to address this gap and collect an evidence base for the development of training resources, it was necessary to conduct action research, including a landscape review of the current situation for deaf workers in Europe, and examine their experiences in employment settings. Action research involves a six-step cyclical process of (1) identifying a problem to study; (2) gathering and reviewing related information; (3) developing a plan of action; (4) implementing the plan; (5) evaluating the results; and (6) repeating the cycle with a revised problem or strategy derived from what was learned in the first cycle, until the question is answered (McKay, 1992). One of the innovative aspects of DESIGNS is the triangulation of the perspectives of the stakeholder groups (employers, sign language interpreters, and deaf sign-language-using graduates who are employees or jobseekers) and consideration of how this triadic partnership plays out in work contexts (see Figure 2).

The project team explored three key research questions:

1. What are the experiences of deaf graduates in securing, retaining and / or progressing in employment?
2. What are the experiences of sign language interpreters when working with deaf signers in employment settings?
3. What are the experiences of employers in recruiting, employing and supporting deaf signers in the workplace?

Methodology

A mixed-methods research design (Cresswell, 2003) was adopted to enable an in-depth, triangulated exploration of the experiences of the three groups of key stakeholders and look at the same phenomena from different perspectives (cf. Napier & Hale, 2015). The research was also aligned with principles of community participatory research (Cornwall & Jewkes, 2010), which has become an established methodology for studies with deaf signers (Leeson et al., 2017) and a way to rebalance power by including community users in the scholarly scrutiny of interpreting practices (Wurm & Napier, 2017). The study was designed to adhere to principles for conducting research ethically with deaf signers (Harris et al., 2009), and therefore the research team was comprised of a multilingual, mixed deaf-hearing team of signers, interpreters, and employment-related practitioners. More importantly, in keeping with transparency and accountability when conducting action research with signing deaf communities (Leeson et al., 2017), the team ensured that their communication and dissemination were available in several signed languages.[186]

The specific methods of data collection involved a Europe-wide online survey to review the landscape of deaf employment from the perspective of national deaf associations; and three sets of focus groups and one-to-one interviews in Ireland, Germany and the UK with 1) deaf employees, 2) employers and organisations that have deaf employees; and 3) interpreters who work regularly in employment settings.[187] The team used a thematic analysis on the resulting cross-national data set to identify patterns in the data. Each interview and focus group transcript was examined, and key themes emerged in five principal domains: (1) barriers to employment related to interpreting provision; (2) strategies employed by key stakeholders; (3) familiarity with one's job and other stakeholders in the context; (4) the role of the interpreter; and (5) the perceived training needs of deaf people, employers and interpreters.

186 Irish Sign Language, British Sign Language, and German Sign Language, and International Sign.

187 For an overview of each method, the process of recruitment, and the procedure of data collection, see Napier et al. (2020).

Findings and discussion: the 5 gaps

Figure 3: DESIGNS flyer that informs deaf jobseekers on disclosure

Figure 4: Working with sign language interpreters – a DESIGNS resource for employers

The findings point to a trend of increased participation of deaf people in higher education, most likely attributable to greater provision of interpreters in this sphere (typically facilitated through disability legislation). Consequently, more deaf signers are achieving higher-level qualifications and seeking to enter the workforce in a range of professional roles. In turn, there is a commensurate increased demand for interpreters to facilitate interactions in the workplace. But in general, the findings suggest that this demand is not being adequately met, and that deaf graduates are significantly more likely to be underemployed or unemployed than their hearing counterparts, despite similar levels of qualification; deaf job candidates are concerned about disclosing their hearing status for fear of

experiencing discrimination; interpreters are inadequately prepared for working in employment-related settings, particularly in fields with large amounts of specialist concepts and terminology; deaf people felt that interpreting provision is as an administrative and economic burden; and the lack of statutory provision of interpreting in employment settings in some countries (e.g. Ireland) inhibits deaf people's career progression.

More specifically, the data analysis revealed that all three stakeholder groups face a series of gaps, which were prevalent in all three countries.[188] These gaps pertain to five areas: (i) knowledge, (ii) organisational culture, (iii) experience, (iv) feedback, and (iv) systems. The remainder of this chapter discusses each of these gaps in turn and considers what might be done to address them.

Bridging the Knowledge Gap

1. Deaf signers require support while still in education around the process of transitioning to the workplace. This should entail discussion around working in hearing dominant settings, expectations, cultural norms, custom and practice (see Figure 3).
2. Deaf graduates, employees and jobseekers, need to know about the kinds of work-related supports that are available to them and what they have to do to avail of same. They also need input around working with interpreters in workplace settings, unpicking what this means for how they are represented and perceived and what this may mean for their career progression. Opportunities to practice working in interactive settings via interpretation would also be helpful. These sessions could be recorded to facilitate close review. Such practice sessions would also offer highly beneficial opportunities to interpreters to secure feedback and inform their practice too.
3. Deaf graduates, employees and jobseekers require access to internship programmes and mentoring as they transition into the workplace.
4. Employers need to be actively encouraged to recruit deaf graduates.
5. Employers need information around what supports are available to deaf employees and how they can apply for same/support their employee's application for same. Employers need to view such support as part of the routine administration of their business to avoid stigmatising deaf employees as 'burdensome'.
6. Employers must be challenged about 'myths' they have about deaf people as employees such as deaf employees are no more a health and

188 For a full overview of the research findings, see Napier et al. (2020).

safety risk than any other employee; that there is no insurance weighted premium for employing a deaf person, and that deaf employee can perform the same functional tasks, given the proper supports, as their hearing counterparts.

7. Employers need input around the scope of practice of interpreters, how they work and what they need to facilitate best outcomes for all stakeholders in an interpreted event (see Figure 4).

8. Employers require guidance regarding how best to plan for accessible training, meetings, conferences and other work-related events where sign language interpreters or other professionals providing supports are engaged. Guidance should include information about the work-space requirement of interpreters (lighting, seating arrangements, microphone usage, recording of events, etc.), any considerations for the agenda (working conditions, breaks, etc.), and preparation materials required to ensure that interpreters (or other professionals providing supports) are best equipped to perform maximally.

9. Expectations need to be managed around what an interpreter can do in a workplace setting. If an interpreter is not a specialist in the field that they are hired into, they will not sound/sign like a specialist in that field (see Figure 4 and 5). Stakeholders will have to bear in mind that the gaps in knowledge are the interpreter's, not the gap of the deaf/hearing party's. To mitigate gaps in experience and knowledge, stakeholders need to support the interpreter by providing adequate preparation materials, by briefing the interpreter/s, and by providing feedback. The interpreter will treat all information received as confidential. A framework for discussing these issues needs to be introduced and normalised for every new booking that an interpreter takes on/is assigned by an agency.

10. Employers should consider how they can best deliver training and to deaf employees and make sure that deaf employees have access to the same range of supports as their hearing counterparts. For example, in-house training video materials could be signed and/or subtitled and company employee assistance programmes should be accessible (e.g. interpretation should be made available as needed). We recommend engaging in dialogue with deaf staff members and seeking their advice regarding what works best for them.

11. Employers should induct deaf staff into their organisation, but also provide induction to hearing staff regarding issues to consider when working with deaf sign language users.

12. Employers should commit to embedding sign language classes and information about deaf communities in their annual programme of activities to facilitate hearing colleagues to engage directly with their deaf colleague/s. Deaf Awareness Training is recommended as a starting point in this regard.

13. Deaf employees should be provided with mentoring to support and plan for career progression; this should also help bridge the confidence gap that employers report for some deaf employees.
14. Interpreters can help bridge their knowledge gap by engaging regularly with the Deaf community they serve to ensure that they are maintaining their fluency in their working sign language/s and staying abreast of current issues of importance to the Deaf community.
15. Interpreters require adequate preparation to be able to perform optimally. This requires ensuring that interpreters are granted access to materials ahead of interviews, training events and meetings. One approach that many DESIGNS informants found helpful was working collaboratively to develop bilingual glossaries of terms that are central to the business at hand.
16. State bodies need to ensure that staff members engaging with deaf people seeking supports are trained to work with interpreters and understand how to engage effectively with deaf sign language users. Deaf Awareness Training is recommended as a starting point in this regard.

Figure 5: Glossary for sign language interpreters

Bridging the Organisational Culture Gap

1. Deaf signers need induction into the workplace, and may require additional guidance regarding custom and practice, cultural norms of the organisation, and expectations. This may go hand in hand

with mentoring, a requirement that should help to also bridge the knowledge gap, and ease the challenge of negotiating an institutional culture with a hearing dominant workforce.

2. Employers must recognise that deaf employees can feel isolated and should try to foster a workplace where hearing employees are actively encouraged to include deaf sign language users in office 'chit chat'.
3. Deaf and hearing employees must be encouraged to actively engage each other.
4. Stakeholders – deaf people and employers – need to recognise that interpreters do not share the 'insider' knowledge that they do. To facilitate effective interpreting, interpreters need to be prepared so that they can best represent all parties for whom they are interpreting.

Bridging the Experience Gap

1. Deaf signers would benefit from opportunities to engage in mock interviews with interpretation so that they can work through how they negotiate their self-presentation via interpretation, how they handle disclosure of deafness and discussion of same.
2. Employers would also benefit from opportunities to engage in such mock interviews, with opportunity for feedback on their response from deaf interviewees and interpreters.
3. Mock interviews would also offer up an opportunity for interpreters to receive feedback on their work into both languages, and on their presentation, which can impact on how a deaf candidate is perceived. Further, as interpreters may have limited personal experience with interviews themselves, mock interviews also offers an opportunity for them to bridge their personal experience gap, as well as to consider how they will interpret effectively in interviews for specific fields of practice (e.g. engineering, education, accounting/finance, etc.).
4. Internships for sign language users at early stages in their career, with opportunities to secure mentoring and guidance from more senior level employees, will help to bridge the experience gap reported by deaf people and employers alike.
5. Employers can support deaf employees by offering job-related leadership training.
6. Interpreters may be called on to interpret for deaf people from another country, who use languages that the local sign language interpreter is not competent in. To bridge this gap, hiring an interpreting team that includes a deaf interpreter who can negotiate this linguistic distance can enhance the quality of the interpreting.

7. Interpreters typically rarely have experience of working in situations where disciplinary proceedings are instigated, or where cases are referred to tribunals for settlement. Continuous Professional Development (CPD) opportunities that allow for 'mock' cases will help to future-proof competence development for such domains and also help to alleviate the stress associated with such high-stakes assignments.

Bridging the Feedback Gap

Employers realise that there are situations where "them and us" can occur if there are major misunderstandings from either sides, and they need to minimise the risks and prevent these scenarios from happening by tackling misunderstandings as quickly as they can. Providing feedback that is timely, focused and actionable – and accessible can help minimise misunderstandings.

Interpreters should request feedback from all key stakeholders. Opportunities to plan, review, and appraise interpreting practices and their impact on the interactions that occur should be built into workplace schedules to maximise quality of outcomes for all involved.

Bridging the Systems Gap

1. There is a need for disaggregated data from State bodies that allows for better understanding of the situation of deaf sign language users in order to better respond with evidence-based policy and practice.
2. There is a need for statutory funding to underpin linguistic access to and at work for deaf sign language users across Europe. The British 'Access to Work' (AtW) programme and German`s Integrationsamt/ Inklusionsamt are considered a model in this respect.
3. A clearly outlined process must be provided that allows deaf people to know how long an application for funding will take to be processed. Processing times must be aligned to labour market demands or they risk further disadvantaging deaf signers in their careers.
4. State bodies responsible for tendering processes must ensure that quality leads provision when putting service level agreements in place around sign language interpreting. ISO standards for community interpreting (2014) provide guidance in this respect, and the DESIGNS project resources and guidelines are useful tools.
5. The process of administration of payment of interpreters working via State bodies requires attention. Documentation and processes

must be streamlined and easy to follow to ensure that there are no undue delays in processing payment to interpreters/agencies. Those responsible with the process of administering interpreting should not shift this responsibility to the deaf service user.

6. More generally, there is an issue around the provision of interpreters to facilitate access and participation for deaf employees around take-up of options available to hearing peers such as accessing services such as private health insurance, participating in external training funded by their company, and indeed, engaging in part-time further education (e.g. masters or other professional qualification pathways).

Training modules and other resources

Figure 6: *'You're hired!'* - Irish version

Figure 7: *"You're hired!'* - British version

Figure 8: *You're hired!'* - German version

A significant part of the findings pointed to the general lack of awareness amongst the three stakeholder groups about employment contexts. For employers, the research revealed there is a fundamental lack of deaf awareness; for interpreters there is a lack of specialist knowledge about the multitude of employment-specific contexts; and for the deaf community, particularly for new entrants to the labour market, there was a general lack of awareness about access to funding for interpreters, soft skills and information about employment rights.

To respond to these knowledge gaps, during the lifecycle of the DESIGNS project, training resources were created for each of the target groups. These resources included: a training module for deaf job seeking graduates from higher education who are reported to be underemployed and who have a lower propensity to get a job; training resources for employers to increase their awareness of deaf job applicants and job candidates to so that deaf

job applicants have a better chance in succeeding in employment; and training resources for sign language interpreters as part of their continuous professional development to understand the nature of interpreting in education and employment (preemployment/during employment) settings.

Other resources include '*You're hired!' A guide for employers when working with sign language users'*, which is available in English (Irish version (see Figure 6) and British version (see Figure 7)), Dutch and German (see Figure 8), *What do you mean? Workplace terminology for sign language interpreters* (see Figure 5), and Toolkits for employers on how to work with sign language interpreters (see Figure 4).[189] Video insights from professionals, deaf employees and interpreters are available, and a signed guide for deaf job seekers are available on the DESIGNS Project Vimeo Channel.

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189 These resources can be consulted at www.designsproject.eu

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Access to audiovisual media services

Introduction[190]

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The EUD advocates for full accessibility of audiovisual content and information from both public and private providers on TV, at the cinema, and on websites, social media, and video on demand. This includes subscription models such as Netflix or Amazon, and TV on demand provided by broadcasters, e.g. BBC iPlayer. For example, sign language interpreters should be filmed and displayed on the screen while streaming events online or broadcasting them live on TV. The services used to render audiovisual content accessible must also be of high quality to ensure meaningful accessibility. This means that signed language presenters, reporters and interpreters must be appropriately qualified and able to communicate effectively through television (Ofcom, 2017). The EUD further contends that broadcasters should not only work on improving the accessibility of their own programmes; they should also take an active role in raising general public awareness about deaf people's access to information and how it can be achieved, in consultation with national deaf associations (NADs). This can be done for example through TV programmes or episodes that address accessibility, inclusion and equality from a deaf perspective.

The three chapters in this theme provide critical discussions of meaningful accessibility and aspects of high quality audiovisual media services and sign language interpreting. The qualitative research study by Rijckaert and Dhoest evaluates the comprehension of sign language interpretation in television news broadcasts in Flanders, Belgium. In alignment with findings of international studies, deaf viewers experienced a lack of comprehension of the news *with* Flemish Sign Language (*Vlaamse Gebarentaal*, or VGT), by hearing signed language interpreters. A new format for news *in* VGT, with a deaf presenter, was generated and a test broadcast was presented to the interviewees. This enabled the researchers to formulate recommendations for broadcasters.

Deaf citizens' access to audiovisual media became more salient than ever during the pandemic, as national governments employed press conferences

190 This chapter draws on the EUD's (2018) position paper on the accessibility of information and communication; the contents of the paper have been integrated, amended, and reproduced in this introduction with permission. The position paper is available at https://www.eud.eu/about-us/eud-position-paper/accessibility-information-and-communication/

to disseminate health information. This made accessible formats for the presentation of crisis information a crucial focus of advocacy for NADs and NGOs (also see the chapters by Balciunaite & Wheatley, Bolier, Hepner, Hoogeveen, and Johannsen Eskelund). Gebruers and Haesenne present a new practice of co-interpreting the live press briefings given by Belgium's National Crisis Centre and Federal Health Department. This was done by two signed language interpreting teams of hearing and deaf interpreters; one team worked into VGT and the other worked into French Belgian Sign Language (*Langue des signes de Belgique francophone*, LSFB). Their chapter describes how the new practices were received by deaf signers and mentions that, apart from the interpreted briefings, these viewers benefited from VGT and LSFB summaries of COVID-19 health information generated by deaf presenters. This corresponds with the findings of Rijckaert and Dhoest that news delivered by a deaf presenter, informed by a deaf perspective, is experienced by deaf viewers as more accessible.

The provision of public health information during the pandemic through videos is also discussed in the chapter by Hoogeveen (this volume) on deaf presenters using Sign Language of the Netherlands (NGT). Due to the barriers deaf people experienced in accessing coronavirus information from interpreted news broadcasts and press conferences, volunteers from *DoofCentraal*, a Dutch deaf-led organisation, held question-and-answer sessions in NGT on Instagram. They also launched the *Coronakanaal* (Corona channel) featuring NGT videos and livestreams highlighting a deaf perspective on COVID-19. The chapter reflects on the need for deaf experts and deaf presenters to be in charge of the design and delivery of accessible public health information for deaf viewers.

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Analysis of the comprehension of sign language interpreters in Flemish television news broadcasts: An illusion of inclusion?

Jorn Rijckaert and Alexander Dhoest

International Sign video of this chapter

https://vimeo.com/535842612/0dbe41bd3e

During the COVID-19 pandemic, the provision of information in accessible formats became paramount. Across the world, governments held press conferences which were transmitted by national broadcasters in order to inform the public about the health crisis. More than 80 countries provided (national) sign language interpretation at these press conferences (WFD, 2020; also see the chapters by Balciunaite & Wheatley, Bolier, Hepner, Hoogeveen, and Johannsen Eskelund; the chapter by Gebruers & Haesenne discusses co-interpreting of live press conferences in Belgium). Despite these good practices, deaf people's access to televised information in Flanders, the northern region of Belgium where Dutch is spoken, is often limited. Rijckaert and Dhoest (2020) undertook a study led by the Flemish Government's Department of Culture, Youth and Media to find out which factors hinder the understanding of television news with sign language. First, this chapter discusses the provision of accessible television and the comprehension of sign language interpretation in general. Then, the chapter looks at the provision of news with sign language interpreters in Flanders. Next, the bulk of the chapter focuses on summarising some of the results of a qualitative study which evaluated the Flemish news *with* Flemish Sign Language (*Vlaamse Gebarentaal*, or VGT), and involved discussing news items with deaf viewers. The results indicate two key problems: a lack of comprehension (in line with international research on news with sign language), and an imbalance in the power and responsibility of the national broadcaster and the interpreters. The study also investigated alternative formats for accessible news across Europe, focusing on three cases which were also discussed in the interviews with deaf viewers. The researchers developed an alternative format for Flemish

news *in* sign language with a deaf presenter, made a test broadcast, and discussed it with the same deaf interviewees. The findings inspired the researchers to make a number of recommendations for broadcasters, not only in Flanders but also beyond.

Accessible TV news with sign language interpreters

Despite the growing importance of the internet and social media, television news is still a prime source of information, and access to it is crucial. Article 9 of the UNCRPD states that governments need to facilitate equal access to information for people with disabilities, including deaf people (UN, 2006). In the words of the World Federation of the Deaf (2020): "*Access is not an option, it is a necessity. International bodies and national governments must ensure deaf people have full access to information immediately*". The WFD also notes that this information should be available through all media channels and on all platforms, because otherwise there is a risk that deaf people will miss out on updates, especially at critical times.

Article 21 of the UNCRPD further specifies that governments have to encourage mass media, including internet-based sources, to make their services accessible to people with disabilities. The EUD (2020) views the UNCRPD obligations from the deaf perspective and advocates for both public and private providers to ensure that deaf users can choose between different accessible formats of audio-visual content and information. On television, there are three different types of accessible formats: subtitled programmes, spoken language programmes *with* sign language interpreters, and programmes presented *in* sign language (Neves, 2007).[191] The EUD (2020) notes that, due to deaf signers' specific cultural and linguistic identity, the use of sign language is required in order for them to access information without barriers.

In Europe, the most common way to make TV news accessible for deaf signers is by providing sign language interpreters, i.e. as spoken language programmes *with* sign language. Simultaneous interpreting of news broadcasts is most often done by hearing interpreters, but academic studies reveal that deaf viewers often find it difficult to comprehend TV news conveyed in this way. For instance, Norwood (1979) found that deaf people in the US understood significantly more information from a subtitled newscast than from an interpreted one. Moreover, research in the UK suggests that deaf viewers favour the use of subtitles or deaf presenters over the use of interpreters (Kyle, 2007), and feel that the sign language used by hearing interpreters is different from their own (Steiner, 1998).

191 For the latter, Neves (2007) did not specify whether these were presented by deaf people; however, the article referred to the See Hear programme on the BBC, which was originally presented by a hearing and a deaf sign language user.

This lack of understanding of interpreted TV newscasts seems to be a global phenomenon. Deaf viewers in China also have difficulties in understanding the language use of hearing interpreters on television, which are exacerbated by the fast pace of news broadcasts (Xiao & Yu, 2009, 2013). South African research has found that deaf viewers' eyes tend to focus on the interpreter regardless of whether they understand them (Wehrmeyer, 2014), and that the comprehensibility of broadcasts is affected by three factors: the viewer's signing proficiency and background knowledge about the news item; the interpreter's linguistic skills; and technical issues such as the size of the interpreter and how crowded the screen is with different sources of visual information (Wehrmeyer, 2015). Shifting to the interpreters' perspective, research in Italy suggests that their TV news work is complicated by the lack of preparation time, the rapid pace of the speech, and the use of specific names and jargon words that have no simple sign language equivalent (Kellett Bidoli & Salsa, 2011).

TV news *with* Flemish Sign Language

In Belgium, broadcasting is regulated at the level of the language community. In Flanders, the public broadcaster VRT (*Vlaamse Radio en Televisieomroeporganisatie*, 'Flemish Radio and Television Broadcasting Organisation') is subject to five-year government contracts, and the first one that mentioned VGT was in force from 2012 to 2016. This contract stipulated that VRT should not only subtitle all of its news and current affairs programmes in Dutch, but also feature a Dutch-VGT interpreter on its 7pm news programme *Het Journaal* and children's news programme *Karrewiet*[192] (VRT & *Vlaamse Gemeenschap*, 2011).

Prior to this contract, the federation of Flemish deaf associations, *Doof Vlaanderen* ('Deaf Flanders', formerly called *Fevlado*), had written an advisory note pleading for the use of deaf interpreters (Fevlado, 2010). They referred to Stone's (2009) study on the concept of the 'deaf translation norm', which holds that television broadcasts should be interpreted by deaf native signers so that deaf viewers can identify linguistically and culturally with them. However, VRT still chose to use hearing interpreters on *Het Journaal*, for a number of practical and financial reasons. These included that the programme is almost fully live, requiring simultaneous interpreting, and there is no complete script that deaf interpreters can use to prepare for the broadcast. On the other hand, the *Karrewiet* broadcasts allowed for scripting and preparation, so from September 2012, VRT hired deaf interpreters to work on the programme (De Meulder & Heyerick, 2013).

192 Information about the VRT broadcasts with Flemish Sign Language is available to read on https://www.vrt.be/nl/aanbod/toegankelijkheid/vlaamse-gebarentaal. All recent broadcasts with Flemish Sign Language can be seen on the online platform of VRT: https://www.vrt.be/vrtnu/categorieen/met-gebarentaal/

While drafting the next contract (2016-2020), *Doof Vlaanderen* produced a joint report together with the Flemish Sign Language Centre[193] and the Advisory Board for Flemish Sign Language,[194] which expresses their dissatisfaction with the use of hearing interpreters on *Het Journaal* (Fevlado et al., 2015). They note that hearing interpreters are generally native users of Dutch, not VGT, and their signing on the news reflects this. They also criticise VRT's aim of providing live, simultaneous interpreting on *Het Journaal*, because the fast pace and complex structure of news broadcasts makes it almost impossible to render them into intelligible VGT. The report calls this approach to accessibility an "illusion of inclusion". In contrast, it lauds the approach used for *Karrewiet*, and recommends that VRT use this to produce a dedicated news programme tailored to deaf adults and presented by a native deaf signer in VGT. However, the 2016-2020 contract did not follow this advice and made similar stipulations as the 2012-2016 one (VRT & *Vlaamse Gemeenschap*, 2016).

Evaluation of Flemish television news *with* VGT

In 2019, on the advice of the Advisory Board for Flemish Sign Language, an evaluation study funded by the Flemish Government's Culture, Youth and Media Department was conducted by the first author of this chapter, who is a deaf researcher, Dutch-VGT interpreter, producer and editor. The research was supervised by the second author, a hearing professor of media studies who specialises in media diversity.

The aim was to carry out a qualitative, empirical evaluation of the current TV news provision with VGT and make suggestions for the next VRT contract (2021-2025). The research consisted of three stages. First, a random selection of eight news items from *Het Journaal* and *Karrewiet* was shown to and discussed with 20 Flemish deaf participants. Second, three alternative formats used in other European countries were examined, including formats with deaf interpreters and presenters. Third, drawing on the findings of the previous stages, the researcher developed an alternative format, discussed it with the 20 participants, and devised a number of recommendations. The interviews were recorded and transcribed into Dutch. Then, in the analysis, the transcripts were coded and the answers were categorised into themes. In this way, patterns and tendencies were identified. The study aimed to prioritise the perspectives of the deaf viewers themselves. While there is not enough room here to discuss all

193 The Advisory Board for Flemish Sign Language (*Adviescommissie Vlaamse Gebarentaal*) was established in 2008, following the recognition of VGT in 2006. It advises the Flemish government on VGT including factors and measures that impact on its use (www.adviesvgt.be).

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of the results in the 184-page research report (Rijckaert & Dhoest, 2020), the key findings are summarised within the following sections to illustrate the problems involved in creating accessible news (namely insufficient comprehension and imbalances in power and responsibility), as well as possible solutions to these problems (in particular a newscast *in* sign language).

Lack of comprehension

In alignment with the abovementioned international research on the subject, findings from the first stage reveal that the participants experienced difficulties in understanding *Het Journaal* with VGT (i.e. with five different hearing interpreters). The participants sometimes attributed this lack of understanding to themselves. For instance, some indicated that they lack the interest and/or background knowledge to understand certain news items related to politics or sport. Some also stated that they did not understand the content because they do not have sufficient sign language skills. The latter is remarkable, especially since the respondents all fluently used VGT as a first or second language.[195] When asked for further explanation, some respondents referred to the fact that hearing interpreters had had the opportunity to be trained in VGT, while they had not, which is why they thought that the hearing interpreters had more knowledge about VGT's lexicon and grammar. A few respondents also referred to previous experiences with inaccessible (spoken language oriented) education and/or inadequate communication in their largely hearing, non-signing environment. They said that this could also be a factor that may have a negative influence on their comprehension of the interpreted contents of *Het Journaal*.

Mostly, however, the respondents attributed the comprehension barriers they experienced to the interpreters' use of VGT. They said that they generally do not understand hearing interpreters well, for a variety of reasons. For instance, they complained about the lack of coherence that results when hearing interpreters make lexical and grammatical errors, use a style of signing that is heavily influenced by Dutch, and translate the speech word by word without imparting the actual meaning. On the lexical level, the respondents remarked that the different regional variants were difficult to understand. They also mentioned having the feeling that hearing interpreters sometimes create new signs that are not part of the VGT lexicon. They said that their own "deaf language" was not perceptible in the translations produced by the hearing interpreters. One viewer commented: "It is about identification. In *Het Journaal* with VGT I don't

195 Most of those who reported using VGT as their second language said that their first language was Dutch.

have the feeling that the language being used is the sign language of deaf people. I also think it is because I know that the sign language interpreters on the TV news are not deaf. Perhaps that is why it is more difficult for me to understand their sign language use".

In contrast, the respondents largely understood the news content when they watched *Karrewiet*. This was not only due to the simpler news content, but also to the deaf interpreters. Compared to the hearing interpreters on *Het Journaal*, whose signing was experienced by the participants as somewhat artificial, the signing of deaf interpreters was seen as "real deaf language". One person stated: "For me, there is huge difference between a hearing and a deaf interpreter. The sign language use of the deaf interpreter is more visual. This language use is 'real deaf language' for me. This is our own sign language".

Besides these linguistic problems, the respondents also referred to more technical issues. They said there is too much visual input (the interpreters, the images and open subtitles) and that there are synchronisation problems between the news images and the signs (the signs often coming after the images have already disappeared). Moreover, because of the high rate of spoken speech and the complex content and structure of the source material, they reported finding the sign language interpretation confusing and sensing that important information was being omitted. Taken together, these linguistic and technical issues suggest that the lack of comprehension could be intrinsically linked to the very concept of news *with* sign language.

An imbalance of power and responsibility

Besides trouble with comprehension, some interviewees also expressed that a strong sense of disability was felt when they were dependent on a hearing interpreter giving them access to information. One respondent said: "It just looks like the interpreter is watching the TV programme with us. It feels like deaf people need a second person to be able to watch TV". Some reported being willing to accept hearing interpreters who present less well in order to gain access to information (cf. De Meulder & Heyerick, 2013). For example, one person remarked: "I experience more difficulties in understanding the interpreters on the TV news, although I should be able to understand something. Otherwise, I wouldn't keep watching. [I have to admit though] that I got used to accepting when there is something that I don't understand".

The respondents were also concerned about hearing interpreters serving as linguistic role models for their vulnerable minority language on television. De Meulder and Heyerick (2013) consider this to be an issue

of power and responsibility, arguing that even if hearing interpreters are not aware of their responsibility, the public broadcaster, VRT, bears part of the responsibility for interpreters appearing as linguistic role models, as it has the power to determine what format is used to facilitate access. One respondent explained this at length:

> *"I don't want to be negative about the interpreters, who can definitely deliver appropriate interpreting in daily life settings. However, Het Journaal is a 40-minute intensive interpreting assignment at a high level. […] People are watching the TV news and are picking things up. However, the sign language use of the interpreters is sloppy; what does this mean for the value of our language? […] What if Het Journaal was presented in a version of Dutch with mistakes in the word order or pronunciation? Viewers would suffer because it is not correct and beautiful Dutch. [But] when it comes to sign language, we are supposed to accept it. […] It is a pity that the interpreters themselves don't realise this. They have been trained, they know the value of sign language, and they are still continuing with this job, making a lot of mistakes and leaving out information."*

Similarly, De Meulder and Heyerick (2013) write about the absence of deaf people's mechanism of control, since the selection and recognition of hearing interpreters is first made by the interpreter training, where the trainers (mostly hearing interpreters) are the ones deciding who is suited to be an interpreter, after which the VRT makes a further selection. This is in alignment with respondents mentioning that they regret that the Flemish deaf community was not involved in choosing interpreters for TV and consider the lack of expertise at the VRT as a source of concern. One deaf viewer shared their thoughts on this as follows:

> *"There are a few interpreters I don't like to watch. Would it be okay for me to make a comparison with the Het Journaal anchors? It is not unusual for them to be evaluated and for people to judge their voices […]. The VRT is doing this too: for example, when a news anchor receives too much criticism, he or she will need to leave. Somehow these processes seem not to be applicable to the interpreters. I think that a right of decision is missing in the process, which would enable us to decide which interpreters should be selected and which should not."*

Alternative formats for news broadcasts in sign language in Europe

Parallel to the first stage of the research, the second stage examined several European news programmes presented in national sign languages, looking for alternative formats. The notion of accessibility that is currently being employed in the Flemish context, where the TV news features hearing sign

language interpreters, is only one possible format. Taking into account the abovementioned barriers that deaf viewers experience, the researchers contacted various national deaf organisations, national broadcasters, and experts in their own personal networks, to gather information on live public news broadcasts that are available in sign language at least five days per week. The goal of this exploration was not to gain a complete overview of European initiatives but to make a deliberate selection of three alternative approaches for further analysis and a working visit.

The researchers were able to collect information from 34 European countries (including the French-speaking part of Belgium), 29 of which provide news broadcasts with sign language interpreters. Like VRT, broadcasters in 24 of the countries use a pool of hearing interpreters, while the other 5 work with a mixed pool of hearing and deaf interpreters. Moreover, five of the 29 countries offer a summarised news programme in sign language with a deaf presenter in addition to the interpreted broadcasts.[196] The four other countries do not have interpreted news broadcasts and only provide summarised programmes featuring deaf news anchors. One of these is the UK, whose summarised programme in Northern Ireland is co-presented by a deaf and a hearing news anchor. Only one country (Luxembourg) had no news offering in sign language on their national channel.

As the intention was to compare different types of sign language provision, the researchers selected Denmark, the UK and Sweden for in-depth analysis and a study visit. The UK's BBC provides a newscast with British Sign Language (BSL), produced by an independent production company, Red Bee Media. In 2017, Red Bee Media launched a new technology whereby it is possible to transmit live subtitles from the regular news to the autocue in the studio. This creates the opportunity for deaf interpreters to interpret the news live based on the autocue text.

The Danish broadcaster DR (*Danmarks* Radio) takes a different approach to working with deaf interpreters in their live news broadcasts in *Dansk Tegnsprog* (DTS, Danish Sign Language), namely via a (hearing) feed interpreter. Beside this, in 1993 DR began broadcasting a summarised newscast, which is now called *DR Ligetil - TEGN Nyt*,[197] and is produced by a deaf media production company Døvefilm. The programme is based on *DR Ligetil*, a simplified newscast for less literate and lower educated viewers, which is only available online. The text of this newscast is translated into DTS and presented by a deaf anchor. The clips are also put online.

196 Of these five countries that offer summarised news in sign language and interpreted broadcasts, four are in the majority group that only have hearing interpreters, and only one (Denmark) is in the minority of countries where a mixed deaf-hearing team is used.

197 This loosely translates to 'straightforward news in Danish Sign Language'.

In Sweden, since 1987 the public broadcaster *Sveriges Television AB* (SVT) has offered a summarised newscast called *Nyhetstecken*.[198] This is a live 10-minute programme presented by a deaf anchor while a hearing anchor provides a voice over off camera. Clips that do not fit into the short newscast are published on its website and on Facebook throughout the day. SVT also offers live news broadcasts in *Svenskt teckenspråk* (TSP, Swedish Sign Language), but only with hearing interpreters.

Deaf framework versus hearing framework

The researchers wanted to explore whether engaging a deaf interpreter for the live news broadcasts could address some of the problems with comprehension and the imbalance of power and responsibility. Interviews with the managers and deaf interpreters in the three selected countries suggested that presentation by a deaf interpreter can facilitate solutions to these problems. However, technical bottlenecks occurred in the BBC and DR broadcasts that had deaf interpreters, due to the difficulty of keeping pace with the high speed of the newscast and synchronising the presentation with the news images.

The researcher also discussed the different types of signed news with the managers, deaf interpreters and presenters interviewed in the three countries. The key difference between those types is the moment when the sign language is introduced in the production process. The earlier the sign language is produced in the process, the less it is determined by a spoken language and hearing framework. During regular TV news broadcasts with interpreters, sign language is usually produced through live translation on the screen, which makes it highly subject to influences from the spoken source language. The Swedish *Nyhetstecken* format employs a different approach, since it introduces Swedish Sign Language in the editorial stage: the entire production starts from the linguistic and information needs of deaf sign language users, which also gives the team some freedom to tailor the contents[199] to optimise

198 This loosely translates to 'news in sign language'.

199 In our research, there was no scope for documenting the specifics of the process of 'tailoring the mainstream news content for the needs of deaf signers', but it is worth providing a brief description of what this means. In general, 'tailoring the news content' involves a restructuring of the spoken or written content to the modalities of sign language. A report in the regular news is often told narratively based on recorded footage and interviews, accompanied by a voice-over from a reporter who guides viewers through the topic or story. Taking a closer look at the Swedish example, the first impression is that the editors delete all interview footage and repeated content; for example, an interview with a police chief who explains in many words all the formalities surrounding the fact that they do not have any witnesses for a murder case could be reduced to a short signed utterance stating e.g.: 'the police have not found a witness yet'. Also, sometimes more information must be added for the tailored version. If only the name Joe Biden is mentioned in a spoken report, then in the tailored version, Joe Biden's sign name may be followed by description such as 'the new president of the United States'. That could be a useful addition in the first few weeks after the presidential elections for deaf signers from other countries who might not be aware of this new president (e.g. due to a lack of signed news media on other channels). Detailed research on these kinds of aspects of tailoring newscasts for the needs of deaf signers is recommended.

the viewers' understanding. In the Danish programme *DR Ligetil - TEGN Nyt*, the deaf presenters have a little less freedom to adjust to deaf community's needs, since they have to adhere to the contents of the *DR Ligetil* service.
In all three cases, the interviewees said that their preference would be to develop the newscast directly in sign language (i.e., using the deaf framework), without building on spoken or written language (i.e., using the hearing framework). But this was not always possible because of production costs. In the UK, Red Bee Media reported that due to the higher costs attached to a summarised newscast (e.g. because more staff and production time is needed for this compared to using an interpreter for an existing newscast), it would only be possible to offer this on a weekly or monthly basis, so in order to provide daily news in BSL, they have to use the option of news broadcasts with sign language interpreters. In contrast, managers at DR and SVT said that they produce summarised programmes by restructuring and writing content according to the deaf viewers' needs, but the greater expense means that these programmes are limited in terms of frequency and length (ca. 10 minutes, only from Monday to Friday).

However, these three cases suggest that the provision of multiple formats through which deaf viewers can access sign language media gives them flexibility and a means of progression, and allows for the wide variety of language backgrounds that are typically found among deaf audiences. For example, a summarised newscast offers those deaf viewers who have not mastered spoken/written language an opportunity to get acquainted with the news in their sign language. Then, when they have built up their knowledge of current affairs and gained experience in understanding the news in sign language, they can choose to access the more complex format of interpreted broadcasts.

An alternative format for news *in* sign language

Drawing on this information, clips from these three cases were shown to the Flemish respondents who had participated in the first stage of the research to investigate their viewer experiences and feedback. The analysis reveals that the most frequently preferred option was the summarised news presented by deaf anchors. The respondents said that they liked still images from the regular news to be shown in the background during the sign language presentation, so that the moving images were only shown when there was a break in the signing. They understood that items from the regular newscast may need to be summarised because of length restrictions, but they wanted all of the items from the regular newscast to also appear in the summarised news. In other words, they said that summarising individual news items so that they fit into shorter segments was acceptable, but cutting entire items was not.

Based on these responses as well as the insights gained from the visits and talks with producers and presenters, in the third stage of the study the researchers piloted an alternative format.[200] Using a regular news broadcast of Het Journaal on the VRT, they selected a few news items and summarised them. A deaf anchor presented the news (see Figure 1) and the still images and video clips from the regular broadcast were edited into it. Subsequently, this format was shown to the same 20 Flemish respondents.

Figure 1: Screenshot of the pilot video with deaf presenter Jaron Garitte

Their feedback shows that almost all of the problems identified in the news with VGT were eliminated in the new format. They said that the most significant improvements are the clear language use of the deaf presenter and the feeling they get that the content is structured according to their language and information needs. They also mentioned some challenges they encountered in using this format, including the narrow selection and summarising of the news items. One person remarked, "Who decides that for us?" Another issue that some of them pointed out was language variation, both in terms of age ("the deaf presenter uses new young VGT signs") and region ("the deaf presenter uses West Flemish variants of VGT"). However, the benefits in terms of understanding seem to be considerable; a 69-year-old respondent stated that:

"[When I watch] the news with VGT, I start to fast forward because I don't understand the signs. (…) At first, I thought it was my fault, that I didn't understand the news with VGT. But apparently, I'm not the only one. What a relief! I thought I was too stupid for this, to be able to follow the news with VGT. I thought my mind and knowledge were deteriorating. With the new format I feel much smarter!"

200 This pilot video can be seen at https://vimeo.com/373728313/572d141d3b

Recommendations for broadcasters

This section uses the empirical data to broaden the discussion and make some recommendations for broadcasters, both in Flanders and internationally. A good starting point here is a reflection on the target audience of news broadcasts. Regular news broadcasts are primarily produced for an audience that is used to getting the news in a spoken and/or written format and, in most cases, has access to various news sources and channels. The use of a sign language interpreter for regular news broadcasts does not always offer an ideal solution for deaf signers, many of whom have not sufficiently mastered the written language. In the Flemish case, De Meulder and Heyerick (2013) noticed that deaf people are not used to receiving large amounts of information in VGT. When the VRT equates the needs of deaf viewers with those of hearing viewers when considering their news services, this aspect of the deaf learning experience is overlooked. Therefore, rather than further optimising the current format with interpreters, it seems advisable for the VRT to introduce a new concept such as the summarised programme discussed above, which corresponds more closely to the information and language modalities of deaf signers. It is recommended for other national broadcasters to proactively seek insight into the needs of deaf communities regarding information acquisition in sign language, to be able to adequately tailor their signed formats to these needs. They should procure this insight by consulting with deaf media experts and/or stakeholders in the sign language community.

In addition, it is important that deaf audiences feel that the signers on the programme identify with them both linguistically ("they use our signs") and culturally ("they are part of our community"). There is a difference between a deaf native signer and a person who learns sign language at a later age and only uses it in a professional context. Following Stone (2009), De Meulder and Heyerick (2013) argue that interpreting on television could be considered a "Deaf job", because of the significance of cultural and language ownership as well as deaf people's awareness of the responsibility they carry when interpreting. Their awareness of this is different to that of hearing interpreters, since deaf interpreters are members of, and live within, the minority community they interpret for. This notion is also captured in the term 'Deaf Extra-Linguistic Knowledge', or DELK (Beldon et al., 2009). For instance, deaf interpreters know from experience how it feels to be dependent on others to be able to access information, which motivates them to employ visual interpreting strategies to optimise the comprehension of the information by deaf viewers.

Finally, in order to improve the accessibility of newscasts in sign language, it is essential for the different stakeholders to cooperate, including the deaf viewers, their advocacy groups, the policy makers and the national television broadcasters (Cintas et al., 2007). After all, what the broadcasters

want to offer may not be the most accessible service, and what legislators decide may still not be enough to enable true inclusion (Neves, 2007). In Flanders, after the first mention of VGT in a government contract (the 2012-2016 contract), these stakeholders came together for the first time in 2019 to form the steering group that guided this study.

Epilogue: impact of the study

The study was completed in March 2020 and the findings and recommendations were handed over to the Flemish government and presented to the steering group and VRT. Meanwhile, the new contract between the Flemish Government and VRT was negotiated and finalised in December 2020. On the one hand, the provisions regarding news for deaf people remain similar: "*VRT offers a newscast for adults and a children's newscast with a VGT interpreter on its open channel*" (VRT & *Vlaamse Gemeenschap*, 2020, p. 48). On the other hand, the contract adds a positive new stipulation that "*On VRT NWS and VRT NU* [the online news and video sites]*, besides items interpreted by a VGT interpreter, separate news items interpreted by sign language users are offered*" (ibid.). At the time of writing, in March 2021, these separate news items are still in the testing phase. Upon our request for up-to-date information, the VRT informed us that the deaf interpreters on *Karrewiet* will be responsible for these news items in VGT. The items will be selected by the deaf interpreters from among the existing segments produced by the VRT. These extra online videos in VGT are intended to increase the provision of information in VGT for deaf signers and sharpen their news knowledge. It is intended for this to be officially rolled out by the end of March 2021 (personal communication, Liesbeth Troukens, VRT crew manager, 7 March 2021).

Another promising development are the negotiations taking place between the VRT and the Flemish Sign Language Centre (VGTC) that seek to establish a sustainable partnership to monitor the language quality of *Het Journaal* and *Karrewiet*. It is still to be seen how this cooperation and monitoring process will be organised (personal communication, Hannes De Durpel, VGTC Coordinator, 2 March 2021). Despite these insecurities, it would appear that this research and the advice of various stakeholders in Flanders have opened the doors to alternative approaches to sign language use on VRT.

Conclusion

In Europe, providing regular news broadcasts with (hearing) sign language interpreters seems to be the norm, but the measures taken by governments and national broadcasters seem to be insufficient for deaf signers to enjoy actual access to information. The national channels of

European countries each tend to have their own approach to sign language media based on their technical potential and the lobbying work of their respective deaf communities. Across Europe, there is still disagreement about sign language media, with deaf viewers on one side and national broadcasters and policy makers on the other. According to Neves (2007), this is because the two sides have insufficient insight into each other's requirements. Progress toward greater accessibility for deaf audiences is highly dependent on the way in which all stakeholders approach the debate (Neves, 2007).

Further research may reveal how these debates are happening in different countries and how the stakeholders can reach an agreement. Various international studies, including this one, have shown that news broadcasts with hearing interpreters often form an obstacle to comprehension among deaf respondents. A challenge for stakeholders is to gain insight into the language and information needs of deaf people. Here, too, research should investigate possible frameworks and instruments that can measure deaf viewers' comprehension of signed news broadcasts provided in a systematic way. This kind of research could help stakeholders to draw up quality standards and shift toward true inclusion in the spirit of the UNCRPD.

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Providing co-interpreting teams of deaf and hearing signed language interpreters at Belgian COVID-19 press briefings: A silver lining?

Karolien Gebruers and Thierry Haesenne

International Sign video of this chapter

https://vimeo.com/535841717/5e3e3a00b1

Introduction

Belgium is known for its complex political system and fascinating language context. Next to the three official spoken languages, Dutch, French and German, Belgium has three signed[201] languages: Flemish Sign Language (*Vlaamse Gebarentaal,* VGT); French Belgian Sign Language (*langue des signes de Belgique francophone*, LSFB); and German Sign Language (*Deutsche Gebärdensprache,* DGS). During the COVID-19 pandemic in 2020, Belgians frequently received information from experts and spokespersons from the National Crisis Centre (NCCN) and Federal Health Department rather than politicians, an approach which was applauded for its transparency (Brunsden & Kahn, 2020). During the live press briefings about the pandemic, there were two co-interpreting teams, consisting of deaf and hearing signed language interpreters (SLIs).[202] One SLI team worked into VGT and the other worked into LSFB. This is both a milestone in Belgian history and a rather unique practice considering international interpreting norms.

Receiving information in a signed language is a key aspect of crisis communication for deaf people (McKee, 2014), and among the many countries[203] that included interpretation at COVID-19 press conferences,

201 The adjective 'signed' is used to refer to signed languages in general. 'Sign' is used when writing about a specific signed language (cf. Janzen, 2005, p. 19), e.g. Flemish Sign Language.

202 Although the terms 'deaf interpreter' and 'hearing interpreter' are sometimes necessary for clarity, the term 'co-interpreters' is used wherever possible (cf. Stone & Russell, 2011, 2014, 2016) to reflect the team effort towards the co-construction of meaning (Wilcox & Shaffer, 2005, p. 47) and minimise descriptions of interpreters that are based on audiological status (cf. De Meulder & Heyerick, 2013).

203 See the European Union of the Deaf website https://www.eud.eu/news/covid-19/ for examples in Europe,

various approaches were adopted. For a few of them, co-interpreting was well established and readily deployed (e.g. Florida and Georgia in the USA, British Columbia in Canada), while others used co-interpreting teams for the first time (e.g. Fiji, Quebec). In a number of countries deaf communities had to lobby for access to government briefings (e.g. in the UK, British Sign Language users campaigned on social media using the hashtag #WhereIsTheInterpreter[204]) (also see the chapters by Balciunaite & Wheatley, Bolier, Hepner, Hoogeveen, and Johannsen Eskelund).

In detailing how the practice of co-interpreting evolved in Belgium, we adopt a participation observation approach (cf. Denscombe, 2010), based on our own experiences as as co-interpreters at the government's COVID-19 press briefings. Much of the chapter relies on our notes from informal conversations with colleagues and NCCN staff, and more formal online conversations with representatives from the Flemish and French Belgian deaf associations.[205] This chapter starts by briefly setting out the context of Belgium's signed languages, mainly focusing on VGT and LSFB, along with interpreters' training and work opportunities. This is followed by a section on the emergence of cooperation between interpreters and the NCCN. Then, interpreters' experiences of working in the complex linguistic context of COVID-19 briefings are shared, giving way to insights into how an unprecedented collaboration turned into a model of good practice. The final sections describe the challenges of sustainably implementing this model and suggestions for the future practice of governments, crisis communication teams, and deaf community organisations, as well as interpreters and their professional associations.

Signed languages and interpreters' training and work opportunities in Belgium

Although Belgium has recognised three spoken languages in its constitution, its three signed languages were only symbolically recognised at a community level following the European Parliament resolutions of 1988 and 1998 encouraging Member States to recognise their national signed languages: LSFB in 2003, VGT in 2006 and DGS[206] in 2019. Yet, the impact of this on the signed language communities of Belgium has been minimal (see De Meulder & Haesenne, 2019, for an extensive account).

and the World Federation of the Deaf website http://wfdeaf.org/news/resources/wfd-press-conferences-on-covid-19/ for examples across the world.

204 See The Where is The Interpreter Campaign: /https://www.facebook.com/WhereIsTheInterpreter/.

205 Co-author Haesenne is a deaf interpreter from Wallonia, and liaised with the French Belgian deaf association in LSFB. Co-author Gebruers, a hearing interpreter from Flanders, liaised with the Flemish deaf association in VGT.

206 As the press briefings were mainly held in Dutch and French, not German, and there are no professional DGS-German interpreters in Belgium, interpretation into DGS was not provided at the briefings and therefore DGS is not discussed further in this chapter.

Consequently, at present there are no legal instruments at a national level obliging the government to provide SLIs at their official briefings. However, in 2009 Belgium ratified the UNCRPD, in which Article 9 highlights the importance of access to information and communication, including through the provision of professional signed language interpreters.

The difficulty of guaranteeing SLI provision is compounded by the dearth of high-level training programmes (see Haesenne, Huvelle & Kerres, 2008). Since 2014, there has been only one academic course available in LSFB-French interpreting. This is open to both deaf and hearing people but to date no specific accommodations have been made for deaf trainees, and none have enrolled. There are three training programmes for VGT-Dutch interpreters. Two are vocational and were established in the early 1980s (De Witte & Callewier, 2008), and the third, which is currently the only academic one, began in 2008 (Vermeerbergen & Russell, 2017). The existing curricula are not adjusted to the needs of deaf students, making it challenging for them to obtain a degree. Due to this lack of access to formal training, in many cases it has been difficult to recruit deaf interpreters (De Weerdt & Vermeerbergen, 2018), and only a handful have been able to gain the required qualifications at a postgraduate level.[207]

In the past, hearing interpreters would generally call upon deaf interpreters to assist them when needed, such as when working with clients who have minimal language skills (Egnatovich, 1999). Over time, deaf interpreters started working in more varied environments as their refined linguistic skills and specialist knowledge became more widely recognised (Mathers, 2009). Their first hand experience and 'Deaf Extralinguistic Knowledge' (NCIEC Deaf Interpreting Work Team, 2009) allow them to make astute decisions that may not occur to their hearing colleagues (Stone, 2015).

As in many other countries, Belgium has always had deaf translators and interpreters, but they have only become visible and recognised as professionals within the last decade or so, working at e.g. international conferences and sports events (Fevlado, 2010; Carlier et al., 2016). Often, deaf interpreters work directly between two (or more) signed languages, often while viewing a monitor on which the signing presenter is displayed. There is anecdotal evidence of deaf interpreters working with hearing interpreters in Belgium as early as the 1990s, for instance in migration settings, typically on a voluntary basis as the role had yet to gain a professional status. Deaf interpreters began officially working in co-interpreting teams in French-speaking Belgium in 2006, although they were still untrained. This happened first in police settings, and

207 E.g. in 2017 five French-Belgian deaf interpreters achieved a postgraduate diploma in legal interpreting from the University of Mons, and in 2016 one Flemish deaf interpreter earned the European Master in Sign Language Interpreting (see https://www.eumasli.eu).

then in legal contexts related to asylum from 2008 onwards (C. Gerday, personal communication, 11 December 2020). In 2017, after obtaining their interpreting degrees, deaf interpreters finally became part of qualified co-interpreter teams in French-speaking Belgium. In Flanders, deaf and hearing interpreters have occasionally co-interpreted at conferences and in settings with migrants or people with minimal language skills since about 2011. In 2012, the national broadcaster VRT[208] started featuring interpreters on its youth news programme *Karrewiet* and on the evening news (De Meulder & Heyerick, 2013). During a preceding pilot week, a deaf interpreter took relay from a hearing interpreter on the evening news, but after this test phase, the VRT decided to use only deaf interpreters on *Karrewiet*, working from autocue, and only hearing interpreters on the evening news. As a result, co-interpreting teams were not seen on TV in Belgium until the NCCN made its historic decision to include deaf interpreters on the government's COVID-19 briefings. On 17 March 2020, for the first time two co-interpreting teams appeared side-by-side on screen, working in their respective national signed languages.

The way towards a successful collaboration

The terrorist attacks in Brussels on the morning of 22 March 2016 led to deaf Belgians demanding access to live information, which was not available when the attacks occurred (on access to information to terrorist attacks, also see the chapter by Bolier). The national channels VRT and RTBF[209] provided subtitles and live interpretation, but only later that day. The deaf associations of both Flanders and French-speaking Belgium (*Doof Vlaanderen* and *Fédération Francophone des Sourds de Belgique*, or FFSB, respectively) had long been in touch with the NCCN about emergency protocols, but there were never meetings where all three parties were present. The NCCN held discussions on crisis communication, including the provision of deaf interpreters and remote interpreting services, with Doof Vlaanderen in 2019 and FFSB at the beginning of 2020.

On 12 March 2020, the Prime Minister announced that Belgium would go into lockdown and the following day the NCCN launched its daily press briefings in cooperation with the public research institution Sciensano.[210] Initially, no interpreters were provided, but the NCCN had already contacted Doof Vlaanderen on 11 March to ask for advice on communication, and they met the next day to discuss signed language videos[211] and interpreting, including the provision of deaf interpreters.

208 VRT stands for Vlaamse Radio – en Televisieomroeporganisatie.

209 RTBF stands for Radio Télévision Belge Francophone.

210 See https://www.sciensano.be/en

211 At the time of writing, the government's official COVID-19 website (www.info-coronavirus.be) includes eight

By the evening of 13 March, the NCCN had been furnished with a list of interpreters (L. Vermeire, personal communication, 18 December 2020).

FFSB and Doof Vlaanderen referred the NCCN to the interpreting company Cosens, who sent quotes and interpreters' availability. Two hearing VGT/Dutch interpreters were appointed, including the first author of this chapter. As Cosens considered the press briefings to be a job for which deaf interpreters would be ideal, they contacted MUSK, a translation company founded by two deaf interpreters. MUSK got in touch with other deaf interpreters including this chapter's second author, and more joined the teams later. Flanders followed suit: together with a deaf media expert, Doof Vlaanderen also sourced deaf interpreters. The NCCN questioned the added value of having a larger team, which was more expensive. The interpreting teams and deaf associations advised that it would ensure a high-quality and reliable service. An agreement was reached to use the co-interpreting teams for a two-week trial period. However, this was quickly extended and at the time of writing all COVID-19 conferences held by the NCCN and the federal government, more than 155 in total, have been interpreted into both VGT and LSFB by co-interpreting teams.[212] How this interpreting was done is the focus of the next section.

Co-interpreting in practice

Press conferences jointly held by the NCCN and Sciensano take place at the International Press Centre Residence Palace. Generally there are four speakers: one NCCN spokesperson and one scientific expert for each of the two spoken languages, Dutch and French. Due to the COVID-19 restrictions, members of the press are not allowed in the room, so a Sciensano staff member communicates their questions to the speakers. The conferences are streamed live on YouTube and the Facebook page of the Federal Public Service on Public Health.[213]

The interpreter appears on screen as shown in Figure 1, alongside the visual information (e.g. graphs), which is in line with recommendations made by the EUD (2018).

The two co-interpreting teams, each consisting of one deaf and two

videos in VGT, LSFB and DGS giving information about e.g. prevention measures and contact tracing.

212 This chapter focuses solely on co-interpreting at federal-level conferences, rather than at the regional briefings in Flanders, Wallonia and Brussels. But it is worth noting that lobbying by the Namur Deaf Centre in Wallonia led to co-interpreters appearing at one press conference there, and the Flemish regional government used the VGT co-interpreting team because of Doof Vlaanderen's advocacy. See https://www.youtube.com/channel/UCTlSpddmOL9fYMvlqfDn_qA for an overview of the Flemish government's streamed press conferences.

213 See https://news.belgium.be/nl/corona for an overview.

hearing interpreters[214], both work in the same room as the speakers. The deaf interpreter works in front of the camera and watches the first hearing interpreter, who stands next to the camera while working from Dutch or French into VGT or LSFB (see Figures 2 and 3). The second hearing interpreter supports both of her colleagues by giving simultaneous feedback, informing the deaf interpreter of prosodic elements (e.g. pace, tone), and pointing to the flip chart on which parts of prepared materials are noted down (see Figure 4).

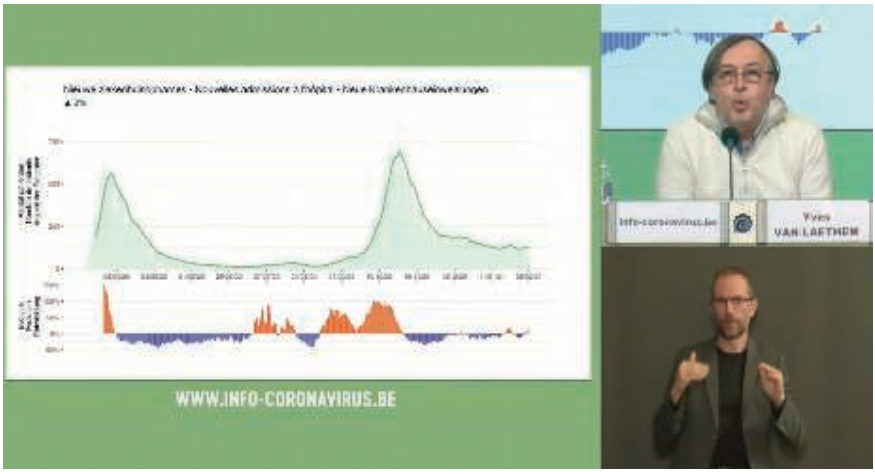

Figure 1: Example of online broadcasted press briefing displaying deaf interpreter Thierry Haesenne © printscreen https://news.belgium.be/nl/corona

Figure 2: Deaf interpreter Jaron Garitte working into VGT © Jan Eyckmans

214 The documentaries by deaf-led media companies Visual Box (https://vimeo.com/426543158) and MUSK (https://vimeo.com/490748366) provide a clear picture of how the co-interpreting works.

The way the interpreting teams, speakers, technicians, and other staff behind the scenes work together has evolved along the way. On the first day, a deaf media expert from the company Visual Box joined the team to advise technicians on the best way to position and capture the interpreters. Involving a deaf expert is an essential part of ensuring appropriate screen accessibility (EUD, 2018), and reduces the burden on interpreters so they can fully concentrate on their linguistic preparation. The technical team made changes based on interpreters' and viewers' comments. For example, as a response to feedback from deafblind viewers, the background was changed from bright blue to plain grey, which is better adapted to their needs.

Figure 3: Deaf interpreter Julie Carlier working into LSFB with co-interpreter Jessica Dejemeppe
© Jan Eyckmans

Figure 4: Co-interpreter Elke Poullet providing interpretation into VGT supported by Karolien Gebruers
© Hanne Reyners, Sciensano

At the beginning, the speakers were not familiar with SLIs and did not provide them with preparation material in advance such as scripts, graphs, and journalists' questions. Following discussions with the speakers, who were open to feedback, the interpreters began receiving full texts including numerical data and graphics, briefings about specialist terminology, and access to a Google Drive file containing journalists' questions. The interpreters write some of this specific information, e.g. numbers, names, abbreviations, websites, and telephone numbers, on a flip chart positioned below the camera so that they can refer to it while interpreting (see Figure 4). Thus, interpreters' ability to prepare has vastly improved since the first briefing, although unexpected difficulties still arise and speakers sometimes depart from their scripts.

Figure 5: Deaf interpreter Thierry Haesenne and co-interpreter Pascaline Brillant working into LSFB supported by Illana Tondeur at the Chancellery
© Karolien Gebruers

The first language spoken at the press briefings alternates between Dutch and French, so the deaf interpreters also have to switch positions. At the beginning they found it difficult to keep pace with the speakers, but after some feedback they started to adjust their speed and include more pauses to facilitate accessibility. When a language switch takes place, the speakers tend to wait as well, to enable the interpreters to change positions smoothly. Sciensano briefs each new speaker before their presentation on the appropriate pace, the need to pause and to avoid code-switching. To make new speakers more aware of what the interpreting process involved, Sciensano's advice also includes information on signed language characteristics, e.g. the concept of fingerspelling and how the lexicon and grammar differ from those of spoken languages (D. Tysmans, personal communication, 9 December 2020). For the press conferences given by government ministers, which are held in the press room of the Chancellery, the interpreters work in an adjacent room using monitors that

display the speakers. The teams receive texts of speeches in advance for these conferences too, but they are less likely than the NCCN scripts to be complete, and are often subject to last-minute changes.

As this co-interpreting was new to all of the interpreters, feedback played an important role in improving their practice. Having two closely related signed languages present made it possible to discuss concepts and interpretation options across linguistic borders and learn from each other. The interpreting teams did most of their debriefing internally, using recordings of the work, but also received external feedback from colleagues and deaf experts. This led to ideas for rolling out team discussions and workshops to raise awareness in the profession about co-interpreting.

Responses to co-interpreting

This section briefly describes how signed language communities received the co-interpreting and the complementary services that sprung up from the communities themselves, followed by how the co-interpreting was covered by the Belgian press.

Members of signed language communities showed positive responses (e.g. on social media) to seeing interpreters on screen, especially deaf interpreters. In April 2020, the FFSB organised an online session[215] in which LSFB signers could share their experiences of following the press briefings. The deaf respondents stated that they were satisfied with the service and that the interpretations were comprehensible, but they required some additional explanation of how co-interpreting works, because it is a fairly new concept in Belgium (T. Adnet, personal communication, 10 November 2020). In the French-speaking part of Belgium, when the live-streamed conferences were transmitted on television, the deaf interpreter was occasionally obscured by the station's logo or by its hearing interpreter, which viewers found unacceptable. In November 2020, Doof Vlaanderen surveyed 161 VGT signers and found that 118 (73%) watched the interpreted press briefings, but only 89 respondents (or 55%) believed that they were being provided with enough access to information through the briefings and signed language videos (Doof Vlaanderen, 2020).

A study by Rijckaert and Dhoest (2020; also see Rijckaert & Dhoest, this volume) found that the interpretation provided on the general VRT evening news by hearing VGT interpreters is not easily comprehensible for deaf people. Therefore they suggested a new format in which a deaf presenter summarises the news in VGT, from a deaf perspective. Likewise,

215 See https://www.facebook.com/417597048273889/posts/3172703056096594/ & https://www.facebook.com/417597048273889/posts/3187548777945355/

comments on social media[216] showed that signers in Belgium seem to find explanations of COVID-19 measures in VGT and LSFB given by organisations within signed language communities to be useful adjuncts to the interpreted press briefings. The pandemic has been accompanied by an 'infodemic' (WHO, 2020), meaning that it has been challenging for citizens to find concise and reliable information. Hence, both the Flemish and French Belgian deaf communities set up pages on social media[217] to keep deaf people updated about COVID-19, and organisations such as Doof Vlaanderen and Visual Box[218] have provided online summaries of critical information in VGT. Regarding information in LSFB, similar actions were taken by the FFSB, local deaf clubs, and two non-profit social service providers, L'Escale[219] and L'Epée.[220]

The co-interpreting teams also attracted attention from the press. The VGT team was contacted for newspaper and television interviews, and the LSFB team did a radio interview[221] (an English transcript of this appeared in the June/July 2020 newsletter of the European Forum of Sign Language Interpreters; see efsli, 2020). As most recurrent press conference speakers were given a sign name, this was picked up by the media as well, and a scientist who presented at one of the press briefings openly supported the provision of interpreters in a tweet.[222] The interpreters were even occasionally mentioned during the press conferences themselves, for instance on the International Day of Sign Languages, and were sometimes even depicted humorously (in a kind way) on TV programmes[223] and social media. Such media publicity in which interpreters are respectfully portrayed might help to create a greater societal awareness of signed languages and interpreting. The co-interpreting concept and the collaboration across linguistic borders appears to be largely successful but further research is needed into deaf viewers' experiences and challenges in relation to sustainability.

Sustainability challenges

Currently co-interpreting practices in Belgium rely on a small pool of highly experienced practitioners. Although the VGT and LSFB teams

216 See e.g. https://www.facebook.com/watch/?v=964445724066545

217 See https://www.facebook.com/coronainvgt and https://www.facebook.com/coronalsfb

218 See https://www.facebook.com/watch/Deafcinema/

219 See https://www.facebook.com/escale.asbl

220 See https://www.facebook.com/LÉpée-asbl-628745667220567

221 See https://vimeo.com/403996463 for a translation into LSFB.

222 See https://twitter.com/vanranstmarc/status/1251528566849916928

223 See https://www.rtbf.be/emission/le-grand-cactus/detail_sophie-wilmes-sa-conference-de-presse-sur-le-plateau-du-grand-cactus?id=10506512&fbclid=IwAR1NweYsis7N0NBJPlLPhgxfCRszjLg8-yGylgT-tioenzbMjcGHISAkibh4

have both expanded over time, there is a need for more professionals to be trained to work as co-interpreters, including at press conferences related to crisis communication. The kind of provision described here is only possible if local authorities can easily source interpreters who are suitable for the job. In French-speaking Belgium, the only deaf interpreters recognised by the relevant agencies are the five individuals mentioned above who have degrees in legal interpreting.[224] In Flanders, there is no training for deaf interpreters at all, so they face substantial challenges in terms of recognition and remuneration. Considering the steady increase in the demand for deaf interpreters in media and migration settings, this group of professionals urgently need a formal qualification system so that skilled individuals can receive training in how to simultaneously work from input provided by a hearing co-interpreter (Boudreault, 2005, p. 325). Having a way to attain proof of their capacities would also elevate the profile of this profession.

In addition, hearing interpreters need to be taught how to work with deaf interpreters. Although many hearing interpreters have positive attitudes towards co-interpreting, there is sometimes a tendency to view deaf interpreters as less than equal, particularly while the majority of them remain uncertified. Co-interpreting should become a part of the curriculum of interpreter training programmes so that all practitioners can be properly prepared to carry out this kind of work and become advocates for the use of deaf interpreters (cf. Stone, 2009; Mathers, 2009). This advocacy is particularly important when recruiters make decisions based solely on budget considerations, and fail to consider the quality of service provision. This is why the teaching hours dedicated to co-interpreting in the LSFB-French interpreting programme (UCLouvain) have increased from 10 hours in 2018 to 30 in 2021, and trainees have been able to observe co-interpreters in action.

Next to the gaps in training provision for deaf interpreters as mentioned above, another issue that needs to be addressed is the dearth of opportunities for interpreters in general to receive training to specialise in specific contexts, such as crisis interpreting, so interpreters have been mainly learning on the job. Therefore, the NCCN suggests that (future) interpreters could attend media training to acquire knowledge about the NCCN's work procedures. Although this applies to all crisis interpreting, the COVID-19 work has had a particular effect on co-interpreters because of the pandemic's extensive and long-lasting impacts on their professional as well as personal lives. Particular attention should be paid to interpreters' mental well-being, vicarious trauma and burn-out in crisis contexts. The interpreters described here were fortunate enough to be in a team and able

224 https://phare.irisnet.be/aides-%C3%A0-l-inclusion/aides-individuelles/interpr%C3%A9tariat-en-langue-des-signes-et-translitt%C3%A9ration/

to lean on each other, but having an established system of professional mental health support for signed language interpreters working in these settings would have been valuable, particularly as we currently do not know what the long-term impact of this work will be.

Regarding working with technical teams, there is a need to create guidelines from a deaf perspective about the technical aspects needed to ensure a high quality experience for viewers. As many technicians have not had experience with framing interpreters, it is valuable to have a deaf media professional on-site who can advise them at the outset and facilitate the set-up process, like the expert from Visual Box did for the technicians at the Belgian briefings. Technical teams and broadcasting companies could also benefit from sensitisation on how to display interpreters effectively.

Providing a team of co-interpreters at live press conferences will hopefully act as a catalyst for more accessible governmental communications at all levels. While politicians and officials showing awareness is an important achievement, there is a need for more integrated engagement to sustain this silver lining. Because the NCCN has played a significant role in establishing co-interpreting teams, it is important for Belgian stakeholder associations to meet with the NCCN to discuss future aspirations to ensure proper access to crisis information.

Conclusion

Co-interpreters working into two national signed languages at press briefings set a precedent in Belgium and became a model of good practice. This silver lining of the public health emergency was the result of previous advocacy and collaboration with a pre-existing network. Nonetheless, challenges remain that may threaten the future sustainability of co-interpreting. Next to tackling these challenges, future research should investigate signed language communities' views on having interpreters at government briefings, and how to implement co-interpreting practices in interpreter training. Such measures will mean that this pioneering work becomes a basis for further innovation rather than a historical footnote. It would also be valuable for researchers to analyse the conference staff and speakers' perspectives on the co-interpreting, and the views of the hearing, non-signing audience on the special attention that the media gave to the interpreters.

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How the COVID-19 crisis became an opportunity for a small organisation: Overview and impact of accessible public health information for deaf people in the Netherlands

Dennis Hoogeveen, President DoofCentraal

International Sign video of this chapter

https://vimeo.com/604793889/32b4648059

For many years, the main activity of DoofCentraal[225] was producing *DuoTres*, a weekly programme providing the highlights of the news in Sign Language of the Netherlands (*Nederlandse Gebarentaal*, or NGT). Early in 2020, the wind changed direction and suddenly DoofCentraal became the main source of information about COVID-19 for deaf people in the Netherlands.

COVID-19 was first detected in the Netherlands at the end of February 2020. Several television news channels had started informing the public about the virus, its symptoms and means of transmission, and how to avoid being infected. Although morning news broadcasts had sign language interpreters, this was not nearly enough to keep every deaf person in the Netherlands updated on the fast-moving crisis. So, in consultation with *Nederlands Gebarencentrum*,[226] which provides interpreters for the news, the Dutch Broadcasting Foundation (*Nederlandse Omroep Stichting*, or NOS) began featuring sign language interpretation on the evening news as well from early March.

However, this access was still insufficient for many people: watching interpreters on the evening news was only possible for those who had paid cable or were using an app on a smartphone, and members of

225 DoofCentraal is a Dutch organisation that aims to provide information to people who use Sign Language of the Netherlands as their first language. It was founded in 2012 as an academic project by deaf student Matthijs Terpstra, who wanted to concentrate information about organisations for Deaf people in one place.

226 Nederlands Gebarencentrum (www.gebarencentrum.nl) is the Dutch lexicographic institution responsible for documenting and promoting NGT.

the deaf community who were not technologically adept tended to be excluded. Also, initially there was no interpreter at the government's press conferences, the first of which took place on 9 March. On 10 March, during a news report from the city of Den Bosch, a deaf man appeared behind the journalist with a hastily-made protest sign that read 'Where is the sign language interpreter for deaf people during crises?' (see Figure 1; also see Bolier, this volume).[227] Then, on 12 March, the Dutch government provided a sign language interpreter at a press conference for the first time in the country's history.

Figure 1: Deaf activist Machiel Ouwerkerk being interviewed about his protest sign by Caroline Smits during a Coronakanaal livestream episode on 31 May 2020

The press conferences were often planned only days, or even hours, in advance – making this a situation where the interpreter has very little time to prepare, and may not be able to look up signs or determine in advance the most appropriate visual presentation that best accounts for the variety of different registers a deaf audience has. This difficulty is compounded by the level of discourse during the press conferences, which is mainly aimed at journalists. So this provision was a great achievement. But it was by no means the only measure necessary for deaf people.

It became apparent that the obstacles facing deaf people included that they could not ask questions about their worries in their own language. The interpretations provided by hearing interpreters during live press conferences were often not well understood (on this theme also see the chapters by Gebruers & Haesenne and Rijckaert & Dhoest). Moreover, the material on the government's website was produced by inexperienced

227 See https://www.ad.nl/binnenland/dove-machiel-26-protesteerde-tijdens-journaal-gebarentolk-essentieel-bij-coronacrisis~a927c876

translators and many deaf people were unaware it was available because the government did not actively promote it. So false information began to spread within the deaf community and there was no effective means of countering it. Therefore DoofCentraal focussed on giving deaf people the opportunity to ask questions and receive answers in NGT, and this was done through social media. A team of volunteers who had experience with summarising news articles for *DuoTres* were tasked with researching and publishing the answers. The questions and answers were presented in NGT and published on Instagram. As the questions became more complex and technical, the volunteers were supported by Dr Anika Smeijers, a paediatrician who has expertise in deaf people's access to medical settings.

DoofCentraal also looked into the provision of public health videos for deaf people. The Dutch Ministry of Health, Welfare and Sport had been releasing NGT videos[228] since March, but the information they conveyed was limited to the measures announced by the government, and they were not widely or effectively promoted. DoofCentraal began to fill the gap by providing its own videos through its bespoke *Coronakanaal* ('Corona channel'),[229] which covered e.g. how to identify symptoms, how to wash hands properly, and how to recognise false information or 'fake news' (see Figure 2). By publishing these videos on Instagram and Facebook, DoofCentraal became a reference source for many more deaf people in the Netherlands.

Figure 2: A screenshot from a Coronakanaal video released on 24 March 2020 on myths related to vitamin C,230 delivered by deaf presenter Dennis Hoogeveen

228 https://www.youtube.com/watch?v=C7RshHjRSyQ&feature=youtu.be

229 https://doofcentraal.nl/project/coronakanaal/

230 The myth, as stated in the caption, is that 'eating plenty of vitamin C helps to combat the virus'.

Figure 3: A screenshot from a Coronakanaal Live broadcast

The next measure was a livestream (see Figure 3), which was designed to highlight the deaf perspective on COVID-19. *Coronakanaal* Live was launched[231] on 22 March and eventually produced 11 livestream episodes, which each lasted for about one hour. They imparted news and public health statistics, as well as interviews with deaf people about how the crisis was impacting their lives, including their education, employment, and health care. With this content carefully designed for the Dutch deaf community, DoofCentraal was able to reach many people.[232]

Deaf children were among the last people to get information about the crisis, as there was little information made accessible specifically for them. DoofCentraal became aware of a flyer for children that had been made by Gottmer Publishing Group, with pictures by Alex Scheffler (the illustrator of the *Gruffalo*), and decided to produce a translation of this flyer in NGT.[233] In the finished product, the original illustrations were interspersed with a young first-time presenter delivering the signed content (see Figure 4).

By mid-June, it was becoming difficult for the volunteers to meet the constant need to generate content while also managing their own jobs and home lives. Also, by this time the government and public had more confidence in dealing with the pandemic. Therefore, DoofCentraal ended the Instagram Q&A, and stopped producing new livestreams and videos, but kept all the materials available on its website. Then the time of reflecting began. Overall, these efforts resulted in desperately needed information

231 https://doofcentraal.nl/coronakanaal-live/

232 Each livestream reached around 200 real-time viewers, and at the time of writing the total number of viewers for all of the episodes is about 1,500, including those who watched the episodes after they were streamed.

233 https://doofcentraal.nl/corona-voor-kinderen/

being provided in sign language during a very frightening and confusing time. This was done through multiple means of engagement, enabling this vital information to reach a wide audience. The history of DoofCentraal meant that it already had a close and trusted relationship with many viewers and a ready pool of skilled volunteers.

Figure 4: A screenshot from the COVID-19 information video *Coronavirus: Wat kinderen moeten weten* ('What children need to know') produced by DoofCentraal for deaf children, featuring deaf presenter Elias Stuifzand

But by law, providing equal access to information actually falls under the responsibility of the government, and is something that they failed to carry out. Even with its incredibly generous volunteers and partners, DoofCentraal does not have a large enough resource base to disseminate public health emergency updates at the national level, and in any case it is not appropriate for such urgent and sensitive provision to be dependent on the goodwill of volunteers. So while the initiatives described here are ground-breaking and praiseworthy, a more considered approach, with a realistic level of funding, is needed for the next crisis. The Dutch deaf community has the experience and experts necessary to deliver accessible information, but serious financial resources are required to deploy them effectively and achieve this goal. A solution even better than waiting for the next crisis would be to allocate funds on a regular basis toward providing deaf citizens with information that specifically targets them and their concerns, and is designed by deaf experts and delivered by deaf presenters, instead of solely relying on sign language interpreters.

Accessibility, artificial intelligence, and new technologies

Introduction[234]

Dr Goedele A.M. De Clerck, Editor
Mark Wheatley, EUD Executive Director
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The EUD acknowledges that new technologies, including assistive technologies and those based on artificial intelligence (AI), play a major role in promoting the full and equal participation of deaf persons in society. Therefore, the EUD advocates for new investments in the research, design, development, production and distribution of new technologies and systems to ensure that they become accessible at minimum cost.

However, in order to ensure that new technologies benefit deaf people and do not create additional barriers, their quality – including their capacity to transmit information accurately and effectively – must be guaranteed. Therefore, it is vital that the creation and updating of standards, as well as policy-making in this area, all continuously involve deaf and/or accessibility experts who are recommended by deaf organisations. Furthermore, these experts need to be strongly engaged with industry to ensure correct implementation of existing standards and policies and support the development of accessibility innovations. Such innovations might include software that converts audio into real-time text, translates messages into a signed language or computer-generated voice, captures spoken language on a smartphone and converts it into text, and/or provides tools that caption sounds, e.g. applause, laughter, and music.

But the EUD has noticed that deaf users are excluded from an increasing amount of speech-based technology and virtual assistance based on voice recognition. Consequently, the EUD advocates for the development of new kinds of accessibility features that are visual or text-based. Investment in sign language recognition technologies, such as through avatars, is a crucial part of this. The constant and meaningful involvement of deaf experts in these processes is indispensable to ensure that such technologies are used in the appropriate contexts. For instance, the use of pre-recorded avatars is likely to be possible in some broadcasts, especially those providing non-emergency information with a limited vocabulary, such as weather forecasts. But avatars would not be suitable for live news or

234 This chapter draws on the EUD position paper on accessibility of information and communication; the contents of the paper have been integrated, amended, and reproduced in this introduction with permission. See https://www.eud.eu/about-us/eud-position-paper/accessibility-information-and-communication/

emergency communications, which continue to require the use of signed language interpreters to guarantee that all elements of the information (such as the sense of urgency and tone of voice) are properly transmitted and understood. It is important to prevent deaf people from being left behind as society relies more and more on communication through new technologies.

The EUD encourages corporations and researchers to keep investing in developing AI-based assistive technologies that improve accessibility for deaf users. This is an important opportunity for corporations to transform our society. Indeed, these technologies could fundamentally change the way deaf persons access information and communicate. Thus, the EUD invited Apple, Huawei, Google, and Microsoft, four world-leading technology companies, to share their perspectives regarding diversity and technological innovation. Their chapters reflect on the meaning and implementation of inclusive design; discuss the involvement of deaf experts, professionals, and consumers in design, production, and sales processes; and provide examples of new technologies that are particularly interesting for ameliorating accessibility for deaf persons.

A few examples of assistive technologies that are described in Apple's chapter (Herrlinger, this volume) are visual notifications for sounds, such as a doorbell or a baby crying, that are based on sound recognition; Apple Watch and iPhone also provide haptic feedback for notifications. Captioning devices in a range of Apple services, which are represented by icons, render audiovisual content accessible. In collaboration with the World Federation of the Deaf (WFD), Apple created accessibility-themed emojis. Also, Apple supports deaf students in higher education through the Everyone Can Code Curriculum and collaboration with Gallaudet University in Washington, DC.

An example of ICTs that are particularly relevant for deaf signers in Huawei's chapter (Herrero Estalayo, Dedopoulou, van den Brand, Chen, & Zan, this volume) are the StorySign app, which has been developed in collaboration with deaf associations and employs AI to translate children's books into signed languages through a signing avatar. Also, the company's Trouble-Free Hearing app draws on real-time speech recognition and synthesis technologies to provide speech-to text and text-to-speech services in Chinese. The device can also be used to generate subtitles for online videos. Huawei is also involved in the online sign language hub, a remote video conferencing device for interpreting between Chinese and different varieties of Chinese Sign Language.

Google's chapter (Patnoe, Basson, Salva, Kemler, Sepah, Yuan, & Devins, this volume) highlights the involvement of deaf staff members and external collaborators in the designs process. Captions generated by

automatic speech recognition in Google Workspace and YouTube enhance the accessibility of these platforms. Google's Live Transcribe provides captions for Android devices based on ASR, and its new Sound Notification feature uses vibrations, light flashes or text to notify the user of captured sounds such as fire or smoke alarms, or someone knocking at the door. The company's Disability Alliance consists of regional communities around the world for specific disabilities, including the Deafglers, an employee resource group of deaf staff members.

The empowering effects of disability communities within technology companies are also discussed in the chapter on Microsoft (Lay-Flurrie, this volume), which has a deaf community employee group called Huddle. Microsoft Teams Live Captions is a new feature that employs AI to generate automatic captions; requests from deaf people initiated refinements and made the names of speakers visible. Feedback from sign language users during the pandemic also inspired the development of the Dynamic View feature, which provides simultaneous access to content (e.g. PowerPoint slides), speaker, and participant gallery. Microsoft are also working on allowing captions provided by humans through Computer Aided Real-Time Transcription (CART) and manual speech-to-text services to be included in video calls. Finally, the company's Disability Answer desk provides support services for deaf people through text chat, phone, and video calls with deaf technical experts in American Sign Language.

Apple Accessibility: Technology Designed for Everyone

Sarah Herrlinger, Senior Director of Global Accessibility Policy & Initiatives, Apple

Introduction

Apple[235] believes that 'the most powerful technology is designed for everyone'. This drives the company's perspective that accessibility is a human right and a core value that should be evident in everything it designs. In 1985, Apple created its first team dedicated to implementing accessibility features in its products.

Apple has an institutional commitment to prioritising assistive technology and envisages accessibility as being part of everyone's job. Through embedding this approach into the design process at the earliest stages of new products and initiatives, Apple has developed world-leading accessibility features that have earned 18 awards in the last 11 years, including from disability organisations in the UK, Germany, and the USA.[236]

Making great products that change the world and enrich people's lives has always been the goal for Apple. To achieve this, Apple works to ensure that products are accessible for everyone, which results in better design for all customers. iPhone became the most popular assistive device ever by showcasing that accessibility can be built into a product that all people can use universally. The focus on accessibility leads Apple to build powerful features into every operating system and every device, including for customers who are deaf, deafblind, or hard of hearing.

Representation and inclusion are critical components of Apple's mission, and many of its accessible technologies exist because people with disabilities working within the company helped bring them to life and use them every day. 'Nothing about us without us' is a key concept underlying the design of devices and features at Apple, and this allows the company to build stronger and more customisable products by drawing on the differences in people's identities, experiences, and worldviews. Recent features, such as sign language prominence in FaceTime and Sound

235 Apple revolutionised personal technology with the introduction of the Macintosh in 1984. Today, Apple leads the world in innovation with iPhone, iPad, Mac, Apple Watch, and Apple TV. Apple's five software platforms — iOS, iPadOS, macOS, watchOS, and tvOS — provide seamless experiences across all Apple devices and empower people with breakthrough services including the App Store, Apple Music, Apple Pay, and iCloud. Apple's more than 100,000 employees are dedicated to making the best products on earth, and to leaving the world better than they found it.

236 These include the American Foundation of the Blind's Helen Keller Achievement Award, the Inclusive Society Award from the UK's Royal National Institute of the Blind, two Chairman Awards for Advancement in Accessibility from the USA's Federal Communications Commission, and the Inclusion Award from Germany's Association of the Bavarian Blind and Visually Impaired.

Recognition, included the participation of employees from the deaf and hard of hearing communities in the design, development, and testing process. This contributes to a set of accessibility features that can support the needs of individuals and communities.

People with disabilities serve in multiple roles throughout the company, including in the design and engineering teams. The dedicated accessibility team includes quality and assurance engineers who work to ensure that Apple's products, software, hardware and services can be effectively utilised by persons with disabilities. In addition, when creating technological innovations, Apple often consults NGOs and support organisations across multiple disability communities to ensure their perspectives are included. The world's largest and most influential organisations for disability communities tend to recommend Apple's iOS technology platform because of its deep integration of accessibility and assistive technology.

Apple's approach to accessibility has created product features that can empower everyone, and includes input from diverse teams throughout the design process. Both of these traits are expanded upon in the subsequent sections.

Figure 1: A visual notification of a doorbell generated by Sound Recognition on iPhone. With Sound Recognition, iPhone or iPad can use on-device intelligence to continuously listen for certain sounds—such as a crying baby, doorbell, or siren—and provide a visual notification when it recognises these sounds.

Technology that empowers everyone

The emphasis placed on accessibility and its implementation in the design process means that Apple devices such as Mac, iPhone, iPad, Apple Watch, and Apple TV come standard with a variety of customisable features. The

depth and breadth of accessibility customisation available on Apple's operating systems encompass several innovations that can enhance a deaf or hard of hearing user's access to powerful technologies. This section describes several such innovations and services including haptic feedback, captioning, and FaceTime.

- **FaceTime** – Video calls with FaceTime let people communicate visually, be it sign language, gestures, or facial expressions. Since iOS 14, FaceTime can detect when a participant is using sign language on a Group call, and will make the person prominent in the call. And with Picture in Picture, it is possible to continue viewing a FaceTime call while multitasking. As FaceTime is on Mac, iPhone, iPad, and iPod touch, users can visually communicate with iOS, iPadOS, and macOS users across the globe.
- **Made for iPhone hearing aids** – Apple created the first technology enabling a direct Bluetooth connection between a smartphone or tablet, and hearing aids or sound processors, maximising sound quality for phone and FaceTime calls, music, movies, and more. From the start, Apple licensed this new Bluetooth Low Energy protocol to hearing aid and sound processor manufacturers for free. Made for iPhone hearing aids enable users to quickly access the features and settings of the paired device. This includes being able to glance at the battery status or change the left and right volume together or separately. Users can also quickly apply their audiologist's environmental presets as they go outdoors or enter noisy locations, like restaurants, without having to rely on additional remotes. In 2013, the Danish company GN ReSound was the first hearing aid manufacturer to go to market with a Made for iPhone hearing aid, and was followed by other manufacturers across the world.[237] Apple technology has now been built into more than 160 models of hearing aids and sound processors.
- **Sound Recognition** – iPhone, iPad or iPod touch can utilise on-device intelligence to continuously listen for specific sounds such as a crying baby, doorbell (as shown in Figure 1), or siren, and give a visual notification when a particular sound or alert is detected.[238] This makes sound-based alerts, alarms, and notifications accessible to members of the deaf and deafblind communities. Sound Recognition also protects users' privacy through processing on-device and offline.
- **Headphone Accommodations** – Users can customise their headphone audio to amplify soft sounds and adjust certain sound frequencies

237 These manufacturers have included Danish companies Oticon, Widex, and Rexton; the British-Italian company Amplifon; Netherland's Philips; Germany's Audio Service; and Italy's Udisens. An overview of all Made for iPhone compatible hearing devices can be found at support.apple.com.

238 Notifications can also appear on the Apple watch if it is paired with an iOS device such as the iPhone.

based on their individual hearing needs. Available on AirPods Max and AirPods Pro, as well as some other models of AirPods and Beats, this can make sounds crisper and clearer in films and FaceTime calls. To set this up, users are guided through a series of listening tests that enable them to establish unique profiles based on their personal sound preferences.

- **Mono Audio** – Users who are hard of hearing or deaf in one ear can benefit from the Mono Audio accessibility feature which can play both audio channels in both ears, and let the user adjust the balance for greater volume in either ear. This can increase the accessibility of stereo recordings which usually have distinct left- and right-channel audio tracks.
- **Live Listen** – The Live Listen feature allows users to cut through ambient noise. Whether a user is having dinner in a loud restaurant or taking a class in a crowded lecture hall, Live Listen lets them fine-tune their Made for iPhone hearing aids and AirPods. For quiet conversations, a user can move the iPhone or iPad closer to the people who are speaking, and the built-in microphone will amplify what they are saying.
- **Haptic Feedback** – The 'Taptic Engine' in Apple Watch and iPhone can give a gentle vibration as an alert for a notification, thus giving feedback without the need for visual or sound-based prompts. Apple Watch users can feel a small tap on their wrist every time a notification comes in. 'Prominent Haptic' can be switched on to pre-announce some common alerts, including messages, mail, and other important events. This means that it makes an additional haptic tap at the start of each alert, to give these alerts more emphasis. This can also be used for directions in the 'Maps' app, so that when a user is getting close to the next step (e.g., left turn, right turn, keep going straight), the Apple Watch gives haptic feedback.
- **Type to Siri** – Since iOS 11, Apple has incorporated an accessibility option to set Apple's digital assistant, Siri, to 'Type to Siri' mode. This means the onscreen keyboard, instead of the voice, can be used to ask questions, set up reminders, and give commands. This feature expands the possibilities within Apple's 'Home' app, which can control a variety of connected devices and smart accessories in the home, such as door locks, window shades, lights and thermostats.
- **Real-Time Text** – In 2017, iPhone became the first smartphone to enable Real-Time Text (RTT) directly on the device. It creates a simultaneous conversation flow over the phone for people who are deaf, deafblind, or hard of hearing (see Figure 2). It also makes emergency calls with 911 operators and first responders accessible for these communities. Users can engage with calls and incoming RTT messages through notifications, even when they are not in the phone app and do not

have 'RTT conversation view' enabled. At the time of writing, this feature is only available in the US, but Apple are working to expand its availability to other countries.

Figure 2: A demonstration of iPhone providing built-in Software Real-Time Text (RTT) from the Phone App.

- **AI and machine learning** – As Apple continues to advance the role of assistive technologies, artificial intelligence (AI) and machine learning are increasingly valuable. AI is already being harnessed to support deaf communities to use Apple products, e.g. through Type to Siri and Sound Recognition. The robust models behind Sound Recognition utilise machine learning to assess extensive datasets and identify specific sounds in real-time.
- **Captioning** – Users of iTunes videos, Apple TV+, Apple Fitness+, and a range of Apple services can make use of captioning. Apple Fitness+, a service powered by Apple Watch, provides captioning to support customers as they exercise with guidance from trainers. All Apple TV+ content also offers closed captioning, which is available in more than 40 languages. Similarly, some video content from the iTunes Store includes closed captions (CC) and subtitles for the deaf and hard of hearing (SDH) (see Figure 3). These are identifiable with the icons [CC] and [SDH]. The accessibility of audio-visual content can also be enabled by default, because it is an in-built setting in macOS, iOS, iPadOS, and tvOS. When closed captions are enabled by default, they will be automatically activated for videos across a range of apps such as the Apple TV app, QuickTime Player, and HTML5 video in Safari. Content creators using Apple's Final Cut Pro X video editing platform can implement closed captioning in a variety of formats as part of the workflow. This allows independent filmmakers, students and

YouTubers to more easily produce and edit closed captions. Similarly, Apple Clips can create automated captions that are synced with the user's voice, so that creators can make their videos more accessible before sharing them on social media.

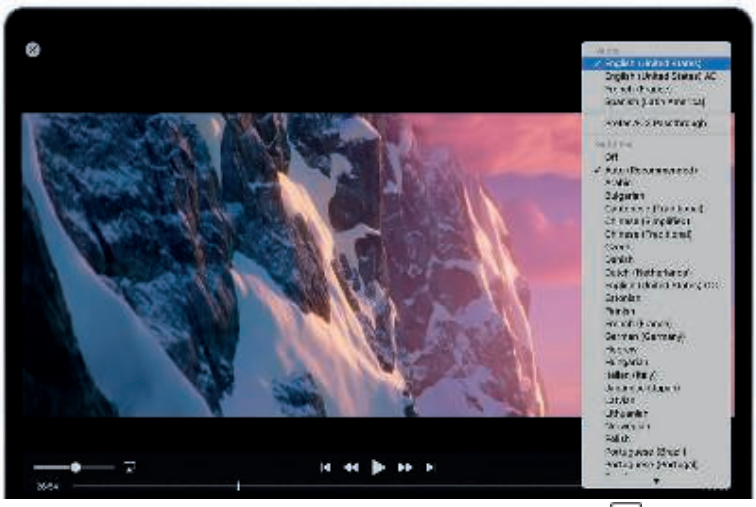

Figure 3: In the iTunes Store and Apple TV app, selecting the speech bubble icon will open the Audio and Subtitles menu. CC or SDH can also be turned on by default.

Every Apple Store offers 'Today at Apple' sessions designed to teach the basics of using these assistive technologies, and a dedicated Apple Care support team[239] are available to advise customers with disabilities on accessibility services. Customers can also use SignTime to remotely access a sign language interpreter and communicate with Apple Care and Retail Customer Care. This does not need to be booked ahead of time, and is provided in American Sign Language (ASL) in the US, British Sign Language (BSL) in the UK, or French Sign Language (LSF) in France. SignTime is currently offered in the US, UK, and France, with plans to expand to additional countries in the future.

Including everyone in the conversation

The diversity of its teams and designers, and outreach to deaf communities, are another important aspect of accessibility at Apple. Apple has been a pioneer in democratising powerful technology by creating products and services designed for everyone. This involves collaborating with a variety of partners and communities to expand the availability of assistive technology, as demonstrated by Apple licensing its Bluetooth Low Energy protocol to hearing aid and sound processor manufacturers for free.

239 Available at getsupport.apple.com or by emailing accessibiliy@apple.com.

Apple works to support deaf students to engage with its programming language, Swift, through the curriculum Everyone Can Code. This curriculum aims to make learning to code fun and interactive, and it is compatible with accessibility features including closed captions, LED Flash for Alerts, and Made for iPhone hearing aids, as well as VoiceOver to support deafblind learners. Many schools supporting students with disabilities have adopted this curriculum.

Figure 4: SaraBeth Sullivan, a fourth year PhD student at Gallaudet, attends her advanced statistics class using Sidecar with iPad Pro and MacBook Pro, giving her more screen options for presentations, shared work, and viewing.

In higher education, Apple has collaborated with Gallaudet University in the USA, the world's only university designed specifically for deaf and hard of hearing students. During a keynote address in 2020, Gallaudet's President, Dr Roberta Cordano, commented that Apple's hardware and software 'are designed thoughtfully and with input from end users such as ourselves'.[240] Since the autumn of 2020, Gallaudet has provided every student and faculty member with an iPad Pro (see Figure 4), Apple Pencil, and Smart Keyboard Folio to support their learning and teaching. This educational partnership further includes a new Apple Scholarship programme for students of colour with disabilities who are pursuing degrees and coursework in information technology, computer science, mathematics, and other related fields. The new scholarships will also give students the opportunity to participate in Apple's Worldwide Developers Conference. In addition, Apple provides opportunities for Gallaudet graduates through a recruitment partnership between the university and Apple Carnegie Library, in Washington, DC, which has more than 30 deaf and hard of hearing staff members.

240 GallaudetU, "iPad Summit: President Cordano's Keynote Address", 13 October 2020. Available at https://youtu.be/EAFwuDAvcqs (scroll to 11:36).

Professionally, Apple encourages developers to include accessibility features, which is possible due to accessibility APIs on all Apple platforms. These include developer tools that simplify the provision of built-in support for presenting subtitles and closed captions, and for selecting alternative audio and video tracks. On Apple Watch, Apple's accessibility APIs provide developers with access to the Taptic engine so they can add haptic feedback to WatchOS apps, whilst MacOS developer APIs ensure the user interface allows those who are deaf or hard of hearing to set audible alerts to automatically flash the screen instead. Developers can further assist the deafblind community by incorporating VoiceOver APIs so that user interface elements are more widely accessible.

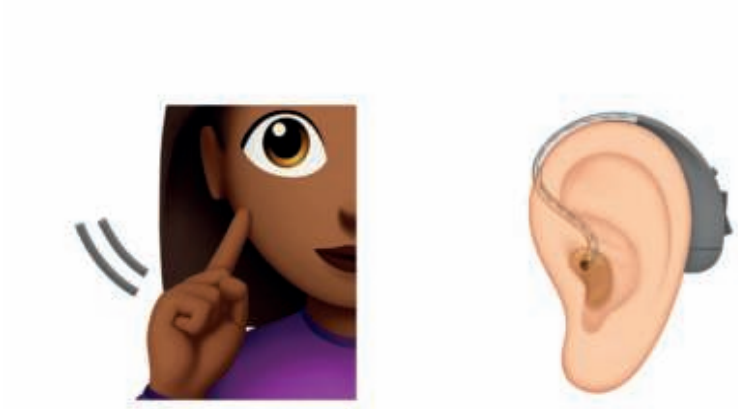

Figure 5: Emojis to represent 'deaf' and 'hearing aid', as proposed by Apple in collaboration with the WFD in 2018.

As well as collaborating with educational institutions and developers, Apple follows policy developments at the EU level and shares its best practices with regulators, governments, and organisations including the World Health Organisation (WHO),[241] the National Association of the Deaf in the USA, the World Federation of the Deaf (WFD), and the European Telecommunications Standards Institute (ETSI). In working with the WFD, Apple proposed the adoption of accessibility-themed emojis to the Unicode Consortium, the global body in charge of setting character standards across all computing platforms. Apple's submissions underlined that such emojis could enhance inclusiveness and could have a high frequency of usage for a relatively large community.[242] In 2019, the consortium adopted

241 Apple is sharing data from its Apple Hearing Study with the WHO's Make Listening Safe initiative (see https://www.apple.com/newsroom/2021/03/apple-hearing-study-shares-new-insights-on-hearing-health/).

242 Apple, "Proposal For New Accessibility Emoji", March and July 2018. Available at: https://www.unicode.org/L2/L2018/18080-accessibility-emoji.pdf (March), and https://www.unicode.org/L2/L2018/18229r-apple-zwj-deaf.pdf (July).

Apple's recommendation so that access to emojis representing both 'deaf' and 'hearing aid' (see Figure 5) were available for the first time.

Different together

Apple's approach to accessibility draws on different viewpoints and experiences. The central belief that the most powerful technology is designed for everyone has led to award-winning accessibility features that let people experience everything Mac, iPhone, iPad, Apple Watch, and Apple TV have to offer.

From FaceTime and Sound Recognition, to third-party partnerships and collaborations, Apple works to enhance everyone's access to powerful technologies.

Accessibility at Huawei: Apps created with and for deaf users

Berta Herrero Estalayo, Angeliki Dedopoulou, Ivo van den Brand, Dalong Chen, & Zhongyang Zan, Huawei Tech4ALL

Introduction

Huawei is a technology company[243] that operates in more than 170 countries and regions, and aims to hire professionals with a wide range of backgrounds, talents and skills, to build a diversified workforce. Huawei is committed to creating a harmonious, inclusive, and efficient workplace, so that every employee has sufficient room to grow and maximise their potential. The company's technology embodies the same values that guide its management of human resources. Just as diverse teams are the best positioned to advance innovation, digital solutions are best designed in a way that adapts to the needs of each individual. This is what Huawei calls human-centred technology – a technology that puts the needs of every person at its heart.

Huawei chairs the Digital Inclusion Working Group for the Global Enabling Sustainability Initiative (GeSi),[244] whose framework is called Digital with Purpose.[245] In this group, the company works with global partners such as UN agencies, NGOs, research institutes, governments, carriers, and enterprise customers. Together, they aim at creating a set of metrics to help companies fight against discrimination based on gender, age, ethnicity, disability, skills, language, sexual orientation, wealth and geographical location. The working group also aims at helping companies to provide equal opportunities for people to access ICTs.

Huawei believes that everyone is entitled to benefit from digital convenience and ease-of-use. Through user research, analysis, and cooperative testing, the company has continuously improved the accessibility of its products. At the time of writing, its smartphones offer 17 accessibility features and services, such as TalkBack gestures, the text-to-speech submenu, and colour correction.[246] These features are used by 10 million people each month.

When developing ICT tools relevant to deaf users, it is absolutely vital to include deaf experts and deaf consumers throughout the process. For

243 Huawei was founded in China in 1987 and is headquartered in Shenzhen, Guangdong.

244 See https://gesi.org/

245 See https://digitalwithpurpose.org

246 The other 14 features are captions, magnification, colour inversion, select to speak, mono audio, large mouse pointer, high contrast text, advanced visual effects, switch access, accessability shortcut, touch and hold delay, volume styles, click when cursor stops, and power button ends call.

example, when Huawei developed StorySign (see section 2 below), this was done in partnership with the European Union of the Deaf (EUD) and the British Deaf Association (BDA),[247] who helped the company to find a technological solution that makes a difference to the lives of deaf children by increasing their access to literacy. Technology has great potential to facilitate access to information, communication, and knowledge, and innovations that serve deaf users often also benefit mainstream users. This philosophy has led Huawei to generate several technological developments, such as MeeTime video calling,[248] which is available in 13 countries[249] and is used by the police in China's Guangdong Province to provide deaf people with access to emergency services (see section 3 below). MeeTime allows users to make video calls using either Wi-Fi or mobile data; divert calls to a range of devices, including tablets, speakers, and smart TVs; and even use drones and motion cameras to share videos in real time.

The remainder of this chapter focuses on three of the innovations that Huawei has created with and for deaf users, namely the StorySign app, the Trouble-Free Hearing app, and the online sign language hub.

StorySign app[250]

Using the power of artificial intelligence (AI), Huawei aims to develop new technologies that will facilitate deaf users' access to information and communication. Huawei has been working closely with deaf associations throughout the development of StorySign, a free mobile app designed to foster deaf children's literacy skills by translating storybooks into sign languages, thus enabling children to read and sign the books together with their parents (see Figure 1). StorySign was launched in 2018 and is available via Huawei AppGallery, Google Play Store and the Apple App Store. At the time of writing, StorySign translates 71 popular children's books into 15 different sign languages.[251] All of the sign language content has been created with and reviewed by the respective regional or national deaf association.

247 Other members of this partnership included London-based publishing house Penguin Books and British animation studio Aardman Animations.

248 See https://consumer.huawei.com/en/emui10-1/

249 China, Singapore, Malaysia, Thailand, Philippine, Indonesia, South Africa, United Arab Emirates, Germany, Italy, France, Spain and Poland

250 See https://consumer.huawei.com/uk/campaign/storysign/

251 British Sign Language (BSL); Deutsche Gerbardensprache (DGS, German Sign Language); langue des signes française (LSF, French Sign Language); Lengua de Signos Espanola (LSE, Spanish Sign Language); Lingua dei Segni Italiana (LIS, Italian Sign Language); Lingua Gestual Portuguesa (LGP, Portuguese Sign Language); Nederlandse Gebarentaal (NGT, Sign Language of the Netherlands); langue des signes de Belgique francophone (LSFB, French Belgian Sign Language); Vlaamse Gebarentaal (VGT, Flemish Sign Language); Deutschschweizer Gebardensprache (DSGS, Swiss-German Sign Language); langue des signes de Suisse romande (LSF-SR, Swiss-French Sign Language); Língua Brasileira de Sinais (Libras, Brazilian Sign Language); Irish Sign Language (ISL); Australian Sign Language (Auslan); and American Sign Language (ASL)

Figure 1: Deaf children from Belgium and the UK using the StorySign app with their parents

The app uses mobile AI technology to generate the sign language translations, which are presented by a friendly signing avatar (see Figure 2). Huawei collaborated with expert sign language interpreters and deaf associations such as the EUD and BDA, and carried out testing with families and schools, to ensure that the user experiences the service as consistently high quality and easy to use. The user selects the children's book and holds their smartphone over the words in the physical edition, and then StorySign instantly translates the words into signs through the avatar. This helps children to make that crucial link between words and signs. In many cases, the experts who signed the book content were explicitly recommended by the respective national deaf association. All of the signing was captured with state-of-the-art 3D motion capture technology in order to clearly record every detailed movement of the signers. After the content was

animated, Huawei sent the output to the national deaf association so that they could review it and advise the company on the quality of the signing and any other comments or reactions. Proactively seeking feedback from contacts within the deaf associations allows Huawei to inform its future roadmaps for StorySign and fine-tune plans to raise awareness about existing challenges related to deaf literacy. For example, the company has invested time and money in launching international campaigns to promote deaf literacy and engaging in corporate stakeholder forums such as the UN's International Labour Organisation, UNESCO's Mobile Learning Week, and the World Economic Forum (Davos). Since the launch of StorySign, Huawei has continued to invest in the further development of AI technology that translates words or text into sign language for the purposes of literacy learning as well as general accessibility and inclusion.

Figure 2: The friendly signing avatar in the StorySign app on a Huawei P30 Pro

Trouble-Free Hearing app[252]

> *"It's great that there's an on-demand technology that can help our deaf friends, so they can get support anytime they need it."*
>
> *Kong Qingxian, first volunteer for the Trouble-free Hearing app, and vice chairman of the Nangang District Association of the Deaf in Heilongjiang Province*

To develop the Trouble-Free Hearing app, Huawei cooperated with another Chinese company, E-times Digital Technology, who used the real-

252 See https://www.huawei.com/minisite/tech4all/en/changting.html

time speech recognition and synthesis technologies available in Huawei's Cloud AI to convert speech into text and text into speech. The app is intended to work as an on-demand tool for providing accurate speech-to-text and text-to-speech services in the Chinese language (see Figure 3). As of October 2020, more than 10,000 people in China were using the app.

The two companies' aim in designing this app is to make everyday communication, as well as online learning and entertainment, more accessible for deaf people. For example, online videos have become a major medium for learning and entertainment, and deaf users can automatically generate subtitles for these videos by using the Trouble-free Hearing app. This gives them access to a fuller range of content.

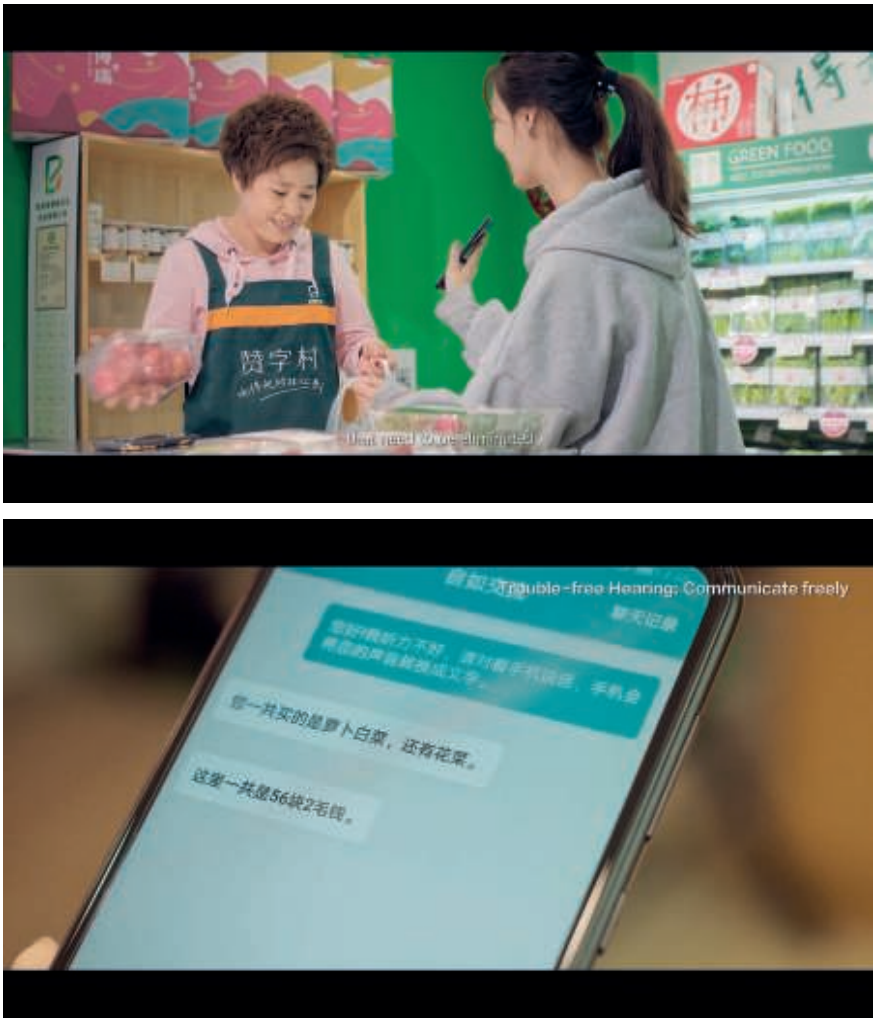

Figure 3: The text-to-speech function in the Trouble-free Hearing app

Online sign language hub

E-times Digital Technology has also established an online sign language hub, for which Huawei provides development and cloud computing services[253]. Through this hub, certified sign language interpreters employed by E-times provide interpreting and translation between Chinese and different varieties of Chinese Sign Language in a range of medical, legal and customer service contexts, e.g. when deaf patients are talking to doctors, attending legal consultations, and seeking assistance or making queries at service windows. The access is facilitated through remote video conferencing, with the service being aimed particularly at contexts for which speech-to-text services are insufficient, e.g. where complex information needs to be communicated. Typically, the deaf user initiates a video call through the app, and then the volunteers in the hub answer the call and carry out the translation between the deaf user and their hearing interlocutor to facilitate the communication.

Developing these innovations has shown Huawei that to properly understand the needs of the deaf community, the first step is to take a participatory and inclusive approach – one by which deaf consumers exercise their agency. Huawei firmly believes that in order to advance towards a digital world where no one is left behind, all individuals must have the chance to take part in the design of this world – and this is especially true in the case of deaf people, for whom technological innovations can be a real game-changer in their daily lives, helping them to unlock the full potential of learning materials, smart devices, and their own talents.

253 The hub is 100% owned, operated and managed by E-times. Huawei only provides technical support and is not involved in the operational working.

Inclusive design with the deaf community: Google's approach

Christopher Patnoe, Sara Basson, Sagar Salva, Brian Kemler, Sam Sepah, Sharlene Yuan, Jennifer Devins

In addition to monitoring established standards and industry developments to inform our approach to technological innovations, Google[254] aims to support an inclusive design process which focuses on identifying key excluded groups and digging in to better understand their needs and challenges. These insights can be used in early design sprints[255] to drive new innovations and product directions as well as help evaluate ideas. There are a number of methods in Google's product development processes to bring forward the voice of the user. This ranges from foundational user research to inform product direction; usability studies to focus on understanding the user experience from the perspective of people with disabilities; and gathering user-centred metrics around satisfaction. For all of these methodologies, Google aims to include users that represent the diverse population.

Google also works to establish relationships with organisations and schools that support underrepresented groups, to learn from their expert insights and connect directly with their members for research and co-design engagements. For instance, the 'Live Transcribe' and 'Sound Notifications' features were made in collaboration with Gallaudet University, the university for deaf students in Washington, DC. In addition, the company's design teams meet with organisations like the European Union of the Deaf and the USA's National Association of the Deaf to discuss updates of products and services and share information on upcoming features, in order to gain insights from their perspectives. In 2019, Google added a dedicated American Sign Language support channel for all of its products.[256]

Google's engagement with deaf and hard of hearing people does not only involve external collaborators; an equally vital role is played by the company's deaf members of staff. Many of them are part of an Employee Resource Group called 'Deafglers'.[257] Involving deaf individuals in the design process improves the users' experience of Google products. Their

254 Google was founded in 1998, and is headquartered in the USA, in Mountain View, California. Google's mission is to organise the world's information and make it universally accessible and useful.

255 A design sprint is a process to address challenges and find solutions by prototyping and testing ideas with users.

256 More information on this is available at https://learning.acm.org/techtalks/inclusivedesign

257 Google has a number of themed groups as part of the Disability Alliance Employee Resource Group, including the 'Deafglers'. Each themed group under the Disability Alliance works a bit differently. Some choose to have monthly calls or meetings, whereas others exist only as a an online group for people to post questions or news updates. Some of the groups also bring in external speakers and host events to celebrate their culture.

expertise facilitates better future planning; many of the best ideas have come from the everyday lives of Google team members and external collaborators who are deaf or hard of hearing. Their skills are also essential in the process of feature validation, e.g. checking how well different aspects of tools work such as the quality, volume, and crispness of the audio output in sound amplification features.

As a result of this wealth of expertise, it has been possible to identify ways to improve features in Google's products to make them more accessible. Examples of this include increased accessibility in Google Workspace, Android devices, and YouTube. In Google Workspace, the presentation tool called Google Slides now has automatic speech recognition (ASR) to generate captions for local or in-person presentations in English. The Workspace also has a feature called Google Meet Captions, which offers ASR to caption video presentations delivered in English, French, German, Spanish or Portuguese. Google's video service YouTube also enables creators to generate their own captions, and also uses machine learning to provide ASR captioning for videos in 13 languages.[258]

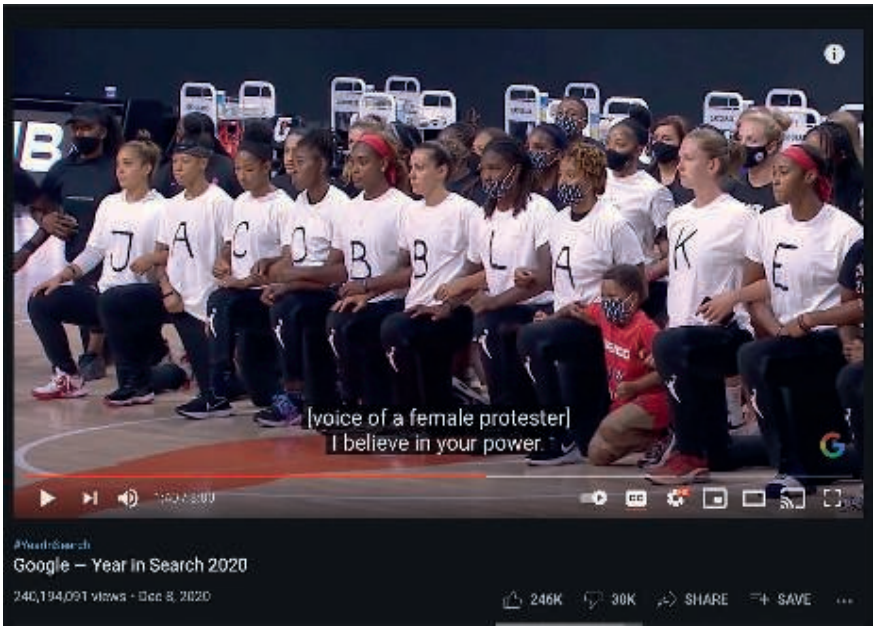

Figure 1: Screen shot of YouTube video with captions

On Android devices, ASR-generated captioning for more than 80 languages and dialects is available through the feature Live Transcribe. This is cloud-based at the time of writing, but Google is working on supporting

258 The 13 languages are Dutch, English, French, German, Indonesian, Italian, Japanese, Korean, Portuguese, Russian, Spanish, Turkish, and Vietnamese.

non-cloud (i.e. local or offline) languages in 2021. In October 2020, Live Transcribe received a new feature, Sound Notifications, which provides alerts (e.g. vibrations, light flashes, or text alerts) for 10 sounds[259] as they are captured through the microphone in the Android device. It uses machine learning to expand the Sound Detection offered by Live Transcribe, and shows over 30 sound events alongside real-time captions, to provide better access to overall sound awareness.[260] This runs locally on the user's device, without anything being sent over the internet. It is designed to work best with a paired wearable such as a watch[261] powered by Google's WearOS.[262] Live Transcribe can also caption speech calls and media on almost any Android app. Moreover, hearing aid support and sound amplification is available on Android devices. For the former, hearing aids can be paired with an Android device, while the latter uses a set of headphones to make sounds clearer.

Google hosts disability-centric presentations and meetups across the company. It is also an active participant in Disability:IN, a non-profit network of over 220 corporations that endeavours to expand opportunities for people with disabilities in businesses around the world. Google received a score of 100 on the Disability Equality Index for the past two years, and in 2020 its Disability Alliance was named Employee Resource Group of the Year. This Alliance has 18 sub-chapters which form communities for specific disabilities, including the Deafglers, along with local chapters in 30 regions including the Asia-Pacific region, Latin America, and Europe and the Middle East. 'Disability at Google' training tools are also available to staff, including specialised resources for managers of people with disabilities. The company also creates Allyship training resources for employees who want to participate in the Disability Alliance as supporters or allies, e.g. by learning about how to plan inclusive meetings and create accessible communications. Another of Google's priorities in this area is to ensure that users with disabilities who want to work for the company have opportunities to apply for jobs. Therefore, a dedicated 'People with Disabilities' section[263] was added to Google's Careers site in 2020.

259 The 10 sounds are smoke and fire alarms, sirens, doorbells, appliance noises, landline phones, knocking, shouting, baby sounds, dog barking, and water running. See https://blog.google/products/android/new-sound-notifications-on-android/

260 Sound Notifications, which recognises 10 sounds, can work completely offline. Sound Detection can provide captions marking up to 30 different sound types, but cannot work completely offline.

261 For an example, see https://www.fossil.com/en-us/smartwatches/generations/gen-5/

262 Sound Notifications are also available for Google Nest smart devices.

263 See https://careers.google.com/programs/people-with-disabilities/

Building a culture of accessibility at Microsoft: From policy to inclusive design to research in automatic sign language recognition

Jenny Lay-Flurrie, Chief Accessibility Officer, Microsoft

Microsoft's holistic view of inclusion and accessibility is a company wide effort, prioritised and supported at the highest levels of the company. The company endeavours to infuse into every product and service the voices of its employees and customers with disabilities. Microsoft[264] has tried many different models to achieve this goal, but the most successful approach has been the one used within the last five years. This is called the 'hub and spoke' model, in which a team of disability inclusion experts form a 'hub', working with leaders in each local division who drive and deliver accessibility in the 'spokes'. Leaders from each division come together to form the accessibility leadership team (or ALT), which provides oversight and analysis of how the teams are evolving and learning. This scalable 'hub and spoke' model ensures that accessibility and building a culture of inclusion are the responsibilities of not just one team, but everyone in the company.

To truly embed accessibility and make it systemic, Microsoft started researching various 'maturity models' and found two that really resonated for the company – one was a general maturity model by Carnegie Mellon University and the other a specific accessibility model from Level Access. These were combined with insights of the ALT to create the Accessibility Evolution Model.

The accessibility and disability inclusion communities at Microsoft are open networks, grounded in the aims of empowering talented people with disabilities and creating digital access. Having talent with disabilities at the core of the company, sharing their expertise to ensure that the products meet the needs of customers and staff, has given rise to a strong disability community at Microsoft, with 22 communities for employees with disabilities. This includes a deaf community[265] group called 'Huddle', a term first coined by Gallaudet University back in 1984, when their football team was playing another deaf team and huddled together to hide their signing from their opponents. Microsoft's employee groups were created in the late 1990s, and Huddle was one of the first to be established. In October 2020, the company's Diversity and Inclusion report shared that 6.1 per cent of its US workforce have self-identified with a disability.

264 For further information about Microsoft, please see https://news.microsoft.com/facts-about-microsoft/

265 This edited volume doesn't employ the d/D distinction, which is commonly used in the US.

As an example of the advantage of having talent with disabilities within the company, the well-known background-blurring feature[266] in video-conferencing software such as Microsoft Teams and Skype was created by deaf engineer Swetha Machanavajhala. She had found lip-reading difficult when lights and objects were visible in the background of a video call. She explained: "This meant I always had to ask people to turn off the lights in the background to help me focus better on their faces. And then I kept thinking, why can't we build technology that can do this for us instead? So, I did". Users around the world have found the background-blurring feature to be highly beneficial for privacy reasons as well, e.g., helping to conceal personal items and messy offices.

Advising policy makers and pioneering automatic sign language recognition technology

In recent years, there has been increased interest in accessible technology due to the UNCRPD. Microsoft is pleased to be serving as an advisor to several governments of European Union Member States as well as EU institutions including the EU Commission and Parliament as they develop policies and processes to ensure that people with disabilities benefit from the use of technology. Microsoft contributes to the development of accessibility standards in many countries. In Europe, the company is a member of the European Telecommunications Standards Institute (ETSI) and several national organisations through which it participates in work to update the European accessibility standard, EN 301 549. The company regularly consults with the European Disability Forum, of which the EUD is a member. Microsoft also includes the national deaf organisations of EU member states in its events and activities, such as the European Accessibility roundtable dialogues on policy initiatives that it co-hosts with NGOs and government representatives.

Because of this dedication to increasing the deaf community's access to information and communication, the first Microsoft AI for Accessibility Sign Language Recognition & Translation Workshop[267] was held in February 2019 in the USA. Along with 21 Microsoft employees who had experience working in this area, the event was attended by 18 external experts from various associated disciplines such as deaf culture, computer vision, natural language processing (NLP), and avatar generation. The presentations explored the work that has been done internally at Microsoft and externally by other organisations on sign language recognition specifically, which is not the same as gesture recognition. The participants

266 See https://www.youtube.com/watch?v=-wCyq9oll_o

267 See https://www.microsoft.com/en-us/research/event/microsoft-ai-for-accessibility-sign-language-recognition-translation-workshop/

highlighted the complexity of the topic: there are more than 137 sign languages in use around the world, and they are linguistically different from the spoken languages that surround them and have no holistic, written representation from which to use NLP tools to build a language model. However, because of this exciting complexity, the area is ripe with opportunity to demonstrate how AI capabilities can be combined to deliver a meaningful experience. The workshop resulted in Microsoft producing a paper entitled 'Sign language recognition, generation, and translation: An interdisciplinary perspective', which was presented at the ASSETS conference in late 2019 and won the Best Paper Award.[268] Clearly there is more to do, and any organisation interested in exploring this area of technology further is invited to apply to the Microsoft AI for Accessibility programme.[269]

Inclusive design: Xbox Adaptive Controller and Microsoft Teams

Inclusive design[270] is the core construct that Microsoft combines with the elements of accessibility to create its products and services. The company's approach to inclusive design can be summarised as a three-step process: 1) Recognise how and where a user is excluded; 2) Solve the problem so that the user is included and extend the solution to many other people; and 3) Apply this solution to future products and features, so that the designers are always learning from diversity. This approach was first curated by then Microsoft employee, Kat Holmes, the author of *Mismatch: How Inclusion Shapes Design* (2018, MIT Press), and the late August De Los Reyes, an innovative designer who acquired a disability later in life that inspired him to pursue inclusive design as one of his core goals.

Two of the advances that this approach has brought to Microsoft in the last five years have been the Xbox Adaptive Controller and Teams Live Captions. The former started as a project at a 'hackathon'[271]. The team that created the project was comprised of Xbox experts and representatives from an American non-profit organisation called Warfighter Engaged, which provides specialised gaming equipment ('rigs') to veterans with disabilities. It was a memorable experience watching them wheel their complex rigs into the hackathon tent. The rigs needed to be streamlined and made easier to maintain, so over the next two years, the team contacted other non-profit organisations and collected insights from people with disabilities all over the USA. This allowed them to refine the design and guarantee that it met the users' needs. The resulting product, the Xbox

268 See https://arxiv.org/pdf/1908.08597.pdf

269 See https://www.microsoft.com/en-us/ai/ai-for-accessibility

270 https://www.microsoft.com/design/inclusive/

271 https://www.geekwire.com/2014/inside-microsofts-hackathon-tech-giant-transition/

Adaptive Controller (see Figure 1)[272], was launched in 2018 and received enthusiastically by users around the world. It even became part of an exhibit in the Smithsonian Museum in Washington, DC.

Figure 1: Top down view of the Xbox Adaptive Controller, which got its start at the annual hackaton and is now available for sale.

Another accessibility innovation that has attracted a great deal of attention relates to Microsoft Teams, a product that powers video calls and meetings and promotes collaboration. Microsoft embedded a feature called Teams Live Captions[273] (see Figure 2), which uses artificial intelligence to generate automatic captions[274]. In March 2020, the first month of the pandemic, uptake of this feature grew by a factor of 30 as people sought digital accessibility in their newly virtualised work and home lives. Microsoft quickly started getting requests from deaf and hard of hearing people who wanted to see the names of the speakers in Teams Live Captions, so that was added in 2020. Feedback from customers and employees who use sign languages highlighted the need to have the interpreter always pinned and visible, so the designers created a feature called Dynamic View that enables the user to see the content (e.g. PowerPoint slides), speaker and participant gallery at the same time. The next feature that will be integrated into Microsoft Teams is a facility for displaying the output of human provided captions, or Computer Aided Real-Time Transcription (CART)[275]. This functionality will allow a CART provider to be included in the meeting, type on their device, and input this into the Teams interface for attendees to consume.

272 See https://www.xbox.com/en-US/accessories/controllers/xbox-adaptive-controller

273 See https://support.microsoft.com/en-us/office/use-live-captions-in-a-teams-meeting-4be2d304-f675-4b57-8347-cbd000a21260

274 Over 50 language can be selected. See https://support.microsoft.com/en-us/office/use-live-captions-in-a-live-event-1d6778d4-6c65-4189-ab13-e2d77beb9e2a

275 This is manual speech-to-text, with input from a stenographer.

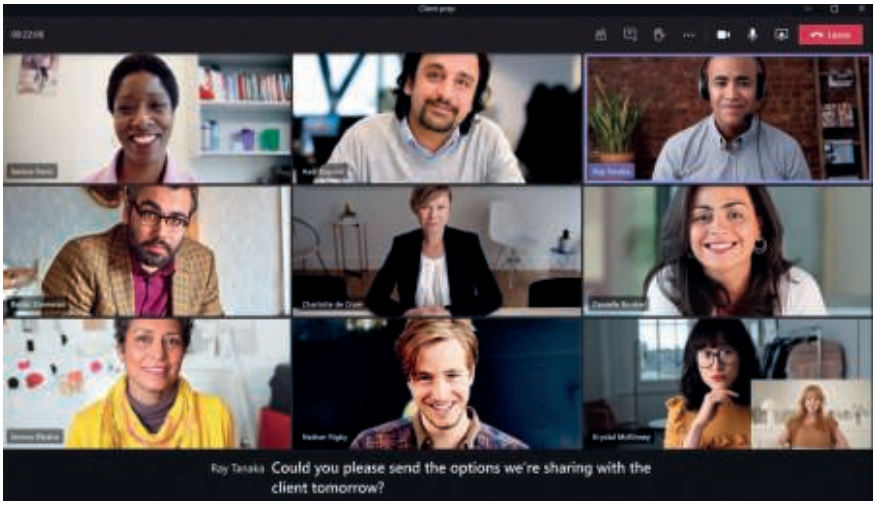

Figure 2: The Teams Live Captions function

While there is more to do, the evolution of Microsoft Teams is an example of how the company has not only used inclusive design in the creation of a new product but has also harnessed inclusive design principles to listen and learn in order to validate, improve and expand the product over time.

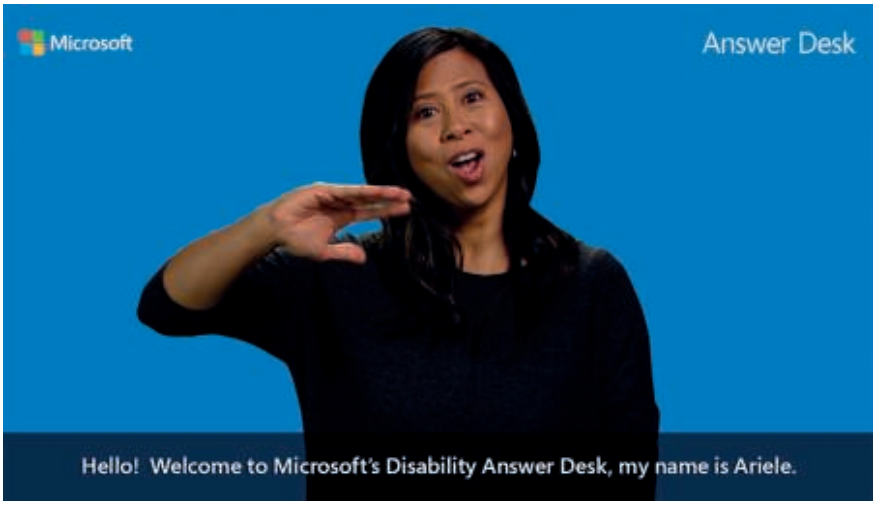

Figure 3: The Disability Answer Desk

In addition to fostering accessibility through its products, Microsoft has also launched services such as the Disability Answer Desk (see Figure 3),[276] which was initiated in 2012 following feedback from the deaf and disability

276 See https://www.microsoft.com/en-us/accessibility/disability-answer-desk?activetab=contact-pivot%3aprimaryr9

communities. This service provides support to customers with disabilities relating to the use of Microsoft Office, Windows, and Xbox Accessibility. In the eight years since its launch, the service has been contacted more than one million times, including via text chat, phone, and video calls in American Sign Language (ASL), which are fielded by deaf technical support experts.

People with disabilities increasingly rely on technology to lead autonomous lives. The way in which companies design and develop technology is therefore crucial to enabling better social inclusion and to helping people do and achieve more. Accessibility is also at the core of innovation. Solutions that work well for people with disabilities often lead to better designs and better solutions for everyone.

Editor's biography

Dr Goedele A.M. De Clerck works as a consultant at the European Union of the Deaf (EUD). At the EUD she also does research for the DESEAL (Deaf Senior Education for Active Living) survey, an international project supported by the Erasmus+ programme.

She holds a doctoral degree in Comparative Sciences of Culture from Ghent University, Belgium, where she graduated in 2009 with a doctoral thesis on identity and empowerment in Flemish and international deaf role models. As a doctoral and postdoctoral scholar of the Research Foundation Flanders, she has devoted more than ten years to ethnographic research, working with deaf people and sign language communities around the world, including in Uganda, Cameroon, Belgium, and the USA. Her studies of 'deaf flourishing', i.e. deaf people's wellbeing and self-actualisation as it emerges in a variety of cultural practices, were published in the book *Deaf epistemologies, identity, and learning* (Gallaudet University Press, 2016). She co-edited the volumes *Sign language, sustainable development and equal opportunities* (Gallaudet University Press, 2016, with P.V. Paul) and *Sign languages of the world: A comparative handbook* (De Gruyter Mouton, 2015, with J. Bakken Jepsen, S. Lutalo-Kiingi, & B. McGregor).

During her Marie Skłodowska-Curie Fellowship from 2015 to 2017 (EU Horizon 2020) at the University of Manchester in the UK, she worked with British deaf signers as well as deaf migrants and refugees in order to develop innovative research on life story work and deaf people's wellbeing. This inspired her to set up a private practice as a psychotherapist in Belgium, providing support to deaf young people, adults, seniors, migrants, and refugees. For the Flanders-based non-profit *Kom even praten vzw* ('Come & talk'), she is doing psychological research on how the accessibility of mental health services has been experienced by various stakeholders in the region of Ghent, especially deaf, hard-of-hearing, and deafblind people, as well as professionals employed at public mental health services.

The series

The EU's ratification of the United Nations (UN) Convention on the Rights of Persons with Disabilities (CRPD) in 2010 means that there is now an obligation to implement the enshrined rights in a timely manner. The legal implications of the CRPD have been widely discussed at institutional level. As a result, it has become increasingly evident that this is a new and complex area where international, European and national orders of law overlap.

This publication aims to contribute to, and provide possible interpretations of, the implementation of the CRPD with regards to deaf citizens, including sign language users and hard of hearing people. Each contribution in the series will explore a specific CRPD article, from both an academic and best practice perspective, and at all levels, from European to regional.

Article 9: Access to information and communication

Article 9 of the UNCRPD concentrates on the accessibility of information, communication, and knowledge, which is crucial to enable the full and equal participation of deaf persons. The European Union of the Deaf (EUD) explores in this book how access to information and communication can be defined from a deaf sign language perspective.

The book highlights the connections between Article 9 and other articles of the UNCRPD. To present a range of deaf sign language aspects and possibilities that relate to this synergy, the volume is organised into seven interlinking themes: legal frameworks for accessibility in the UNCRPD and the EU, accessibility during the COVID-19 pandemic, access to social and mental health services, an intersectionality perspective on accessibility, access to justice and employment, access to audiovisual content, and access to new technologies.

This is the fifth book in the EUD's UNCRPD series, which is funded by the European Commission's Rights, Equality and Citizenship Programme.

European Union of the Deaf
www.eud.eu