

Crisis Interpreting and Deaf Community Access in the COVID-19 Pandemic

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Abstract

Scientific and public health knowledge must be communicated efficiently to the public during a health crisis to allow communities to respond, recover, and prepare. Public briefings and national campaigns are important components of this communication, and sign language interpreting may be an element of this process. This paper examines the experiences of sign language interpreters during the COVID-19 crisis in Ireland and the UK, and explores their role in providing access to scientific and public health information for the Deaf or hard of hearing (DHH) community. Findings in this study are based on interviews conducted in the first half of 2020 with 16 Irish Sign Language (ISL) or British Sign Language (BSL) interpreters or science communicators, 11 of whom had direct experience of interpreting during COVID-19 public briefings. These interviews constitute authentic accounts of sign language interpreters working during a global health crisis. Interviews were qualitatively analysed using theoretical assumptions from Witter-Merithew and Nicodemus (2010) about the development of specialisation among sign language interpreters to discuss how specialised competence and scientific understanding factored into participants' experiences and to derive lessons to inform future crises.

Keywords

Sign language interpreting; COVID-19 crisis; Deaf or hard of hearing (DHH) community; specialised competence; scientific understanding

1. Introduction

During a health crisis, scientific and public health knowledge must be obtained quickly by scientists, then efficiently communicated to political leaders, healthcare workers, and the public (Current Biology, 2020). Sharing this knowledge with the public early in a pandemic can help prepare communities and control outbreaks (WHO, 2005), and it can facilitate communities to become active participants in the management and mitigation of the pandemic (Roberts et al., 2017).

Public briefings and national broadcasts are important components of our public health response to the COVID-19 crisis. Interpreting may be an element of this process, especially when a state has more than one legally recognised language. Irish Sign Language (ISL) is the first language of approximately 5,000 people (Central Statistics Office, 2017) and British Sign Language (BSL) is the preferred language of approximately 87,000 Deaf people (British Deaf Association 2021). The provision of interpretation into ISL by public bodies in Ireland is recognised under the Irish Sign Language Act, 2017, while the statutory status of BSL in the UK is a matter of ongoing debate (Lawson, McLean, O'Neill and Wilks, 2019).

This paper examines the experiences of sign language interpreters during the COVID-19 crisis in Ireland and the UK, and explores their role in providing access to scientific and public health information for the Deaf or hard of hearing (DHH) community.

In December 2019, we began evaluating an open access online resource for DHH learners, their teachers, and interpreters. This resource is designed to improve access to science, technology, engineering, and maths (STEM), and our evaluation included interviews with 16 people who are involved in interpreting or teaching scientific content through ISL or BSL.

The COVID-19 pandemic developed as we were conducting these interviews, and 11 of our participants had direct experience of interpreting COVID-19 content. We completed interviews with these participants in June 2020. Their experiences constitute the core data analysed in this paper, and represent authentic accounts of sign language interpreters working during a global health crisis.

The paper continues in section 2 with a review of the literature and a presentation of the research questions that have been derived for this research. Section 3 is used to describe the research participants, interview methods, and data. Findings are presented in section 4 and qualitatively analysed in section 5 using Witter-Merithew and Nicodemus's (2010) framework (hereafter referred to as the WMN Framework) of theoretical assumptions about the development of specialisation among sign language interpreters. The paper ends in section 6 with conclusions and suggestions for future work.

2. Previous Studies

Communication is central to how people prepare for, respond to, and recover from crises¹ (Coombs, 2012; Henrich & Holmes, 2011; World Health Organization, 2012). The accessibility and effectiveness of this communication are contingent on the information being provided in an appropriate linguistic and cultural frame – in crises in general (Purtle, Siddiqui, & Andrulis, 2011; Harro-Loit, Vihalemm, & Ugur, 2012), and in health crises in particular (Perilla, Norris, & Lavizzo, 2002; Truman et al., 2009). Overall, language and culture have been identified as issues that should be considered to achieve effective communication in a crisis setting (Fothergill, Maestas, & Darlington, 1999), and language access is recognised in crisis-related policy in various jurisdictions (O'Brien et al., 2018). Despite this, consideration of language and culture in various forms of crises is often neglected (Moser-Mercer, Kherbiche, & Class, 2014; Zoraster, 2011).

People who must communicate in a language that they do not understand (or do not understand well) may misunderstand risks and make poor decisions (McKee, 2014; Santos-Hernández & Hearn Morrow, 2013), or be hindered from participating in preparedness, response, and recovery efforts (Kirsch, Sauer, & Sapir 2012; Koenig, 2013). This is the case for Deaf communities during times of crisis, when they may find themselves having to access information through printed materials or captioned media in the majority (spoken) language, in spite of well-documented barriers to reading proficiency (Luckner & Handley, 2008).

Translation, interpreting, and intercultural communication can be leveraged to mitigate these negative consequences (Declercq & Federici, 2020; Federici & O'Brien, 2019). Scholars have examined interpreter training to increase the sustainability and adequacy of crisis interpreting efforts (Bulut & Kurultay, 2001; Doğan, 2016; Kurultay & Bulut, 2015). Recommendations on how medical teams can work effectively with interpreters in health crises (e.g., Powell & Pagliara-Miller, 2012) and on how to manage the physical and mental health risks associated with crisis settings (e.g., Greenstone, 2010) also feature in the

¹ Crises, in the context of this paper, are understood solely in terms of large scale, public crises (e.g. pandemics, wars, natural disasters, etc.) and not in terms of personal crisis situations (e.g. personal health emergencies, bereavement, etc.).

literature. A significant amount of research into interpreting in crises has been carried out into the work of interpreters in conflict zones and military operations (Moser-Mercer, Kherbiche, & Class, 2014; Salama-Carr, 2007; Snellman, 2016). Themes that can be identified across these crisis interpreting studies include issues of access and marginalisation, descriptions of high-stress working environments, and concerns about quality, accuracy, and training.

In spite of this growth in research of interpreting in crises and disasters, there has been comparatively little examination of the experience of Deaf communities through times of crisis (Leeson, 2019). Leeson's (2019) examination of provision of access to information during severe weather alerts in the Republic of Ireland found that considerable "effortful" engagement is required on the part of DHH communities and their allies to ensure access to information during crises. Once access is in place, particular challenges (especially linguistic challenges) can emerge for sign language interpreters, such as the lack of technical or scientific vocabulary in sign language to convey key messages during the crisis. As McKee summarises:

Many of the special terms and local referents that recurred in news broadcasts quickly became familiar to hearing viewers (or were explained in other media) through the coverage, whereas interpreters faced the immediate challenge of understanding and expressing unfamiliar terms simultaneously, within the lexical resources of the target sign language. (2014: 116).

As the COVID-19 pandemic has shown, a large amount of public health-related crisis communication takes place through televised press conferences, which usually include sign language interpreters. Sign language interpreting at press conferences can expose existing tensions in societies about language rights, access, and differentials among and within social groups (Chouinard & Normand, 2020). Sign language interpreters should be visible in televised press conferences for practical reasons of communication and to ensure (sometimes legally mandated) language access. Nevertheless, governments might use this interpreter visibility for other reasons during a crisis, such as to indicate to the public that the government is attempting to be understood by all (Chouinard & Normand, 2020). In addition, while prominent visibility on television increases access for Deaf communities, paradoxically it may also re-marginalise their perspectives, especially if the sign language interpreting becomes a spectacularised topic of media discourse (Ellcessor, 2015), in which the display and performance of the interpreting, rather its communicative intent, are focused on in the media. This can particularly happen when the content of the broadcast may provide for seemingly humorous visuals for hearing audiences as interpreters convey concepts such as gastroenteritis (using signs for diarrhoea and vomiting) as happened during the Christchurch earthquake interpretations (McKee, 2014) or what activities might take place at nightclubs, as was discussed on Irish television briefings following their reopening during the COVID-19 pandemic.

Televised press conferences are stressful working environments for interpreters. In addition to the pressures of appearing on television, sometimes at short notice, and of knowing that they will be observed by a large audience (Kurz, 2002), delivering quality, accurate interpretations of public health issues can be challenging, as the content can involve cognitively demanding problem triggers such as numbers (Korpál & Stachowiak-Szymczak,

2020), diverse scientific registers (Chachibaia & Colenso, 1998), and especially large amounts of complex and unfamiliar terminology (McKee, 2014). While interpreting so publicly in a time of crisis can lead to psychologically stressful or traumatic effects for some sign language interpreters, others report positive benefits from the experience, particularly by being able to engage proactively and communally with crisis-related information in a direct manner (McKee, 2014).

An effective response to a public health crisis includes everyone having access to accurate scientific information about the associated public health strategies. Many influential scholars list terminological accuracy as a dimension of interpreting quality (e.g., Gile, 1995). Its importance in the translation of medical and healthcare contexts has been highlighted (e.g., Feinauer & Lesch, 2013). In the case of COVID-19, this includes information about the virus, as well as the reasons for social distancing, hand hygiene, mask use, and vaccination. Sign language interpreters play a key role in communicating this information to DHH audiences. Castro et al. (2020) have raised the issue of a lack of sign language vocabulary relating to COVID-19. Terminology, therefore, requires training or targeted efforts at continued professional development for interpreters (see, e.g., Albl-Mikasa, 2013), especially if new terminology is being developed at speed for sign languages during a crisis.

Given the particular challenges emerging from crisis interpreting generally and interpreting live televised public health briefings specifically, it is worth examining whether or not specialist interpreters are required for these settings. Witter-Merithew and Nicodemus regard a specialist as “a practitioner who, through advanced training, acquisition of specialised skills and knowledge, and experience, distinguishes himself/herself as being uniquely qualified for the demands of the specialized interpreting work” (2010: 136/137). They note that specialisation might happen through *de facto* or *de jure* process, with interpreters self-designating or being externally designated as specialists respectively. Specialisation in sign language interpreting is often understood in terms of the setting (time/place/circumstance) in which the interpreting is taking place (Witter-Merithew & Nicodemus, 2010) with specialists emerging for medical, legal or education settings, for example. However, this conceptualisation has its limits and fails to acknowledge that interpreters may be specialist because of the population they serve or the mode of transmission of the interpretation, or that multiple ‘specialities’ are overlapping, none of which are captured in the ‘specialisation as setting’ framework (Witter-Merithew & Nicodemus, 2010). The WMN Framework provides an alternative way to conceptualise specialisation in sign language interpreting. We use this framework to interpret the findings of this study later in the article.

Communication is essential in a health crisis, and access to scientific information is important where widespread behavioural change is required to help mitigate that crisis. Interpreting is increasingly being studied as part of the communicative scene in crises, with high-pressure, televised press conferences identified as notable settings for crisis interpreting. The experience of the Deaf community through times of crisis has received comparatively little attention. This includes the roles of sign language interpreters working in these unique situations.

In this study, we asked:

1. How did ISL or BSL interpreters experience and perceive interpreting during the COVID-19 crisis?
2. How did specialised competence and scientific understanding factor into these experiences and perceptions?
3. What lessons can be learned to inform ISL or BSL interpreting in future crises?

We found answers to these questions through the qualitative analysis of semi-structured interviews with sign language interpreters and others involved in communication of scientific information through sign language.

3. Methods and Data

The interviews in this study were part of an evaluation of an online ISL STEM glossary. Interviews commenced in December 2019 and continued through July 2020. Consequently, they overlap with the COVID-19 outbreak in Europe. There were 16 participants interviewed in total, and results were drawn from all participants. Individual interviews were held with 14 people, and one was a paired interview. Thirteen of the participants were qualified ISL or BSL interpreters, and three were not. Of these three, two worked in educational settings where they communicated scientific concepts between English and ISL, and one (a member of the Deaf community) worked in the translation of written scientific material to ISL.

The first confirmed case of COVID-19 in Ireland was announced by the National Public Health Emergency Team (NPHET) on 29th February 2020. Participants who were originally interviewed before this date, were interviewed a second time, after they had experience with COVID-19 interpreting. Two participants, who were first interviewed after this date, requested to be interviewed a second time because they wished to share issues that were emerging in their work.

While only 11 participants had direct experience of interpreting COVID-19 briefings or content, all made references to COVID-19 and how it has impacted their work. Three participants also had experience of working in the UK.

Interviews were recorded (as audio or video), then transcribed. A schedule of semi-structured questions was used to steer questioning, allowing new topics to be explored as they were raised by participants. Questions and prompts were provided to participants across the following themes:

- The challenges of interpreting scientific content, broadly
- The specific challenges of interpreting at COVID-19 briefings
- The impact these experiences had on the interpreters
- The strategies developed by the interpreters for dealing with challenges
- The potential value of a glossary for addressing challenges to do with vocabulary

Participants were recruited via publicly available contact points. Interpreters were informed of the study through the Council of Irish Sign Language Interpreters, and interpreting agencies. Some snowball sampling ensued when interpreters began to be interviewed and then advised colleagues to get in touch with the project lead. Other professionals (non-interpreters working in science education or communication) were contacted directly using

purposive sampling. An email outlining the project (from the Plain Language Statement) was issued to participants. Following a positive response, the full plain language statement and informed consent form were sent to them. Due to the small size of the sign language interpreting community in Ireland and to protect the anonymity of participants, demographic information about participants has not been reported, transcript data has been largely aggregated into key thematic statements, and participant IDs have been used to present direct quotes from interview transcripts.

Interview transcripts were coded using a phased, multicoder approach based on discussion, agreement, and recoding. An initial stage of coding identified units of meaning across all interviews. These codes were discussed by members of the research team and revised into larger overall themes. The transcripts were then recoded for these themes by one coder, checked for coding consistency by another coder, and finalised by all members of the research team.

This paper presents findings on two overall themes that were elaborated in this research: challenges in scientific interpreting (both generally and in relation to COVID-19) and approaches used to mitigate these challenges. Findings are presented in the next section.

4. Findings

Two main themes were derived from the data: challenges and mitigations. For each theme, we derived the same three sub-themes: linguistic/cognitive, socio-political, and affective. The following bulleted lists illustrate the codes of meaningful interview data used to construct each theme. They begin to answer our first research question: How did ISL or BSL interpreters experience and perceive interpreting during the COVID-19 crisis?

4.1. Challenges

There was wide agreement among participants that interpreting the COVID-19 pandemic has been a challenging experience. The challenges expressed have linguistic, cognitive, socio-political, and affective dimensions. Participants shared similar statements about linguistic and cognitive challenges, including interpreters' perceived limits to their own scientific understanding, and to that of Deaf audiences. Limits to scientific understanding or information must be considered for all audiences, but while hearing scientists present information in ways that are easier for hearing audiences to understand, interpreters may need to make present information in a different way to make it easier for DHH audiences to understand. This is cognitively demanding, especially under pressure (McKee, 2014). Participants also focused on the need for a stable, consistent, well-informed vocabulary to express scientific information.

Linguistic or cognitive challenges

- Lack of content knowledge among interpreters
- Lack of established, consistent specialised vocabulary
- Lack of preparation time and materials for interpreters
- Time loss and increased cognitive load during live interpreter changeover
- Barriers to scientific education and engagement for the Deaf community

- Rapidly changing specialised vocabulary
- Lack of Deaf scientists to help inform development of specialised vocabulary

Most participants expressed that interpreting the crisis was socio-politically challenging. In particular, interpreters shared a sense of responsibility as agents of information access, and as public representatives of sign language. Other socio-political challenges were less widely agreed on by participants, but were still worth noting. The challenges arose largely from misunderstandings of interpreting and information access, as well as issues related to feedback from other social groups.

Socio-political challenges

- Responsibility interpreters feel to provide access for Deaf communities
- Responsibility interpreters feel to be visible representations of sign language to a hearing audience
- Responsibility interpreters feel for advocacy beyond professional assignments, and the boundaries of the traditional interpreter role
- Debate online among Deaf communities or direct contact to interpreters from communities on interpreter performance
- Counterparts' misunderstandings of the nature of interpreting
- Counterparts' misunderstandings of the nature of access
- Spectacularisation of interpreters, who received unsolicited comments about their clothing, appearance, social distancing, etc.
- No audience during live briefings for immediate feedback
- Disapproval among Deaf communities of use of signs from other countries' sign languages as a 'stopgap' measure

Participants described their feelings and emotions in this pandemic, and the special affective dimension of interpreting in a crisis setting – something seen during interpreting experiences in natural disaster events (McKee, 2014). They discussed the challenging feelings that arose from working in the “war-room” or “pressure cooker” environment of crisis press briefings, and their feelings of having their scientific understanding — in which they did not always have full confidence—on public display. They also described the environment as generally sad and stress-inducing.

Affective challenges

- Interpreters' feelings about the 'different' working environment of crisis briefings
- Interpreters' discomfort at having their content knowledge exposed very publicly
- Interpreters' sadness arising from the content to be interpreted
- Responsibility interpreters feel for transmitting life-saving information
- Interpreters' concerns that stress will cause otherwise successful interpreting strategies to fail

4.2. Mitigations

While participants described interpreting in the COVID-19 crisis as highly challenging, they also described steps they took to mitigate these linguistic, cognitive, socio-political, and affective challenges. They shared stories of creative coping mechanisms under extreme

pressure, peer cooperation, community engagement, and deep reflective practice by interpreters.

A pattern emerged of preparation, and making use of existing linguistic mechanisms to deal with conceptual and terminological gaps. Mechanisms such as using a productive lexicon, borrowing, and fingerspelling were useful ways to address some of the particular linguistic and cognitive challenges of this crisis setting. Other coping mechanisms included collaboration and communication with peers, specialists, and the Deaf community.

Linguistic and cognitive measures

- Preparing extensively about the current COVID-19 context prior to a briefing
- Using sign linguistic mechanisms (productive lexicon, signing space, lists, etc.) to avoid the need for an established sign
- Borrowing from English by fingerspelling/initialising
- Collaborating and communicating with colleagues and working in teams to distribute cognitive load
- Omitting redundant detail and repetition
- Finding signs for newly introduced concepts in collaboration with other professionals and Deaf experts in relevant fields
- Borrowing signs from other countries' sign languages
- Pointing to resources in the briefing room
- Reducing standard interpreting time and lobbying for pair interpreting to distribute cognitive load
- Sandwiching the introduction of a new sign between fingerspelling or vice versa

There was less agreement among participants on how to handle socio-political challenges, and fewer approaches to mitigation were described. However, feedback from peers and involvement of the Deaf community featured again in participants' accounts. Some participants discussed educating hearing clients about ISL as a way to meet the socio-political responsibilities they felt for the Deaf community.

Socio-political measures

- Seeking feedback from Deaf colleagues/friends/clients
- Educating hearing clients/co-workers about the nature of interpreting
- Deviating from training or traditional interpreting 'rules'
- Accepting the co-existence of vernacular and technical signs
- Compensating for the lower content knowledge and/or literacy levels of some DHH audiences

Participants described the importance of taking steps to mitigate affective challenges that the COVID-19 pandemic posed for interpreters. The importance of making time for self-care was highlighted by a number of participants. Some participants spoke of adopting a positive mind-set as a way to deal with their emotions, and an appreciation for the privileges and responsibilities of interpreters were mentioned in some interviews:

With the team mentality there is this awareness that we are giving this to the community, that we do have that crucial role and we're very serious when we're there that we are seen, that we do have our piece. **Participant 008.**

Affective measures

- Making time for self-care, time with family, partners, etc.
- Appreciating the privilege of being involved with others on a common goal
- Avoiding science-related job offers
- Debriefing with other interpreters
- Appreciating the adrenaline rush of a high-pressure environment
- Avoiding commentary/texts from the Deaf Community about their performance

5. Discussion of Findings

We analysed our findings in greater qualitative detail to answer our second and third research questions:

- How did specialised competence and scientific understanding factor into these experiences and perceptions?
- What lessons can be learned to inform ISL or BSL interpreting in future crises?

We drew on theories of specialisation to discuss participants' experiences of specialist knowledge and skills in the crisis. Specialisation here refers to a "narrowing of practice" (Witter-Merithew and Nicodemus 2010: 136) and is an issue of interest in sign language interpreting (see, e.g., Walker and Shaw 2011; Napier and Haug 2016). Witter-Merithew and Nicodemus (2010) reported on a project to create a conceptual framework for the promotion and development of specialised knowledge and skills in the education of sign language interpreters in the US. The WMN framework rests on nine theoretical assumptions about the development of specialisation among sign language interpreters that we have paraphrased and summarised as:

1. Specialist interpreters maintain profound engagement and interaction with Deaf communities
2. Specialist interpreters seek creative staffing patterns and collaborations with other professionals
3. Appropriately qualified interpreters should be free to be recognised as a specialist in a domain or not
4. Interpreters require generalist proficiency before they can specialise
5. Interpreters should have a foundation of generalist practical experience before they can specialise
6. Specialised interpreters should undergo a period of supervised experience in specialised settings
7. Specialist interpreters will routinely seek peer feedback
8. Teamwork is a feature of specialist interpreting and may involve Deaf communities as interpreters or non-interpreting specialists
9. Specialist interpreters will contribute to domain knowledge as leaders in the domain

We use the seven of the nine assumptions that relate specifically to specialisation (assumptions four and five refer to generalist interpreting) to discuss the nature and meaning of specialised competence and scientific understanding in our findings, and to learn from our

participants' experiences and perceptions for ISL or BSL interpreting in future crises in Ireland and the UK.

Assumption 1: Engagement with Deaf communities

Interpreters who participated in this study described pre-existing and profound personal engagement with Deaf communities, and it was evident that this engagement persisted during their crisis interpreting work. They described the responsibility they feel to advocate for sign language access, and to positively represent sign language to hearing audiences. Arguably, these traits of engagement, responsibility, and advocacy are common among sign language interpreters and not indicative of specialisation. However, there was evidence of specialisation in the ways interpreters worked to improve access for Deaf communities to information about the pandemic. Participants in our study sought to address the lack of established signs for technical or scientific terms, and to address perceived gaps in scientific knowledge or understanding – all in an effort to provide continued access to crisis communication for Deaf communities.

Participants expressed concern at the lack of specialised sign language vocabularies to effectively communicate the scientific aspects of COVID-19, a pandemic with wide-scale social, political, and legal ramifications:

Are we getting across, you know, really very direct content where ... which is public health information that needs to get across to deaf people who could put themselves at risk and put the rest of the population at risk, so super high stakes? **Participant 013**

Perhaps because of this, interpreters made additional efforts to engage with Deaf communities in the development of technical and scientific terminology, and they recognised that this work needed to be Deaf-centred:

I'm getting feedback from deaf people so I'm trusting what I'm putting out there and of course there's a lot of content from deaf people online that I can go, 'What way are they doing that; what way are they doing that?' and feed into how I'm translating it. **Participant 013**

These data therefore support the requirement outlined in the WNM framework that specialists must "remain deeply rooted in the Deaf community and engage in on-going interaction within the community for the purpose of remaining attuned to changing needs and expectations and accessing the counsel of deaf individuals as part of their ongoing practice" (Witter-Merithew and Nicodemus 2010: 142). Overall, evidence from these data suggests that assumption 1 of the WNM framework is met.

Assumption 2: Creative staffing and collaborations

The WNM framework summarises this assumption as striking the balance between "reasonable fees for appropriate services" for the service providers hiring interpreters and "fair and equitable earnings" for specialist interpreters (Witter-Merithew and Nicodemus

2010: 142). In the case of live, televised COVID-19 briefings, the service providers were largely government departments, statutory bodies such as the Health Service Executive and advisory groups. Participants demonstrated that they were aware that components of interpreting best practice—such as pair work, preparation time, and limits on the amount of time one interpreter should continuously interpret before handing over to a colleague—may not always be understood or initially accepted by their clients. This was especially evident where there was debate over the costs of providing two, rather than one, interpreter. At times, this caused friction between interpreters and service providers:

So, they were saying, 'No, no, it's only going to be 20 minutes'. But we were saying, it's not the 20 minutes, it's the intensity of it, it's our health and safety, it's accuracy, it's making sure that there's support there when it was needed... But they were looking for bang for their buck... We have no prep work, nothing and they walk out and they start giving us numbers in the millions like and you're trying to cope with it. So, how we have managed, well I'm sure you've seen, two of us are there now all the time. **Participant 005**

To an extent, providing 'creative' staffing for service providers (by using one interpreter instead of two, for example), was prohibited by the intense nature of this interpreting. In order to ensure service providers were obtaining 'bang for their buck', creative collaborations emerged between interpreters, service providers, and Deaf communities. This took the form of additional (often invisible) work by interpreters outside of the televised briefings. In their own time, participants used WhatsApp to share and discuss specialised vocabularies and interpreting strategies with colleagues. Some participants used ISL vlogs or social media to monitor how specific terminology was used within Deaf communities, and to check that the important messages of the crisis communication were getting across. Ahead of briefings, they monitored social media in an effort to predict what might arise during briefings. Interpreters arguably went beyond the expected duties of interpreters by educating hearing clients about best practice in interpreting, collaborating with camera crews to ensure that they were visible at all times, liaising with the Deaf community so they would know what channel to follow for the interpreted briefing, linking in with professional networks in the development of vocabulary, and so forth. Some elements of these were particularly specialised in the televised briefing setting, as Participant 13 describes:

I've a lot of television experience, so also I think they trusted in some ways that I was able to use the language [of television] a little bit. And go 'no, no, it's best for our people, if you don't mind, that you keep us in view at all times'. So, there was a lot of negotiation with the main camera man as to how he pans ... and at the start he was like, 'No one will use this, it's going to look disgusting.' And happily clips of it were used on the main television because. So, then he felt more confident" **Participant 013.**

As such, while the expense of providing interpretation during the crisis is likely to have been significant, the quality of the service provided and the creative collaboration amongst interpreters and with television crews ensured that service providers received value for money. Overall, evidence from these data suggests that assumption 2 of the WNM framework is met, in particular regarding the specialised nature of televised briefings.

Assumption 3: Recognition as a specialist is voluntary

The pressures of interpreting specialist and scientific content were perceived differently by participants. A number described the emotional challenges of interpreting in a medically and scientifically complex crisis: the special stress of televised press briefings, the sadness of the content to be interpreted, or the discomfort at having their specialist or scientific understanding exposed publicly. Others described their appreciation of the altruistic rewards of working with others toward a common goal during the crisis, their sense of privilege (and responsibility) to be involved in the transmission of lifesaving information, and the affective rewards and adrenaline rush of performing well under high pressure:

I feel privileged that I'm involved in this kind of thing that's actually going on at the moment because of how important it is. **Participant 006**

A desire to specialise may not be part of every interpreter's professional development plan, and a crisis setting may require generalists to carry out tasks for which they are neither prepared nor motivated. The fact that the 11 participants in this study who were engaged in this specialist environment were doing so voluntarily was highlighted by the choice of other participants to avoid such assignments:

I'm not somebody who's a fulltime interpreter, that I had the luxury of kind of stepping back and not taking jobs. But in a way, I suppose, that's telling about the subject and how people feel about it. That they would want to avoid it if it was possible.

Participant 007

Reasons for avoiding such assignments ranged from lack of confidence in conveying scientific content to anxieties over the live televised briefing. While this issue was complicated during the pandemic since some interpreters may have avoided these assignments to reduce their chances of catching COVID-19, overall, evidence from these data suggests that assumption 3 of the WNM framework is met and that interpreting during a health crisis generally and through televised press briefings specifically was something that interpreters were doing voluntarily.

Assumption 6: Supervised specialist experience

It is assumed that interpreters will be able to undergo a period of supervised experience before claiming recognition as a specialist in a particular domain. Several participants interpreted previous crises, such as extreme weather events, though none spoke of this being in a supervised capacity. While participants did not claim to be specialist crisis interpreters, several have had the opportunity to observe, discuss, critique, and reflect on their practice of crisis interpreting. Even for those with crisis interpreting experience, the unprecedented nature and timeline of the COVID-19 pandemic was reiterated:

...everything around the storms was just about protecting yourself and keeping yourself fit, it was very short lived. This is a very long, this is going to be up to probably, my feelings on it just on what's gone on now, we're looking at six months, you know. **Participant 005**

Experienced crisis interpreters did not necessarily feel prepared for a situation of this magnitude and complexity. Furthermore, experienced scientific interpreters did not always feel prepared for the demands of novel and fast-changing scientific information about COVID-19. All participants discussed the challenges of a lack of science engagement and of a specialised scientific vocabulary – for both interpreters and people in the Deaf community. Some participants spoke of experiences of working with more experienced colleagues in scientific interpreting, but this was outside the context of crisis interpreting. Overall, evidence from these data suggests that assumption 6 of the WNM framework is not fully met since supervised induction into specialised crisis interpreting is not feasible in an emergency situation. While working with more experienced colleagues offers some degree of scaffolding for those new to these settings, formal supervision is not in place.

Assumption 7: Feedback

The WNM framework considers a range of practices to seek feedback as routine to specialists. Feedback was perceived more positively than negatively by participants, and this was a strong pattern in the interview data. Feedback from peers, DHH colleagues, and friends was an important part of managing terminological and performance issues. Most interpreters working through COVID-19 noted being part of a Whatsapp group with other interpreters who could provide feedback on their performance and support in gaps in knowledge. The lack of Deaf audience members to provide feedback during live briefings was noted by some as a special feature and challenge of the crisis:

Because you don't have any deaf people in the audience and I so far have not received any feedback from any deaf consumers... I would really like to know from the deaf perspective how they're feeling about this. Because I'd like to know if we're doing alright. **Participant 008**

This led to some participants seeking indirect feedback online from the Deaf community, with social media allowing for delayed direct feedback. On occasions, this feedback was critical and disheartening for interpreters – including criticism of using signs from other sign languages, favouring technical over vernacular signs, or general commentary on interpreting performance. There was also evidence of the continued spectacularisation of sign language interpreting in crisis settings: some participants were disappointed that their choice of clothes, hairstyle, or efforts at social distancing received feedback and commentary. Nevertheless, feedback was uplifting on other occasions.

As **Participant 011** notes: So, I'm not on Facebook, so I don't get as much negative feedback as other people do. But what was really nice was the evening of the clap for the HSE, we got a lot of deaf people sending messages to us clapping and saying thank you. That was lovely.

Overall, evidence from these data suggests that assumption 7 of the WNM framework is met with participants actively seeking feedback from colleagues and the Deaf community, in particular owing to the challenges of a live televised briefing without an audience.

Assumption 8: Teamwork involving Deaf communities AND Assumption 9: Interpreters contributing to domain knowledge

These final two assumptions go beyond the interaction and engagement of Assumption 1 and the collaborative efforts and feedback of Assumptions 2 and 7. They raise the issues of involving members of the Deaf community (as either interpreting or non-interpreting contributors) to interpreting teams, and of involving interpreters in the development of domain knowledge. Some participants described finding signs for newly introduced concepts in collaboration with other professionals and Deaf experts in relevant fields during the COVID-19 crisis. This was a way for participants to deal with some of the terminological gaps and linguistic challenges that the crisis presented and for interpreters to contribute to the body of specialist scientific content expressed in ISL or BSL. It also worked to substitute intermediate measures—such as borrowing, fingerspelling, or use of the productive lexicon—that generated some criticism and negative commentary from DHH viewers of the press conferences. Teamwork and knowledge sharing with Deaf communities were also mentioned by participants as mechanisms to attempt to build trust in sign language interpreting and interpreters, along with other measures such as speedy correction of errors or active engagement of the interpreter with Deaf communities beyond the press briefings. **Participant 014** highlighted the desire for two-way engagement with members of Deaf communities on the issue of terminology development in the crisis as follows:

...there's been a committee set up that has Deaf people involved. We want to be involved in that, like, do you know what I mean, we want to be able to go, 'Look, this word came up last night, this is what I used, is there something more concrete that I can use now?' do you know what I mean, and get that language feed coming in.

Participant 014

Interpreters contributed to the knowledge domain through participation in the research project itself, since their interviews were used to compile guidelines for service providers working in televised briefings during a crisis. However, few were engaged in leading scholarly work or publishing in this domain, perhaps because their time was given to full time interpreting work. Overall, evidence from these data suggests that assumption 8 of the WNM framework is met, but that assumption 9 is only partially met.

Lessons Learned

Analysis of our data through the theoretical lens of specialisation indicates that the COVID-19 crisis has required interpreters to use a range of specialist skills, collaborate with each other, and actively engage both with their hearing clients and with Deaf communities in creative ways to meet the communicative challenges of this unprecedented crisis. Given the particular linguistic/cognitive, socio-political and affective demands of crisis interpreting (especially the lack of preparation, the lack of an established lexicon for complex terms, and the context of live-televised briefings), the nature of this type of interpreting could be considered as specialist. The fact that 5 out of 7 assumptions on the WTM framework are met supports this theory. The individual challenges in isolation do not necessarily present the need for specialisation, it is the combination of multiple challenges together in this

context that places particular stress on interpreters and leaves this type of interpreting undesirable for the general interpreter. Witter-Merithew and Nicodemus (2010) argue that specialisations are better developed intentionally rather than responding to legislative mandates. Subsequently, we argue that the field gives consideration to the role of specialist crisis and science interpreters in the field of sign language interpreting.

Addressing the challenges of interpreting during a crisis involves complex pathways that include, but extend beyond, the role of the sign language interpreter alone. The lesson to be learned from our analysis is to “Build Back Better” (cf United Nations Office for Disaster Risk Reduction, 2015). Our findings suggest that the COVID-19 crisis has magnified the importance of STEM knowledge and vocabulary development in ISL and BSL and among ISL and BSL interpreters. The time until the next (wave of) crisis should be used to fill these linguistic, conceptual, and terminological gaps, to work with science communicators on the most appropriate modes and channels of communication for Deaf communities, and to work on short-, medium-, and long-term strategies for how sign language interpreters can be involved and supported in these efforts.

6. Conclusions and Future Work

Our study has identified the need for improved support of interpreters during a crisis, and we propose that support is focused on developing existing interpreter-led strategies, as well as improved engagement with the Deaf community. We note that while scientific understanding certainly factored into interpreter-experiences during the crisis, what really exacerbated gaps in scientific understanding was not the interpreters ‘lack’ of specialised competence but the nature of the live television briefing, the lack of clients in the room, the lack of preparatory information beforehand, and the spectacularisation of their interpretation. The lack of clients in the room and the spectacularisation of their interpretation are particularly pertinent to sign language interpreting settings. The context in which they found themselves working meant that many standard mitigating measures an interpreter takes when they are not a specialist in the field were unavailable to them because of the crisis context.

Further study is needed on how interpreting impacts the Deaf community during a health crisis. This research should inform the development of new mechanisms to engage Deaf communities, including facilitation of feedback from Deaf people to interpreters. This could extend to paid audits by DHH experts, with a view to improving our preparedness for the next phase of this pandemic, and for future health crises.

Future research should also explore the process of ISL vocabulary development, how this can be community-led, and how it relates to the development of scientific vocabulary in English. This research should inform science communication during a public health crisis, and better engagement with the Deaf community.

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Declaration of interest statement

The authors have no potential conflict of interest to declare.

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