Understanding the Work of Designated Healthcare Interpreters

Laurie Swabey[i] [1], Todd S. K. Agan[2], Christopher J. Moreland[2], and Andrea M. Olson[1]

[1]*St. Catherine University,* [2]*University of Texas Health Science Center at San Antonio*

Abstract

Interpreters who work regularly with a deaf health professional are often referred to, in the U.S., as *designated healthcare interpreters* (DHIs). To date, there have not been any systematic studies that specifically investigate the work of DHIs, yet the number of deaf people pursuing careers in the health professions continues to grow (Zazove et al., 2016), and the number of qualified DHIs to work with these professionals is insufficient (Gallaudet University, 2011). Before educational programming can be effectively developed, we need to know more about the work of DHIs. Using a job analysis approach (Brannick, Levine, & Morgeson, 2007), we surveyed DHIs, asking them to rate the importance and frequency of their job tasks. The results indicated that the following task categories are relatively more important: fosters positive and professional reputation, impression management; demonstrates openness to unpredictability; and builds and maintains long-term relationships with others. Tasks rated as more frequently performed included: dresses appropriately; decides when and what information to share from the environment; uses healthcare-specific knowledge; and demonstrates interpersonal adaptability. We discuss the results of the importance and frequency of the tasks of DHIs and consider the implications for education and future research.

Keywords: designated interpreter; deaf healthcare professional; sign language interpreting; interpreter education; job analysis, designated healthcare interpreter

[i] *Correspondence to: laswabey@stkate.edu*

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1. Introduction

The physician and signed language interpreter enter the examination room where the patient is waiting to be seen for a persistent cough. Most people would assume that the patient in this scenario is deaf. However, in an increasing number of healthcare settings, the provider is deaf, not the patient. Interpreter education has generally focused on situations where the deaf person is the patient and is accessing services provided by a relatively powerful specialist who can hear. However, this situation is reversed, to a certain extent, when the deaf person is a clinician. How does this rearrangement of the "typical" triadic encounter influence the interpreter's work in the healthcare setting? What is different about interpreting for the person in power? How are decision making and role performance affected? What can we learn about educating interpreters to work with deaf healthcare professionals that will also inform how we educate interpreters to work in the community with deaf people who are not in a position of power?

To date, there have not been any systematic studies that specifically investigate the work of these interpreters, often called *designated healthcare interpreters* (DHIs). Further, the interpreting profession has not yet defined the scope and nature of the DHI's work, and standards of practice have not been determined for this specialty. For our study, we are defining a DHI as an interpreter who works regularly (consistently over a period of time) with a deaf healthcare professional (DHP) or a student pursuing education in healthcare; uses knowledge gained in the setting about content and participants to contribute to the effectiveness of the interpretation; is familiar with the goals of the DHP or student as well as with their communication style and preferences; and develops a level of rapport and trust over time that enhances the overall interpretation.

The purpose of our study was to better understand the work of the DHI, using a job analysis approach. Job analysis is a set of methods and processes "directed toward discovering, understanding, and describing what people do at work" (Brannick, Levine, & Morgeson, 2007, p. 1). Applications of job analysis include developing education and training, as well as describing jobs and conducting job performance appraisals. Given the increase in the number of DHPs, and the importance of full communication access, further understanding of DHIs' work is crucial in order to effectively educate, hire, and evaluate interpreters in this specialized area. Moreover, in order to develop and carry out major initiatives related to educating DHIs, the work of DHIs first needs to be clearly understood, by both practitioners and educators.

Below, we provide a brief overview of the increase in DHPs and the corresponding need for DHIs, followed by a summary of designated interpreting in the workplace, with a focus on the healthcare setting. Next, we consider the role of interpreters, both as conventionally enacted by community interpreters, as well as by designated healthcare interpreters. At the end of this section, the work task domains of healthcare interpreting are introduced as they apply to the current study.

1.1. Deaf Healthcare Professionals

Both legislation mandating equal access and technological advances are fueling an increase in the number of deaf people pursuing education and employment in a variety of health-related specialties (Zazove et al., 2016). Visual

and amplified stethoscopes, real-time captioning, healthcare portals allowing communication via text, telemedicine, see-through surgical masks, video interpreting and a variety of smartphone apps—all are advances that enhance access for DHPs and students in the health professions. This increase is positive for many reasons, one of which is that deaf clinicians appear more likely than the typical healthcare provider to serve deaf people, a medically underserved community (Moreland, Latimore, Sen, Arato, & Zazove, 2013).

However, in examining healthcare career opportunities for people who are deaf, the Task Force on Health Care Careers for the Deaf and Hard-of-Hearing Community (2011) identified the need for a sufficient supply of qualified, available interpreters to meet the demand created by the surge of deaf individuals pursuing careers in healthcare. Deaf physicians' and medical students' satisfaction with accommodations used during their training and practice correlated positively with career satisfaction and their likelihood of recommending medicine as a career to other deaf and hard-of-hearing people (Moreland et al., 2013). Thus, for those who work with interpreters, the quality of their relationships with interpreters, as well as the quality of the interpretation services, may contribute to the deaf physicians' career longevity and thus to the health of the deaf community (Barnett, McKee, Smith, & Pearson, 2011; McKee, Smith, Barnett, & Pearson, 2013).

1.2. Designated Interpreters in the Workplace

There is a small but growing body of research on interpreters in the workplace, although little is directly focused on the healthcare setting. In their seminal work, Hauser, Finch, and Hauser (2008) popularized the term *designated interpreter* (DI) for those interpreters who specifically work with deaf professionals (DPs). They proposed the deaf professional–designated interpreter model as a new interpreting paradigm, based on the collection of designated interpreter–deaf professional pairs that contributed to their edited volume. Themes underlying these DP–DI relationships included mutual trust and respect; the participation of the DI in the DP's environment; specialized knowledge of content, terminology, and social roles; continual training/updating by the DI in the specialized area of the DP; the DI as an active part of the team; divergence from the view of the interpreter as "neutral"; and the DI as integrated into the workplace over time.

In her studies of interpreters in the workplace, Dickinson (2014) identifies that the intense working relationship (that develops over time) between an interpreter and deaf professional inevitably influences the role and boundaries of the interpreter. Miner (2015) investigated the roles, relationships, and responsibilities of DIs. She found that the role of the DI varied immensely depending on who the interpreter worked with, the setting, and the personalities involved. There were some commonalities among the participants in her study, including the importance of facilitating relationships, creating shared understandings, the ability to communicate quickly and easily with each other, and meeting high expectations, with some expectations considered unusual when compared to the more traditional role of the community or conference interpreter.

1.3. Designated Interpreters in the Healthcare Setting

Two DHI–DHP teams have published accounts of their work together (Earhart & Hauser, 2008; Moreland & Agan, 2012). Some aspects of the work they describe apply to any type of interpreting in the healthcare setting, such as patient safety; managing auditory and visual cues in a crowded and noisy room; interacting with members of a healthcare team; comprehending and using medical terminology; and tolerating the sights, sounds and smells of a hospital setting. They also highlight some expectations of the DHI's work, which may differ from those of the community healthcare interpreter, including: interpreting auditory information from medical devices; interpreting urgent PA announcements for staff members (e.g., code blue); long hours reflecting the lengthy shifts often worked by healthcare professionals; understanding and producing a register appropriate for interactions among healthcare providers; and managing a pace that may include running to an emergency situation or navigating a situation that requires quick, precise coordination between healthcare professionals (Earhart & Hauser, 2008; Moreland & Agan, 2012). Although these two accounts are from DHP–DHI teams, deaf professionals work in a variety of healthcare specialties that presumably will include other demands not yet documented in the literature. DHIs also interpret for students at different stages of their professional training and may face different demands depending on the requirements of each deaf student's educational and clinical experiences.

In addition to clinical encounters, DHIs must negotiate a myriad of other situations that occur in offices, hallways, classrooms or conference rooms. Social interactions in the workplace, both formal and informal, are an integral part of the designated interpreter's work, whatever the setting (Dickinson, 2014; Miner, 2015). Unique aspects of the work of DHIs pose interpreting demands beyond those of deaf professionals in the workplace, and these have not yet been fully explored (Swabey & Nicodemus, 2011).

1.4. Role and boundaries

Although some DHI tasks diverge from that of the community interpreter, the available literature suggests that DHIs' work reflects the values and guidelines for professional behavior as described in the Registry of Interpreters for the Deaf (RID) *Code of Professional Conduct* (*CPC,* available at rid.org/ethics/code-of-professional-conduct/). The current *CPC* is more holistic in nature and less prescriptive in terms of specific behaviors than previous iterations (Cokely, 2000; Hoza, 2003), and presents principles as guidelines for interpreting in legal, educational, medical, and social service settings, among others. Further, there is ample evidence in the discourse-based literature that the interpreter is neither neutral nor invisible, but in fact an active participant within an interpreted interaction (Angelelli, 2004; Llewellyn-Jones & Lee, 2014; Metzger, 1999; Wadensjo, 1998; Roy, 2000), which varies depending on the situation and context. Llewellyn-Jones and Lee specifically describe how the interpreter's role may expand or contract in three areas: presentation of self, interaction management, and participation alignment. They dispel the common myth that interpreters who interact in any way beyond relaying messages are "stepping out of role." They argue that interaction management is part of the interpreter's role and that a number of factors about an interaction need to be considered when determining the participation of the interpreter. Thus in the context of the DHI–DHP relationship, the decisions such as those in the following examples are within the guidelines of the *CPC*:

- agreeing, as appropriate, to pass along information from a (hearing) doctor to the (deaf) doctor or vice versa (*CPC,* Tenet 3)
- taking an object from a hearing nurse that needs to be thrown away in a crowded treatment room where the DHP and DHI are working with a team (*CPC,* Tenet 2)
- answering a nonclinical question on behalf of the DHP when she or he is not present, perhaps related to scheduling (*CPC,* Tenet 3).

1.5. Work Task Domains of Healthcare Interpreters

In a previous study, Olson & Swabey (in press) investigated the work task domains of ASL–English interpreters who work in situations where the patient is deaf and the healthcare provider can hear. In an online survey with 339 respondents, healthcare interpreters rated the frequency and importance of job tasks. The top five task categories with the highest average importance ratings were language and interpreting, situation assessment, ethical and professional decision making, managing the discourse, and monitors/manages/coordinates appointments. The task categories with the highest average frequency ratings were dress appropriately, adapt to a variety of physical settings and locations, adapt to working with variety of providers in variety of roles, deal with uncertain and unpredictable work situations, and demonstrate cultural adaptability.

2. Methods

2.1. Participants

One of the challenges of this research is that there is no reliable information regarding the number of designated healthcare interpreters; Because there is no national registry for this speciality, nor even reliable information

regarding the number of DHIs, recruiting participants for this research posed a challenge. We sent e-mails with a link to the survey to a list of healthcare interpreters who had signed up to receive e-mails from a regional and/or national interpreter education center about matters related to healthcare interpreting. We also used a snowball sampling technique; we asked people we contacted to forward the e-mail to other DHIs they knew. Anyone with designated healthcare interpreting experience as invited to participate in this study; this was the key selection criterion. An invitation to participate was also posted on the closed Facebook group Interpreters in Healthcare RID Member Section, a special interest group of RID. A link to the survey was also shared with Association of Medical Professionals with Hearing Loss members, encouraging them to notify DHIs about the survey.

Twenty-two DHIs responded to the survey. See Table 1 for background information on the participants.

Table 1: Background information on participants

Characteristic	n	%
Gender		
Male	1	4.5
Female	21	95.5
Race/ethnicity		
White, Non-Hispanic/Latino	21	95.5
Hispanic/Latino	1	4.5
Age		
26 – 45	11	50.0
46 – 65	11	50.0
Degree		
Associate's or high school degree	5	22.7
Bachelor's	12	54.5
Master's or doctorate	5	22.7
Nationally Recognized Interpreter Certifications		
Registry of Interpreters for the Deaf (RID)	17	77.3
National Association of the Deaf (NAD)	3	13.6
Board for Evaluation of Interpreters (BEI)	2	9.1

2.2. Measure and Procedure

Using job analysis methods (Brannick, Levine, & Moregeson, 2007), the research team (including an experienced DHP–DHI team) identified designated healthcare interpreting work tasks based on previous research on healthcare interpreting (see Olson & Swabey, in press), input from DHIs in the field, and a review of DHI position descriptions. Some of the relevant task domains of healthcare interpreters reflected "adaptive performance," which we believed would also be relevant for DHIs. Dimensions of adaptive performance are "handling emergencies or crisis situations; handling work stress; solving problems creatively; dealing with uncertain and unpredictable work situations; learning work tasks, technologies and procedures; demonstrating interpersonal adaptability; demonstrating cultural adaptability; and demonstrating physically oriented adaptability" (Pulakos, Arad, Donovan, & Plamondon, 2000, p. 617).

From this work, we included additional categories we thought would be relevant to DHIs: adapts to pace and pace changes in work, adapts to variable schedule, and adapts to working with variety of providers in variety of roles. Given the team-based nature of healthcare, we included working as a member of a team. Dimensions of team-member performance used for this study were based on previous research of individual team-member performance (Olson, 2000), with slight modifications: fulfilling team-related task responsibilities; situation awareness, or paying attention to the environment; consideration; monitoring performance; team-relevant problem solving; sharing task information with team members; coordinating tasks; helping team members, as in back-up relief; initiating structure; training team members; and teaching/training others.

From these sources, we created our survey. In the first part of the survey, 35 questions explored the participants' work experience as interpreters (in general) and as DHIs, specific types of work settings in which they had experience as an interpreter and specifically as a DHI, and certification, training, and demographic variables, including gender, race, age, and education. For the purposes of this study, *healthcare* includes physical, mental, and dental health. Settings include hospitals, clinics, home healthcare, and healthcare educational institutions. Response scales for these items varied; they included multiple choice options, check boxes, drop-down options, and open-ended items.

In the second part of the survey, we listed 200 individual work tasks. On the researchers' end, the tasks were organized into 49 categories (see Appendix A); so that the category names (e.g. "interpreting") would not bias participants, these were not included in the survey. For each task, participants were asked to indicate how important the task was to performing their work as DHIs (responses: 1 = *not at all important,* 2 = *somewhat important,* 3 = *important,* 4 = *very important,* 5 = *extremely important,* and *NA*) and how frequently they performed the task in their work as DHIs (responses: 1 = *never,* 2 = *once a year or more but not every month,* 3 = *once a month but not every week,* 4 = *once a week or more but not every day,* 5 = *every day,* and *NA*).

3. Results

3.1. Work-related Experience

Participants had an average of 17.70 (*SD* = 8.80) years of experience interpreting and an average of 13.45 (*SD* = 8.90) years' experience in healthcare interpreting. When asked the number of years they had experience interpreting as a DHI, 10 (45%) reported 1 month–3 years, 9 (41%) reported 4–10 years, 0 reported 11–13 years, and three (14%) reported 14 or more years. Related to the number of DHPs they have worked with, five indicated one DHP, eight reported working with two to three DHPs, four reported working with four to five DHPs, two reported working with six to seven DHPs and two indicated working with more than 10 DHPs. The types of medical professionals for whom these DHIs interpret or have interpreted included 10 medical students (45.5%), 10 psychologists or other mental health professionals (45.5%), nine nurses (40.9%), nine physicians (40.9%), eight resident physicians (36.4%), three nursing students (13.6%), and four "other" (18.2%). In participants' roles as DHIs, 14 (63.6%) indicated full-time status, seven (31.8%) indicated freelance status, and one (4.5%) indicated being on call. Regarding what organizations employed participants as DHIs, 17 (77.3%) reported university or

college, 12 (54.5%) hospital, five (22.7%) clinic, three (13.6%) interpreting agency, three (13.6%) self-employed, and four (18.2%) "other" (e.g., elementary school, athletic team, drama club, home healthcare). Twenty-one (95.5%) of participants indicated that their DHP was not their job supervisor and one (4.5%) indicated s/he was. DHIs reported assuming other administrative duties: scheduling, 12 (54.5%) coordination of services, 10 (45.5%); freelance contracts, 6 (27.3%); technical support, 5 (22.7%); budget, 2 (9.1%); and Deaf education outreach, 2 (9.1%).

3.2. Task Importance

Participants were shown 200 work tasks (e.g., "determines when fingerspelling of terms is appropriate"; "manages turn-taking"). They were asked to rate each task twice, once to indicate how important the task was to performing their work as a DHI and once to indicate how frequently they performed the task. The work tasks were grouped into 49 categories (see Appendix A). We report the results at the category level rather than the individual task statement level.

The participants rated the following task categories as relatively more important: fosters positive and professional reputation, impression management, represents provider; demonstrates openness to unpredictability; and builds and maintains long-term relationships with DHP, other DHIs, and other key people. The mean ratings of importance for each task category are shown in descending order in Table 2.

Table 2: Importance of tasks to performing the job as a DHI

	n	*M*	*SD*
Fosters positive and professional reputation, impression management, represents provider	22	4.86	0.47
Demonstrates openness to unpredictability	20	4.85	0.37
Builds and maintains long-term relationships with DHP, other DHIs, and other key people	22	4.82	0.48
Uses healthcare-specific knowledge (medical knowledge)	22	4.69	0.51
Decides when and what information to share from the environment	22	4.68	0.57
Adapts to variety of physical settings and locations, demonstrates physically oriented adaptability*	21	4.67	0.58
Adapts to pace and pace changes of work*	20	4.67	0.48
Interpreting	22	4.66	0.49
Manages the discourse	22	4.64	0.51
Language	22	4.62	0.48
Demonstrates interpersonal adaptability*	21	4.57	0.68
Uses technology to manage work and communicate with DHP	21	4.57	0.60

Prepares, anticipates needs, and is proactive	22	4.57	0.68
Demonstrates multitasking	20	4.55	0.60
Fulfils team-related task responsibilities**	21	4.51	0.64
Situation awareness–pays attention to the environment**	22	4.51	0.59
Deals with uncertain and unpredictable work situations*	21	4.48	0.85
Consideration**	20	4.45	0.74
Self-Care	21	4.44	0.72
Ethical and professional decision making, understands role	21	4.43	0.58
Takes health-related precautions	21	4.43	0.76
Develops shared mental models	20	4.43	0.89
Dresses appropriately	21	4.40	0.72
Demonstrates cultural adaptability*	21	4.40	0.64
Monitors performance**	19	4.39	0.77
Engages in professional development	21	4.36	0.71
Demonstrates effort	21	4.33	0.80
Team-relevant problem solving**	21	4.33	0.88
Handles work stress*	21	4.28	0.76
Uses knowledge about others	22	4.27	0.94
Shares task information with team members**	20	4.24	0.73
Learns work tasks, technologies, and procedures*	21	4.24	0.70
Develops rapport	22	4.23	0.84
Handles emergencies or crisis situations*	21	4.21	0.87
Coordinates tasks**	20	4.20	0.75
Monitors/manages/coordinates appointments	20	4.15	0.99
Solves problems creatively*	21	4.14	0.91
Team member helping/back-up relief**	20	4.13	0.55
Adapts to variable schedule*	20	4.13	0.76
Initiates structure**	21	4.12	0.89

Trains team members**	20	4.10	0.84
Uses knowledge about healthcare systems, specific hospital, clinic, healthcare (or educational) setting	22	4.06	0.80
Collaborates with others	21	4.05	0.84
Attends meetings	19	4.02	0.77
Business practices–invoices and billing	19	4.00	1.08
Adapts to working with variety of providers in variety of roles*	21	3.89	0.82
Mentors others	18	3.75	0.81
Teaches/trains others**	21	3.54	1.00
Supervises others	14	3.07	1.21

Note: Task importance to job was rated according on a 5-point scale: 1 = *not at all important,* 2 = *somewhat important,* 3 = *important,* 4 = *very important,* 5 = *extremely important,* and NA. One asterisk indicates adaptive performance dimensions; two asterisks indicates individual team-member performance dimension.

3.3. Task Frequency

The participants rated the following task categories as relatively more frequently performed: dresses appropriately, decides when and what information to share from the environment, uses healthcare-specific knowledge (medical knowledge), demonstrates interpersonal adaptability, uses technology to manage work and communicate with DHP, demonstrates multitasking, and demonstrates openness to unpredictability. The mean ratings of frequency for each task category are shown in descending order in Table 3.

Table 3: Frequency of tasks to performing the job as a DHI

	n	*M*	*SD*
Dresses appropriately	21	4.90	0.44
Decides when and what information to share from the environment	22	4.89	0.43
Uses healthcare-specific knowledge (medical knowledge)	21	4.83	0.35
Demonstrates interpersonal adaptability*	21	4.83	0.43
Uses technology to manage work and communicate with DHP	22	4.82	0.50
Demonstrates multitasking	21	4.81	0.40
Demonstrates openness to unpredictability	21	4.81	0.51
Adapts to variety of physical settings and locations, demonstrates physically	22	4.77	0.43

oriented adaptability*			
Language	22	4.77	0.24
Adapts to pace and pace changes of work*	21	4.75	0.57
Builds and maintains long-term relationships with DHP, other DHIs, and other key people	22	4.74	0.87
Situation awareness–pays attention to the environment**	22	4.71	0.46
Prepares, anticipates needs, and is proactive	22	4.66	0.42
Fulfills team-related task responsibilities**	21	4.64	0.47
Demonstrates effort	21	4.62	0.59
Fosters positive and professional reputation, impression management, represents provider	22	4.59	1.10
Uses knowledge about others	22	4.55	0.60
Manages the discourse	21	4.54	0.46
Develops shared mental models	21	4.52	0.75
Consideration**	20	4.52	0.59
Deals with uncertain and unpredictable work situations*	21	4.49	0.73
Develops rapport	22	4.48	0.96
Interpreting	22	4.46	0.43
Ethical and professional decision making, understands role	22	4.40	0.39
Trains team members**	20	4.33	0.82
Demonstrates cultural adaptability*	21	4.28	0.50
Team-relevant problem solving**	21	4.26	0.65
Initiates structure**	21	4.24	0.83
Takes health-related precautions	21	4.22	0.65
Monitors performance**	18	4.17	0.79
Handles work stress*	21	4.15	0.55
Team member helping/back-up relief**	20	4.13	0.55
Uses knowledge about healthcare systems, specific hospital, clinic,	22	4.07	0.82

healthcare setting			
Shares task information with team members**	20	4.06	0.85
Monitors/manages/coordinates appointments	22	4.05	1.33
Business practices–invoices and billing	21	3.95	1.06
Self-care	21	3.94	0.87
Coordinates tasks**	21	3.85	0.96
Collaborates with others	22	3.82	1.02
Adapts to variable schedule*	21	3.79	0.58
Adapts to working with variety of providers in variety of roles*	21	3.76	1.01
Solves problems creatively*	21	3.76	1.09
Handles emergencies or crisis situations*	21	3.50	1.01
Learns work tasks, technologies, and procedures*	21	3.48	0.93
Attends meetings	20	3.38	0.89
Engages in professional development	21	2.94	0.60
Supervises others	14	2.71	1.33
Mentors others	19	2.53	1.02
Teaches/trains others**	21	2.42	0.73

Note: Participants rated the frequency with which they performed each task on a 5-point rating scale: 1 = *never,* 2 = *once a year or more but not every month,* 3 = *once a month but not every week,* 4 = *once a week or more but not every day,* 5 = every day, and NA. One asterisk indicates adaptive performance dimensions; two asterisks indicates individual team-member performance dimension.

4. Discussion

As the number of deaf individuals practicing or training in healthcare professions increases, so does the need to understand the scope of practice of the DHIs who work alongside them. Previous exploration of DHIs' professional practice has drawn on experience and anecdote (Hauser et al., 2008). To the best of our knowledge, our study is the first to empirically investigate the day-to-day tasks that comprise the work of DHIs and to report on the perceived relevance (i.e., frequency and importance) of each task they report performing.

Respondents appear fairly new to their roles. Despite a mean of over 13 years interpreting either as generalists or healthcare specialists, nearly half report 3 years or fewer experience as DHIs. These numbers reflect the surge of the recent need for DHIs.

The respondent sample was predominantly female, white, and non-Hispanic/Latino, mirroring the lack of diversity in the interpreting profession with regard to gender and race. Some demographic variables are more

heterogeneous, with ages ranging from the 20s to 60s, and locations ranging across North America. Most respondents have certification and postsecondary education. However, given the complexity of the work, it was surprising to see that 22.7% of respondents had not earned at least a baccalaureate degree. Most reported working in interpreting teams, rather than alone. Like DHPs, the DHIs who responded to this survey work in a variety of educational and clinical settings ranging from academic to home health to dental practices.

4.1. Frequency and Importance of Work Tasks

Our respondents indicated that the work of a DHI involves many and varied tasks. DHIs taking the survey endorsed the need to perform the tasks we asked about—including those related to interpersonal relationships, or "soft skills," and doing so at least weekly. Items ranked high (> = 4.5) in both importance and frequency were those relevant to professional flexibility, relationship-building, use of schema/prior knowledge to construct a stronger interpretation (including healthcare-specific knowledge), linguistic mastery, and working with a team.

All of these items reflect characteristics and/or skills associated with effective and successful interpreting, although they may take on additional importance in maintaining an effective DHP–DHI team dynamic, and thus may contribute to supporting the DHP's role in providing excellent healthcare. Relationship-building has taken on greater importance in the healthcare industry, as seen in the trend toward interprofessional communication (Buring et al., 2009) and seems particularly relevant because DHPs and DHIs work closely together. Linguistic mastery is always important, but it is of paramount importance in jargon-heavy fields such as medicine and nursing, where DHPs must communicate efficiently and clearly not only with patients but also with fellow clinicians (Moreland & Agan, 2012). Just as any physician must be able to switch from lay language (e.g., in describing liver disease to a patient) to a professional register (e.g., requesting consultation by a liver specialist for managing that same disease), DHIs must maintain and build on their own healthcare-related linguistic skills in order to be able to deliver messages effectively in multiple situations and to multiple types of audience. We see working with a team as perhaps most important for those DHIs who work with other interpreters and need to incorporate those interpreters into the team smoothly. When a DHI is able to perform this task skillfully, the DHP can focus primarily on clinical work (or other roles, as the case may be).

Tasks that on average occurred monthly but not weekly were typically administrative in function or implied some additional responsibility beyond interpretation. The lowest scored tasks (occurring less than monthly) were related to supervision or responsibility for others. It is likely that the DHP's specialty and experience directly influence the task demands on the DHI. The demands of interpreting for an attending physician can differ from interpreting for a first-year healthcare student. Additionally, the DHP's field may have some impact as well: a DHI who works with an internal medicine physician will likely encounter a situation that potentially requires the DHP to interact more often with certain colleagues in various areas of the hospital, whereas the DHI who interprets for a surgeon may spend long hours in the operating theater where the verbal interaction to be interpreted may be differently framed. "Self-care" also had a relatively lower frequency (about once per week or more but not every day), with examples in the survey such as managing one's own mental or physical health or managing vicarious trauma.

The tasks given the least importance were nearly identical to those given the least amount of frequency and related to supervision or mentorship responsibility. These tasks were rated 3 out of 5 (*important*), with a mean range of 3.89–3.07 and standard deviation variation of 0.81–1.21. Given the nature of the work of the DHI, supervision and mentoring seem key to DHI training. It may be that currently DHIs have little room in their schedules for the extra responsibilities of mentoring and supervision of interning interpreters. Additionally, the healthcare environment may not often be considered as an internship placement for students in interpreter education programs, who may not yet have the knowledge and skills for this type of specialized, complex, and nuanced work.

4.2. Adaptive performance and team member performance

Results suggest that being adaptive and being a team member are both relevant to the work of DHIs. Of the top one-third most important and most frequently demonstrated task categories, three were categories of adaptive

performance, including demonstrates interpersonal adaptability; demonstrates physically oriented adaptability; and adapts to pace and pace changes of work. This suggests that the ability to adapt is a relevant part of DHI work, especially with regard to people, physical aspects of the work, and pace. Two of the categories in the top one-third most important and most frequently demonstrated were about being a team member and included situation awareness - pays attention to the environment, and fulfills team-related task responsibilities. This suggests that being a team member is relevant to the work of DHIs.

4.3. Limitations and future research

The following limitations of this study need to be considered. We have no clear denominator, because no systematic measure is available to track DHPs, much less DHIs. Although we suspect the number of DHIs is relatively small, we cannot estimate how well the number of respondents represents the total population of DHIs. Moreover, the data reflect the respondents' perceptions. A future study could gather additional data to corroborate, for example, the actual frequency with which given tasks are completed. However, the consistency of the results among the respondents is a positive indicator and provides a strong foundation for future research.

Given our survey's focus, we are unable to explore the DHP perspective on this work task analysis. The deaf clinician's perspective on the DHP–DHI relationship is vital to understanding the work of the DHI. A future study might investigate the DHP's perspective, including ways that the DHP and DHI build an effective team, not only with each other but also with other clinicians, to further optimize healthcare delivery.

The label *designated healthcare interpreter* (DHI) is still relatively new in the field of signed language interpretation, having only come into the professional vernacular in 2008. The definition or conception of what makes an interpreter a DHI" seems to be in flux, as the field has embraced, but still seems to struggle to fully understand, the DHI's role. The term originally carried the implication of long-term commitment and synergy, that the interpreter had committed his or her interpreting practice and career to a single deaf professional and that a relationship had been established over a number of years of working side by side. A DHI was understood to be part of a long-standing relationship, not a job title whose occupant might be, to a certain extent, interchangeable. In considering the development of a DHI curriculum, it may be useful to not only revisit what was and is meant by the term *designated healthcare interpreter,* but to discuss what such a role would include.

In the future, it may be instructive to conduct a comprehensive comparison of the job task analysis of healthcare interpreters (Olson & Swabey, in press) with the current analysis of the work of DHIs. Although the scope of this article only allows a cursory comparison, on the surface the differences are striking. For DHIs, the relatively most important task categories include: fosters positive and professional reputation, impression management; demonstrates openness to unpredictability; and builds and maintains long-term relationships with DHP, other DHIs and other key people. The relatively most important task categories for non-designated healthcare interpreters include language and interpreting, situation assessment, and ethical and professional decision making.

Both DHIs and non-designated healthcare interpreters rated "dresses appropriately" as the most frequent task. Following that, the relatively most frequent tasks for DHIs included decide when and what information to share from the environment; use healthcare-specific knowledge; and demonstrate interpersonal adaptability. For non-designated healthcare interpreters, the relatively most frequent tasks included adapt to a variety of physical settings and locations; adapt to working with a variety of providers in a variety of roles; and deal with uncertain and unpredictable work situations. Given this brief overview, it appears that some of the crucial difference in the importance and frequency of job tasks suggest the need for specific education and training for DHIs.

Although interpreter education is more comprehensive than it was in the early years of the profession, no standard curriculum yet exists for DHIs. This study is a first step in considering the types of work tasks that a curriculum for DHIs might address. Given the growing need for this speciality, it is a type of work that should be introduced to students as a career possibility during their undergraduate education, with specialized training, including observation and supervision, occurring after graduation.

Based on this first systematic analysis of the work of DHIs, we propose that the fields of interpreting and interpreter education have much to gain from a better understanding of this type of work. Our results provide a first step toward the directed teaching of interpreters who specialize, either incidentally or intentionally, as DHIs for deaf clinicians. The complexities of role management that surface in the DHP–DHI work may serve as

examples of interpreting work at its best—a partnership that allows the deaf professional a high degree of access to and control of communication. A shared, evidence-based understanding of the work of DHIs may inform the training and professional practice not only of designated healthcare interpreters, but of community interpreters as well.

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Appendix A: Task Categories Measured for Designated Healthcare Interpreters

Adapts to pace and pace changes of work*
Adapts to variable schedule*
Adapts to variety of physical settings and locations, demonstrates physically oriented adaptability*
Adapts to working with variety of providers in variety of roles*
Attends meetings
Builds and maintains long-term relationships with DHP, other DHIs and other key people
Business practices - invoices and billing
Collaborates with others
Consideration**
Coordinates tasks**
Deals with uncertain and unpredictable work situations*
Decides when and what information to share from the environment
Demonstrates cultural adaptability*
Demonstrates effort
Demonstrates interpersonal adaptability*
Demonstrates multi-tasking
Demonstrates openness to unpredictability
Develops rapport
Develops shared mental models
Dresses appropriately
Engages in professional development
Ethical and professional decision making, understands role
Fosters positive and professional reputation, impression management, represents provider
Fulfills team-related task responsibilities**
Handles emergencies or crisis situations*
Handles work stress*
Initiates structure**
Interpreting
Language
Learn work tasks, technologies and procedures*
Manages the discourse

Mentors others
Monitors performance**
Monitors/manages/coordinates appointments
Prepares, anticipates needs, and is proactive
Self-care
Shares task information with team members**
Situation awareness-pays attention to the environment**
Solves problems creatively*
Supervises others
Takes health-related precautions
Teaches/trains others**
Team member helping/back-up relief**
Team-relevant problem solving**
Trains team members**
Uses healthcare-specific knowledge (medical knowledge)
Uses knowledge about healthcare systems, specific hospital, clinic, or healthcare educational setting)
Uses knowledge about others
Uses technology to manage work and communicate with DHP

One asterisk indicates adaptive performance dimensions; two asterisks indicates individual team-member performance dimension.