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# Video Relay Interpreting Services in Victoria

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KAL-OZ03

# Video Relay Interpreting Services in Victoria

An insight into the human experience surrounding Video  
Relay Interpreting services and an outline of the current  
awareness and expectations of Victorian stakeholders

An Interactive Qualifying Project report for the faculty of Worcester Polytechnic  
Institute in partial fulfillment of the requirements for the Degree of Bachelor of  
Science

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April 28<sup>th</sup> 2008

1. Video Relay Interpreting
2. assistive technology
3. deaf
4. disability

This report represents the work of three WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement. WPI routinely publishes these reports on its web site without editorial or peer review.

## **Abstract**

This project was prepared for the Victorian Deaf Society in Victoria, Australia to investigate the human experiences surrounding Video Relay Interpreting and the current awareness of the service in Victoria. An analysis of the benefits and problems faced by VRI users in the U.S. and the U.K. in conjunction with the needs and expectations of the Victorian deaf community provided the Victorian Deaf Society with information to help implement VRI into the community.

## Executive Summary

The shortage of qualified sign language interpreters in Australia has had an impact on the deaf community, especially for those located in non-metropolitan areas. In 2004, there were only 213 interpreters for 4,661 Deaf<sup>1</sup> consumers in metropolitan areas (46 per 1000). In regional areas, only 73 Auslan (Australian sign language) interpreters were available to meet the needs of 1,244 Deaf Auslan users (59 per 1000). The government reported only 6 Auslan interpreters for 595 Deaf Auslan users living in remote areas (27 per 1000). Many of these interpreters are not fully qualified and have difficulty translating in complex situations such as a doctor's office or a courtroom. In response to this shortage, Australia is considering the use of a telecommunications service known as Video Relay Interpreting (VRI), which is currently being used in the United States and the United Kingdom. VRI enables a deaf person and a hearing person to communicate with each other in the same room through the assistance of a Video Interpreter (VI) on a TV or computer screen. VRI uses a high speed broadband internet connection and a webcam to connect to a Video Interpreter when a sign language interpreter cannot be physically present.

The lack of accessibility to interpreters in Victoria has led the Department of Human Services to fund a two million dollar project over the next four years for a VRI service. The Victorian Deaf Society (Vicdeaf) commissioned our team to investigate any potential problems that might be encountered during the implementation process and to

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<sup>1</sup> There are two different subgroups that categorize the deaf community: the Deaf (capital "D") include those who are born with the inability to hear or develop hearing loss at a young age, whereas the deaf (lowercase "d") include both those who have complete hearing loss and those who are hard of hearing. The Deaf typically learn sign language from their parents growing up, while the deaf who have partial hearing loss are usually bilingual and can not only sign but also may communicate through written or spoken language.

suggest solutions for avoiding them. The goal of this project was to provide Vicdeaf with insight into the human experience surrounding VRI services and to investigate the current awareness of VRI stakeholders in Victoria. In order to accomplish this goal, the following objectives were pursued:

- Determine the problems and benefits experienced by VRI users in the United States (U.S.) and the United Kingdom (U.K.)
- Determine the needs and expectations of VRI stakeholders in Victoria.

Background research was conducted on general procedures and requirements for VRI services in the United States and the United Kingdom. Deaf cultures in the United States, United Kingdom, and Australia were also researched to understand the different needs of these groups. The team interviewed members of five different stakeholder groups in the U.S. and U.K. in order to investigate a broad range of perspectives on VRI. These stakeholder groups were deaf consumers, interpreters, third party hearing professionals, representatives from government agencies, and service providers.

In Victoria, the team interviewed five different stakeholder groups in order to determine the needs within the deaf community. The stakeholder groups were regional case managers, interpreters, members of the deaf community, representatives of government agencies, and associates from deaf organizations (i.e. The Victorian Deaf Society). The team found that there were varying levels of Australian sign language and written English fluency, low levels of awareness in regional areas, and not enough qualified interpreters to meet the demands of the deaf community. The team concluded that the VRI service in Victoria must accommodate these needs and expectations of the community in order to be successful.

The interviews with stakeholders in Victoria indicated the types of problems that are likely to be encountered when VRI is introduced. The interviews with stakeholders in the United States and United Kingdom, who had hands-on experience with VRI, provided valuable information that could be used to improve the service. The team contacted 30 members of different stakeholder groups in the U.S., 13 in the U.K, and 30 in Australia. Out of those contacted 12 members from various stakeholder groups in the U.S. and the U.K. along with 22 people in Australia were interviewed by the team.

While it was difficult for the team to contact a large number of deaf community members in Victoria due to the lack of interpreting services available, the case managers provided ample information about the deaf clients in their regions.

The list below is a compilation of the strengths and weaknesses of VRI based on information gathered from interviews with U.S and U.K. stakeholders.

**Benefits of VRI (based on existing services):**

- Independence
- Lowered costs related to interpreting services
- Greater interpreter accessibility
- Less repetition
- Good video quality given a successful broadband connection
- Improved communication access
- Communication in first language (sign language) as opposed to written English.
- Increased interpreter efficiency
- Faster calls
- Engagement in conversation with the hearing in business environments

**Potential problems with VRI:**

- Lack of training with 3<sup>rd</sup> party hearing professionals (doctors, lawyers, etc.)
- Unease discussing personal information with an unknown interpreter
- Sign language dialect differences
- Poor interpreter receptive skills
- Security issues with 3<sup>rd</sup> party Internet networks
- Lack of developed signing skills
- Lack of experience working with interpreters
- Intimidation of technology

- Pressure to use VRI
- Difficulty spreading awareness
- Lack of technical support
- Difficulty reaching a good balance of VRI interpreters and face-to-face interpreters

The majority of the issues discovered in Victoria resulted from lack of awareness or a lack of experience with VRI. After interviewing the stakeholder groups in Victoria, the team suggested that workshops be provided to train and inform the deaf community about VRI. The information that should be included in the workshops includes topics such as “how VRI works” and “where VRI can be used.” The workshops should also inform the potential VRI users that their appointments and all items discussed will be confidential. Demonstrations should be given and measures taken to assure the deaf community that VRI is not intended to replace face-to-face interpreting but merely to supplement it, especially in emergency situations.

The team used the successful aspects of existing VRI services to suggest solutions for the potential problems listed above. The following table is a compilation of these suggestions:

**Table 1: Problems and Solutions**

<b>Problems</b>	<b>Solutions</b>
Poor image and Internet quality	<ul style="list-style-type: none"> <li>• High speed broadband, ISDN or VPN server</li> </ul>
Little to no fluency in Auslan	<ul style="list-style-type: none"> <li>• More educational opportunities</li> <li>• The introduction of VRI to motivate the deaf community to improve their Auslan.</li> <li>• Live remote captioning to supplement the service for those that understand written language</li> <li>• Peer support for those who have poor Auslan and written English</li> </ul>
Unfamiliarity with technology	<ul style="list-style-type: none"> <li>• Workshops provided by Vicdeaf or other deaf organizations (e.g. Deaf Access Victoria)</li> <li>• Captioned videos distributed or posted on Vicdeaf website.</li> <li>• Educational, deaf-friendly presentations</li> <li>• Communication with the deaf who have used VRI through deaf social clubs</li> <li>• Having younger generation inform the older generations who are intimidated</li> </ul>
Social issues	<ul style="list-style-type: none"> <li>• Workshops that provide an opportunity to interact with interpreters</li> <li>• Social skills/bonding with interpreters</li> <li>• Demonstration of VRI interpreter confidentiality</li> <li>• Ability to choose a specific interpreter that client is comfortable working with</li> </ul>
Equipment too costly	<ul style="list-style-type: none"> <li>• Government funding</li> <li>• Payment plans</li> <li>• Return on investment when the deaf start accessing more services</li> </ul>
Lack of awareness of what is available	<ul style="list-style-type: none"> <li>• Newsletter and deaf club promotions</li> <li>• Workshops run by the deaf for the deaf</li> <li>• Allow younger generation to adopt technology and spread the information</li> </ul>
Differences in interpreter dialect	<ul style="list-style-type: none"> <li>• Live remote captioning</li> <li>• Peer support</li> </ul>
Lack of technical support	<ul style="list-style-type: none"> <li>• Workshops or training of specific VRI technical issues</li> <li>• Internet Technology teams located at the service provider who can call and assist third party organizations</li> </ul>
Interpreters unwilling to work in a booth	<ul style="list-style-type: none"> <li>• Incentives (pay, benefits, etc)</li> <li>• Only part time VRI work</li> </ul>



Based on interviews with VRI service providers in the U.S. and U.K, the team compiled a list of best practices for Vicdeaf. These best practices include information on how a typical VRI suite should be set up. These suggestions take into consideration what kind of background is appropriate, what color of clothes to wear, and which type of lighting to install in the VRI booth. This list incorporates both the successful techniques that have been utilized in the U.S. and U.K. and the unique needs of the VRI stakeholders in Victoria. After ensuring that all the best practices are met, Vicdeaf should spread information among the deaf community about VRI and how it can improve their quality of life.

The team concluded that a VRI service would benefit the deaf community in Victoria, specifically, those in regional areas. By applying all the above recommendations, the Victorian Deaf Society can provide a Video Relay Interpreting service for the deaf community, interpreters, and hearing professionals. This service would immensely improve access to interpreting services and, most importantly, the quality of life of many deaf individuals. A telecommunications service like VRI enables the deaf to partake in daily activities that hearing people may take for granted. It also allows the deaf and the regional deaf to have an equal opportunity to access many resources within society. These ideals for social justice and equity are the standards upon which the Victorian Deaf Society was founded. The implementation of a Video Relay Interpreting service in Victoria can only help further advancement of the deaf community.

## Acknowledgments

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## **Statement of Authorship**

All team members contributed to each section of this report, whether through initial writing or principal editing.

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*For people without disabilities, technology makes things convenient,  
whereas for people with disabilities, it makes things possible.*

Judy Heumann  
Former Assistant Secretary of the Office of Special Education and Rehabilitation  
Services for the U.S. Department of Education

## Chapter 1: Introduction

One of the major challenges that the deaf<sup>2</sup> community faces today is communication with the hearing, particularly over long distances. Given the current worldwide shortage of qualified sign language interpreters, access to interpreting services in non-metropolitan areas is limited and costly. New assistive devices have been developed to facilitate communication between the deaf community and the hearing. These assistive technologies attempt to bridge the communications gap between the deaf and the hearing while integrating the cultural and social needs of both communities.

One technology that has recently emerged is Video Relay Interpreting (VRI). Video Relay Interpreting is a service that allows the deaf community to communicate with the hearing by accessing a sign language interpreter who is located remotely. The deaf person is located in the same room as the hearing individual where VRI equipment is set up. The deaf person signs in front of a camera which relays the video to a monitor viewed by an interpreter at a different location. After translating the signs to spoken language, the interpreter talks to the hearing person. The hearing party will then respond to the interpreter who translates and signs back through a camera to the deaf party. This technology is very similar to another form of video relay communication called Video Relay Service (VRS) where the deaf person, hearing person, and interpreter are all in different locations. This process is a combination of a typical telephone conversation and a video conference.

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<sup>2</sup> There are two different subgroups that categorize the deaf community: the Deaf (capital “D”) include those who are born with the inability to hear or develop hearing loss at a young age, whereas the deaf (lowercase “d”) include both those who have complete hearing loss and those who are hard of hearing. The Deaf typically learn sign language from their parents growing up, while the deaf who have partial hearing loss are usually bilingual and can not only sign but also may communicate through written or spoken language.



Many developed countries have integrated the new equipment and devices to provide the deaf and hard of hearing with improved communication services. In the United States and United Kingdom, VRI has been a valuable resource for the deaf community for a substantial period of time. While face-to-face interpreting is always preferred, VRI and VRS offer a reliable substitute to the rural and isolated deaf who have found difficulty in affording or scheduling a face-to-face interpreter. VRI is usually preferred to other forms of long distance communication, such as texting, because it allows the deaf to communicate in sign language. There are several VRI providers established in the United States that have been offering the service for years. Over time, these providers addressed a variety of problems and barriers such as technical and social issues to meet the needs of the VRI community (deaf community, the interpreting community, and the hearing community). Now, many deaf advocacy organizations throughout the world are working to give their members better access to VRI and to increase their familiarity with it. It is often difficult for these organizations to introduce this new technology in an effective way, especially in areas where the community might be reluctant to accept change.

In Victoria, Australia, Video Relay Interpreting has yet to be widely implemented and is generally only available in cities. The Victorian Deaf Society is seeking to extend relay interpreting services in Victoria by providing Internet-based access to the entire deaf community, particularly in regional Victoria. To help provide this service, the Victorian Deaf Society sought information on previously existing VRI services outside Australia, most notably the United States and the United Kingdom. With this foresight, the Victorian deaf society will have the background knowledge to avoid any known

problems when the service is implemented. In addition, the Victorian deaf society had little information regarding the needs of the Victorian regional deaf community related to VRI.

The goal of this project was to determine the aspects of human experience surrounding VRI services and to investigate the current awareness of the service in Victoria. The team achieved these goals by fulfilling the following objectives:

- Determine the problems and benefits experienced by VRI users in the United States (U.S.) and the United Kingdom (U.K.)
- Determine the needs and expectations of VRI stakeholders in Victoria.

A comprehensive collection of feedback, through interviews with VRI stakeholders, was completed in order to sufficiently outline all the problems that the Victorian Deaf Society might encounter. Opinions were documented, along with proposed suggestions and solutions for these problems, in a variety of tables and graphs. After evaluating the problems and benefits of VRI, the team generated a list of best practices which could be used to eliminate problems that had been previously encountered by the U.S. and U.K. in the early stages of implementation. Potential users will be more receptive of a VRI service in Victoria that has fewer initial challenges.

## Chapter 2: Background

Communication technologies for the deaf have improved over time. Teletypewriters (TTY)<sup>3</sup>, Internet communication such as e-mail and instant messaging, and, most recently, Video Relay Interpreting (VRI) and Video Relay Service (VRS) are all technologies that facilitate communication between members of the deaf and hearing communities worldwide. These technologies are used in the work place, in hospitals or doctors offices, and in social settings. Each technology is unique and provides opportunities for the deaf to communicate in different ways. One of these technologies, Video Relay Interpreting, utilizes the Internet to exchange visual data between two or three remote locations. In Australia, the Victorian government has committed \$2 million over the next four years to fund research and gather insight for implementation of a Video Relay Interpreting service, particularly in regional Victoria. This background information reviews deaf cultures and how VRI and other communication technologies have been integrated into deaf societies.

Familiarization with deaf culture in the United States, the United Kingdom, and Victoria fosters an understanding of behavioral characteristics within each deaf community. The team examined sign language logistics in order to outline the differences between American, British, and Australian sign languages. Legislation concerning deaf communities in the U.S, the U.K, and Australia were taken into consideration while evaluating the needs of the deaf communities in the respective countries. Various constraining factors associated with the VRI system are presented along with information regarding user experience in the U.S. and the U.K. Finally, the technology required to

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<sup>3</sup> TTY is a device through which typed text is relayed.

support VRI is analyzed and presented. By assessing relevant information from user experiences within the U.S. and the U.K, the Victorian Deaf Society can create an ideal model VRI for the Victorian deaf community.

## 2.1 Deaf Culture

One of the hardest issues for deaf people to portray to the non-deaf is that they consider themselves not only a group of individuals with similar challenges, but also as community that shares a completely different culture from persons with the ability to hear (Tucker, 1997). The deaf community consider themselves a minority social group. Communication services intended for the deaf must take these unique cultural and social characteristics into consideration. Once the cultural and social differences between the hearing and the deaf are outlined and understood, accommodations can be made.

The Australian deaf community, much like those in other countries, has various organizations which provide support and advocacy, as well as social networking within the community. These organizations not only provide the deaf community with information regarding new programs and technology, but also lend support with scheduling interpreters and realizing their rights as a deaf person in Australia. The regional areas of Australia tend to have the smallest number of deaf people, mainly because those are the areas with the smallest populations. In some of these regional areas, oral deaf schools were once established, in which teachers attempted to teach the deaf individuals how to speak rather than sign, causing a generation of deaf people who failed to develop good communication skills (personal interview, 17 March 2008). These oral deaf schools have since been shut down. The Australian deaf community is a strong social group in which many find support, advocacy, and social networking.

The British deaf community does not have any centralized education facilities specifically for the deaf (Kyle & Woll, 1985). The main gatherings for all members of the deaf community to bond together happen through deaf social clubs, which were usually started for religious reasons (Kyle & Woll, 1985). In the United Kingdom it is more common for deaf people to marry other deaf people because they can relate better to each other (Kyle & Woll, 1985). As cited by Schein (1979) in Kyle & Woll (1985) 90 percent of children born of two deaf parents are not deaf; this results in large generational gaps within the deaf community. Due to these gaps, “there is a lack of continuity from generation to generation” making sign language structures and social concepts harder to pass down (Kyle & Woll, 1985, p.12). This results in deaf social groups that become more intermixed with members from both the deaf and hearing communities.

The deaf communities in the United States are very different from the hearing communities. Charrow and Wilbur (1975) state, “sociolinguistic studies of ASL and the deaf community have shown that there are different social conventions and politeness rules for signers than for speakers/listeners.” This may result in difficulty for the two groups to interact with each other in social or professional settings. In the United States, deaf people tend to settle down around the same areas (typically closer to deaf institutions), making it easier to communicate with each other and understand the people around them due to having gone through similar experiences (Charrow & Wilbur, 1975).

Movements have been made around the United States to improve deaf awareness. In March of 1988, a group of over 2,000 students at Gallaudet University, a deaf University located in Washington D.C, formed together in protest against their University President. For the previous 124 years Presidents of Gallaudet have always been hearing

males, many of whom did not understand the needs of the deaf students who attended the University. After receiving an impressive amount of donations, support, and media coverage, Irving King Jordan, a graduate of Gallaudet and member of the deaf community, stepped in as President (Brueggemann, 1995). Demonstrations for change such as this are perfect examples of the need for the deaf community to represent themselves and have the ability to express their own opinions.

### **2.1.1 Sign Language**

Sign language is a very developed language which uses not only hand movements and finger orientations, but also includes facial expressions and the signer's surroundings (Keating and Mirus, 2003). Appendix C explains cultural aspects of sign language and specifically includes information concerning American Sign Language (ASL), British Sign Language (BSL), and Australian Sign Language (Auslan). The relationship between the three reveals that they are relatively different, even more so than their respective spoken languages. This variation in language makes international communication between deaf people difficult, resulting in a need for multi-lingual sign language interpreters.

### **2.1.2 Australian deaf statistics**

The 2001 Australian census reported that 5,305 people used some form of sign language for their primary form of communication. This number was stated to have underestimated the actual numbers of Deaf using sign language. In 2006, the Australian census was updated to show that there were 7,150 signers; a 29.9% increase over the reported number from 2001 (Willoughby, 2007). In a survey conducted by the Australian government (Commonwealth of Australia, 2004), a significant shortage of Auslan

interpreters existed in all metropolitan, regional, and rural areas. There were only 213 interpreters for 4,661 Deaf consumers in metropolitan areas, or a ratio of 46 per 1000. In regional areas, only 73 Auslan interpreters were available to meet the needs of 1,244 Deaf Auslan users, or a ratio of 59 per 1000. The government reported only 6 Auslan interpreters for 595 Deaf Auslan users living in remote areas, or a ratio of 27 per 1000 (Commonwealth of Australia, 2004). From these statistics, there is a significant shortage of interpreters, especially in regional areas of Australia. Comparatively, based on the 2001 census, England's ratio is 4 interpreters per 1000 deaf people (RNID, 2006). In the United States, the ratio of interpreters to deaf people is about 3 per 1000 (Mitchell, 2008 & Bureau of Labor Statistics, 2007). Based on these data, the shortage of interpreters seems to be a problem in many countries around the world.

The Australian government cited a need for Auslan interpreters in several situations, including medical consultations, legal and financial matters and educational and employment matters. Currently, the Australian government allows deaf people to book interpreters for medical appointments free of charge; however that does not solve the problem of trying to make a booking with the interpreter. For example, the Auslan user survey indicated that during 2002-2003, there were around 50,000 medical appointments where an interpreter was needed, but that an interpreter was provided in only 41% of the visits. Patients sought interpreting from family and friends in 30% of medical visits and the other 29% of cases were rescheduled or were attended without an interpreter (Commonwealth of Australia, 2004). Only 33% of deaf patients said they were always able to get an interpreter and 49% were never able to obtain interpreting services for appointments. In legal and financial matters, 86% of Auslan users reported

they needed an interpreter, but only 46% always were able to secure these services; 44% reported they were never able to get an Auslan interpreter. In cases where interpreting services were needed for education or employment matters, 78% of users reported they were always able to get an interpreter, compared to 12% who were never able to get interpreting services. Auslan users expressed significant concerns with regards to a lack of availability of interpreters for medical emergencies and scheduled appointments, as well as for emergencies related to police issues (Commonwealth of Australia, 2004). When Video Relay Interpreting services are implemented in Victoria the primary focus would be on similar issues.

## **2.2 Video Relay Interpreting**

Video Relay Interpreting (VRI) and Video Relay Service (VRS) are used by people who are deaf or hard of hearing, enabling them to communicate with others, deaf or non-deaf. Both VRI and VRS operate using webcams connected to computers via Internet to visually relay a deaf person's sign language onto the computer screen of an interpreter located elsewhere. Hamilton Relay, a provider of VRI in the United States, explains the system in the following way: "Using the latest video equipment and your high-speed Internet connection, you sign your conversation to our highly-skilled Video



Interpreters. They will then sign the response back to you.”

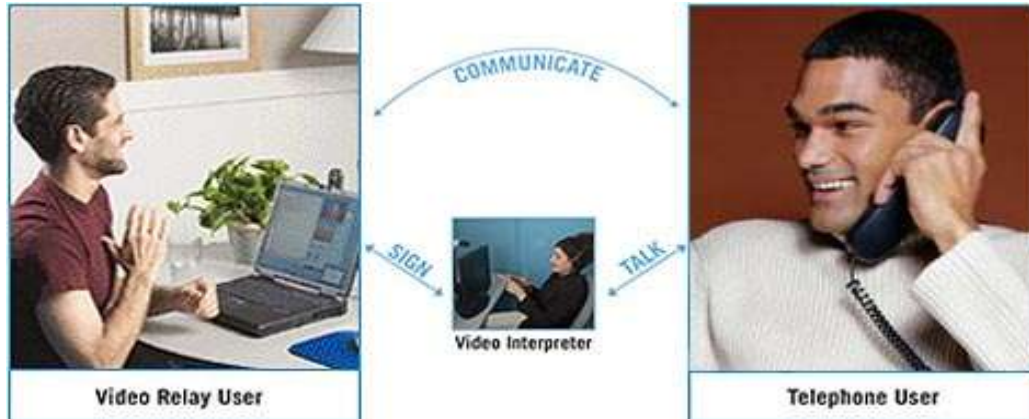


Figure 1: VRS How it works (AT&T, 2004)

Figure 1 visually represents Video Relay Service where individuals take part in three different locations. Video Relay Interpreting would involve the hearing and deaf participants in Figure 1 to be in the same location.

VRI not only allows deaf people to communicate with the hearing who are unfamiliar with sign language, but it also allows global communication to be more readily available to the deaf. A problem in all countries is a significant lack of sign language interpreters. By using VRI, the deaf community has access to a network of interpreters whenever needed. This also makes the job of the interpreter easier. In the past interpreters have had to travel in order to aid the deaf and do their job, costing time and money; however, with VRI, they can remain in one location and wait for the service call. The advanced technology of VRI allows easier and faster communication for the deaf community.

Saladin (2004) notes that in order to respect the cultural differences between ASL and English the best method of communication with a Deaf person is through his or her own signed language. New assistive technologies (AT), such as VRI and VRS, provide

this option for visual communication (Saladin 2004). This type of two-way video service enables the user to visualize “appropriate facial expressions and body language” that could otherwise not be communicated through written words (Saladin 2004).

In a 2004 Australian government report, VRI was offered as an alternative to on-site Auslan interpreting. A positive response to the use of VRI technology was obtained from 40% of those who responded to the survey. Only 20% responded negatively, expressing concerns regarding privacy, lack of familiarity with the technology, and difficulty reading signs from video images. Positive results regarding VRI were obtained from participants in a trial study, once they had used VRI (Commonwealth of Australia, 2004). Providing similar training to potential users of VRI technology may improve acceptance and use. This is important since one-third of non-metropolitan Deaf Auslan users indicated that they did not believe that VRI was an alternative to in-person interpreting in many situations (Commonwealth of Australia, 2004). Throughout this paper VRI will be discussed, though many of the same problems and successes can be applied to VRS because the two technologies are so similar (Harper, 2007).

### **2.2.1 History and Developments**

Video Relay Interpreting was first offered to deaf users in Austin, Texas through the Sprint company in 1996 (Keating and Mirus, 2003, p.699). Since it first began in 1996, the use of VRI has spread both within the U.S. and internationally. VRI has facilitated communications between the deaf community and the hearing community by making the process more comfortable and efficient. Before VRI was developed, the teletypewriter (TTY) was the most common form of long distance communication for the deaf community, followed by E-mail and Instant Messaging. All three of these methods

proved to be viable forms of communication that demand a certain degree of education in written language. The growth of VRI has not only improved communication for the deaf, but also has allowed the deaf to communicate remotely using their primary language.

### **2.2.2 Psychosocial Effects**

Communication barriers between the Deaf community and society negatively impacts Deaf individuals socially, educationally, and within the workplace (Saladin 2004). Because those who were born deaf have never heard spoken language, they may be restricted in their ability to speak and may have difficulty learning how to read, as sign language is the native language of many deaf persons (Saladin 2004, Nakamura 2002). Because sign language provides a more gestured language for the deaf community, text-based relay systems fail to provide appropriate translation between spoken language and sign language. This communication barrier creates a sense of isolation between the Deaf and the hearing worlds (Saladin 2004).

Although new technologies are available, the acceptance of these advances within society is met with reluctance. Saladin (2004) states, “devices that requires more energy or greater effort to use are less likely to be adopted than less demanding alternatives.” In particular, the Deaf “are not likely to adopt and use AT if they do not feel it will improve their quality of life, their psychological well-being, independence, self esteem, sense of control and empowerment” (Saladin 2004). The impact of technology on the individual can have psychosocial effects that may determine whether or not a particular device is accepted or discarded. How the new technology affects an individual’s quality of life is essential (Jutai 2001).

Saladin (2004) used a demographic questionnaire and the Psychosocial Impact of Assistive Device Scale (PIADS) in his investigation of “Psychosocial Variables in the Adoption of Assistive Technology Among Deaf and Hard of Hearing Adults.” The demographic questionnaire provided information about characteristics of early and late adopters of innovations. Subjects from the Texas School for the Deaf completed a 26 item self report. Psychosocial factors regarding independence, well being, and quality of life were obtained from the PIADS. The author found that the use of standardized questionnaires may aid in predicting which deaf “consumers would likely adopt the VRS system” (Saladin 2004).

### **2.2.3 Constraining Factors**

Webcams are quite effective in allowing the deaf to communicate with a wide range of people all over the world. Sign language involves more than just signing out words and symbols with hand motions; it includes facial expressions and the surrounding environment<sup>4</sup>. The use of webcams for VRI services results in some constraints, including the visual area produced by the video inside of the field of view of the camera, and the size of the user’s computer screen. This size restriction could cut off visual elements, including surrounding objects or some hand movements resulting in a possible miscommunication between the person signing and the viewer. Another constraint that affects the communication of deaf people through VRI is the quality of the webcam or computer along with the speed of the Internet connection. Some lower quality webcams and computers can result in very pixilated viewings. This not only results in ambiguous signing, but it also creates obscurities in facial expressions. Ultimately, this takes away

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<sup>4</sup> Refer to Appendix C for further information regarding sign language characteristics.

from the meaning of the signs being relayed. Due to these constraining factors, users of VRI have to adapt their signing and communicating techniques when using webcams and computer screens (Keating and Mirus, 2003). Text-based communications can be difficult for deaf users because written language is secondary to sign language. Most problems arise when the deaf try to express themselves through text rather than when they sign. VRI would be preferable because it allows the users to see facial expressions and body language clearly.

#### **2.2.4 ISDN vs. IP**

There are two technological platforms through which VRI services can be provided. The first is Integrated Services Digital Network (ISDN) and the second is Internet Protocol (IP). ISDN utilizes a system of digital telephone connections to transmit voice, video, and text data over the public telephone network (Fels, *et al.*, 2004). It is the older of the two, having been introduced nearly 15 years ago, and is slowly being phased out. ISDN is more commonly found in areas where broadband services have not yet become available. One of the benefits of ISDN is that it assures consistent quality of all audio-visual signals being transmitted. The quality will never fluctuate due to the continuous feed and direct connection that is utilized (Fels, *et al.*, 2004). One of the biggest drawbacks to using ISDN is the cost of the service. ISDN is expensive due to the monthly charge for each line in addition to the cost per minute of video conference connections. Each ISDN line guarantees a specific level of connection speed; in the case of VRI, multiple lines are required for acceptable video transmission quality.

Internet Protocol operates by dividing data signals into data packets which are sent through various networks to the recipient. The data signals sent during a VRI

session travel through networks that handle other Internet traffic as well, resulting in quality incongruities (Fels, *et al.*, 2004). Therefore, it is necessary to have a high speed Internet connection or a Virtual Private Network in order to have successful relay interpreting. “A VPN is a communications environment in which access is controlled to permit peer connections only within a defined community of interest...” (Ferguson & Huston, 1998). Other than the aspect of network privacy provided by a VPN, one of the main motivations for building a VPN is the low cost. Many Internet service providers will “bundle a number of discrete communications services onto a common high capacity communications platform,” meaning the high costs associated with the virtual network are split up between multiple different discrete networks distributed to various people. Alternatively, a large sum of money is needed to build one small discrete system for a single client (Ferguson & Huston, 1998).

High speed Internet service is easily accessed in the United States, but can be more difficult to obtain elsewhere. According to the 2007 Nielsen NetRatings website, “January figures put Australia's average home user connection at 1800kbps (kilobits per second) - a speed that is markedly slower than 8400kbps in the U.S. and 5500kbps in the U.K.” (Livesley, 2007). The popularity and success of broadband in the U.S. is most likely why there are virtually no VRI services operating under ISDN. IP-based networks are inexpensive when compared to ISDN due to the nature of the network being shared by many users. Networks that are distributed amongst multitudes of clients are far less reliable, especially when considering the quality and consistency of media being transmitted in data packets when compared to the private ISDN line. In areas that have substandard access to broadband, generally outside the U.S. and U.K., the connection

speed of IP networks is usually not high enough to meet the demands of VRI interpreters. This is true of certain areas of Australia at this point in time.

The result is pixilated images being transmitted due to packets of data that get congested in the network and do not arrive at a steady rate. Pixilation makes the images difficult to see and interpret, especially when considering the similarities of various hand or body gestures that are present in all forms of sign language.

Recently, in the Australian national news, there has been controversy over a broadband contract. On April 2, 2008, the government cancelled a \$958M contract with Opel which was intended to fund a project to implement broadband across at least 90% of the regional areas of Australia. The contract was first signed with the previous government but now the new government, under Senator Conroy, Minister for Broadband Communications and the Digital Economy, terminated the contract because the broadband provider did not fulfill the terms of the contract. The contract stated that the broadband provider must cover at least 90% of the regional areas in Australia. Based on what the provider had set up for a plan, they were only able to cover 72% of the area (The Age, 2008). This contract cancellation may have an impact on how soon VRI can be implemented into the regional areas of Victoria because if they do not have high quality broadband Internet, VRI will not be able to be implemented.

### **2.3 User Experience**

VRI is a communication service used to improve the social environment for deaf people. Since the technology impacts the people who use it in a variety of ways, this section describes what factors cause it to affect them in various ways. Knowing the personal experiences of VRI users can not only give insight into the system, but can also

ease the process of making improvements on the technology by acknowledging what works and what does not work. Keating and Mirus (2003) point out why it is important to have on-line communication services of the same form as VRI: “For the linguistic minority Deaf community, the Internet is increasing connections among Deaf members who are geographically dispersed throughout the majority hearing community.” With VRI spanning across different areas of the world, it is important to gather information on user experience so that one can make executive decisions when deciding to implement the technology within their local deaf community.

### **2.3.1 Deaf Community Perspectives**

VRI is beneficial to the deaf because it allows immediate communication access between the deaf and the non-signing public, especially if institutions are having difficulty finding interpreters. It is also beneficial in that it allows for direct communication where one party can interrupt the other party at any given point during a conversation instead of regularly taking turns (Hilzensauer, 2006). This is extremely helpful when clarification is needed or questions need to be asked amidst a relatively one-sided conversation. The ability to communicate rapidly via Video Relay Interpreting also comes as a benefit. VRI providers estimate that it takes less than 15 minutes to set up services with a remote interpreter (Broida, 2005). Since the deaf communicate in sign language much more naturally than in written forms of language, VRI is also much more effective than text based communication (Hilzensauer, 2006). There are cost considerations, as well. On-site sign language interpreters cost approximately twice as much as video remote interpreting, including a usual two hour minimum fee plus travel time for what may end up being as little as a 15 minute consultation. Unscheduled



sessions, such as those that may occur in a hospital emergency room, bring about additional costs with on-site interpreting. In contrast, subscribers to VRI services pay a monthly fee for the equipment, plus the cost per minute for interpreting (Broida 2005).

VRI is not always the best choice as a means of communication in every situation. It is best utilized as a supplement and in conjunction with other types of interpretation. VRI alone may not always provide “a cookie-cutter answer to the interpreting dilemma” (Gillespie in Broida, 2005). Marlene Hilzensauer suggests that relay interpreting is “ideal for brief conversations where booking an interpreter would be both impractical and too expensive” (Hilzensauer, 2006). Examples of situations where VRI would most likely not be appropriate are in the courtroom or doctor’s office where an interpreter should be physically present to avoid misunderstandings at all costs.

Pilot studies conducted in Arizona coupled with compiled research from a variety of sources led author Richard J. Morris to compile the following best practices for VRI-type systems (Morris, 2006).

Before the videoconference:

- A warm up time should be factored into the appointment scheduling to give the client and interpreter time to get accustomed to each other’s style of signing
- The best seating arrangement, which permits optimal visual contact between the client and the interpreter, should be determined in advance for each individual site.
- Standards should be developed for the physical environment, including wall or background colors. Minimal lighting requirements should be set based on the room size and shape.
- If appointments are scheduled in advance, both interpreters and clients should be prepped about what to wear. They should be made aware that patterns, horizontal stripes, and glittery jewelry create distracting visual effects onscreen. They should also avoid all-light or all-dark clothes, because they trick the camera’s automatic brightness control.

During the videoconference:

- Participants should be encouraged to avoid excess movements, such as rustling papers or tapping pencils. These can produce sounds that may be magnified by the microphones.
- For those individuals who are not as proficient in manual communication, the interpreter should be advised to sign and fingerspell more slowly.
- As there is sometimes a very slight time lag between audio transmission and reception, speakers should pause to allow the other person to respond before speaking.

### **2.3.2 PIADS: A method for analyzing the impact of assistive devices**

Researchers have argued that it is important to establish methods for demonstrating that assistive technologies for persons with disabilities are both effective and improve the quality of one's life (Petty *et al.*, 2008). There exist both practical and economic factors that underlie the need to verify the effectiveness of VRI. Standard measurement tools can be implemented to determine if users will adopt VRI, and if and how VRI will be perceived by the deaf as improving the overall quality of life.

Quality of life is a complex and dynamic issue that changes over time. It is affected by a person's interaction with his or her surroundings. It evolves differently and uniquely for each person, but components involved in the process are the same (Jutai, 2001). Researchers Day and Jutai (1996) observed that the most important measure on how assistive technologies affect quality of life is the individual user's perspective of the device. The authors explained, "An assistive device will promote good quality of life for the user to the extent to which it makes the user feel competent, confident, and inclined (or motivated) to exploit life's possibilities. These three key dimensions have been determined empirically to underlie how users perceive the psychosocial impacts of AT" (Day and Jutai, 1996).

The Psychosocial Impact of Assistive Devices Scale (PIADS) (See Appendix B) employs a self-rating questionnaire of 26 items (Day and Jutai, 1996). The scale is intended to measure self-perceptions of how assistive devices affect quality of life. The PIADS examines three aspects of self-perception. The first is Adaptability (6 items) and looks at whether the device will be viewed as enabling and liberating. The second component is Competence (12 items) and whether the device promotes functional autonomy, performance, and productivity. The third component measures Self-esteem (8 items) and the degree to which the device promotes self-confidence, self-esteem and emotional well-being. Scores are measured from a maximum negative impact of  $-3$  to a maximum positive impact of  $+3$ ; a score of zero is the equivalent of no impact (Jutai, 2001). The competence subscale measures feelings of functional ability and usefulness. The adaptability subscale demonstrates a motivation to try out new devices and to take risks. The self-esteem subscale looks at feelings of self-worth, security, sense of power and control, and self-assurance. High scores in each subset suggest a positive impact of the assistive device on the psychosocial life of the user of the technology (Souza, 2007). The PIADS is well regarded in the scientific literature as a reliable, valid, and sensitive tool for determining of the effect of assistive technologies on quality of life (Saladin, 2006). It has been used to evaluate and to predict the effectiveness of various assistive technologies in adults with a wide range of disabilities (Jutai, 2001). In fact, PIADS scores alone have been reported to be significant predictors of whether an assistive device is retained by the user or abandoned (Jutai, 2001).

### 2.3.3 Communication Preferences

Controversy has arisen within the deaf community and interpreters about whether or not communication technologies such as TTY and VRI are actually helping or hurting communication abilities of the deaf. On one side, users say that both technologies advance communication and make it easier to contact people with whom they would not normally be able to communicate. Such technologies as VRI can be used across the entire world, meaning for example, it is easy for someone in Australia to contact someone in Finland. However, there are arguments that these technologies are interfering with social developments that normally took place with face-to-face interaction for deaf people (Keating and Mirus, 2003). Along with disagreements of how beneficial these technologies are to the deaf community are arguments of different benefits and drawbacks of the individual technologies. “In Deaf town meetings in Austin in 1997 about the introduction of computer-mediated video interpreting service or, as it is sometimes called, video telephony, some deaf people said they preferred communicating via TTY without a video image because of privacy issues” (Keating and Mirus, 2003).

### 2.4 Summary

Video Relay Interpreting services have shown great promise in the United States and the United Kingdom. While technology and deaf culture challenges exist, the opportunity for the deaf to communicate with others in remote locations using their primary language is a breakthrough providing many benefits. In areas where VRI users are experienced with the technology, the services are, for the most part, widely accepted and favored over other forms of communication, including face-to-face interpreting. For areas in which VRI has not yet been experienced or widely accepted, best practices

developed by other countries, such as the U.S. and the U.K. where VRI has been implemented, can aid in implementation and help to troubleshoot any initial problems.

## **Chapter 3: Methodology**

The goal of this project was to determine the aspects of human experience surrounding VRI services and to investigate the current awareness of the service in Victoria. The primary objective of our project was to determine the problems and benefits of VRI in the U.S. and the U.K. by collecting and assessing user feedback from interviews and recent online blogs, ultimately compiling the data into a list of best practices. These problems were presented to the Victorian Deaf Society (Vicdeaf) with potential solutions or suggestions. The second objective of this project was to determine the needs and expectations of potential VRI users in Victoria. We accomplished this objective by conducting interviews with case managers and members of the deaf community. In order to collect demographic information and investigate the current state of VRI in Victoria, focus groups were conducted through meetings at local deaf clubs and one administered by the team. The focus groups consisted of deaf consumers, third party hearing professionals, and interpreters throughout Victoria. With this insight, Vicdeaf would be able to avoid these initial problems when VRI is implemented.

### **3.1 VRI use in the U.S. and the U.K.**

The Victorian Deaf Society planned to implement a Video Relay Interpreting service that would be easily accessible for the deaf, especially in regional Victoria. In order to facilitate the implementation process, data were first collected by contacting VRI stakeholders within the United States and the United Kingdom, where VRI services are frequently used and have been for a substantial period of time. Members of each stakeholder group (members of the deaf community, interpreters, individuals from government agencies, individuals from service providing organizations, and third party

hearing professionals) were selected based on the team's ability to access them for information and their experience with video relay interpreting or video relay service. The team interviewed a sample of stakeholders that had no experience with video relay interpreting. Their opinions determined which factors are the most important in motivating a stakeholder to use VRI.

### **3.1.1 Collecting Feedback from the U.S. and U.K.**

Feedback was collected from a sample of the previously mentioned stakeholder groups in the U.S. and the U.K through interviews. The team conducted interviews with members of the deaf community, individuals from government agencies involved with VRI funding, third party hearing professionals, individuals from VRI service providing organizations, and interpreters to gain insight on current VRI and VRS services. Sources such as recent on-line blogs from the deaf community were obtained through various search engines (i.e. Google); along with journal articles containing information from deaf culture statistics provided a wide range of perspectives surrounding VRI and other forms of communication technologies. The on-line blogs and journal articles provided a good reference to the U.S. and U.K. opinion and were used as a basis to form interview questions and to establish a strong information background. The number of different stakeholder groups that were contacted by the team is in Table 2; due to the time constraint of the project and receiving no response by some people contacted, those numbers do not accurately depict the number of people who were actually interviewed by the team.

**Table 2: People Contacted in the U.S. & the U.K.**

<b>Country</b>	<b>Total Contacted</b>
<b>United States</b>	<b>30</b>
deaf community	3
interpreters	14
third party professionals	6
service providers	5
government agencies	2
<b>United Kingdom</b>	<b>13</b>
deaf community	1
interpreters	3
third party professionals	6
service providers	2
government agencies	1

The National Association of the Deaf and the Royal National Institute for Deaf People, the U.S. and U.K. equivalents of the Victorian Deaf Society, respectively, were valuable resources in the team’s research. The team contacted the technology, interpreting, and communications related departments within these institutions to set up interviews. Professional reports from their websites on video relay and interpreting services were also used for our initial background research.

In order to obtain interpreter’s views on VRI services, we contacted members and department chairs from the Association of Sign Language Interpreters (U.K.) and the Registry of Interpreters for the Deaf (U.S.). These national organizations represent interpreters and aid the deaf community in accessing qualified interpreters.

VRI service providers were contacted in both the United Kingdom and the United States. These organizations provide the VRI service, including hiring and training the VRI interpreters. To make a VRI call, one must first book it through a service provider. The team located and contacted one of the two service providers in the United Kingdom, as well as contacting four out of the seven different service providers that the team was aware of in the United States.



The team received contact information for deaf consumers through previously established contacts with interpreters and service providers. On-line blogs were researched to obtain user opinions in the United States. Blogs tend to be an honest reflection of what people think given the fact that they are able to express themselves openly.

The FCC was contacted as a government agency because they are one of the main financial providers of Video Relay Service. An organization in the U.K. called CACDP; Advancing Communication between Deaf and Hearing People was contacted. Each branch was contacted across the United Kingdom, including the Durham, Northern Ireland, and Scotland offices.

Third party hearing professionals were contacted to discover how they use VRI with deaf consumers and how it might affect the professional services provided by these third party individuals by having access to the service. The hearing professionals were identified through online blogs. Along with Gallaudet University and the National Technical Institute for the Deaf, a branch of Rochester Institute of Technology, was a selected source that could provide insight from individuals who are professionals in their field. These schools have a substantial deaf population and well developed deaf education programs. Video relay service, SMS, and videophones are available on both campuses and are widely accepted by both students and professors. Professors and students from these universities were contacted in order to provide perspectives from those who are familiar with video relay type services in the United States.

The team drafted a standardized interview plan to gain accurate and detailed feedback from people in the United States and the United Kingdom. The general

interview plan that was used can be found in Appendix E. The standardization of an interview plan made the information collection process consistent. Table 3 portrays each stakeholder group contacted in the U.S. and the U.K. along with the desired information from each specific stakeholder.

**Table 3: U.S. & U.K. Stakeholder Questions**

<b>Stakeholder</b>	<b>Desired information</b>
Deaf consumers	<ul style="list-style-type: none"> <li>▪ Strengths and weaknesses of current VRI services</li> <li>▪ Any improvements that have made since the introduction of VRI</li> <li>▪ Situations where VRI is favorable or unfavorable</li> <li>▪ How VRI compares to face-to-face interpreting</li> </ul>
Interpreters	<ul style="list-style-type: none"> <li>▪ Strengths and weaknesses of current VRI services</li> <li>▪ Any improvements that have been made since the introduction of VRI</li> <li>▪ What the transition is like from face-to-face to VRI interpreting</li> <li>▪ How VRI compares to face-to-face interpreting</li> </ul>
Hearing professionals/ third party	<ul style="list-style-type: none"> <li>▪ Strengths and weaknesses of current VRI services</li> <li>▪ Cost of the service</li> <li>▪ Other communication options offered to the deaf</li> </ul>
Representatives of government agencies	<ul style="list-style-type: none"> <li>▪ What the process is for booking an interpreter</li> <li>▪ What kind of funding is offered to relay interpreting providers</li> <li>▪ How legislation affects the way VRI is operated and managed</li> </ul>
Service providers	<ul style="list-style-type: none"> <li>▪ Best practices for VRI centers</li> <li>▪ Cost of the service</li> <li>▪ What the process is for booking an interpreter</li> <li>▪ Information about their business/management plan</li> </ul>

The PIADS was not used as a data collection method because for many deaf people written English is not their first language, making it difficult to take written surveys. While the PIADS was not used in our research, it was still important to understand the ideas of quality of life that it presents. Many of our questions reflected aspects that relate to quality of life.

### 3.1.2 Organizing and Analyzing Feedback from the U.S. and U.K.

Once the feedback data had been collected from VRI users, organizations, blog forums, and scholarly articles, the problems and advantages were assessed. To effectively analyze feedback given by the VRI community in the United States and the United Kingdom, the information collected was organized into a systemized matrix table. The data were grouped into 5 categories: deaf community representatives, interpreters, hearing professionals, service providers, and government agency representatives, which highlighted the problems and advantages of the service. Table 4 depicts the systemized matrix used to arrange the data.

**Table 4: VRI Feedback Matrix**

	Deaf Community Representatives		Interpreters		Hearing professionals		Service Providers		Government Agency Representatives	
	P	B	P	B	P	B	P	B	P	B
Technical										
Privacy										
Social										
Scheduling										
Cost										

**P = Problem, B = Benefit**

The categories listed on the left hand side of the table refer to topics that have had an impact in the implementation of the service. The problems and benefits discussed

within each stakeholder group were identified and listed in the table in order to best organize the information received through interviews and data collection. Most of the problems and benefits noted were situational information.

The following parameters were used to qualitatively analyze the impact of a VRI service based on the opinions of VRI stakeholders in the U.S. and the U.K.:

### **United States and United Kingdom Perspective**

- Technical
  - How skilled the respondent is at using various assistive devices
  - Accessibility of computers
  - What Vicdeaf would have to provide in order to provide education on how to use the VRI technology
    - Workshops
    - Pamphlets
    - Case manager
- Privacy
  - How comfortable the respondent is working with an interpreter
    - If the respondent is comfortable discussing legal and medical issues through an interpreter
- Social
  - How the respondent is currently interacting with the larger community
  - How the respondent would interact with the larger community given better access to interpreting services
  - The various activities the respondent requires interpreting services for
    - Medical calls/visits
    - Legal calls/visits
    - Various customer service calls/visits
    - Communicating with friends
    - Social clubs/family events
    - Recreation
    - Other
  - What Vicdeaf would have to provide in order to spread awareness of the service
    - Workshops
    - Pamphlets
    - Case Managers
- Scheduling
  - How often the respondent requires an interpreter
  - How often the respondent is able to schedule one
    - How the respondent copes when they are unable to schedule one

- Cost
  - How expensive the equipment is
  - How expensive current face-to-face interpreting services are
  - How expensive VRI interpreting services would be
  - Who would pay for VRI in various situations
    - Medical calls/visits
    - Legal calls/visits
    - Various customer service calls/visits

We used these results to create a list of best practices for the use of VRI, which describes aspects of VRI that work best along with problems that may occur. Best practices were compiled into a list of suggestions provided from VRI stakeholders in the U.S. and the U.K.

### **3.2 Determine the needs and expectations of potential VRI users in Victoria**

The team collected data that represented the needs and expectations of potential VRI users in Victoria. One problem that Vicdeaf anticipated was the reluctance of the deaf community in accepting VRI, especially if those individuals had little awareness of what the service had to offer. Thus the team sought and evaluated this information to further provide Vicdeaf with recommendations concerning VRI implementation.

#### **3.2.1 Contacting Australian stakeholders**

The team gathered information from a variety of sources by utilizing regional case managers from Vicdeaf, the VRI community including the deaf community, Auslan interpreters, hearing professionals, government/ funding agencies, and members of the Victorian Deaf Society to gain knowledge of the current state of VRI in Victoria.

Face-to-face interviews were effective tools since they are first-hand, in-depth, personal experiences. Personal opinions collected from interviews were the most

important source of information. Interviewees embodied different Auslan and English fluency abilities, age groups, and residential areas in Victoria.

In order to address a cross-section of the Victorian VRI stakeholders, interviewees were contacted through sources within Vicdeaf. Each region covered by Vicdeaf is assigned a case manager who handles all the deaf clients and services in their respective region. In Victoria, it was important to communicate with each of the five regional case managers. Each case manager handles about 20 clients in their region. The five regions include Bendigo, Grampians, Hume, Geelong, and Gippsland. Due to each case manager’s specific knowledge of the deaf community in their respective region, each manager was able to provide useful information about awareness and willingness to use VRI in relation to each specific region. All five of these case managers additionally provided demographic information about their assigned region. The case managers also passed along contact information of deaf community members in their region who would be willing to interview with the team. Since the residential areas are dispersed within each region, the number of deaf community members varied from region to region. A table depicting the number of people contacted either formally or informally by the team is included below.

**Table 5: People contacted in Australia**

<b>Country</b>	<b>Total Contacted</b>
<b>Australia</b>	<b>30</b>
case managers	5
interpreters	4
deaf community	11
deaf organization representatives and researchers	7
government/funding agency representatives	3

Informal gatherings were administered through attendance at regional deaf social club meetings. A formal focus group was conducted and invitations to attend were

extended to all members associated with Vicdeaf to attend through the Vicdeaf website and monthly newsletter. By attending a Department of Human Services (DHS) workshop, government level contacts were established. A large sample of interpreters was contacted through an email distribution of interview questions through the Australian Sign Language Interpreters Association (ASLIA).

Table 6 shows the different Victorian VRI stakeholders and the desired information the team collected from them. Refer to Appendix E for the detailed list of interview questions.

**Table 6: Victorian Stakeholder Questions**

<b>Stakeholder</b>	<b>Desired information</b>
Regional case managers	<ul style="list-style-type: none"> <li>▪ Characteristics of deaf clients in their respective region</li> <li>▪ How information is spread</li> <li>▪ Current state of assistive hearing technologies</li> <li>▪ Deaf communication skills of clients (signing, writing, oral)</li> </ul>
Interpreters	<ul style="list-style-type: none"> <li>▪ Average amount of time spent traveling to appointments</li> <li>▪ Cost of face-to-face appointment in various regions</li> <li>▪ Receptiveness to VRI</li> <li>▪ Deaf communication skills of clients</li> </ul>
Members of the deaf community	<ul style="list-style-type: none"> <li>▪ Receptiveness to VRI</li> <li>▪ How they cope without interpreters</li> <li>▪ What they would do given better access to interpreters</li> <li>▪ Privacy issues</li> <li>▪ Fluency in Australian sign language (Auslan) and written English</li> </ul>
Representatives of government and funding agencies	<ul style="list-style-type: none"> <li>▪ Expected outcome of VRI project</li> <li>▪ Motivation for the VRI project</li> <li>▪ Current business plan</li> </ul>
Associates from deaf organizations (e.g. Victorian Deaf Society)	<ul style="list-style-type: none"> <li>▪ General information about deaf community</li> <li>▪ Current awareness of VRI</li> </ul>

### 3.2.2 Organizing and Analyzing Feedback of VRI in Victoria

Once the information was collected, the team organized it using graphs, charts, and tables. Table 7 divides the key stakeholder groups' opinions into needs and expectations.

**Table 7: Matrix for Victorian Opinion**

	Deaf Community Representatives		Interpreters		Hearing professionals		Service Providers		Government Agency Representatives	
	N	E	N	E	N	E	N	E	N	E
Language Skills										
Training										
Interpreter Availability										
Awareness										
Current State of VRI										

**N = Needs, E= Expectations**

These users' opinions make up the majority of the needs and expectations of VRI within the Victorian deaf community. Opinions that occurred more frequently generally had a greater significance than those presented by a single source. Similar to the table created to organize the data collected for the U.S. and the U.K., the matrix for the Victorian opinion has categories listed down the left hand side of the chart defining different areas that affect communication abilities and factors with which the VRI stakeholders in Victoria might be concerned. The information expected to be obtained from each of these categories is listed below:

#### **Victorian Perspective**

- Language skills and communication
  - What level of language skill (signed or spoken) does the deaf community have
  - What communication technologies are currently being used
  - How will Auslan fluency affect willingness to use VRI



- How they cope when they have poor language skills
- Training and workshops
  - What kind of information should be included
  - How workshops would best educate people about VRI
  - How the workshops should be structured
  - Who will run the workshops
  - Where the workshops will be held
- Interpreter availability
  - How interpreter availability has affected communication for the deaf
  - What the deaf community would do differently if more interpreters were available
  - How the interpreting community would be impacted by VRI
  - What kinds of services interpreters are required for
- Awareness
  - How aware are members of the deaf community of VRI
  - What is the best way to spread awareness
  - How information currently flows in the deaf community
- Current state of VRI
  - Information from the Department of Human Services
  - Information from the Victorian Deaf Society
  - Information from Deaf Access Victoria

To best organize the information, the responses were split up depending on whether it was a need or an expectation of VRI within the specific stakeholder group.

### **3.2.3 Investigating the Victorian Regional Deaf Community Perspectives**

To determine the underlying need for VRI services in the regional areas of Victoria, the team investigated the resources required in these areas by the deaf community. Interviews with potential VRI users were conducted to assess how beneficial implementing these services would ultimately be. VRI stakeholders including sign language interpreters and members of the regional deaf community were interviewed to gain different perspectives of the needs and expectations regarding the installation of a new communications system. Vicdeaf believes that face-to-face interpreting should always be the priority form of communication for the deaf, to assure accuracy. Video Relay Interpreting was intended to provide a secondary alternative to face-to-face

interpreting, for people to use when face-to-face interpreters are unavailable or too costly to book.

After collecting the respondents' feedback, the team assessed willingness to use VRI services. In cases where the interviewee demonstrated no desire to use the service, it was determined what aspects of the service are undesirable to the respondent, why, and what they believe to be anticipated problems. Analysis of the data included identifying problems and benefits noted by the previous VRI users along with the needs and expectations of the potential VRI users. After sorting the information, the team was able to identify the needs and expectations of the Victorian deaf community along with a listing of problems and benefits suggested by previous VRI users.

### **3.3 Summary**

The goal of this project was to provide Vicdeaf with insight into the human experience surrounding VRI services and to investigate the current awareness of VRI stakeholders in Victoria. Information on VRI use in the United States and the United Kingdom was collected through interviews with deaf community members, interpreters, government agencies, and third party hearing professionals, as well as online blogs. In Victoria, information collected through interviews and census reports was used to assess the needs and expectations of potential deaf community stakeholders. Awareness of the benefits and problems faced by VRI users in the U.S. and the U.K. in conjunction with the needs and expectations of the Victorian deaf community, have provided the Victorian Deaf Society with information to help implement VRI into the community.

## Chapter 4: Results and Analysis

The primary result that this project produced was a list of best practices for Video Relay Interpreting based on the unique needs of the VRI community and stakeholders in Victoria, Australia. This list integrated the technical, privacy, social, scheduling, and cost characteristics of the deaf with the communication service in the United States and United Kingdom, along with language skills, training and workshops, interpreter availability, awareness, and the current state of VRI in Victoria.

### 4.1 User feedback of VRI in the U.S. and the U.K.

The majority of the deaf community members who were interviewed responded positively to the services and ease of communication that VRI provides, however, there were some aspects of the service that interviewees regarded as problematic. This section describes benefits and problems that were noted based on the following parameters: technical, privacy, social, scheduling, and cost.<sup>5</sup>

#### 4.1.1 Technical Aspects

##### **Benefits**

VRI has been a major technological advancement in communication accessibility for the deaf. However, for any technology to be successful, the quality of the equipment, infrastructure, software, and all other components must be reliable and in good condition. Many of the VRI stakeholders in the U.S. and the U.K. described their successful experiences with the VRI technology.

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<sup>5</sup> All information provided in the preceding sections is based off of interviews with VRI stakeholders in the United States and United Kingdom. Interview summaries for these contacts can be viewed in Appendices F-J.

A student from Gallaudet University explained that while using VRI, he feels at ease and compared it to the use of cell phones by hearing people, "...nothing is missed." A Sorenson deaf consumer from Massachusetts, U.S.A has the same opinions about the technology. She explains there are no barriers; she can make eye contact with the interpreter and has complete access. Overall, it is very clear. When asked how she would rate images transmitted while using the service, the deaf consumer stated that the quality is "beautiful" and transmits 30 frames per second.

The project team had a chance to use VRI while conducting an interview with two service providers in the United Kingdom. Although the team had never used VRI before, it was not as confusing to set up as the team had originally thought it would be. The BSL interpreter being interviewed had used VRI before and was able to guide the team through the first VRI interview. The team was also given instruction prior to the interview on how to set up the equipment and make the call. The team's experience using VRI was very positive; set up was easy and fast and very few problems occurred. A professor from Gallaudet University agreed that calls made with VRI are beneficial because it is faster to book interpreters and to make calls rather than having to use a face-to-face interpreter (Email Interview, 24 Feb. 2008).

An FCC representative stated that in the early stages of implementation, video images would blur and move too slow. These issues rarely occur today due to improvements in Internet speed and the availability of higher quality webcams. He mentioned that it is crucial to have high quality video while using VRS or VRI so that all the signs are interpreted correctly. Other equipment problems have been noted, but they have been fixed over the years by both the FCC and other service providers. A

representative for a VRI service provider in the U.S, SignOn VRI, mentioned that their company's bandwidth is manageable because they control Internet traffic well. He stated that all service providers need to control Internet traffic in order to assure high quality VRI calls.

When asked to compare VRI to other forms of communication (such as TTY, SMS, VRS, Telephone Relay, SIP, and Videophone) with hearing or other deaf people, the Gallaudet student provided information assuring that VRI was superior to all other communication technologies. The student mentioned that although text messaging is a good back up in some cases, VRI is better because it offers a video component making it easier to communicate with other deaf people. It is faster to relay information by VRI rather than having to type out a conversation on a small keypad. An ASL interpreter had the same opinion, explaining that most deaf people she knows who use VRI have found it very beneficial. For most deaf people written English is not their first language and, therefore, texting or TTY are not always the best forms of communication (Personal interview, Feb. 22, 2008).

The Gallaudet student explained that although video phones can be compared to VRI, the video phones tend to have screens that are too small. This makes it hard to know if all of the information is transmitted correctly or if the recipient can see the image clearly. He also mentioned that the small screens tend to be too grainy and that he prefers to use laptops or television screens. The interviewee mentioned that he has used Skype<sup>6</sup> to communicate with other deaf people; however, the image quality tends to be very poor and VRI "video quality is far superior" (Email interview, February 24, 2008).

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<sup>6</sup> Skype is a cost-free method of communication through online webcams; also a fee based method for Internet telephone communication ; it does not involve a relay interpreter

The Sorenson deaf consumer explained that in the 4 years that she has been using the service, there have been numerous improvements made on the technology and within service, in general. One example is call waiting, where the deaf person using the service can receive incoming calls even if they are already on the phone. A second example is a call hold feature where the deaf person has the ability to put a caller on hold in order to answer an incoming call. Another improvement that was made to the service was a message-leaving system. If the deaf person is not home, the interpreter can leave a message letting the person know that someone had called. The signed video message is sent to the deaf person's email address. Although these improvements pertain to VRS, they are relevant because they demonstrate some of the technological improvements and advances that have been made within deaf communications (VRS Telephone Interview, March 31, 2008). Sorenson also has the ability to connect to any commercial video conferencing equipment that has a static IP address. For instances where the video technology is not compatible by itself, Sorenson has many different equipment options available to best fit the type of call.

The Director of Business Development for Network Interpreting Service in Idaho, USA, explained that unlike VRS, VRI offers some meet and greet time before or after a call which allows the interpreter to get to know the client and become accustomed to their specific signing style (email interview, 10 April 2008).

### **Problems**

Many technological devices have been created to make various aspects of someone's life easier or more enjoyable. When there are problems encountered with these devices, however, it can sometimes make using the device more stressful than it is

helpful. Even though VRI is usually a beneficial assistive device for the deaf, there have been instances where problematic technological issues become a nuisance to various VRI stakeholders in the United States and the United Kingdom.

An on-line blogger (2007) discussed his observations of a VRI system used with his friend at a Brooklyn hospital in the United States. He mentioned that his “experience was abominable.” The hospital lacked trained personnel to correctly set up the VRI system.

While using VRI for an interview with two service providers in the United Kingdom, the team experienced some difficulties with image quality. During the conversation, there were two times when the video became pixilated and froze. Although the video pixilation returned to normal after a few minutes, this disruption interrupted the conversation flow and the team had to repeat the question that had been asked. An interpreter from the United States mentioned it is frustrating to deal with poor connection qualities while using VRI (Email interview, 15 April 1008).

The two Significan’t employees in the United Kingdom discussed some difficulties that they had to overcome when first implementing VRI, especially within the regional areas of the U.K. Poor broadband was the most significant issue in the regional areas. In 1998, when Significan’t was using ISDN for program training, they encountered a delay due to the low Internet bandwidth speed. From 2002-2003 the Internet was developed with faster connection speeds which improved VRI technology, but still only allowed 128Kbps of upload. In 2004, the British Telecom upgraded their broadband upload speed to 256Kbps which was required to operate a videophone. Although Internet

technology has improved over the years, many places in regional areas of the U.K. still do not have Internet access. This creates a problem for those who wish to access VRI.

According to the Director of Technology Assessment Program at Gallaudet University, many of the calls she receives on VRS are from individuals that she does not know personally. In this type of situation, names have to be finger spelled, which becomes challenging over video. This can be especially difficult if the image becomes distorted. The conversation gets disrupted and misunderstandings are more likely to occur. An ASL interpreter commented that the Internet connection used for VRI plays an important role in the quality of the visual display. She compared it to hearing people using cell phones. If the cell phone connection is distorted then the conversation will be harder to comprehend because the information flow is interrupted. The same analogy applies to VRI.

She indicated that video relay can be troublesome “from the workplace because of employer security policy or IT departments' playing it safe.” This has become a problem in a variety of places, ranging from college campuses to government offices. The representative from SignOn VRI mentioned that sometimes third party organizations do not properly control their Internet traffic. For example, if VRI is used at the same time that someone else is downloading a large file on the same Internet connection, this will compromise the quality of the VRI call. Third party organizations planning to use VRI will need to manage their bandwidth appropriately.

### **Considerations**

Besides funding VRS, the Federal Communication Commission (in the U.S.) enforces legislation regarding relay services, regulates the provision of the services, and



compensates the providers. The FCC also addresses new issues that arise regarding VRI and VRS to assure that the technology and the service are functioning correctly.

SignOn VRI, in the U.S, works cooperatively with third party organizations that use VRI to provide technical support, when needed. A Sorenson VRS user in the United States noted that VRS requires a high speed Internet connection.

A videoconferencing device called H.323 is widely used on the Gallaudet campus (U.S.). SIP (Session Initiation Protocol) devices are deemed more secure but are not as accessible as other technologies at the school.

Significan't has specific requirements that they follow while using VRI. The rooms for interpreters are small with high walls to block out background noise. One of the most important things to take into consideration with VRI calls is the noise level. Rooms where VRI calls are being administered should be sound proof. There are blue screens behind the interpreters signing in order to eliminate any washouts or contrasting colors. When third party professionals set up VRI systems, there are also certain guidelines that should be followed to assure the highest quality conversation. These requirements are the same as those for the service provider. The guidelines for third party professionals are less likely to be followed. Many of the third party professionals purchase the equipment and set it up without realizing that the area should be sound proof to ensure privacy. When Significan't establishes a contract with an institution or organization they provide advice on how to use the equipment. This advice might include refraining from flashing lights, vibrating floors, or rustling papers nearby. Lighting should also come from the front instead of overhead (VRI Telephone Interview, April 2, 2008.). The camera used for a VRI call must be connected to a reliable high-speed

Internet connection to support a good quality video feed, which, in the United States, must include two public, static IP addresses. The SignOn VRI representative in the U.S. also informed the team of a protocol they follow when taking a VRI call.

- Lighting shines down on the face of the interpreter as opposed to behind them, to avoid shadows; all lighting comes from the front.
- Interpreters wear solid dark colors and nothing that reflects light
- They can not wear deep V-neck shirts or high turtle necks.
- There is a light shade of blue used for the background.

There are also some various privacy standards that they cover, which are described in the privacy section of the results.

A quick reference of the technical problems and benefits that were mentioned by the different VRI stakeholder groups in the U.S. and the U.K. are listed in Table 8.

**Table 8: Technical**

<b>Technical</b>	
Benefits	<p><b>Deaf Consumers:</b></p> <ul style="list-style-type: none"> <li>• No need to ask for repeats</li> <li>• Beautiful images with (30 fps) through high speed Internet</li> <li>• Same quality as Face-To-Face interpreting</li> </ul> <p><b>Interpreters:</b></p> <ul style="list-style-type: none"> <li>• Deaf clients can communicate in 1st language (rather than written form)</li> <li>• Meet &amp; greet time before and after calls</li> </ul> <p><b>Third Party Hearing Professionals</b></p> <ul style="list-style-type: none"> <li>• Less than 5mins to set up</li> <li>• Easy to use</li> </ul> <p><b>Service Providers:</b></p> <ul style="list-style-type: none"> <li>• Interpreters communicate within the organization to help each other</li> <li>• Any brand of equipment can be used</li> </ul>
Problems	<p><b>Deaf Consumers:</b></p> <ul style="list-style-type: none"> <li>• Improper training in hospital</li> </ul> <p><b>Interpreters:</b></p> <ul style="list-style-type: none"> <li>• Frustrating to deal with poor connection quality</li> </ul> <p><b>Third Party Hearing Professionals:</b></p> <ul style="list-style-type: none"> <li>• Low interpreting abilities from some interpreters, making it harder to communicate</li> <li>• Poor quality of Internet connection</li> </ul> <p><b>Service Providers:</b></p> <ul style="list-style-type: none"> <li>• Regional broadband poor</li> <li>• Problems with third party supporting bandwidth needed</li> </ul> <p><b>Government Agency Representatives:</b></p> <ul style="list-style-type: none"> <li>• Internet connection not always the most reliable</li> </ul>
Considerations	<p><b>Deaf Consumers:</b></p> <ul style="list-style-type: none"> <li>• Text-based communication usually more difficult for deaf people; TTY becoming replaced</li> </ul> <p><b>Service Providers:</b></p> <ul style="list-style-type: none"> <li>• Proper environment procedures must be maintained</li> </ul> <p><b>Government Agency Representatives:</b></p> <ul style="list-style-type: none"> <li>• Does not provide regulations</li> </ul>

**4.1.2 Privacy Aspects**

**Benefits**

When dealing with communication, privacy is always a factor that must be taken into consideration; for the deaf community, the same applies. Precedents have been set up by organizations to uphold privacy standards.

An ASL interpreter mentioned that interpreters in the United States have to take certain classes and receive certification to become a licensed interpreter. Thus, privacy is

not usually an issue deaf clients need worry about because they know the interpreter is trained and qualified (personal interview, Feb. 22, 2008).

SignOn VRI (2008), a service provider in the U.S., holds certain standards to ensure the privacy of all callers. Interpreters work in a locked room to ensure the privacy of the call. There are windows in the rooms; however, blinds are pulled shut over the windows. Also, headsets are used with all of the interpreters so that no one except the interpreter can hear what is being relayed through the video call. SignOn assures confidentiality with any information passed through their system. No names or personal information are shared or distributed to any other outside parties.

### **Problems**

Various rules and regulations have been established world wide to protect an individual's privacy. Some people or organizations, however, have found it difficult to trust a technology, such as VRI, which transmits personal information through an internet video connection. Privacy must be a priority of service providers or any organization that uses VRI to prevent any breaches of confidentiality.

Contrary to what the ASL interpreter had previously mentioned, an on-line blogger (2007) observed his friend who was using VRI during a medical appointment. He stated that the deaf patient felt very uncomfortable discussing personal information with an interpreter he had never met before.

Another blogger, in the blog entitled "VRI in NM [New Mexico]," mentioned that the biggest obstacle for the medical professions is allowing "accessibility for VRS or VRI - because they fear by opening the ports to allow VRS or VRI would expose their

networks.” This brings up an interesting observation that institutions that place a high priority on security may be hesitant to introduce VRI or VRS systems (Koch, 2007).

A quick reference of the problems and benefits mentioned by the various VRI stakeholders regarding privacy is in Table 9.

**Table 9: Privacy**

<b>Privacy</b>	
<b>Benefits</b>	<p><b>Interpreters:</b></p> <ul style="list-style-type: none"> <li>• Interpreters in U.S. have to pass code of ethics</li> </ul> <p><b>Service Providers:</b></p> <ul style="list-style-type: none"> <li>• Padlocks, blinds, and headsets used by interpreters</li> <li>• No sharing names</li> </ul>
<b>Problems</b>	<p><b>Deaf Consumers:</b></p> <ul style="list-style-type: none"> <li>• Communication with unknown interpreters</li> </ul> <p><b>Third Party Hearing Professionals:</b></p> <ul style="list-style-type: none"> <li>• Employer security policies and IT dept. "playing it safe"</li> <li>• Unsecured Internet connections</li> </ul>

### 4.1.3 Social Aspects

#### Benefits

Any communication technology will have an impact on society and social interaction. VRI provides social benefits by improving communication accessibility for deaf people.

A student and VRI-user, when asked about any positive or negative aspects of VRI that he has encountered, explained that “the biggest positive aspects of VRI are independence and stress free” communication and continued to mention that he did not have to worry about having to ask people to repeat what they were saying or having to make guesses - it was always a clear conversation. A representative from the FCC agreed when he mentioned that various service providers have informed him that there has been good awareness of VRI and VRS in the United States and that “everyone seems to love it” (Telephone Interview, 9 April 2008).

A deaf consumer in the United States stated that occasionally she might encounter an interpreter with poor receptive skills, but overall she estimated that 98 percent of the interpreters are good. She uses video relay every day with doctors, friends/family, personal business, and more. It has improved her communication access. This deaf consumer mentioned that both VRI and VRS have improved upon communication access for the deaf (VRS telephone interview, 31 March 2008).

The team, while using VRS for an interview, agreed that the tone in which the interpreter relayed the signed information to spoken English was remarkable. The interpreter made sure to say words and phrases in the appropriate tone; it was as if the team was speaking directly with the deaf person, without a middle person. With VRS the team did not have visual access to the interpreter or the deaf person to pick up on facial expressions. Appropriate intonation of voice from the interpreter was especially helpful.

The Technology Assessment Program director at Gallaudet University reported that VRI has been very successful and claims satisfaction from both deaf and hearing parties. The success of this service has led to increased competition among VRI vendors for interpreting staff. A representative from SignOn VRI, in the United States (2008) mentioned that interpreters enjoy VRI because they can sit in one place and serve a variety of people and have a variety of work. This also helps to improve efficiency with interpreters. A representative from Network Interpreting Service (NIS) in the United States (2008) explained that VRI provides good added work to interpreter's schedules and is beneficial because interpreters can possibly work from home.

The NIS representative (2008) provided the team with information from her experience as a VRS interpreter. In the beginning she loved the interaction with different

deaf people from all over the United States and the world. However, because the FCC regulates VRS, there were laws and rules developed to keep VRS “in check.” After a while she realized that VRS interpreting did not fit her personality because it did not allow interpreters to engage in the deaf culture, which is an aspect she enjoyed a lot. She also mentioned that VRS interpreting is becoming a very high stress job. The NIS representative explained that VRI, on the other hand, is much different than VRS in these aspects. VRI is not FCC mandated and allows interpreters to develop relationships with the other two parties involved, the deaf consumer and the third party hearing professional.

An ASL interpreter in the United States (2008) discussed her experiences as a VRI interpreter. The interpreter stated that she enjoys being able to stay neutral while interpreting via VRI. As a face-to-face interpreter, she experienced times when the hearing person, not knowing how to use the interpreter, thought that she was associated with the deaf client in some way even though she was not. With VRI, there is a distinct separation between the interpreter and the deaf client so that the hearing individual does not think that the interpreter is associated with the deaf person in any way other than for interpreting needs. This interpreter also explained that she enjoyed being able to immediately disconnect from the environment after completing an interpreting job. This interpreter also finds VRI beneficial when needing assistance from another interpreter with a word or in a difficult situation. She explained that she can receive help from another interpreter off-screen without the deaf or hearing client losing confidence in her interpreting abilities. Overall, this U.S. interpreter believes that VRI is beneficial and provides a potential solution to the shortage of interpreters. She also stated that it helps

clients so that they are not limited only to the resources in their immediate residential areas, but rather anywhere they can dial a VRI interpreter (Email Interview, 15 April 2008).

All Sorenson VRI interpreters hold national certification. The interpreters specialize in a variety of fields, through programs set up between Sorenson and the third party organizations using the service in learning key words and vocabulary specific to those organizations (E-mail Interview, 2 April 2008.). SignOn VRI interpreters must be certified through the Registry of Interpreters for the Deaf (RID). However, they take some with pre-certification if they have passed the written exam. SignOn also accepts some who passed the Interpreter Training Program (ITP), but they only get paired with certain jobs (Telephone Interview, 12 April 2008).

In London, both VRI and VRS are used, however VRI is more popular than VRS within the deaf community. It was estimated that the use of VRI compared to VRS is about 80%-20% respectively in the U.K. VRI is widely used to communicate with staff members and employees within in a company.

### **Problems**

Though VRI has increased communication access for the deaf, improving upon social interaction, there are still social problems or reasons why VRI is not preferable. An American deaf consumer explains that because VRS is used more for personal calls in place of a telephone for deaf people, she finds VRS to be more useful than VRI. A similar opinion is held at Gallaudet University where the majority of the students use Video Phones because they have been distributed to the students free of charge.



A deaf individual in the United States stated that she prefers Video Relay Service over VRI because VRS makes communication easy. She explained that though she has used VRI, it is typically used for business meetings, doctor's appointments, and other interaction with professional society. VRS, on the other hand, provides full access to any type of social communication desired by the deaf individual. In short, VRS provides better communication accessibility than VRI because it is used more for social communication as opposed to strictly professional communication.

The team had the ability to use VRS while conducting an interview with a deaf consumer in the United States. Being the first time any member of the team had used VRS, there was some initial confusion with whether the interviewer should have spoken to the interpreter as if she were an interpreter or as if she were the deaf individual receiving the information. No instruction was given by the interpreter before the call was placed. The interpreter made the assumption that the callers had used VRS before and did not offer any assistance.

Two Significan't employees explained that not all interpreters can cope with VRI. The interpreter needs to be comfortable with the technology in the case of a caller who has never used the equipment or service before and needs assistance with using the equipment or making the call. However, in these cases, Significan't stresses that the interpreters only step in and take control to assist with set up of the call and then turn over the control to the caller once the caller understands how to use the service.

An online blogger in the U.S. described complications with a VRI interpreter due to residential differences between the interpreter and the deaf consumer. Since the interpreters providing the service are located in different cities throughout the country,

linguistic differences may arise between the interpreter and the hearing individual. In this case, the interpreter was from Minnesota and did not understand the deaf person's New York ASL dialect.

An improvement that one U.S. deaf consumer would make is to improve VRS/VRI accessibility. She would like to see video phones or other types of video technology in hotels, grocery stores, airports, and train stations; the service should be accessible everywhere. As she stated, "hearing people can use their phones everywhere, the deaf should too" (VRS telephone interview, 31 March 2008).

An ASL interpreter stated that although she believes VRI is important and useful technology for the deaf community, face-to-face interpreting should still be the most preferred. VRI does not have the same personal and direct aspect as face-to-face interpreting (Personal Interview, 22 Feb. 2008).

An obstacle faced when introducing VRI to the regional deaf communities in the United Kingdom was the lack of knowledge on how to use interpreters. This was due to high cost of hiring a face-to-face interpreter. Many members of the regional deaf community in the U.K. would opt out of using an interpreter at all and just learn how to cope without one. It was important to provide workshops and information sessions about how to use the VRI service and how to use interpreters (VRI Telephone Interview, April 2, 2008.). An interpreter in the U.S. (2008) agreed that misunderstandings and frustrations have occurred when using VRI with individuals who have never used the service before and that awareness workshops would be needed to solve this problem.

## **Considerations**

During interviews with VRI stakeholders in the United States and United Kingdom, various suggestions or facts regarding VRI implementation were given. The following considerations are social aspects of the technology that were noted.

A U.S. deaf consumer (2008) stated that she finds that there is not much of a difference between having a face-to-face interpreter as opposed to a relay interpreter. She explained that Video Interpreters need to be fluent in the sign language being used and must be well educated for the conversation to flow smoothly through relay calls. This is also true in the United Kingdom, where it was observed that people in different regions have different dialects of sign language. Video Interpreters need to be highly skilled in order to work with the different accents (VRI interview, 2 April 2008).

Three VRI stakeholders in the U.S. believe that videophones tend to be the most popular within the deaf community, either by using a remote interpreter or just communicating with someone else who knows sign language. The videophones are handheld. Because they have video capability, it makes it easier for mobile communication both with other deaf people and with hearing people. Videophones also help with a previous difficulty that was identified, that written English is typically not the first language of deaf people. These mobile phones allow deaf people to communicate in their first language with ease and accuracy.

The FCC representative mentioned that service providers have their own standards and rules for hiring and training relay interpreters; however in the U.S., most qualified interpreters know the standard procedures for interpreting, such as wearing dark clothing if you have light skin and making sure the background does not clash.

The two Significan't employees mentioned that the best people to introduce the service and possibly provide training are other deaf people who have had experience with the technology. When they first started implementing the technology, Significan't had other deaf people explain the service and the benefits and the audience was much more receptive than when a hearing person tried to explain it (VRI Telephone Interview, 2 April 2008.).

A consideration that was brought up by the Significan't representatives was how accessible interpreters are to each other. All interpreters should be able to see which other interpreters have a call at the moment so that if an interpreter needs help with a call or receives a particularly lengthy call, they can switch off with another interpreter.

The FCC representative explained that the VRI/VRS service providers hold workshops and awareness programs to raise understanding and promote training of VRI and VRS to both deaf individuals and third party organizations that wish to implement VRI. The service provider organizations hold outreach programs at conventions and meetings with booths, displays, and demonstrations to show people how and why VRI would be beneficial to them. The SignOn VRI representative mentioned that they offer online workshops such as tele-training and webinars for people who wish to have training or information regarding how to use VRI. The NIS in the U.S. provides outreach programs to different states to provide better VRI access to the more regional areas of the United States (Email Interview, 10 April 2008).

The director of the Technology Assessment Program at the school explained that while VRS is commonly used, VRI is not utilized very often by deaf students on campus because on-site interpreters are available for them. The Director of Assistive Devices at

Gallaudet University (2008) also indicated that VRI is not used very often by deaf students on campus because on-site interpreters are available.

Alexander Graham Bell is an organization in Washington, D.C. for the Deaf and hard of hearing. AG Bell, as it is sometimes called, enhances deaf awareness within their community and helps medical and education professionals to realize the importance of early diagnosis of hearing loss to aid the deaf community (Alexander Graham Bell Association for the Deaf and Hard of Hearing, 2005). The director of professional programs at AG Bell explained that any constituents associated with the organization use listening and spoken languages and any with hearing loss use remote Computer Assisted Real Time Captioning (CART)<sup>7</sup> to communicate. Because the deaf individuals at AG Bell have adequate written English skills, text-based communication such as CART is a sufficient communication technology, having no need to use VRI (E-mail Interview, 3 April 2008). The NIS representative mentioned that although she still prefers free lance interpreting, she believes that VRI is “the wave of the future” (email interview, 10 April 2008).

Studies show that VRI interpreters become more fatigued than face-to-face interpreters. “Video interpreters experience a decline in performance after 15-18 minutes as opposed to the decline after 30 minutes for in-person interpreting” (Moser-Mercer May, 2003 as cited in Communication Matters, February 2006). For this reason, it is a good idea for video interpreters to receive frequent breaks throughout the work day.

A quick reference of the problems and benefits mentioned by the various VRI stakeholders regarding social aspects of VRI is listed in Table 10.

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<sup>7</sup> Remote CART is a service in which an interpreter listens on a telephone to what someone is saying and relays the information via typed text to the deaf individual who then reads the text and types back information to have the interpreter translate into spoken language.

**Table 10: Social**

<b>Social</b>	
<b>Benefits</b>	<p><b>Deaf Consumers:</b></p> <ul style="list-style-type: none"> <li>• "Super ease" - same as hearing people with cell phone</li> <li>• Independence &amp; stress free</li> <li>• Can be used daily to make simple tasks easier (personal, business, legal matters)</li> </ul> <p><b>Interpreters:</b></p> <ul style="list-style-type: none"> <li>• State-wide reach out</li> <li>• Allows for interpreter engagement with deaf consumer</li> <li>• Have the ability to stay neutral in matters</li> <li>• Once the work is done, the interpreter is disconnected from that environment</li> <li>• Interpreters can receive off-screen help without the deaf or hearing person losing confidence in their abilities</li> <li>• Potential solution to shortage of interpreters</li> <li>• Adds work for interpreters</li> </ul> <p><b>Service Providers:</b></p> <ul style="list-style-type: none"> <li>• Regional areas very receptive</li> <li>• Provide training and a good understanding of how VRI is beneficial to the deaf community through workshops</li> <li>• All interpreters nationally certified (U.S. &amp; U.K.)</li> <li>• Can use for emergency calls</li> </ul> <p><b>Government Agency Representatives:</b></p> <ul style="list-style-type: none"> <li>• Service providers hold workshops and demos to promote education and awareness of VRI</li> </ul>
<b>Problems</b>	<p><b>Deaf Consumers:</b></p> <ul style="list-style-type: none"> <li>• Should be available anywhere there is a telephone</li> <li>• VRI is used more for conferences and meetings</li> </ul> <p><b>Interpreters:</b></p> <ul style="list-style-type: none"> <li>• Dialect differences</li> <li>• Misunderstandings and frustrations with those who have not used the service before</li> </ul> <p><b>Third Party Hearing Professionals:</b></p> <ul style="list-style-type: none"> <li>• Hard to focus and understand what is being interpreted while watching the deaf person sign</li> </ul> <p><b>Service Providers:</b></p> <ul style="list-style-type: none"> <li>• Different dialects</li> </ul>
<b>Considerations</b>	<p><b>Deaf Consumers:</b></p> <ul style="list-style-type: none"> <li>• VRS better communication access</li> <li>• VRS used more often because there is a wider range of access</li> </ul> <p><b>Service Providers:</b></p> <ul style="list-style-type: none"> <li>• Interpreters have to be comfortable with technology</li> <li>• "Wave of the future"</li> </ul>

**4.1.4 Scheduling Aspects**

**Benefits**

One of the biggest motivations for providing VRI as an alternative to face-to-face interpreting is due to the lack of interpreters. Since implementation of VRI, deaf communities in the U.S. and U.K. have had better success scheduling interpreters.

At Significan't, there are at least two interpreters per shift, but most of the time there are three interpreters available to answer VRI calls. Significan't takes bookings up to two months in advance but also allows VRI users to call at any time they need the service. The VRI service provided through Sorenson in the United States can be accessed 24 hours a day; however, appointments must be booked 24-hours in advance to the call. Sorenson asks that users of the system use no less than 2 hours per month. SignOn VRI in the United States always has three interpreters available to take VRI calls simultaneously. SignOn also allows VRI callers to schedule specific interpreters, as long as it is done so in advance (telephone interview, 12 April 1008).

To ensure a decent response time, all employees at Significan't are fluent in BSL and are able to take a call if necessary. The two Significan't interviewees explained that in London, there are significant differences between efficiency of a face-to-face interpreter and that of a VRI interpreter, where typically a face-to-face interpreter in the city can interpret about three jobs a day (one job a day in the regional areas), VRI interpreters can take on about twelve jobs a day (VRI Telephone Interview, 2 April 2008.).

The Significan't representatives explained why VRI is more widely used over VRS in the United Kingdom. VRS is more expensive, not many people have video phones at home in the U.K. and VRI equipment can be accessed at different professional sites, such as hospitals and service providing agencies (VRI Telephone Interview, April

2, 2008.). The SignOn VRI representative (2008) mentioned that in the United States, VRI can be found in more places than VRS, and that although VRI is mainly used for medical appointments, the service can also be found in locations such as higher education, courts, and police stations.

Despite the difficulties with broadband connections, many people in the regional areas of the United Kingdom quickly accepted VRI, mainly because the service and technology enabled them to have better communication accessibility and eliminated excess costs to pay for flights and accommodations to have interpreters available to them (VRI Telephone Interview, April 2, 2008.).

SignOn VRI makes specific recommendations to third party organizations that VRI is best used in emergency situations but does not replace face-to-face interpreting. Live interpreters are typically the ideal situation, however when they are not available, it is best to use VRI. SignOn stresses that the deaf consumer should have the ultimate choice in deciding what option would best fit their needs (telephone interview, 12 April 2008).

A Network Interpreting Services representative noted that due to VRI, the pool of interpreters has increased. Because VRI allows interpreters to be set up all over the country or the world, it provides customers with a wider selection and allows for competition between the jobs (Email Interview, 10 April 2008). A VRI interpreter in the United States (2008) mentioned that she enjoys not having to travel far away for jobs with VRI. She mentioned that with interpreters spending less time commuting, they can be more available to take on more interpreting jobs.

## **Problems**



Although VRI has provided improvements with scheduling interpreters, there are still some instances in which VRI is not the best option due to complications and restrictions with scheduling interpreters. The main scheduling problems are due to location of the VRI interpreter being booked along and not being able to book a specific interpreter.

Another problem that was identified with scheduling VRI interpreters due to location differences in areas all over the United States was the possibility of being connected with an interpreter with interpreting speeds or word choice that may be different from what the caller or deaf person is used to. Problems have risen because of this same reason when people use VRI interpreters for medical appointments. Usually the deaf person does not have a sufficient amount of time to explain the situation or reason for the appointment, making it somewhat more difficult to interpret between the doctor and the deaf patient. For example, if a deaf person had a medical appointment one week and had to go back the next week for a follow-up, the deaf patient would most likely not be connected to the same interpreter as the previous week, meaning there would be background information that the deaf patient would not be able to explain to the interpreter before the appointment began (personal interview, 22 Feb. 2008). Face-to-face interpreting provides some time in the beginning where the interpreter can be informed by the deaf client of any background needed before beginning to interpret. Face-to-face interpreters can also pick up on body language and surrounding factors much more easily than video interpreters.

Significan't stresses that they must have the most qualified interpreters to answer VRI calls because they could receive one call from a hospital and the next call they

receive after that could be from a tax office. Because the calls are not screened before the interpreter answers, the information or knowledge needed to interpret the calls must be broad. Significan't guarantees a VRI interpreter will be available within 45minutes of the call.

SignOn VRI has a specific procedure for booking a VRI interpreter. The VRI caller needs to first call, text, or e-mail the provider to see when an interpreter will be available. Some rearranging of schedules on the side of the deaf consumer may have to occur to fit this in. The ideal situation for booking an interpreter for VRI would be to have someone make the call and be put in a queue until the next interpreter is available. This is what usually happens for VRS calls; however the technology has not been developed yet to do this with VRI (Telephone Interview, 12 April 2008).

### **Considerations**

Some suggestions and general opinions for scheduling interpreters for VRI calls were brought to the team's attention during various interviews. One issue that was faced in its early stages of implementation was speed of answer of relay calls. The FCC representative explained that if there are not enough video interpreters for the number of calls coming in, there may be a wait time to get a call answered (Federal Register, 2006). Once this problem was identified, the FCC developed a regulation which states that every incoming relay call must be answered within 2 minutes in the U.S. Another problem was using relay calls to make emergency phone calls to reach the police, fire or ambulance service. Because relay interpreters are located across the country, when a VRS call is made, the caller might receive an interpreter from a completely different state. This causes problems when trying to make emergency calls because it is not easy for a relay

interpreter to know the local phone number of the caller's area police station. The FCC developed a regulation on March 19, 2008 which stated that all VRI and VRS service providers were required to take emergency calls, effective 30 days following the regulation. The service providers were required to develop an "available database that will allow the provider to determine an appropriate Public Safety Answer Point (PSAP), designated statewide default answering point, or appropriate local emergency authority that corresponds to the caller's location, and to relay the call to that entity" (FCC, Report and Order, March 2008).

. The two Significant't employees interviewed by the team explained that it is important to find a balance with how many interpreters to hire because if there are too many, then interpreters will be waiting around without work to do, whereas if there are not enough interpreters, it will take too long to answer the calls. The SignOn VRI representative also noted that in the United States, interpreters can not interpret for more than an hour without a break, due to labor laws. This should be taken into consideration when hiring the appropriate number of interpreters (Telephone Interview, 12 April 2008).

A quick reference of the problems and benefits mentioned by the various VRI stakeholders regarding scheduling of VRI is listed in Table 11.

**Table 11: Scheduling**

<b>Scheduling</b>	
Benefits	<p><b>Interpreters:</b></p> <ul style="list-style-type: none"> <li>• Interpreters on hand</li> <li>• Interpreters don't have to travel far for work</li> <li>• Interpreters are more available because they spend less time commuting</li> <li>• Higher pool of interpreters for deaf consumers to choose from</li> </ul> <p><b>Third Party Hearing Professionals:</b></p> <ul style="list-style-type: none"> <li>• Competition for the small number of interpreters ensuring the most qualified interpreters hired</li> </ul> <p><b>Service Providers:</b></p> <ul style="list-style-type: none"> <li>• Always have 3 interpreters to answer calls</li> <li>• 24hr access</li> <li>• Quicker access to interpreters</li> </ul> <p><b>Government Agency Representatives:</b></p> <ul style="list-style-type: none"> <li>• Speed of answer call regulations</li> <li>• Emergency call regulations</li> </ul>
Problems	<p><b>Deaf Consumers:</b></p> <ul style="list-style-type: none"> <li>• Can't book specific interpreter in some cases</li> <li>• Typically won't get same interpreter who knows the client's background</li> </ul> <p><b>Interpreters:</b></p> <ul style="list-style-type: none"> <li>• Random interpreters don't know any background on the situation</li> <li>• Location of connected interpreters in cases of emergency police or ambulance calls</li> </ul> <p><b>Service Providers:</b></p> <ul style="list-style-type: none"> <li>• Long time to connect with interpreter</li> <li>• Advanced booking may be required</li> </ul>
Considerations	<p><b>Service Providers:</b></p> <ul style="list-style-type: none"> <li>• Live interpreters are better in some situations</li> </ul>

### 4.1.5 Cost Aspects

#### Benefits

The main motivation for implementing VRI other than the lack of interpreters is the cost benefits. Face-to-face interpreters can be very costly due to travel time and costs that are accrued. VRI interpreters, on the other hand, are only charged by the time they are used.

Significan't in the U.K. explained that payment for the VRI equipment comes from the Greater London Authority (greater London city government). All other costs must be covered through Significan't. Operating expenses are paid for through contracts developed with third party professionals, such as hospitals, lawyers, and other VRI

service providers (VRI Telephone Interview, 2 April 2008). A SignOn representative from the United States (2008) stated that because with VRI, the user only pays by the time that is used, it is more cost efficient than face-to-face interpreting, where there is usually a base time that must be paid for. The comparison table below shows the differences in billing structure of face-to-face and VRI interpreting of different VRI service providers in the United States and the United Kingdom.

**Table 12: VRI Cost Comparisons**

	<b>Significan't (U.K.)</b>	<b>Sorenson (U.S.)</b>	<b>SignOn (U.S.)</b>
<b>Face-to-face interpreting costs</b>	<ul style="list-style-type: none"> <li>• charged by 3 hour intervals</li> <li>• travel time not included</li> </ul>	<ul style="list-style-type: none"> <li>• does not offer face-to-face interpreting</li> </ul>	<ul style="list-style-type: none"> <li>• charged hourly</li> <li>• excluding travel time</li> </ul>
<b>VRI interpreting costs</b>	<ul style="list-style-type: none"> <li>• charged by 20 minute intervals</li> <li>• if time spent is less than 1.5 hours, then VRI is cheaper</li> </ul>	<ul style="list-style-type: none"> <li>• must be a minimum of 10 minutes</li> <li>• each additional minute charged after that</li> <li>• if time spent is less than 30-45 minutes, then VRI is cheaper</li> </ul>	<ul style="list-style-type: none"> <li>• charged by minute intervals</li> </ul>

### **Problems**

Regardless of the cost benefits of VRI, sometimes the decreased costs result in overuse of the service when face-to-face interpreting is actually the better option. Money should not always be the driving factor for choosing an interpreter; however in some cases that is what happens.

An online blogger in the U.S. remarked, “It’s the hospital’s responsibility to match the needs of the patient.” He observed a situation in which his friend was not given an option as to what kind of interpreter he preferred, and because it was more cost effective for the hospital to hire a VRI interpreter, that is who he had to use. This situation is an example of how dependence on VRI technology, while providing a less expensive alternative to on-site interpreters, can have an unintended negative impact and cause unnecessary stress for deaf individuals.

In the United States VRI must be paid for by the deaf or hearing person using the service, while VRS is free for use by deaf and hearing individuals through funding from the Federal Communications Commission. The Director of the Technology Assessment Program at Gallaudet University, (2008) explained that Video Relay Services are free to users and are paid for by “fees charged to interstate carriers, wireless carriers and now Voice over Internet Protocol (VoIP) carriers.” VRI, however, is similar to other interpreting jobs since it is paid for by the organization or person responsible, such as a hospital providing VRI equipment for a deaf patient to use. VRI is not regulated by the FCC because it is considered a commercial service that replaces face-to-face interpreting. VRS, on the other hand, is considered an alternative to using the telephone for a deaf person, which is how the FCC warrants funding for it.

The FCC has come across some problems regarding regulation of the payment system for VRS. The service provider has to submit minutes to the FCC to get paid for the relay calls that have been made. The FCC must rely on the service provider to honestly account for the minutes submitted because the FCC has no way of monitoring the number of calls themselves.

Another problem that the FCC is currently dealing with is making sure people are not using VRS when they should be using VRI. Because the services are very similar and because VRS is free, whereas VRI must be paid for by the individual using the service, many people have tried using VRS as VRI.

**Considerations**

Third party organizations which support VRI and are in cooperation with SignOn VRI in the United States, pay for all the VRI equipment themselves (12 April 2008). The U.S. VRI service provider, Sorenson, charges no-shows and cancellations the full time scheduled if not given 24 hours notice, which is also what usually happens with cancellation of a face-to-face interpreter (email interview, 2 April 2008).

A quick reference of the problems and benefits mentioned by the various VRI stakeholders regarding the cost of VRI is listed in Table 13.

**Table 13: Cost**

Cost	
Benefits	<p><b>Service Providers:</b></p> <ul style="list-style-type: none"> <li>• VRI less expensive than face-to-face (U.S. &amp; U.K.)</li> <li>• Pay by the time used instead of hourly rates, depending on the provider</li> <li>• Or pay by smaller time intervals (20mins), depending on provider</li> </ul>
Problems	<p><b>Deaf Consumers:</b></p> <ul style="list-style-type: none"> <li>• There is a charge to the customer involved for VRI</li> <li>• Cost shouldn't mean the needs of the deaf person are ignored</li> </ul> <p><b>Third Party Hearing Professionals:</b></p> <ul style="list-style-type: none"> <li>• Paid for like normal interpreting jobs, by person or organization responsible</li> </ul> <p><b>Government Agency Representatives:</b></p> <ul style="list-style-type: none"> <li>• VRI not paid for by FCC (U.S.)</li> </ul>
Considerations	<p><b>Deaf Consumer:</b></p> <ul style="list-style-type: none"> <li>• There is no charge to the client for VRS</li> </ul> <p><b>Service Providers:</b></p> <ul style="list-style-type: none"> <li>• Equipment paid for by the government; other expenses paid for through the service provider (U.K.)</li> </ul> <p><b>Government Agency Representatives:</b></p> <ul style="list-style-type: none"> <li>• VRS used when clients should use VRI because of cost (U.S.)</li> </ul>

#### 4.1.6 Benefits and Problems in the U.S. and the U.K.

Similar problems and benefits of VRI were mentioned among individuals and VRI stakeholder groups who were interviewed in the U.S. and the U.K. The major problems and benefits mentioned were as follows, with the number of respondents agreeing located in the parenthesis following the statement:

##### Benefits

- Independence; stress free communication (1)
- Lower costs related to interpreting services (4)
- Greater interpreter availability (2)
- No need to repeat things during a conversation (1)
- “Beautiful” video quality (4)
- Improved communication access (1)
- Allows the deaf to communicate in their first language (sign language) (2)
- Increased interpreter efficiency (2)
- Faster response to interpreting needs (2)

##### Problems

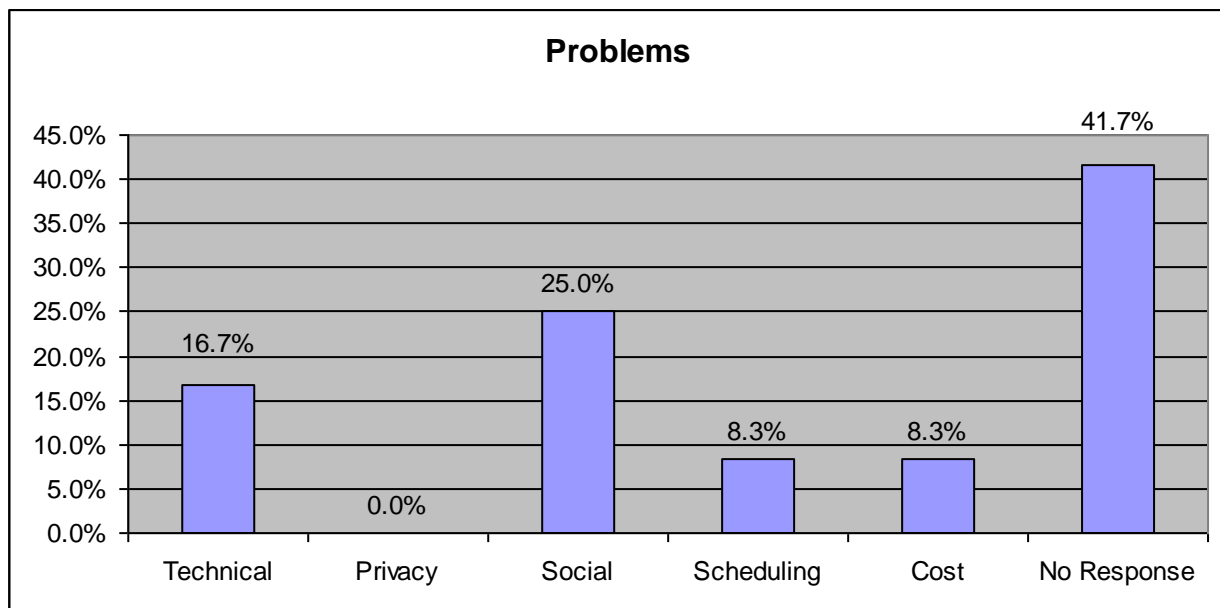
- Lack of training with 3<sup>rd</sup> party hearing professionals (doctors, lawyers, etc.) (3)
- Sign language dialect differences due to connection with any interpreter across the country (3)
- Uncomfortable discussing personal information with an unknown interpreter over the Internet (1)
- Security issues faced with Internet networks provided by 3<sup>rd</sup> party hearing professionals (1)
- Poor interpreter receptive skills; unable to sign or receive signs fast enough to maintain the flow of the conversation (2)

To best implement VRI into the Victorian deaf community, a collection of problems and benefits of the service from VRI stakeholders in the U.S. and U.K. were compiled and assessed to discover which aspects of the service have the most problems and benefits associated with it. Twelve interviewees in the U.S. and the U.K. were asked what aspects of VRI they found to be most problematic and beneficial. The 12 respondents consisted of 2 deaf consumers, 3 VRI service provider representatives, 3



interpreters, 1 government agency representative, and 3 third party hearing professional representatives. The respondents may have provided information for multiple categories of both problems and benefits. The response to these questions is graphically represented in Figures 2 and 3, respectively.

The data collected in Figure 2 depicts that according to the respondents, the majority of the problems faced with VRI are related to social issues. No responses were tallied for those who believed there were no problems associated with VRI along with those who mentioned they did not find any use for VRI for their organization.

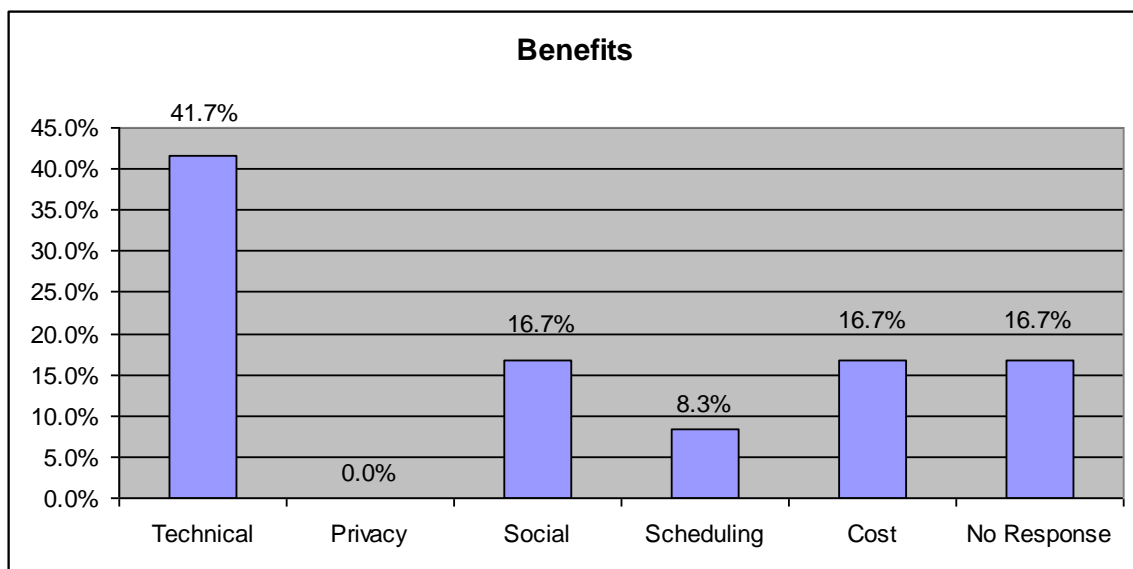


**Figure 2: Responses to problems encountered with VRI**

The main issues that were presented regarding social situations were that interpreters would need to become accustomed to their new surroundings and the new technology of interpreting in front of a camera, as opposed to face-to-face interaction, which is what they would most likely be used to. Another social issue that was commonly raised was that the interpreters would need to become comfortable with the technology and be able

to aid a VRI caller if they were using the system for the first time. A common problem that was brought up by deaf consumers was that because they did not have a choice with what interpreter would answer the VRI call, there would be some confusion with calls because of the lack of background information that the interpreter would have regarding the call.

Figure 3 illustrates which areas of VRI were considered the most beneficial to the key stakeholders who were interviewed by the team, based on their personal experiences with the service. The 12 respondents' answers are depicted in the figure below, with the no response category holding those who did not find any use for VRI in their own company, so did not have any opinion on the service.



**Figure 3: Responses to beneficial aspects of VRI**

The most beneficial aspect of VRI according to the key stakeholders interviewed in the U.S. and the U.K. was the technology. One of the most common responses as to how beneficial VRI technology was to the deaf community was the ability to communicate in their first language, sign language. For much of the deaf community in the U.S. and the U.K., face-to-face interpreting is not always an option due to time or

financial constraints, forcing members of the deaf community into finding other ways of communicating with people who do not know sign language. Many people in the deaf community cope by communicating through text messaging or writing on paper, this however would not always work due to poor written English skills with many members of the deaf community. VRI has provided these members of the deaf community with a more accessible, low-cost alternative for communicating with people who do not know sign language.

This information provided Vicdeaf with data regarding what aspects of VRI might need to be improved upon, along with what aspects will most likely be beneficial immediately to the deaf community. Knowing the benefits and problems that have previously been faced by VRI users will allow Vicdeaf to understand the aspects of the service that may prove to be the most beneficial and the most problematic.

#### **4.2 Needs and Expectations of potential VRI users in Victoria**

In order to gain an understanding of how prepared deaf consumers in Victoria are for the introduction of a widely accessible VRI service, information from interviews, a focus group and email correspondence was gathered from the stakeholder groups. Among these groups were regional case managers, members of the regional deaf communities, interpreters, hearing professionals, the government stakeholders, and associates of deaf organizations such as Deaf Access Victoria and the Victorian Deaf Society. The results of this section are divided into four areas where the stakeholder groups expressed the most concern. These categories include language skills and communication, training and workshops, interpreter availability, and awareness. The

current status, needs, and expectations are discussed under each category. These discussions are followed by tables that summarize the key points under each subheading.

### 4.2.1 Language Skills and Communication

#### Current Status

In each region, a majority of the deaf community favored SMS to other text-based types of communication, bearing in mind that face-to-face interpreting is always preferred but usually unavailable. Among these other forms of text-based communication are captioning, faxing, email, and TTY. One of the representatives from Deaf Access Victoria mentioned that SMS has had a huge boom in the Grampians region (Ballarat). However, according to a recent survey conducted by Vicdeaf, captioning is still the preferred communication method. This could be due to the fact the oral school in Ballarat promoted spoken language to be used in the deaf community, resulting in poor Auslan and poor English skills. Figure 4 below displays the Ballarat case manager's estimated signing and reading/writing ability of her 55 clients.

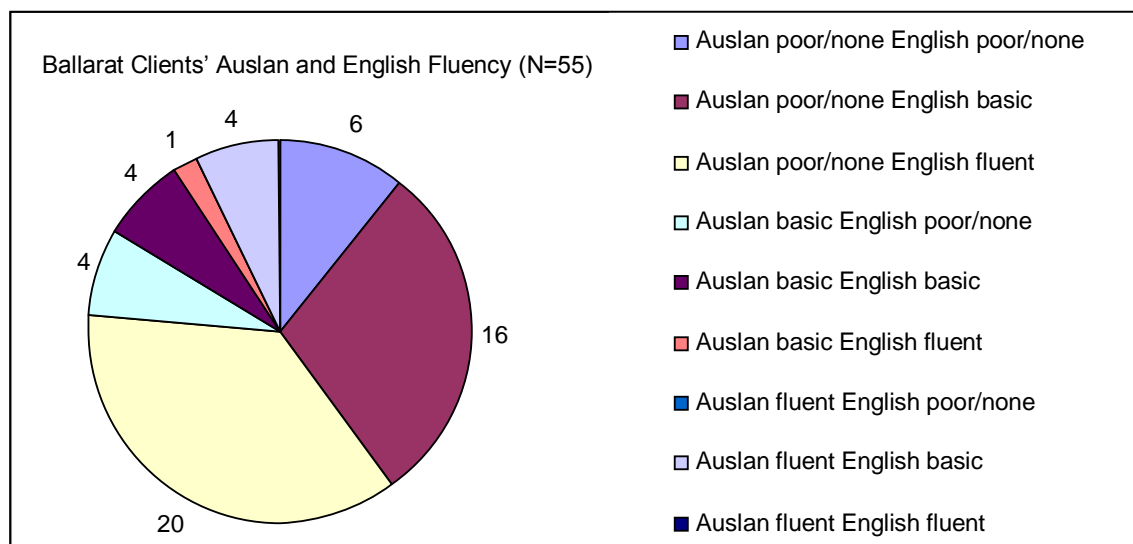


Figure 4: Ballarat Clients' Auslan and English Fluency

The graph shows that 51 out of the 55 Ballarat clients are not fluent in Auslan and 34 out of the 55 clients are not fluent in written English. The case manager also noted that the majority of the 20 clients who have fluent English skills and poor Auslan skills are hard of hearing. This means that they most likely developed their English skills while they had the ability to hear and then lost their hearing over time. None of the clients had fluent Auslan and fluent English skills and none of the clients had fluent Auslan and poor English skills as estimated by the case manager.

According to several interpreters the team interviewed, there are two levels of interpreting skill: level 2 interpreters (para-professional) and level 3 interpreter (professional). Level 2 interpreters are usually booked for work in an educational environment while level 3 interpreters are usually booked for more critical work such as medical appointments. There is no further qualification past the level 3 interpreting level, even though more experienced interpreters can have a much broader vocabulary and better receptive skills than newer level 3 interpreters. For example, an interpreter that passed the professional exam 10 years ago would have much more knowledge and experience than an interpreter that passed the test this year. Since the test is not inclusive of all the vocabulary that interpreters could possibly have, each job is a learning experience in which a given interpreter might learn new words or learn how to handle a certain procedure.

## **Needs**

According to the five regional case managers and as stated above, there are struggles with the regional deaf concerning Auslan and/or written English fluency. As a result, there is a strong need for educational opportunities so that the deaf community can

improve their signing skills. Developed Auslan skills are important to have when communicating via video relay interpreting so that miscommunication can be avoided in urgent situations. There would also be a need to motivate the deaf to better their signing skills because most are satisfied coping with the limited abilities they currently have. Strategies currently used to cope with poor signing skills include using pen and paper or family/friends to facilitate the information exchange.

Developing Auslan skills would also be very beneficial for interacting with interpreters. Based on an interview with an Auslan interpreter, many socially isolated deaf people, who might even be living in the city, invent what are known as “home signs” or signs they create by themselves in order to depict an object or idea. It can be very difficult and time consuming for interpreters to translate these signs and the use of these signs may also disrupt the flow of conversation. If payment for VRI were to be on a per minute basis as it is in the United States and United Kingdom, the deaf would benefit much more if they had fluent signing skills. Appointments would be much faster because the exchange of information would happen at a much more rapid rate.

There is also a need for qualified, skilled interpreters throughout all of Victoria. There is a high demand for level 3 interpreters, especially for services with a high level of difficulty (e.g. medical or legal appointments). This is true because these interpreters have a more expansive vocabulary and can better assure that mistakes are not made in crucial situations. Even though there is a distinguished difference between level 2 and level 3 interpreters, there is a wide range of skills between level 3 interpreters. It is for this reason that there may be a need for more interpreter language development.

There may also be a need for deaf relay interpreters once VRI is introduced. Deaf relay interpreters' primary function is to interpret unorthodox signs or home signs that VRI interpreters might not understand. The more experienced members of the Auslan interpreting community would be the most qualified to serve as deaf relay interpreters because they have the most experience dealing with different forms of sign language.

### **Expectations**

Several case managers ventured that the introduction and success of a VRI service would motivate the deaf to better their Auslan skills. Once they are aware of the services that are available to them, they will most likely want to take advantage of them. For those that have Auslan skills and are reluctant to use the service, they may be motivated to use it because they cannot express themselves adequately using text-based communication.

There is also an expectation that more Auslan classes will be provided at local community centers in the future for the deaf to improve their signing skills. In Ballarat, one of the Deaf Access Victoria representatives said that there was a push for more educational opportunities to be offered.

One of the interpreters hoped that once VRI is implemented, there would eventually follow a new system of determining interpreter skill and fluency. Communicating in a two dimensional medium can be stressful and difficult, which is why interpreters would need to be very skilled and capable of handling emergency situations. She suggested that the new system test both the signing and speaking skills of the interpreters more comprehensively.

Table 14 is a quick reference of the current status, needs, and expectations of language skills and communication within the Victorian deaf community:

**Table 14: Language skills and communication**

<b>Language skills and communication</b>	
Current Status	<p><b>Case Managers</b></p> <ul style="list-style-type: none"> <li>▪ Majority of the deaf favor SMS to other communication technologies</li> <li>▪ Older generations might use TTY</li> <li>▪ Other communications technologies that are used include email, fax, and online messaging</li> </ul> <p><b>Interpreters</b></p> <p><b>Members of the deaf Community</b></p> <ul style="list-style-type: none"> <li>▪ Cope without an interpreter by using pen and paper or friends/family</li> </ul> <p><b>Representatives of Government Agencies</b></p> <p><b>Representatives of deaf Organizations</b></p> <ul style="list-style-type: none"> <li>▪ Captioning is popular according to a survey that was conducted</li> </ul>
Needs	<p><b>Case Managers</b></p> <ul style="list-style-type: none"> <li>▪ The deaf need educational opportunities in areas where Auslan and written English skills are poor</li> </ul> <p><b>Interpreters</b></p> <ul style="list-style-type: none"> <li>▪ Level 3 interpreters for more difficult jobs (e.g. medical)</li> <li>▪ More effective way to measure interpreting skill</li> <li>▪ Expansive knowledge of all areas of possible bookings</li> </ul> <p><b>Members of the deaf Community</b></p> <ul style="list-style-type: none"> <li>▪ Interpreters for appointments and meetings</li> <li>▪ Ability to express themselves and to read other people's expressions</li> </ul> <p><b>Representatives of Government Agencies</b></p> <p><b>Representatives of deaf Organizations</b></p>
Expectations	<p><b>Case Managers</b></p> <p><b>Interpreters</b></p> <p><b>Members of the deaf Community</b></p> <ul style="list-style-type: none"> <li>▪ Ability to communicate over long distances using sign language instead of text</li> <li>▪ Ability to express themselves adequately</li> </ul> <p><b>Representatives of Government Agencies</b></p> <p><b>Representatives of deaf Organizations</b></p>

#### 4.2.2 Training and Workshops

##### Current Status

Currently there are no workshops or training courses set up for VRI-based education. However, there are some plans for future workshops as stated by the Department of Human Services. At this point in time their primary concern is setting up the business case for VRI and determining what capabilities the service needs to have.



Vicdeaf is currently performing VRI trials in Melbourne and several VRI trials have also been performed in the past.

The team had an opportunity to attend a Department of Human Services requirements gathering workshop for video relay interpreting. The DHS is currently dedicating 12 weeks to writing a business case for VRI. The primary focus of at this point in time is DHS funded services at certain access points (DHS regional offices, DHS-funded services that cater predominantly for deaf and hard of hearing communities, and other DHS-funded services, specifically primary health settings and acute services).

Among the items discussed were:

- Should there be any criteria in deciding whether an Auslan interpreter is present or not at the appointment.
- What settings VRI is not suitable for
- Training for VRI and its use
- Choosing VRI interpreter or face-to-face interpreter when making a booking
- How are bookings made
- What is the availability of interpreters
- Is it the agency's responsibility to check if a specific interpreter is available
- How is the equipment set up and what is needed

The workshop then placed priorities on sub categories under each issue mentioned so that the areas that required the most attention could be identified.

## **Needs**

There is a strong need for workshops, possibly provided by deaf organizations, dedicated to educating the deaf community, hearing professionals, and interpreters on how to operate and use a video relay interpreting service. In addition, there is also a need for workshops that spread awareness among the regional deaf communities. The following list is based on the suggestions from the focus group that the team conducted and from various interviews with interpreters and members of the deaf community:

### **Items to be addressed in VRI workshops**

- What video relay interpreting is
- How to use video relay interpreting
- What video relay interpreting can be used for
- Where video relay interpreting services can be found
- What the process is for booking an Auslan interpreter
- How payment for video relay interpreting works
- What options are available for choosing an interpreter

These interviews also indicated that there is a need for respected members of the deaf community to run these workshops so they can connect with the deaf participants. Having experienced users who are deaf describe the benefits of the service to other deaf people would be much more beneficial than to have hearing users describe them.

There will also be a need for interpreter training programs so that they will be able to cover all service areas that will be accessible via VRI. This will increase the efficiency of the service, if providers do not have to worry about matching interpreters to specific jobs.

### **Expectations**

As the deadline for the VRI service implementation approaches, DHS plans to develop and initiate a series of workshops to both educate the users on how to work the system as well as to spread awareness of VRI. It is also expected that the younger deaf population will be much more willing to attend these workshops than the older deaf.

There was a suggestion from a participant of the focus group that practice booths would be useful, so that potential users can get hands-on experience with VRI before they have to use it in an important situation. This could happen at Vicdeaf where VRI is currently set up.

At the DHS workshop there was also a mention of a possible VRI interpreter training course offered at RMIT. There will certainly be interpreter training courses, the location is tentative.

Table 15 is a quick reference of the current status, needs, and expectations of training and workshop concerns provided by the Victorian deaf community:

**Table 15: Training and Workshops**

<b>Training and workshops</b>	
Current Status	<b>Case Managers</b> <b>Interpreters</b> <b>Members of the deaf Community</b> <b>Representatives of Government Agencies</b> <ul style="list-style-type: none"> <li>▪ Current workshops to develop business plan for VRI</li> </ul> <b>Representatives of deaf Organizations</b> <ul style="list-style-type: none"> <li>▪ VRI trialing at Vicdeaf</li> </ul>
Needs	<b>Case Managers</b> <b>Interpreters</b> <ul style="list-style-type: none"> <li>▪ Educational workshops that teach users how to use VRI</li> <li>▪ Training to understand regional dialects</li> </ul> <b>Members of the deaf Community</b> <ul style="list-style-type: none"> <li>▪ Educational workshops that teach users how to use VRI and where they can use it, in what situations, who pays, etc.</li> <li>▪ Opportunities for the deaf who have never used an interpreter to become accustomed to interpreting procedures and protocol</li> <li>▪ Workshops run by deaf people</li> </ul> <b>Representatives of Government Agencies</b> <b>Representatives of deaf Organizations</b> <ul style="list-style-type: none"> <li>▪ Workshops provided by deaf organizations, such as Vicdeaf, to facilitate the transition to the new technology.</li> </ul>
Expectations	<b>Case Managers</b> <b>Interpreters</b> <b>Members of the deaf Community</b> <b>Representatives of Government Agencies</b> <ul style="list-style-type: none"> <li>▪ Workshops will be set up where rules and procedures will be developed.</li> <li>▪ Workshops will be set up to raise awareness</li> </ul> <b>Representatives of deaf Organizations</b> <ul style="list-style-type: none"> <li>▪ Possible VRI training course offered at RMIT</li> </ul>

### 4.2.3 Interpreter Availability

#### Current Status

One of the biggest problems the regional deaf face today is the lack of available, qualified interpreters, especially in regional areas. For example, the team attended a monthly, deaf social group meeting at a coffee house in Bendigo where one deaf individual, an older member of the community, said that he does not use interpreters because of the hassle and cost of scheduling one. Instead, he copes by taking any written material he receives via mail or fax that he does not fully understand to his neighbor's house. He also has his friends/neighbors talk on the phone for him. When asked if he would appreciate better access to interpreters, he said that he gets along fine just asking his friends to help him out whenever he needs it.

There is a very large cost associated with getting interpreters from the city to travel and work out in the country. If the distance traveled is greater than 40 kilometers, then the client must pay travel costs in addition to the two hour minimum booking cost, even if they only need the interpreter for 30 minutes. The most popular booking that interpreters receive is one for educational purposes, such as Technical and Further Education (TAFE). In many cases this comes as an extremely large cost for the school, especially regional schools, because they have to pay for the travel time. In many cases, interpreters are only available in schools less than 3 days a week.

One free lance interpreter the team spoke with said she usually has to travel more than an hour at least once a day up to three days per week. The other two days she usually goes into state or country Victoria. The most requested bookings she receives are for meetings, but she usually turns those down. She likes to do work in the regional areas

because she gets travel pay and doesn't have to pay for parking. She can work four hours in one day and get up to ten hours of pay due to the two hour minimum booking requirement and the travel time.

## **Needs**

It is very difficult for members of the deaf community to schedule interpreters for meetings or appointments because the interpreting pool is so limited in size. Consequently, there is a very large need for interpreting services, especially in regional areas where fewer interpreters live and work. Even if the regional deaf are able to schedule an interpreter, there is also a high cost associated with their service that many people have trouble paying. While the National Australian Booking Service (NABS) provides free interpreters for most medical appointments, interpreters are not free for most other services. Interviews with case managers indicated that this high expense leads to members of the deaf community learning to cope by using pen and paper or family members and not developing the interaction skills with interpreters that they would need for VRI.

## **Expectations**

Most interpreters indicated that once VRI is implemented, they would be willing to participate in the service. However, the general consensus was that they would only be willing to work VRI for 1-3 days a week because the idea of working in a booth all day is not appealing. Some interpreters indicated that in order to be motivated to be a VRI interpreter, they would need an increase in pay, benefits, or the ability to work from home. Traveling between jobs gives interpreters an opportunity to rest their signing

hands. Adequate rest time would also be expected if they were to participate in VRI services.

Members of the deaf community who understand how VRI works expected much better access to qualified interpreters once it is introduced. In addition to better access, lower interpreting costs are also expected since they will no longer need to pay for travel time and petrol. Some of the expected benefits include the ability for the deaf to regularly participate in company meetings, access interpreting services at short notice for emergency situations, and having VRI as a fallback when a face-to-face interpreter fails to arrive or is unavailable. The deaf community also feared that the face-to-face interpreting pool would decrease significantly because they would become VRI interpreters. At the focus group, one deaf attendant expressed his concern that face-to-face interpreters in the city, who he is familiar with and comfortable using, will no longer be available. He wants the interpreters he knows to be working with him in his schools and at his appointments. According to one of the representatives from Vicdeaf and the DHS, there will most likely be initial problems finding a good balance between face-to-face interpreters and VRI interpreters. The idea is not to take away from face-to-face interpreting, but to provide more access.

Schools expect that eventually they will benefit from video relay interpreting. Once the service had been modified for use in an atmosphere that contains a large audience, the schools will be able to save money and will be able to provide interpreters on a regular basis (as opposed to about 2-3 days a week now).

Table 16 is a quick reference of the current status, needs, and expectations of interpreter ability within the Victorian deaf community:

**Table 16: Interpreter Availability**

<b>Interpreter Availability</b>	
Current Status	<p><b>Case Managers</b></p> <p><b>Interpreters</b></p> <ul style="list-style-type: none"> <li>▪ Some interpreters have to travel more than an hour a day at least once every day for 3 or more days a week.</li> </ul> <p><b>Members of the deaf Community</b></p> <p><b>Representatives of Government Agencies</b></p> <p><b>Representatives of deaf Organizations</b></p>
Needs	<p><b>Case Managers</b></p> <p><b>Interpreters</b></p> <p><b>Members of the deaf Community</b></p> <ul style="list-style-type: none"> <li>▪ More level 3 interpreters for difficult settings</li> <li>▪ Less expensive interpreting services</li> </ul> <p><b>Representatives of Government Agencies</b></p> <p><b>Representatives of deaf Organizations</b></p>
Expectations	<p><b>Case Managers</b></p> <p><b>Interpreters</b></p> <ul style="list-style-type: none"> <li>▪ Limited VRI work (1-2 days a week)</li> <li>▪ Ability to work from home</li> <li>▪ More pay doing VRI work</li> </ul> <p><b>Members of the deaf Community</b></p> <ul style="list-style-type: none"> <li>▪ Better access to qualified interpreters</li> <li>▪ Less expensive long distance interpreting services</li> <li>▪ Ability to regularly participate in meetings at work</li> <li>▪ Having VRI as a fallback when face-to-face is unavailable</li> <li>▪ Face-to-face interpreters will decrease and become VRI interpreters</li> </ul> <p><b>Representatives of Government Agencies</b></p> <p><b>Representatives of deaf Organizations</b></p> <ul style="list-style-type: none"> <li>▪ Video relay capabilities in educational settings</li> <li>▪ Lower costs of hiring an interpreter, especially for schools (TAFE)</li> <li>▪ Difficulty finding a balance between face-to-face interpreters and VRI interpreters</li> </ul>

#### 4.2.4 Awareness

##### Current Status

According to a majority of case managers, the spread of information throughout the deaf community can be a difficult endeavor because many community members do not own computers. The only means of obtaining information for these people is either by attending social clubs, through a monthly newsletter or by personally asking the case

manager. People who have access to electronic mail services can get messages and bulletins forwarded to them. Concerning those with fax machines, it is often too time consuming for case managers to fax all the information they receive and they often can only send the most important news. Many of the promotional advertisements the case managers receive are also not written in a “deaf friendly” way. Consequently, some members of the deaf community might not fully understand these program or technology promotions.

Coupled with the lack of a decent infrastructure by which to spread information, many members of the deaf communities in regional areas are unaware of the services that are currently available for them. The services that are predominantly required are financial services, medical services, legal services and assistance in domestic affairs.

### **Needs**

Once VRI has been introduced to the Victorian deaf community, there will be a large need to spread awareness so that the service will be accessed. The deaf need information about new programs and new technologies, but those without computers receive it on a much less frequent basis according to case managers. There is also a need for material to be presented in a “deaf-friendly” manner so that everyone can fully understand what is written. This again indicated that there will probably be a need for respected members of the deaf community spreading information at social clubs and workshops so that they can connect with the people.

Both the interpreters and the case managers that the team interviewed stated that the deaf communities in regional areas are much less likely to understand and know what services are available for them. Additionally, these deaf people are less knowledgeable



about what their rights are, such as that they have the right to an interpreter in certain situations. For example, they can receive DHS funded interpreters for DHS services or free interpreters for medical appointments from NABS. Thus, there is a need for these interpreting services to be more widely advertised.

### **Expectations**

As previously mentioned, there will most likely be workshops provided by organizations in the future that promote VRI services and raise awareness among the deaf, the interpreters, and the hearing. In the focus group, it was suggested that the young people in the deaf community would catch on to the service very quickly and then spread the word to older generations. There is a strong grapevine in the deaf community through which information travels because they are so close and culturally similar. As awareness of interpreting services in general increase, it is expected that the need for interpreting services will increase which is why a video relay interpreting service is so important.

Table 17 is a quick reference of the current status, needs, and expectations of VRI awareness within the Victorian deaf community:

**Table 17: Awareness**

<b>Awareness</b>	
Current Status	<p><b>Case Managers</b></p> <ul style="list-style-type: none"> <li>▪ Only send the most important information to those who do not have email because it is more difficult and time consuming</li> </ul> <p><b>Interpreters</b></p> <ul style="list-style-type: none"> <li>▪ The regional deaf seem to have less knowledge about what is available for them</li> </ul> <p><b>Members of the deaf Community</b></p> <ul style="list-style-type: none"> <li>▪ Receive information through social clubs, letters, fax, email, or case managers</li> <li>▪ Many deaf people are not aware of what their rights are</li> </ul> <p><b>Representatives of Government Agencies</b>  <b>Representatives of deaf Organizations</b></p>
Needs	<p><b>Case Managers</b></p> <ul style="list-style-type: none"> <li>▪</li> </ul> <p><b>Interpreters</b></p> <ul style="list-style-type: none"> <li>▪ Educational programs or advertisements that promote the services that are available for the deaf</li> </ul> <p><b>Members of the deaf Community</b></p> <ul style="list-style-type: none"> <li>▪ Advertisements should be written in a deaf-friendly way</li> <li>▪ Computers to receive information electronically</li> </ul> <p><b>Representatives of Government Agencies</b>  <b>Representatives of deaf Organizations</b></p>
Expectations	<p><b>Case Managers</b>  <b>Interpreters</b>  <b>Members of the deaf Community</b></p> <ul style="list-style-type: none"> <li>▪ VRI will be adopted much faster by younger people</li> </ul> <p><b>Representatives of Government Agencies</b></p> <ul style="list-style-type: none"> <li>▪ Workshops to spread awareness</li> </ul> <p><b>Representatives of deaf Organizations</b></p>

### 4.3 Summary

Opinions of VRI stakeholders in the United States and the United Kingdom provided the team with recognized problems and benefits of VRI. Although the interviews conducted with the different deaf community members, interpreters, hearing professionals, and government agencies were subjective to a point, the information containing both troubles and advantages of the system tended to be common between each interviewee.

Problems faced with VRI in the U.S. and the U.K. gave Vicdeaf the knowledge to plan to avoid the obstacles previously faced in these countries. This information also

determined the benefits of VRI providing Vicdeaf with the practices that work well and should be implemented for the service.

Potential client suggestions also supplied Vicdeaf with a foundation from which they could build a successful VRI service. The needs and expectations that were compiled of the Victorian deaf community such as the need for workshops to provide education and awareness about the service along with needs specific to certain regions of Victoria will help form the base of a thriving VRI service in Victoria.

The combination of determining both the problems and benefits from the U.S. and the U.K., and the expectations and opinions of Victorian VRI stakeholders ultimately prepared Vicdeaf to handle any difficulties or successes that they may encounter.

## Chapter 5: Conclusions

During our research, the team found that VRI services had encountered some difficulties in the early stages of implementation in the U.S. and U.K. Most of these issues included poor image and Internet quality, lack of technical support, and differences in interpreter dialects. After conducting interviews with various stakeholder groups in the U.S. and U.K, the team determined which aspects of Video Relay Interpreting should be improved. Opinions indicated by the Australian deaf communities were also analyzed. The VRI technology should adapt to meet the needs of the deaf during the initial stages of implementation. This is essential because the more comfortable individuals are with using the technology; the more likely they would be to utilize it.

VRI services in regional Victoria would enable deaf persons to have communication access for daily tasks, such as going to a doctor's appointment or attending an office meeting. Not only would VRI improve communication services to the regional deaf community, but the metropolitan deaf community would also benefit. Depending on interpreter availability, it might take as long as 3-4 weeks to book an interpreter. Usually bookings have to be made for the interpreter before the appointment. A VRI service in Victoria has the potential to increase interpreter availability and decrease interpreter travel time. Consumers could make more bookings via VRI on short notice and without having to pay for travel costs of a face-to-face interpreter. Currently, the deaf in remote regions of Victoria have to pay for the interpreter's travel time and overnight accommodations, if necessary. Sometimes the actual booking duration will be less than an hour. In those cases, one booking would take up a whole day of work for the

interpreter. With VRI, the number of booking appointments that could be scheduled in a single day would essentially be equivalent to an entire week of face-to-face bookings.

Video Relay Interpreting would not replace face-to-face interpreting. Due to the lack of qualified interpreters available, especially in regional areas, VRI could offer a secondary, alternative solution to accommodate this need and improve the quality of life of many deaf individuals. As with any new technology, it will take time for it to be fully accepted by the community. The majority of those interviewed indicated that VRI would be a wonderful technology to assist the deaf, particularly in non-metropolitan regions of Victoria. Based on information collected from stakeholder groups, VRI has enhanced the quality of life and independence of the deaf in both the U.S. and U.K. Having the freedom to attend a weekly work meeting, the ease of going to a doctor's appointment, or the ability to have an interpreter available at a court hearing, can improve one's self confidence and enable the deaf to rely less on family members or friends. A Video Relay Interpreting service available in Victoria would significantly improve communication between the deaf and hearing. As this technology becomes integrated within the Victorian society, more individuals will see the benefits that it has to offer. A telecommunications service like VRI allows the deaf to participate and have equal opportunity and access to resources within society. These convictions of social justice and equity are the very principles from which the Victorian Deaf Society was established.

## **Chapter 6: Recommendations**

Based on our analysis from interviews with hearing professionals, service providers, interpreters, and the deaf community, we have some recommendations for the Victorian Deaf Society as they begin to establish VRI services in Victoria, Australia.

### **Technical**

Some of the problems that have been encountered with trial VRI systems in Australia include poor image and Internet quality. These issues can be resolved by establishing a high speed broadband Internet connection. However, if this cannot be obtained, a Virtual Private Network Internet server would also be sufficient in order to control Internet traffic. In the U.S. and U.K, departments within various VRI service provider organizations have been created that specialize in technical support. These groups handle equipment and Internet issues with Video Relay Interpreting systems. To maintain technical standards, we advocate the following:

- Workshops and tutorials should be held by service providers, local deaf organizations, government agencies, or deaf clubs to facilitate the transition from face-to-face interpreting to live video interpreting.
  - These tutorials would teach VRI users how to use the equipment properly.
- Service providers should establish effective technical support teams that will provide consumers with the best customer service.

### **Privacy**

Many potential deaf VRI users are concerned with protection of their privacy and confidentiality, especially when booking an interpreter they do not know. It is important that the client is able to trust the video interpreter. To relieve anxiety or concerns, we propose:

- Workshops should be held to allow members of the deaf community to meet and interact with video interpreters in person to develop a rapport that is vital for an interpreter-client relationship.
- Once a bond has been established, deaf consumers should have the option to book that particular video interpreter, if they so choose.
- A picture directory of interpreters, including their levels of accreditation, should be made available on the VRI service provider's or deaf organization's website. This would provide a visual image for the deaf. Creating individual accounts so that consumers can view interpreters that they have previously booked would also be a valuable resource.
- In order to assess customer satisfaction, a system where clients can rate or write reviews on individual video interpreters could be set up on the service provider's website.

## **Social**

Having limited fluency in Auslan would create more difficulty using VRI. To overcome this problem, we recommend:

- In addition to video technology, VRI equipment could include the capability of a Real Time Captioning device to translate the hearing person's spoken English into written English.
  - This option would provide a written translation as well as a signed translation for the oral deaf. For this technology to be useful, the oral deaf person must be fluent in written English.
- If the person is not fluent in either Auslan or English, Video Relay Interpreting would work best if a case manager is present to avoid miscommunications.

Within regional communities where deaf social gatherings are only held once a month, information about new assistive technologies may not spread as quickly as it would in a city (such as advertisements, word of mouth, etc.). To promote awareness of VRI, we would recommend:

- Workshops and educational classes should be widely available throughout deaf communities to inform them that VRI technology exists and could benefit many aspects of their lives.
  - Businesses, legal organizations, schools, advocacy groups, and those involved with disability rights should also be educated about this service.
- Well respected and well known individuals within the deaf community who would be willing to advocate for the service and provide a sense of peer support are valuable resources to contact.

- VRI service providers could advertise their service by TV, Internet, newsletter, billboard, or public advertisement campaigns.

Interpreters from different parts of Victoria and Australia, in general, may have slight differences in either spoken or signed dialects. To overcome this issue, we suggest:

- When a booking site is established, interpreters hired should have or be trained to have a broad knowledge of different dialects, signed and spoken.

The quality of interpreters is another major concern of the deaf. Since they cannot currently choose a face-to-face interpreter based on his or her certification level, many are placed with an unskilled interpreter. In these situations, having an interpreter becomes an ordeal and is very frustrating for both parties involved. To make sure that all video interpreters suit the needs of deaf clients, we would recommend:

- Interpreters planning to become a video interpreter should become certified as a VRI interpreter.
  - VRI interpreters would require extensive vocabularies and terms that may be used during different conversations, such as a booking for a medical or court appointment. With this knowledge, VRI interpreters will be qualified to take any call.

## **Scheduling**

The majority of regional Victoria interviewees indicated that booking an interpreter ranged from very difficult to nearly impossible. With the shortage of qualified available interpreters, it can sometimes take up to 3 - 4 weeks to make a booking. Video Relay Interpreting bookings in the U.S. and U.K. from most providers can be made the same day if necessary. Services such as Sorenson VRI provide 24 hour access. Having an interpreter readily available would benefit the entire Victorian deaf community in many different ways. Even the deaf located in metropolitan regions could have access to interpreting services more often and at lower costs. Based on existing services in the U.S. and U.K, we recommend:



- Access to interpreting services via VRI 24 hours, 7 days a week

### **Cost of Equipment and Service**

Many of the deaf forego non-medical interpreting services because of the excessive cost. In addition to the difficulty of booking an interpreter, paying for travel expenses also becomes a burden. This opinion is shared especially among the deaf located in regional areas. Sometimes an interpreter will have to travel 3 hours for a 1 hour appointment and then travel back for another three hours. Not only do deaf clients have to pay for the interpreter's commute, but also for the interpreting session itself. To avoid these excessive costs, we would highly recommend:

- Service providers emulate a billing structure similar to other VRI service providers in the U.S. and U.K.

The costs of paying for travel time and petrol would be eliminated, since the video interpreter would not be required to commute to a remote location. The only expense incurred would be the interpreting session itself.

From the interpreter's perspective, many are concerned about how much they will be paid as a video interpreter. To encourage interpreters to become VRI interpreters, we would recommend:

- Service providers offer payment by each booking rather than by each hour. Another option would be to shorten the minimum booking time required and/or to take into consideration the type of assignment (court, police, education, medical, etc.) booked.

### **Best Practices**

Based on information received from VRI service providers in the U.S. and U.K, the team has developed a list of best practices that will provide guidelines as VRI becomes implemented within Victoria.

- A background that contrasts well with the interpreter should be used; blue or light blue backgrounds are preferable.
- The best seating arrangement that would permit optimal visual contact between the client and the interpreter should be determined in advance.
- Interpreters should wear clothing that contrasts with their skin tone.
- The interpreter should not wear accessories or clothing that reflects light and distracts the party at the other end.
- Anything visually distracting (i.e. pictures on desks, calendars, and open windows) should be removed from the video interpreting room. Higher quality cameras with a zoom option can eliminate this issue.
- Lighting should be in front of the interpreter and highlight the face.
- The interpreting booth should be sound proof and secure to ensure confidentiality.
- Headsets should be available for interpreters.
- The interpreters should be qualified to interpret for any access point that has VRI. They must be qualified to understand the dialogue and vocabulary that will be prevalent at these access points. Ideally, every interpreter should be able to interpret in any situation (legal, medical, etc.).
- VRI service providers should require video interpreters to take frequent breaks throughout their workday.
- A warm up time should be factored into the appointment scheduling to give the client and interpreter time to get accustomed to each other's style of signing.
- If the deaf client prefers face-to-face interpreting over VRI, then they should be allowed to use a face-to-face interpreter. VRI should only be used when a face-to-face interpreter is unavailable.
- Service providers should make emergency situations the highest priority.

## 6.1 Future Work

The following are suggestions for future work on VRI services:

- Create a “user-friendly” presentation to present to deaf communities across Victoria including:
  - What VRI is
  - Who can use VRI
  - What the cost benefits are
  - When it is most appropriate to be used
  - Where it can be accessed
  - Why it is beneficial to both deaf and hearing communities
  - How it will provide better accessibility to interpreters and services (i.e. doctor’s appointments)
- Compile information from current VRI service providers in the United States and the United Kingdom on best practices for conducting VRI workshops for both awareness and education of the service
- Gather further information from third party hearing professionals in Victoria who would be potential VRI users

- Contact VRI stakeholders directly in the United Kingdom in person to gain first hand experiences with the deaf community there
- Research further the option of videophone implementation and whether or not wireless capabilities in Victoria could make this option possible
- Reevaluate VRI after implementation to assess problems and benefits

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## Appendix A: Sponsor Description

The Victorian Deaf Society or “Vicdeaf” is a non-profit organization that has been promoting social justice and equity for the Deaf and hard of hearing for nearly 125 years. Vicdeaf is dedicated to serving the needs of deaf adults in Victoria who occupy one of three target groups: “those who are born deaf and whose primary means of communication is Australian sign language, those who are born hearing and have acquired deafness and those who are born deaf and use residual hearing and speech to communicate” (The Victorian Deaf Society, 2007). They serve as “the primary source of reference, referral, advice, and support for deaf adults; providing specialized welfare and communication services for over 16,000 Victorians each year” (The Victorian Deaf Society, 2007).

The aims of the Victorian Deaf Society can be broken down into three key points: “breaking down communication barriers and improving access to services, increasing the status and participation of deaf people in society, and providing specialist support and community services” (The Victorian Deaf Society, 2007). All three of these mission statements are ways through which Vicdeaf aspires to improve the quality of life for members of the deaf community. In addition to their mission, Vicdeaf also maintains seven principles in serving the deaf. The values that Vicdeaf finds pertinent are “access, equity, communication, responsiveness, effectiveness, efficiency, and accountability” (The Victorian Deaf Society, 2007).

Vicdeaf offers many services to the deaf in Victoria as a part of its dedication to the deaf community. In order to generate funds for these services, Vicdeaf receives 45 percent of its operating costs from the state and federal governments and 55 percent from



the Society's fundraising initiatives and service fees. The most popular services provided by Vicdeaf are divided into five broad categories: Client Services, SensWide (Employment) Services, Vicdeaf Auslan and Interpreting Service, Hearservice (Audiology), and Rehabilitation and Information Team (The Victorian Deaf Society, 2007).

Client Services are subdivided into four sections: Case Management, Independent Living Skills, Shared Supported Accommodation and Clubs and Groups program. Case managers aid the hard of hearing and deaf in "legal or court matters, Centerlink issues, financial issues, family/personal issues and other issues as requested" (The Victorian Deaf Society, 2007). These case managers can be located at various institutions throughout Victoria. Independent Living Skills (ILS) supports any Deaf person with one or more disabilities between the ages of 16 and 60 by providing educational services to allow them to become more independent. Potential clients must show an eagerness to participate in ILS and must live in the Melbourne Metropolitan area. A few examples of living skills provided include "traveling ...using a TTY, budgeting...shopping and others as requested" (The Victorian Deaf Society, 2007). The Victorian Deaf Society's Shared Supported Accommodation (SSA) service offers community housing opportunities for deaf adults that have an intellectual disability. Independence is encouraged by the SSA staff along with involvement and integration into the community. Clients are between 23 and 50 years old and communicate using Auslan with a staff who also use Auslan. The final client service, Clubs and Groups program, consists of 3 distinct divisions: Club 101, Club 30+ and Vision and Hearing Support Club (VHSC). Club 101 is a group for members of the deaf community between the ages of 18 and 30. The group is socially

oriented, encouraging members to interact through a variety of activities such as movies or sports. Club 30+ is similar to Club 101 except it is dedicated to Deaf adults over 30 years old. Activities in Club 30+ are more appropriate for the middle-aged and are usually suggested by participants. Lastly, Vision and Hearing Support Club is a social group for visually impaired Deaf adults. The club offers monthly events for members, usually in conjunction with the Deaf blind Association.

SensWide services provided by Vicdeaf focus on job opportunities for any Deaf, hard of hearing, deaf blind, vision impaired, or blind people who are seeking employment. This service is funded by the federal government and operates in the Melbourne Metropolitan area. Consultants provided in SensWide are capable of communicating via Auslan and offer assistance with “writing application letters, attending job interviews, contacting potential employers and more” (The Victorian Deaf Society, 2007). SensWide also can provide financial support for any special equipment required by the client as well as interpreters for job interviews.

Vicdeaf Auslan and Interpreting is an interpreter booking service offered through Vicdeaf. Vicdeaf is responsible for providing over 10,000 hours of Auslan interpreting services throughout Victoria each year. VAIS also offers opportunities for members of the Melbourne community to learn Australian Sign Language.

Hearservice is a division of the Victorian Deaf Society that is dedicated to providing general information that encompasses various aspects of hearing loss or conditions that affect hearing capabilities. Hearservice is primarily providing hearing loss and prevention products and offers a comprehensive assortment of audiological services, such as hearing aids.

The Rehabilitation Team and Information Team are dedicated to providing assistance for the deaf, usually in partnership with hearService. The Rehabilitation Team's support covers a wide spectrum of clients, including adults with hearing loss, friends and family of deaf adults, and coworkers involved with deaf adults. The Rehabilitation team also promotes hearing awareness in the community. Hearing awareness in the community is more appropriately associated with the Information Team, however. The Information Team grants relevant information about the Deaf community to the public. They list communication strategies, understanding differences between the deaf and hearing, and how to address issues that may arise as some of the many issues they wish to address.

The Victorian Deaf Society has collaborated with WPI on three occasions as an IQP sponsor. This will be the first time that students from WPI have worked with Vicdeaf under CEO Graeme Kelly.

# Appendix B: PIADS

Table 3: PIADS Questionnaire Version 3.0

Psychosocial Impact of Assistive Devices Scale (PIADS)      Today's Date: \_\_\_\_\_  
month/day/year

Client Name: \_\_\_\_\_       male    female  
(last name, then first name)

Diagnosis: \_\_\_\_\_      Date of Birth: \_\_\_\_\_  
month/day/year

<p>The form is being filled out at (choose one) 1. <input type="checkbox"/> home 2. <input type="checkbox"/> a clinic 3. <input type="checkbox"/> other (describe): _____</p> <p>The form is being filled out by (choose one) 1. <input type="checkbox"/> the client, without any help 2. <input type="checkbox"/> the client, with help from the caregiver (e.g., client showed or told caregiver what answers to give) 3. <input type="checkbox"/> the caregiver on behalf of the client, without any direction from the client 4. <input type="checkbox"/> other (describe): _____</p>
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Each word or phrase below describes how using an assistive device may affect a user. Some might seem unusual but it is important that you answer every one of the 26 items. So, for each word or phrase, put an "X" in the appropriate box to show how you are affected by using the \_\_\_\_\_ (device name).

	Decreases	-3	-2	-1	0	1	2	3	Increases
1) competence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) happiness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) independence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4) adequacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5) confusion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6) efficiency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7) self-esteem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8) productivity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9) security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10) frustration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11) usefulness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12) self-confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13) expertise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14) skillfulness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15) well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16) capability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17) quality of life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18) performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19) sense of power	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20) sense of control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21) embarrassment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22) willingness to take chances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23) ability to participate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24) eagerness to try new things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25) ability to adapt to the activities of daily living	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26) ability to take advantage of opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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*Glossary of PIADS Items*

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**Ability to Adapt to the Activities of Daily Living** (item 25) Ability to cope with change; ability to make basic tasks more manageable

**Ability to Participate** (item 23) Ability to join in activities with other people

**Ability to take advantage of opportunities** (item 26) Ability to act quickly and confidently when there is a chance to improve something in your life

**Adequacy** (item 4) Capable of handling life situations, and handling little crises

**Capability** (item 16) Feeling more capable; able to cope

**Competence** (item 1) Ability to do well the important things you need to do in life

**Confusion** (item 5) Unable to think clearly, act decisively

**Eagerness to Try New Things** (item 24) Feeling adventuresome and open to new experiences

**Efficiency** (item 6) Effective management of day to day tasks

**Embarrassment** (item 21) Feeling awkward or ashamed

**Expertise** (item 13) Knowledge in a particular area or occupation

**Frustration** (item 10) Being upset about lack of progress in achieving your desires; feeling disappointed

**Happiness** (item 2) Gladness, pleasure; satisfaction with life

**Independence** (item 3) Not dependent on, or not always needing help from, someone or something

**Performance** (item 18) Able to demonstrate your skills

**Productivity** (item 8) Able to get more things done in a day

**Quality of Life** (item 17) How good your life is

**Security** (item 9) Feeling safe rather than feeling vulnerable or insecure

**Self-Confidence** (item 12) Self-reliance; trust in yourself and your abilities

**Self-Esteem** (item 7) How you feel about yourself, and like yourself as a person

**Sense of Control** (item 20) Sense of being able to do what you want in your environment

**Sense of Power** (item 19) Sense of inner strength; feeling that you have significant influence over your life

**Skillfulness** (item 14) Able to show your expertise; perform tasks well

**Usefulness** (item 11) Helpful to yourself and others; can get things done

**Well-being** (item 15) Feeling well; optimistic about your life and future

**Willingness to Take Chances** (item 22) Willing to take some risks; willing to take on new challenges

## Appendix C: Sign Language

As is characteristic of all languages, there is no international language. A committee at The World Federation of the Deaf developed a vocabulary of signs, called Gestuno, which was intended for use at international meetings. Because of increased travel and trade, a creole sign language developed in Europe. Although it is sometimes



**Figure 5C: Different signs for "Sister" (Johnston & Schembri, 2007)**

referred to as an International Sign Language, it is not. Neither Gestuno nor the creole language, however, meets the linguistic definition of a natural language (Nakamura 2002). Just like spoken language, sign language differs from country to country and can even change from different areas of a country. Figure 5C shows different signs for sister in Australian Sign Language (Auslan), American Sign Language (ASL), and TSL (Taiwan Sign Language). Sign language can differ in dialect much like people raised in the southern U.S. tend to have a different accent from those raised in the northern U.S.

ASL is the first language of Deaf Americans, however many people believe that even if ASL is their first language, English spoken language should still be taught as a second language. Others believe, however that it could be too difficult to teach English as a second language to ASL users due to certain elements that largely differ from the English language.

“The elements that make [ASL] distinct from English include:

- A grammatical sentence does not always require a subject.
- Tense is not in the verb, but in adverbs such as ‘yesterday’ and ‘tomorrow.’
- Sign has no verb like the English ‘to be.’ The deaf communicate ‘I tired’ instead of ‘I am tired.’
- Plurals are made by repeating gestures, which in English would be like something ‘big big dog dog’ (Sign Talk Analyzed, 1996).”

ASL provides all the linguistic elements of a native language. ASL, unlike spoken English, is a complex visual-spatial language which “shares no grammatical similarities to English and should not be considered in any way to be a broken, mimed, or gestural form of English” (Nakamura 2002). While spoken languages such as English are characterized by “one serial stream of phonemes, sign languages can have multiple things going on at the same time... ASL has its own morphology (rules for the creation of words), phonetics (rules for hand shapes), and grammar that are very unlike those found in spoken languages” (Nakamura 2002). ASL uses topic-comment syntax; while English syntax use the Subject-Object-Verb basic structure. Nakamura comments, “ASL shares more with spoken Japanese than it does with English” (2002).

British Sign Language (BSL) has variations within the language making it difficult for communication. One person could sign something and another could interpret that phrase or those words in a different way than it is meant to be taken. Like the respective spoken languages, BSL differs from ASL and Auslan. This of course makes it harder for deaf people wanting to communicate overseas if they do not know the different sign languages, resulting in a need of multi-lingual sign language interpreters. Sign linguists are making a strong attempt to record all the sign language elements and rules for each country or region in order to make learning the language easier for others. The concept of sign linguistics was initiated by British missionaries who were trying to

find ways to easily spread the word of their church community. Sign linguistics for BSL are still important. Research done by linguists to learn a language makes it easier for someone to learn BSL and all the many variations within the language (Sutton-Spence, Woll, 1999). Linguistics, although very important, are not always easy to master. It is hard for someone to explain how their language works, even if they speak it in everyday life. Sutton-Spence and Woll (1999) provide a good analogy to this situation: “Many people can ride a bicycle, but very few can explain how it is done. If we ask them, they may stop and think about it and come up with some basic rules ... but what is important is that they never normally think about it.” Although BSL has some grammatical components similar to spoken English, it must be understood that they are independent of one another (Sutton-Spence, Woll, 1999).

Auslan is not closely related to any other sign language. Whereas BSL has many similar stems within other European countries, Auslan users find it hard to understand foreign sign languages, and vice versa. At the same time, current Auslan seems to have no connection with the Aboriginal Signed Language that began years ago (Johnston, Schembri, 2007). Auslan sign language can be very confusing in particular due to different words that have similar signs that are present, also known as minimal pairs. For instance, although a human hand has the capability of making many different symbols for sign language, many words in Auslan are closely related to one another based on sign (Johnston, Schembri, 2007). As seen in figure 6C, the similar hand movements for Auslan words could confuse even someone native to the language. To outsiders or those who do not regularly use the language, Auslan would be confusing especially in



identifying minimal pair words.



**Figure 6C: Minimal pair signs in Auslan (Johnston & Schembri, 2007)**

While Deaf people in Australia use Australian sign language (Auslan), the hard of hearing do not. Although the hard of hearing use a form of signing to communicate with others, especially with those who are also hard of hearing, they do not use Auslan in its regular form (Johnston, 2004). Non-Auslan users communicate through “elements of gesture and sign language” (Johnston, 2004, p.372). In 1980 there was a large push to develop an Auslan dictionary through which the language could be documented. Educational changes within Australian deaf schools resulted in Auslan branching off of its original structure (Johnston, 2004), leading to the original form of the language slowly dying out. A decrease in the number of Auslan users may result in a reduction in special services for the deaf, specifically schools dedicated to teaching deaf children. Johnston (2004) explains the possible integration of the deaf and non-deaf through the following statement: “Instead of dedicated schools, units, or classrooms, individual children may be assigned or entitled to an educational sign language interpreter or service, rather than a

signing teacher of the deaf. Indeed, this appears to be emerging as the model of 'bilingual' education for deaf children in the state of Western Australia."

## Appendix D: Legislation

In 1992, the Australian government took initiative to accommodate the needs of the Deaf and the disabled. The Disability Discrimination Act of 1992 - Section 25 provides the legislative authority to prohibit discrimination against persons with disabilities in Australia. This Act encompasses provisions which protect persons with disabilities and mandate accommodations for these individuals.

Relevant portions of the law regarding accommodations state:

“(1) It is unlawful for a person, whether as principal or agent, to discriminate against another person on the ground of the other person's disability or a disability of any of that other person's associates:

- (a) by refusing the other person's application for accommodation; or
- (b) in the terms or conditions on which the accommodation is offered to the other person; or
- (c) by deferring the other person's application for accommodation or according to the other person a lower order of precedence in any list of applicants for that accommodation.

(2) It is unlawful for a person, whether as principal or agent, to discriminate against another person on the ground of the other person's disability or a disability of any of the other person's associates:

- (a) by denying the other person access, or limiting the other person's access, to any benefit associated with accommodation occupied by the other person;”

The resolve of these laws is also evident in the international obligation to recognize the human rights of the disabled.

On July 26, 1990 disabled American citizens were given greater opportunities for equality. The Americans with Disabilities Act of 1990 (ADA) states that all private and public sectors of business must comply with certain codes to make services more accessible for disabled persons by nationally banning intentional and/or unintentional discrimination against people with disabilities. The ADA was the first action to be taken in equalizing aspects of all services provided to any person, disabled or not, for privately

owned businesses. Before this act only government owned companies or federally funded businesses had to comply with these guidelines. The Americans with Disabilities Act of 1990 promoted a movement within the deaf community in particular, recognizing that they are a minority group themselves and that deafness should not be viewed as a “...disability that needs fixing...”, but that instead it should be accepted by all members of the community as a fact that everyone is different and has different abilities. (The ADA and Deaf Culture, Tucker). In her article titling “The ADA and Deaf Culture: Contrasting Precepts, Conflicting Results”, Bonnie Tucker notes that there are three main unintentional discriminations towards deaf people that happen in every day life: inaccessible telephone services for the deaf, inaccessible television services, and due to a large lack of interpreters many members of the deaf community are not able to receive well supported interpreting services when needed (i.e. fair court hearings and communication with doctors). The conclusion here is that the deaf community as a whole in the United States does not always receive the appropriate technology or education needed to operate such equipment to communicate with other parties. Many countries all over the world have been struggling in dealing with the lack of interpreters available to the deaf community and implementing these new technologies would alleviate some of the stress on the deaf in trying to find an interpreter. With constant increases in technology, many businesses should be able to implement up-to-date technologically advanced forms of communication for deaf communities.

The Disability Discrimination Act 1995 (Amendment) Regulations 2003 (SI 2003/1673) (DDAR) came into effect in the United Kingdom on October 1, 2004. Similar to the Americans with Disabilities Act, the DDA established a “duty to make

reasonable adjustments to policies, practices and procedures which may include a duty to provide auxiliary aids and/or alternative ways of enabling disabled people to access their service.” The DDA provides examples of reasonable adjustments that an employer must make, including “Acquiring or modifying equipment to enable the person to carry out their job, such as a minicom<sup>8</sup> telephone for a deaf employee or an adapted computer keyboard for a visually impaired employee (Luddem *et al.* 2004).” Guidance is given by the DDA as to what is considered a reasonable adjustment for a disability. Some factors to consider are how effective and how practical the accommodation would be without causing unnecessary disruption. Financial cost of the accommodation may also be taken into consideration (Luddem *et al.* 2004). The statutory basis for this duty to provide British Sign Language (BSL)/English interpreters as a reasonable adjustment can be found under Parts II and III of the Disability Discrimination Act 1995 (RNID 2003).

There has been an international commitment to promoting access for persons with disabilities. On December 13, 2006, the “Convention on the Rights of Persons with Disabilities and its Optional Protocol” was adopted at the United Nations Headquarters in New York and opened for signatures on March 30, 2007. Ninety countries, including the U.S., U.K., and Australia, signed the Convention. A high percentage of developing countries have endorsed the Convention as well (World Bank 2008). This effort represents the first comprehensive human rights treaty of the 21st century (UN enable 2008). Article 9 of the Convention specifically addresses the obligation and commitment “to promote access for persons with disabilities to new information and communications technologies and systems, including the Internet;” and “To promote the design, development, production and distribution of accessible information and communications

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<sup>8</sup> TTY/TDD; uses text communication via telephone

technologies and systems at an early stage, so that these technologies and systems become accessible at minimum cost” (Sec 9.2g, 9.2h). This convention embodies legislation passed in the U.S., U.K., and Australia regarding the importance of understanding and acknowledging the rights of those with disabilities.

## Appendix E: Key Interview Questions

### Interview Questions:

**The following questions are for e-mail correspondence for previous or current VRI users:**

Target Audience: VRI interpreters or deaf consumers

- Demographic questions:
  - What is your age?
  - What is the highest level of education you have completed?
  - Location of residence and how long have you lived there?
  - Please list any written, spoken, or signed languages you know. For each one please note your level of fluency on a scale of 1 to 5 with 1 being limited knowledge and 5 being fluent.
  - What is your occupation?
- *Besides VRI, what is your experience with other communication technologies (TTY, email, etc)? Please explain the circumstances in which you use each technology.*
- *How long have you been involved with VRI-type services (videoconferencing, videophones, Video Relay Service, etc)?*
- *How often do you use VRI?*
- *In what situations do you use VRI?*
- *In each of those circumstances, who is responsible for payment of the VRI service?*
- *Does the expense of the service play a big role in determining which type of communication you use?*
- *In general, which form of communication is preferred? What are the major factors that influence your decision to choose one method of communication over another (i.e. cost, availability, other special circumstances, etc.)?*
- *What are the positive aspects of Video Relay Interpreting for you? What are the negative ones?*
- *Would you like to share any personal experiences that you feel might give insight into use of VRI-type services?*

### **The following are questions for previous or current VRI users:**

Target Audience: VRI interpreters

- Demographic questions:
  - What is your age?
  - What is the highest level of education you have completed?
  - Location of residence and how long have you lived there?
  - Please list any written, spoken, or signed languages you know. For each one please note your level of fluency on a scale of 1 to 5 with 1 being limited knowledge and 5 being fluent.
- *How long have you been working with the deaf community?*
- *What are some examples of the services you perform as an interpreter?*

- *What are the 3 most popular bookings you receive (doctor/lawyer visit, leisure, etc.)?*
- *Do you provide other interpretation services other than through VRI? If so, how often do you have to travel more than an hour to provide interpretation services for your clients?*
- *What other communication technologies do you use to communicate with people who are deaf? Please describe each situation.*
- *How smooth is the process for setting up and operating VRI with the client?*
- *How would you rate image quality when using VRI? Does Internet speed play a significant role?*
- *How would you rate the quality of conversation when using VRI? How does this compare with face-to-face conversations?*
- *In your personal experience, have you encountered any difficulties when interpreting for VRI users? How do you overcome them?*
- *Do you think VRI has positively or negatively changed communication for the deaf? How?*
- *In general, which form of communication is preferred most often? Is it different in different situations?*
- *How has the introduction of VRI service impacted the interpreting profession?*
- *Can you suggest any changes that could be made to the service? Have you seen any changes over time?*

Target Audience: deaf consumers

- Demographic questions:
  - What is your age?
  - What is the highest level of education you have completed?
  - Location of residence and how long have you lived there?
  - Please list any written, spoken, or signed languages you know. For each one please note your level of fluency on a scale of 1 to 5 with 1 being limited knowledge and 5 being fluent.
  - What is your occupation?
- *How often do you need to communicate with people who do not know sign language? How do you communicate with them?*
- *What other communication technologies do you use to communicate with people who are deaf? With those who are hearing? Please describe each situation.*
- *Are there specific situations in which you would prefer one type of communication mode over another (VRI, TTY, email, etc)? Why?*
- *How long have you been using VRI?*
- *In what situations do you use VRI?*
- *In each of those circumstances, who is responsible for payment of the VRI service?*
- *Does the expense of the service play a significant role in determining which type of communication you use?*
- *In general, which form of communication is preferred? What are the major factors that influence your decision?*



- *How smooth is the process for setting up and operating VRI?*
- *Do you have any comments pertaining to personal privacy with VRI? Are you generally comfortable or uncomfortable using it?*
- *How would you rate image quality when using VRI? Does Internet speed play a significant role?*
- *How would you rate the quality of conversation when using VRI? How does this compare with face-to-face conversations?*
- *In your personal experience, have you encountered any difficulties when using VRI? How have you overcome these difficulties?*
- *How has VRI helped you?*
- *Can you suggest any improvements that could be made to the service? Have you seen any improvements made over time?*

**The following are questions for people who have not previously used VRI:**

Target Audience: Potential deaf consumers

- Demographic questions:
  - What is your age?
  - What is the highest level of education you have completed?
  - Location of residence and how long have you lived there?
  - Please list any written, spoken, or signed languages you know. For each one please note your level of fluency on a scale of 1 to 5 with 1 being limited knowledge and 5 being fluent.
  - What is your occupation?
- *How often and in what situations do you need to communicate with people who do not know sign language?*
- *How do you usually communicate with these people?*
- *Are there any other types of communication modes or technologies you have used (i.e. TTY, email, etc.)? Please describe your experience.*
- *How has interpreter availability affected your ability to communicate?*
- *Have you ever been unable to communicate with someone because interpreters were not available?*
- *If you had better access to interpreters what would you do that you cannot currently do?*
- *Who pays for face-to-face interpreting? Do different people pay in different situations?*
- *Are you familiar with Video Relay Interpreting?*
  - *If so, is it a service you are interested in using? What about it do you like/dislike?*
  - *If not, [provide brief explanation of VRI] ...would you be interested in taking advantage of this service? What about it do you think you might like/dislike? What concerns or expectations do you think you might have regarding this service?*
- *From what you know about VRI, in what situations do you think the service would be most helpful to you?*

- *Would you feel comfortable sharing personal information through a video interpreter with whom you are not familiar?*
- *Would you be willing to pay for VRI if you needed to in order to use the service? If so, under what circumstances would you be willing to pay?*

Target Audience: Interpreters

- Demographic questions:
  - What is your age?
  - What is the highest level of education you have completed?
  - Location of residence and how long have you lived there?
  - Please list any written, spoken, or signed languages you know. For each one please note your level of fluency on a scale of 1 to 5 with 1 being limited knowledge and 5 being fluent.
- *How often do you have to travel more than an hour to provide interpretation services for your clients?*
- *What are the 3 most popular bookings you receive (doctor/lawyer visit, leisure, etc.)?*
- *In your opinion, do you believe that the need for interpreters in the deaf community has been met?*
- *Do you feel that the increasing need for interpreters will continue?*
- *Are you familiar with Video Relay Interpreting?*
  - *If so, is it a service you are interested in using? What about it do you like/dislike?*
  - *If not, [provide brief explanation of VRI. What about it do you like/dislike?]*
- *From what you know or have recently learned about the service, do you think VRI would make an impact on the interpreters' jobs? How so?*
- *Would you ever consider becoming a VRI interpreter? Why or why not?*

Target Audience: Vicdeaf Case Managers

- *How long have you worked as a Case Manager for the Victorian Deaf Society?*
- *What is your specific role as Case Manager of your region?*
- *Are you affiliated with other deaf organizations?*
- *What types of support services are currently available for the deaf community in your region? What types of communication services are available?*
- *How hard is it to book interpreters for deaf community members in your region?*
- *What types of services do deaf community members usually need interpreters for? (I.e. doctor's appointments, social, etc.)*
- *How do you inform the deaf community in your region about a new program or communication technology?*
- *Are you aware of Video Relay Interpreting? [If not explain]*
- *Based on what you know about VRI, what kind of impact do you think this service would have on the deaf community in your region?*
- *Do you think members of the deaf community would do things differently if they had better access to interpreters? Such as communicating with hearing*

*individuals, take advantage of other services (health care, lawyers, government, education), improve quality of life in general*

- *Do you know of anyone we can contact to get more insight on the deaf community in your region? (i.e. deaf community members, others who work in the region for Vicdeaf)*

## Appendix F: Sorenson VRS consumer

Interview – Sorenson VRS

March 31, 2008

Interviewer: Karyn Gottardi

Note Takers: Tyler Waterman, Cara Schafer

- Demographic questions:
  - What is your age?
    - 56 years old
  - Location of residence and how long have you lived there?
    - Western Massachusetts for 10 years
  - Please list any written, spoken, or signed languages you know. For each one please note your level of fluency on a scale of 1 to 5 with 1 being limited knowledge and 5 being fluent.
    - ASL-5
    - Written English-4
- *Other than a VRS trainer, do you provide other deaf communication services?*
  - This consumer is involved in many different aspects of the deaf community. She is involved in a deaf women's united group and the Massachusetts Association for the Deaf. She is also a Deaf interpreter, and works with Sorenson installing videophones.
- *What other communication technologies do you use to communicate with people who are hearing or deaf? Please describe each situation.*
  - Face-to-face interpreters
  - She used to use TTY, but not any more
  - AIM relay with hearing people who have it
  - She prefers Video Relay Service because it makes communication easy, there are no barriers, she can make eye contact with the interpreter, she has complete access, and it is very clear.
- *How smooth is the process for setting up and operating VRI with the client?*
  - She explained that VRI is used mainly on the job for conferences and meetings held by professionals. There is a charge involved when VRI is used. VRS is the same concept but there is no charge and it is face-to-face. There is no charge involved with VRS (payment is through the FCC)
- *How would you rate image quality when using VRI? Does Internet speed play a significant role?*
  - The image quality is beautiful (30 Frames Per Second) and they are sent via Internet. VRS is unable to be used without high speed Internet.
- *How would you rate the quality of conversation when using VRI? How does this compare with face-to-face conversations?*

- Face-to-face conversations are the same as VRS conversations. It really depends on the interpreting skills of the interpreter, the interpreter needs to be fluent and well educated in order to successfully translate.
- *In your personal experience, have you encountered any difficulties when using the service? How do you overcome them?*
  - She has very rarely encountered problems with VRS, there might be an interpreter with poor receptive skills every once in a while. Overall, she estimated that 98 percent of the interpreters are good. She uses video relay every day for doctors, friends/family, personal business, and more. It has improved her communication access.
- *Do you think VRI has changed communication for the deaf? How?*
  - VRI/VRS has affected the entire deaf community. It hasn't improved communication skills, but rather communication access for the deaf with hearing people. (She stressed the difference between communication skills and communication access)
- *Can you suggest any changes that could be made to the service? Have you seen any changes over time?*
  - She had no major suggestions for improvements, after using the service for 4 years. She said maybe the one thing that could improve is accessibility to VRS. She would like to see videophones everywhere, including hotels, grocery stores, airports, and train stations – anywhere a phone can be accessed. The hearing can use their phones everywhere so the deaf should too.
  - The technology has improved over the years since she started using it, more specifically the service itself has improved. The service providers added the “call waiting” and “call on hold” features so she can switch over to other callers if they call when she is already using the service. Another feature they added was a message-leaving system in case the caller cannot reach the intended person. The interpreter can check and see if the person who missed the call has access to email and will then leave them a message in “sign mail” (a video email message).
- *Have you ever used any VRS provider besides Sorenson?*
  - No, only Sorenson.

## Appendix G: ASL interpreter

### Interview – ASL Interpreter

February 22, 2008

*Where did you go to school, what are some examples of the services you perform as an interpreter? How long have you been working in the deaf community?*

- Went to college at Northern Essex Community College, Northeastern, and Smith College.
- Received a Bachelors of Science in elementary education and is a certified education interpreter (does she have a masters in deaf education?)
- has been a signing for 25 years
- 1<sup>st</sup> year as a full time interpreter

*In what situations have you used VRI, and how often?*

- Does not use VRI because she is not a relay interpreter
- She has no need to use the technology because she is fluent in both ASL and spoken English

*Who pays for the VRI service?*

- Federal Funds pay for the service, which are mandated by the ADA
- If there are any costs associated it is for the equipment/monthly fees (such as Internet) not the interpreting service

*How difficult is it to operate? To Set up?*

- Has heard some feedback with many consumers stating that they are pleased with the system
- It is easy and preferred mainly because the deaf consumers can use their first language (as opposed to using TTY and having to type)
- The only negative aspect mentioned was that just as with spoken English, there are differences with the language depending on what region of the U.S. the interpreter is from (i.e. word choice and speed of signing)

*Who are some booking clients, both in the area and/or in the United Kingdom?*

- She mentioned Sorenson and Dlink as VRI providers
- No suggestions for providers in the U.K.

*Are visual problems ever encountered by the interpreters or the deaf? Are misunderstandings due to low image quality frequent?*

- Depends on the speed of the Internet connection being used
- She mentioned an experience she had with using a videophone in which the person she was communicating with had a bad connection
- A comparison was made to using a cell phone and receiving bad service while trying to have a conversation with someone; the flow will be interrupted

*Are there any privacy issues with VRI? Are you generally comfortable or uncomfortable using it?*

- Generally no because deaf consumers, at least those in the U.S., are aware that interpreters must go through certifications and have certain credentials, therefore they are typically not too worried about confidentiality issues.

*Are there specific situations in which a person would prefer one technology over another (VRI, TTY, email, etc)? Why?*

- Overall videophones tend to be the most preferred whether they are remote or without an interpreter because it is easier to get the tone of the conversation, unlike TTY, which cannot express tone unless you know the person you are talking with very well (compared to talking with someone in person vs. using instant messenger)
- One situation she was in was where she was aiding a consumer she knew who chose a videophone with her because she already knew the background of the situation being discussed between the deaf and hearing individuals; it is not easy to give background information to the VRI interpreters before starting the relay conversation
- Using VRI for medical calls can be a nuisance if different interpreters respond to different calls by the same client. This is due to the amount of time that is wasted explaining the same situation or background information to multiple interpreters.

*How has VRI helped you?*

*What suggestions could you make about improving the service?*

- Try to make the information flow smoother with the video feed

*Have you seen improvements in the quality of VRI communication over time?*

*Have complaints been raised on how long a consumer has to wait to get a hold of a relay interpreter?*

- No, it's the same as having to wait for someone to pick up a phone call when you call them

*Additional comments and suggestions*

- Educational implications: specifically providing information regarding the system to the rural deaf community
  - If the consumer does not have the money for it, then they will find ways to work around it
  - All about what is available and what it is used for
  - An example was given expressing how when those who are born Deaf can be completely deprived of language until about age 9, when parents or others first realize that the child hasn't developed any communication skills. This is usually due to more abstract concepts being taught in school that the child cannot grasp on his or her own or just by viewing the information. This results in the child being introduced to language at a much later age than other children, setting them back those first 9 years when they could have been first developing how to sign and communicate.
- American Sign Language
  - Different modality and different syntax than spoken English
  - Structure: either topic + comment or subject + verb + object used in signing. This in comparison to subject + predicate used in English
  - The way the deaf learn written English is by comparing the two and finding similarities between their first language and the one they are trying

- to learn
- Signed English
  - English in signed form (not ASL)
  - Visual representation of English spoken language
- Lip reading
  - For those who don't know spoken English, they cannot lip read well because they don't know how to pronounce these words or what to expect
  - 60-70% of language can be seen on lips including facial expressions
  - Lip reading is a talent: it can be worked on and improved but not always great at it
- Minimal pairs
  - Typically only difficult for a language being used that is not the person's first language
  - Not all words are always heard or seen by signing, the brain fills in the holes to make a complete sentence
- Importance of having a broad sample
  - Gallaudet: make sure to realize that these are college students, so that's only a partial representation of the deaf community
  - Take into consideration any sort of bias
  - Use a large sample size
  - If surveys are conducted, be sure they are in the survey recipient's first language
- Rural area considerations
  - Who will have access to the equipment
  - Who will have the wiring, etc. needed to implement the service
- Other notes to consider
  - Most people who have hearing, do not use landline phones anymore (cell phones are more popular)
  - The deaf however, still need to have landlines because 911 cannot be dialed through VRI and other assistive technology services because the caller could be matched up with an interpreter out of their state



## Appendix H: Significan't, U.K.

Interview – Significan't Representatives, U.K.  
April 2, 2008

Interviewer: Cara Schafer

Note takers: Karyn Gottardi, Tyler Waterman

- *What is your specific role at Significan't?*
  - One is the managing director
  - The other is a non-director focusing on interpreting services and oversees marketing
  - They focus on video telephony and also do some consulting work.
- *What types of support services are currently available for the deaf community in your region? What types of communication services are available?*
  - VRI is utilized as well as VRS.
  - VRS is not used as much as VRI, but it has progressed in popularity over the years. Most deaf people in the U.K. don't have a video phone at home which is probably why VRS isn't used as much. There are also financial problems that deter people from using VRS.
  - VRI is very popular though.
  - Mentioned that it's about an 80%-20% usage of VRI to VRS right now which is a slight increase from 90%-10% when it first came out. VRI is used more than VRS because people don't have videophones in their homes.
- *What is interpreter accessibility like at Significan't?*
  - There are a minimum of 2 VRI interpreters per shift, but there are typically about 3. Interpreters take calls in turns.
  - It is important to find a good balance of the amount of interpreters to employee. If you have too little it will take too long to answer calls, if there are too many there are interpreters sitting around without work to do.
  - Significan't takes bookings for VRI interpreters up to 2 months in advance.
  - Significan't stresses that they use the most qualified interpreters. The VRI interpreters must have developed skills and a broad knowledge of all areas because they could get a phone call from a doctor's office one time and the next call could be from a tax office. It is important for the interpreters to know about the various services they might be interpreting for.
  - There are also different dialects of sign language around different regions of the U.K., so interpreters need to be highly skilled enough to be able to work through dialect differences.
  - Not all interpreters can cope with VRI. They need to be comfortable with technology and not afraid to use any of the equipment needed for VRI.

- Significan't guarantees an interpreter will be available within 45 minutes of the call. Calls do not have to be booked in advance. All the staff at Significan't can use BSL in case of emergencies when all the interpreters are booked.
- There a difference in efficiency between face-to-face interpreters and VRI interpreters in London. Typically with face-to-face interpreting, one interpreter can handle 3 jobs in one day (and only 1 if it is in the regional areas). However, Significan't is managing to have interpreters handle about 12 jobs per day while using VRI, which is a valid selling point to funding agencies.
- *What types of services do deaf community members usually need interpreters for? (I.e. doctor's appointments, social, etc.)*
  - Significan't provides both VRS and VRI. Used to discuss council housing problems with their local council.
  - Significan't has a new contract with charities, one being the National Society for Prevention of Cruelty of Children (NSPCC). The NSPCC wanted to be able to provide access for deaf people to be able to call their service and get through if they need advocacy or help with their child. VRI is used for that.
- *How does Significan't spread information about a new program or technology?*
  - Through the website, direct mail, e-mailing deaf leaders in specific communities, leaflet brochures in the office.
  - It really depends on what the needs are that are being addressed
  - Significan't has an Access To Work program which is a government scheme which funds communication support in the workplace to make people aware of their rights under the Disabilities Discrimination Act.
  - They also try to make deaf people more aware of their rights.
  - Significan't also has DVD clips explaining different rights that deaf people have including equal access, regarding interpreting and other information.
  - People used to wait weeks before an interpreter could be found; now they don't.
  - The Access To Work program presented somewhat of a problem in the beginning as there were people who would bring in face-to-face interpreters for a full day at work, but if there was time between meetings or if meetings got cancelled the interpreter would be sitting there without anything to do. VRI helped with this issue.
- *Are there any other VRI service providers in the U.K.?*
  - Yes, there is one other in Scotland. About 18 months ago there were 5 in total, but since then 3 of them have closed down leaving only Significan't in London and the one in Scotland.
- *How does VRI get paid for in the U.K.?*
  - Payment comes from the Greater London Authority. The government spends the money on the technology and the machinery.

- All running costs have to be covered by Significan't. So they cover costs through contracts with doctors, lawyers, and other providers. Developing contracts take a lot of time, so they are important to Significan't.
- *Did you face any problems when first implementing VRI?*
  - Around 1998, Significan't was using ISDN for program training, but there was a delay due to the low speed.
  - 2002-2003 the Internet became more advanced, but still only allowed for 128kbps of upload.
  - 2004 the British Telecom upgraded their broadband to 256Kbps for upload which was good enough for videophone.
- *Can callers choose specific interpreters that they may want to work with?*
  - No, Significan't works on trying to keep things equal for the interpreters taking the calls, so that one interpreter isn't backed up with a lot of calls, while another is without work.
  - However, they can make accommodations for personal issues, if a woman wants to have a woman interpreter for privacy issues, it can be arranged.
- *What are the specific requirements to use VRI?*
  - Significan't uses blue backgrounds while using VRI.
  - Interpreters use a headset (they have a choice between one or two eared).
  - The area needs to be sound-proof. This is the key, that sound is not spilling into the space.
  - Interpreters need to be able to see which other interpreters have calls and who doesn't, that way if they need help with a call or if one is particularly lengthy, they can switch out with each other. Each interpreter station has a buzzer they can press which alerts all other interpreters that are not on a call at the moment that they need support.
  - Interpreters play an important role in the process. Their feedback about difficulties with calls or problems they have with the equipment is important to know so that these problems can be resolved.
- *Have there been any major issues in implementing VRI in the regional areas of the U.K.?*
  - Broadband has been a major issue, especially because some regional areas don't have access to broadband Internet.
  - However, there has been a strong acceptance in the country, and even more than in the city, because in the country they are so isolated and it's so expensive to have an interpreter fly out there, VRI has proved to be most beneficial for them.
  - A lot of people don't know how to use interpreters.
  - It is important to provide a good introduction on how to use VRI, especially for people who are frightened of the technology.
  - While using VRI, the interpreters are trained to not have control of the conversation, as they are just the middle person to help with communication. However, if there are 2 people using VRI that have never used it before and don't understand the technology or have the best lighting or background, the interpreters will assist them to make the conversation as effective as possible. Once set up is established, the

interpreter will go back to not being in control of the conversation. They are ready to offer assistance in case the party at the other end has no experience with VRI.

- *What are the cost differences between booking a face-to-face interpreter and using a VRI interpreter in the U.K.?*
  - On a minute by minute basis, VRI is more expensive than face-to-face interpreting.
  - Face-to-face interpreting has a minimum charge of 3 hours, however in the U.K.; they do not pay for time that the interpreter is traveling, although travel expenses are included into the cost of the booking.
  - VRI minimum charge is 20 minutes. For VRI, you pay double the cost, if exceed an hour and a half of time while using VRI it would begin to cost more than a face-to-face interpreter. If the caller plans to have more than a 1.5 hour conversation, booking a face-to-face interpreter is less expensive.
  - Calls that exceed an hour are very rare.
  - Because VRI provides such great access and speed, it adds value to the conversation.
- *Are there specific requirements that other people using the system (i.e. doctors) have to follow?*
  - There are a variety of standards that are received.
  - Some people have deaf people come in to set up the equipment appropriately and check out the video access point, while a lot of other people get the equipment and try setting it up themselves even if they don't know how to do it properly.
  - If the background is set up poorly, the interpreter will offer advice on how to improve it.
  - When Significan't establishes a contract with someone they will advise them on what kind of environment is needed and how to obtain the most beneficial user experience. This advice may include no flashing lights, no vibrating floors, no rustling papers nearby, and lighting coming from the front instead of overhead.
- *Other notes:*
  - The most popular video phones used in the U.K. are H323, however there are also SIP and flash phones. Significan't can currently accept calls from both H323 and SIP phones. They tried accepting calls from flash phones too, but it was too difficult for the interpreters to manage all 3 different types of technology.
  - The best people to talk about the service are other deaf people. When they first started implementing the technology Significan't had other deaf people go to explain the service and the benefits and people were much more receptive then when a hearing person tried to explain it.
  - Confidentiality is a big part of what the interpreter embodies.
- *Additional questions:*
  - We are still somewhat confused about what the flash phones are that you had mentioned, could you explain a little more about those?

- Do you have any additional contacts within the U.K., whom we may contact to get further information about VRI?
- Is it possible to get a copy of the best practices you go by when setting up a VRI system?

## Appendix I: SignOn, USA

Interview – SignOn (VRI service provider)

April 12, 2008

Interviewer: Tyler Waterman

Note Takers: Tyler Waterman

- *What kinds of services do people need VRI for? Where can VRI be found?*
  - VRI can be found in a wider variety of locations than VRS. VRS is generally located in people's homes for personal phone calls; VRI is an interpreting service that can be found in hospitals, higher education (universities), police stations and also business meetings.
  - The US postal service has a lot of deaf workers so VRI is set up in a lot of post office warehouses.
  - SignOn does some legal work in courtrooms.
  - VRI is used most for medical appointments.
  
- *Who pays for the VRI equipment and installation?*
  - The actual organization has to pay for the equipment (e.g. the police station has to pay for it).
  
- *What motivates these organizations to buy the equipment?*
  - Communication motivates them to buy the equipment because they need to communicate with staff members and employees.
  - Another motivation is quicker access to interpreters. In cities, due to high demand, you need to call weeks in advance to get an appointment with a face-to-face interpreter whereas with VRI it is an immediate response.
  - With VRI, you pay for the amount of time you use the interpreter, no more, no less.
  - VRI costs more by the hour, but you pay for what you use.
  
- *How many interpreters are available at a time for deaf clients?*
  - There are usually 3 interpreters working simultaneously at a VRI center.
  - There are probably about 8 interpreters working at a time for VRS.
  
- *How qualified do interpreters need to be?*
  - Interpreters have to be certified through RID.
  - SignOn accepts pre-certified interpreters who have passed written exam but not performance exam.
  - They will accept some out of ITP (interpreter training program) where they smooth out some rough edges. SignOn only assigns these interpreters to assignments that they feel they can handle. SignOn would never use a pre-certified interpreter in a medical situation.
  
- *Are there any health/safety regulations that limit the amount of time an interpreter can work for?*

- Interpreters can interpret no more than 1 hour straight.
- It can depend on whether or not they have been signing a lot (as opposed to receiving signs).
- *Do the deaf clients have a choice between a VRI interpreter and a face-to-face interpreter?*
  - SignOn makes recommendations to the third party organization that VRI is good for emergency situations, but won't replace a live interpreter (if they are qualified).
  - Live interpreting is always better than video interpreting. Third party organizations will let the deaf person make the decision. If the request a live interpreter, then they may have to wait a few hours.
- *Can the clients request a specific interpreter?*
  - If they schedule the interpreter in advance, then SignOn will give them the interpreter that they prefer (if available).
- *Can you describe the process for booking an interpreter?*
  - At this point in time, the process is not too ideal. SignOn has it set up so that the requester will call over the phone or the deaf can do it via instant messenger or email.
  - The caller will then say when they want the interpreter and a scheduling team responds to the request by giving the caller SignOn's IP address.
  - The person who scheduled the appointment will then call into the video device where the interpreter is seated and waiting. When the appointment is finished, SignOn will log the time and process the invoice.
  - SignOn can make prescheduled or on demand appointments.
- *What would the ideal situation be?*
  - The ideal situation would be where you enter into a call queue until interpreter is available and then schedule or have your appointment. This way there are no extra phone calls (to the scheduling team), just one video call in immediately.
  - This process would require a lot of development and expense. Not sure if any VRI provider offers this kind of service.
  - VRS has it, but not VRI.
- *What factors make interpreters choose VRI interpreting over face-to-face?*
  - They enjoy the ability to sit in one place and serve a variety of people. The wider variety that they serve allows for more variety of work, they are not limited to the jobs in their geographic area.
  - They can do more work.
  - It is more efficient.
  - Payment is about the same for VRI interpreters at SignOn as face-to-face interpreters. Some VRS companies give their interpreters more money.

- *What are the best practices for VRI as determined by SignOn?*
  - There are 2 secured rooms behind a padlock so that everything is private.
  - There are windows in these rooms but they are covered with blinds.
  - Lighting shines down on the face of the interpreter as opposed to behind them (shadow). All lighting comes from the front.
  - Interpreters wear solid dark colors. They can not wear too deep of a V-neck or too high of a turtle neck.
  - There is a lighter shade of blue used in the background.
  - Interpreters do not wear anything that reflects light.
  - All the stations have a headset for privacy.
  
- *Are there any problems that SignOn has encountered or worked around regarding VRI?*
  - The one big obstacle is whether or not the third party organization is able to have enough bandwidth to support the video call. Sometimes the client calls and everybody is downloading something at their end (or anything that uses large amounts of bandwidth) so the video quality suffers.
  - For SignOn the bandwidth is very manageable because they control the Internet traffic very well. On the other end it can be a problem.
  - SignOn services anybody in the United State, most clients are in the rural areas.
  
- *Do the deaf ever have privacy issues when using VRI?*
  - At SignOn, VRI is very confidential, they don't share names, etc.
  - Clients choose a company that understands that and abides by it.
  - You can not really say that because one interpreter was irresponsible that you aren't ever going to use VRI again. You will probably end up just using another company.
  
- *Does SignOn offer any workshops to familiarize people with VRI?*
  - SignOn has participated in tele-training. At Pepnet.org there are different tele-trainings or webinars.
  - This is a new way to access services, you can just go to a weblink.
  
- *Who provides the tech support?*
  - The third party organizations have tech support on their end and work with SignOn's IT staff to troubleshoot problems. Both tech support groups contact each other to work it out.



## Appendix J: Sign Language Interpreter, USA

### Email Interview Sign Language Interpreter – U.S. April 16, 2008

- Demographic questions:
  - What is your age?
    - 27
  - What is the highest level of education you have completed?
    - Bachelor's Degree
  - Location of residence and how long have you lived there?
    - Washington, DC, since 2005.
  - Please list any written, spoken, or signed languages you know. For each one please note your level of fluency on a scale of 1 to 5 with 1 being limited knowledge and 5 being fluent.
    - English – 5, American Sign Language 4, Spanish - 1
- *How often do you have to travel more than an hour to provide interpretation services for your clients?*
  - Rarely. Once or twice a month.
- *What are the 3 most popular bookings you receive (doctor/lawyer visit, leisure, etc.)?*
  - Video Relay Service, Business Meetings, On-Call assignments (where she is on “standby” for the client’s last minute interpreting needs or for conversations among the client’s colleagues)
- *In your opinion, do you believe that the need for interpreters in the deaf community has been met?*
  - No
- *Do you feel that the increasing need for interpreters will continue?*
  - Yes
- *Are you familiar with Video Relay Interpreting?*
  - Yes
  - *If so, is it a service you are interested in using?*
    - Uses it to interpret situations
    - has not experienced being a consumer receiving such services.
  - *What about it do you like/dislike?*
    - As an interpreter, she likes not having to travel far.
    - Not being associated with the deaf person since she is a neutral party and oftentimes hearing people misunderstand this since interpreters are there as a result of the deaf person.
    - She likes the fact that as soon as the work is done, she is disconnected from that environment.
    - It is easier to take a feed from a team interpreter without the deaf or hearing people losing confidence in her ability to do her job

effectively simply because the feed can be done off screen and is less obvious.

- She does not like dealing with the poor quality of some connections
  - because it is not very widely-used, she dislikes the misunderstandings and frustrations that result from just using a new means for providing communication access.
- 
- *From what you know or have recently learned about the service, do you think VRI would make an impact on interpreting jobs? How so?*
    - Yes. If used for appropriate situations, it provides a potential solution to the interpreter shortage because clients are not limited to only the resources in their immediate area
    - The interpreter spends less time commuting and can therefore be more available.

## Appendix K: Ballarat Case Manager

Interview: Ballarat case manager

March 17, 2008

Interviewer: Tyler Waterman

Note takers: Cara Schafer, Karyn Gottardi

- *How long have you worked as a Case Manager for the Victorian Deaf Society?*
  - 6 years
- *What is your specific role as Case Manager of your region?*
  - She is a point of contact for anyone deaf or hard of hearing in the Grampians region. She provides support and information and assesses their needs, advocates for services they do not have access to, and refers them to other agencies in the region. When a referral is made she often acts as a secondary support to the professionals at that organization, providing cultural awareness, communication strategies etc., which varies depending on the person's needs.
- *Are you affiliated with other deaf organizations?*
  - No
- *What types of support services are currently available for the deaf community in your region? What types of communication services are available?*
  - There are currently huge gaps for support services available. It is easier to talk about what they have than what they don't have. In addition to my role there is a Deaf Access worker providing information and promoting community awareness, as well as a number of services focusing on hearing loss/hearing aids. Generally however clients have to access generic services. Her area of the Grampians had an Oral education system and schools. This method did not suit everyone, so as a result many individuals who come to her for assistance have limited literacy skills and poor or no signing skills. These individuals have a very difficult time identifying and accessing any services. Often if they do get access, it can be a challenge for both them and the service provider to provide and use the service. The Disability Discrimination Act requires all government agencies to provide an interpreter if required. And the National Auslan Booking Service (NABS) now provides an interpreter for medical visits free of charge. However this is of limited benefit for individuals who are not fluent in Auslan. Despite the high numbers of Deaf and hard of hearing people in this region, this communication barrier negatively affects the success of individuals trying to access local services.
  - In this region most clients she has contact with prefer to use their speech with a smaller number using Australian Sign Language. This is different in other regions. Some clients who rely on speech unfortunately are not easily understood. Again this impacts on communication success. The Oral education system of the day promoted the value of speech over other

forms of communication. As a result some clients do not want to use sign language and are not comfortable being signed to. She uses a combination of communication methods/strategies when working with this client group, including some basic signs, clear speech patterns, written information and lots of repetition and clarification.

- 
- *How do you inform the deaf community in your region about a new program or communication technology?*
  - An organization called Deaf Access specializes in informing the deaf community about new programs and communication technology. There are also a number of Hearing Expos held annually where service providers can promote their service and/or technology. Generally however between Deaf Access and Vicdeaf, most information gets out to the deaf community. In her region, the Ballarat Deaf Club meets once a month socially; this club helps to spread the word and information to its members, however, those who live out of the Ballarat area or who do not participate in the club may not be aware of certain information, services, etc.
- *Are you aware of Video Relay Interpreting? [If not explain]*
  - Yes
- *Based on what you know about VRI, what kind of impact do you think this service would have on the deaf community in your region?*

She believes that this service would be fantastic, especially for people who are Auslan users. Also, many clients and service providers find it difficult or impossible to pay for an interpreter, so VRI would help by reducing costs as no travel charge would be included. In most cases in the country the travel component is far higher than the actual interpreting assignment. e.g. a one hour meeting in the northern part of the region could include 8 hours of travel time for an interpreter coming from Melbourne. In addition given the critical shortage of interpreters in the state, it is more likely that an interpreter would be available for a one hour VRI meeting/ booking rather than a 9hr assignment. NABS (National Auslan Booking Service), commenced last year and as mentioned provides free interpreting services for medical appointments. However, regardless of this new government initiative, it is still hard to find interpreters willing and available to drive 6 hours to interpret for someone for a one hour appointment. Things are slowly changing in Ballarat with some oral deaf individuals starting to take advantage of an interpreter for medical appointments. In these instances, it could be beneficial when the deaf client is not fluent in Auslan, to have both an interpreter and a case manager present. The case manager would be able to advocate and expand on certain issues if required and advise the medical practitioner of relevant history or information because of their knowledge of the client. In many circumstances where an individual is not fluent in Auslan, another option is to use a deaf relay interpreter in addition to the hearing interpreter rather

than the case manager. VRI is currently used at some regional universities and also used for video conferencing.

- *How hard is it to book interpreters for deaf community members in your region?*
  - Booking interpreters in regional areas is much harder. Presently, in Ballarat, there are only 3 qualified local interpreters, 2 of whom are working out of Melbourne during the week. And one currently not working due to injury. Most deaf clients make do when an interpreter is not available for an appointment as changing the appointment date is often not an option and even when it is, it may not increase the likelihood of accessing an interpreter. When there is no interpreter, clients are forced to find ways to cope. They accept that they will have reduced understanding and input, and often contact their case manager later hoping for clarification. (e.g. often paperwork is signed without full understanding and later brought to the Case Manager for explanation.) Other times they may take along a family member, their child or friend to interpret. This denies them privacy, can be highly inappropriate for a child to act in this role, is translation is usually subjective and often involves only partial information being relayed which obviously causes a significant disadvantage.
- *Do you think members of the deaf community would do things differently if they had better access to interpreters? Such as communicating with hearing individuals, take advantage of other services (health care, lawyers, government, education), improve quality of life in general*
  - Access to interpreters would be a huge first step in giving the community access to local services; In addition the deaf community in her region would also need to be educated on how to use an interpreter because they are not a group that has typically done so. Captioning instead of an interpreter could also benefit the oral deaf clients who do not wish to sign. Those people not fluent in English may still require a Case Manager present for additional support. If service providers were in a position to access and provide interpreters via VRI, she has no doubt that deaf clients would begin to access more and more generic services for themselves and their families. Ballarat no longer has an oral deaf school. There are however deaf facilities in the local primary and high schools. These young deaf people in particular would take full advantage of accessing information/interpreters via VRI. She imagines the use of VRI would be slow to start, and then increase with awareness and improved availability of interpreters. The regional deaf community are no different to the general deaf community with their extensive use of SMS – It provides easy access/contact with their friends and family. However, for many hard of hearing clients in their senior years, new technology can be challenging and texting difficult due to the small size of the phones/buttons. One of the features of the national relay services is the ability to make and receive calls using your own voice and reading your reply on a digital display. This is particularly good for people in this

category As mentioned some members of the deaf community cannot take advantage of NABS because they are not fluent in Auslan. If the community was more confident in using Auslan then that might encourage them to access services such as medical appointments via NABS.

- *Do you know of anyone we can contact to get more insight on the deaf community in your region? (i.e. deaf community members, others who work in the region for Vicdeaf)*
- Someone was involved with a survey that was done very recently looking at whether people wanted live captioning or video remote interpreting. I am sure she will be happy to make the results available to you. Just keep in mind that those surveyed were generally used to 'coping' without an interpreter and were mostly oral deaf people or hard of hearing older clients. It is also hard to indicate your preference for something that you have never seen or tried.

## Appendix L: Geelong Case Manager

Interview – Geelong case manager

April 4, 2008

Interviewer: Tyler Waterman

Note takers: Karyn Gottardi and Cara Schafer

- *How long have you worked as a Case Manager for the Victorian Deaf Society?*
  - Since last September, so about 6 months
- *What is your specific role as Case Manager of your region?*
  - She helps to meet the needs of the local deaf community
  - Networking with other Case Managers, communities, schools, deaf, courts and legal organizations, etc. to ensure needs are met.
  - For example, an older woman wished to join a gym, so this case manager informed the gym that the lady was deaf and what her specific needs would be – there would need to be clear communication for use of the equipment
- *Are you affiliated with other deaf organizations?*
  - Only outside of her role as case manager
- *What types of support services are currently available for the deaf community in your region? What types of communication services are available? Are there any unmet needs?*
  - The deaf in Geelong have the same access to doctors and lawyers as the hearing do
  - The only thing that the deaf tend to go without is interpreting - when it is not available or too costly
  - There is a huge variety of communication services within the different age groups; the older generations use TTY, but that technology has been replaced by email and SMS.
  - Most people in Geelong have computers, but not all
  - Generally, there are a lot of needs that are unmet
  - There is a lot more support needed especially for Case Managing, interpreting, employment, independent living skills
- *How hard is it to book interpreters for deaf community members in your region?*
  - There are a handful of quality interpreters in Geelong, but they are usually very booked.
  - She's not sure if they are not always available because of a long waiting list, because of cost issues, or because they know they can get higher paying jobs elsewhere.
  - There are definitely more jobs than there are interpreters.
  - When interpreters are not available, some people in the deaf community will just go without services and cope by using a pen and paper or family members to help them communicate. This leaves more room for miscommunication.

- *What types of services do deaf community members usually need interpreters for? (I.e. doctor's appointments, social, etc.)*
- *How do you inform the deaf community in your region about a new program or communication technology?*
  - In Geelong, there is a high population of older deaf people. For information on events, "snail mail" is used quite often to contact the older deaf population.
  - eNews newsletter, SMS, email, flyers (for locals), and fax are also used. TTY is not used as much to spread information
- *Are you aware of Video Relay Interpreting? [If not explain]*
  - She is aware, but does not have hands on experience with it
- *Based on what you know about VRI, what kind of impact do you think this service would have on the deaf community in your region?*
  - It would take a substantial amount of time for the deaf community in Geelong to get used to it, especially using a computer.
  - Some people may be comfortable with the technology right away, whereas others may take more time to get used to it.
  - She expressed a concern with those who live in the very remote areas. For some, because they have such limited interaction with people, they look forward to having an interpreter come to doctor's appointments with them. This is usually the only time they can communicate with someone else. VRI may take away that personal interaction. At the same time, however, it would be good for the deaf in remote areas because they will have more access to interpretation services.
  - The older people in Geelong are somewhat aware of VRI, some more than she. A few have already used it.
- *Do you think members of the deaf community would do things differently if they had better access to interpreters? Such as communicating with hearing individuals, take advantage of other services (i.e. health care, lawyers, government, or education), improve quality of life in general?*
  - She believes that the deaf community would be able to book interpreters more often and take advantage of other services through VRI.
  - Although, it needs to be taken into consideration that those who live in remote areas look forward to that face-to-face, 3D communication that they only get every so often from interpreters.
  - Workshops would definitely be needed to better educate the deaf in remote areas
- *Do you know of anyone we can contact to get more insight on the deaf community in your region? (i.e. deaf community members, others who work in the region for Vicdeaf)*
  - She has sent questions to deaf community members and interpreters in Geelong.
- *Do you think privacy would be an issue within the deaf community?*
  - There may be some reluctance with people who have never used an interpreter before since they will not be aware of how interpreters work



and the confidentiality laws they have to follow. They would need to understand the interpreting procedure.

- *How is the Auslan fluency in Geelong?*
  - The Auslan fluency is very strong. Since Auslan is not a very structured language, there are variations of signs (home signs) from region to region.
  - Written English is weaker with the older generation, but in general the deaf community's English skills are not as good as the hearing people in that region.

## Appendix M: Bendigo Case Manager

Interview – Bendigo Case Manager  
March 25, 2008

Interviewer: Cara Schafer

Note takers: Karyn Gottardi, Tyler Waterman

1. *How long have you worked with the deaf community?*
2. *What is your specific role at Deaf Access Victoria?*
3. *What types of support services are currently available for the deaf community in your region? What types of communication services are available?*
4. *What sorts of needs are unmet in the Bendigo deaf community?*
5. *Are you aware of Video Relay Interpreting? [If not explain]*
6. *Based on what you know about VRI, what kind of impact do you think this service would have on the deaf community in your region?*
7. *How hard is it to book interpreters for deaf community members in your region?*
8. *Do you think members of the deaf community would do things differently if they had better access to interpreters? Such as communicating with hearing individuals, take advantage of other services (health care, lawyers, government, education), improve quality of life in general*
9. *Any other information from the survey conducted that might help us with our research.*
10. *Generally, how fluent is the deaf community in your region with Auslan and written English?*

1. Over 5 years
2. Her role is assisting clients in various areas of their life
3. She works with deaf link, Mildura deaf group, Bendigo deaf group, and ASLIA
4. There is very little in terms of communication services, the deaf pay for TTY, faxes, computers, and SMS to communicate. Other than that, various case management services are available for the deaf community in the Bendigo region.
5. She emails the clients that have email, faxes the ones that have fax machines, and writes letters to those who don't have either. In many cases, the people without email or fax miss out on information. She receives information all the time and always sends it out by email regardless of whether it has high importance or not. She also will SMS those who use that technology, but SMS along with written letter clients typically only receive the most important information, as it is harder to communicate that way.
6. Not very aware of VRI. [*brief explanation*] She thought it would be fantastic if it worked well. She tried using a computer with clients in Mildura to communicate but could not understand. The images were too blurry and no one could read what was being said; this is mainly due to poor technology. She is taking an interpreting course through NABS. In her region they don't have the best computers, download capabilities or technical assistance opportunities. SensWide offers a lot of opportunities for the deaf but only in the metropolitan areas. The

- common belief is that SensWide is available everywhere but it isn't. Services don't usually have the same quality in the regional areas that they do in the cities.
7. It is often impossible for people to book interpreters for when they need them. There are only a few interpreters available and most of them are involved in education. Most members of the deaf community cope by going to doctor's appointments, etc. without interpreters.
  8. People from both the deaf and the hearing community would need to be taught how to communicate through interpreters. NABS coordinates payment for interpreters, but their services are often not used because hearing professionals such as doctors, etc. aren't aware of them because they don't attend the workshops, in which the services are explained. It is generally difficult to teach the community about services for the deaf. Even if VRI was functional, there would be some difficulty getting people to use it, simply because they may not be aware of it. Overall it is a great idea, but things always happen in the city faster than in the country. Therefore, it is necessary to have processes in place in order to educate these country areas.
  9. Coffee shop talk this Friday.
  10. Fluency of the deaf community across the region varies. She mentioned that the group leaders tend to have varied Auslan and English skills and that generally the regional Auslan isn't as good as the metropolitan Auslan. In regional areas there is more signed English as well. Lack of education, lack of access, and lack of exposure to good Auslan models is prevalent in regional areas.

## Appendix N: Gippsland Case Manager

Interview – Gippsland case manager  
March 18, 2008

Interviewer: Tyler Waterman

Secretary: Karyn Gottardi, Cara Schafer

- *How long have you worked as a Case Manager for the Victorian Deaf Society?*
  - He started at Vicdeaf at the end of November
  - Previously, he has worked in disability and child protection areas for about 3 to 4 years.
- *What is your specific role as Case Manager of your region?*
  - Works with only deaf and hard of hearing clients
  - Offers: advocacy, support, referral, legal, medical, financial, employment, family, and personal issues
- *Are you affiliated with other deaf organizations?*
- *What types of support services are currently available for the deaf community in your region? What types of communication services are available?*
  - Advocacy, support, referral, legal, medical, financial, employment, family, and personal issues
  - These services are harder for deaf to access because they need interpreters
  - He hasn't come across any services that the deaf in his region haven't been able to access. It is just more of a frustration for the deaf to access them
  - The most commonly needed services are predominantly financial issues in his region
  - Communication Service- the majority of his deaf clients use an interpreter for most communication, TTY is hardly ever used; email, fax machine, and SMS are used regularly too
- *How do you inform the deaf community in your region about a new program or communication technology?*
  - Information is a little difficult to spread throughout the deaf community in Gippsland.
  - When He hears something he'll post it out to the clients. They also have a newsletter with information regarding new technology or other services
- *Are you aware of Video Relay Interpreting? [If not explain]*
  - He has sat in on a couple meetings when it was used but has not used it himself
  - He mentioned that Latrobe Community Health Service was supposed to have a demonstration but that it might have been postponed
- *Based on what you know about VRI, what kind of impact do you think this service would have on the deaf community in your region?*
  - Currently, VRI is only theoretical in Gippsland

- The deaf don't have access to it mainly because clients in his region don't have the technology. Some have computers but the majority do not.
- He believes that VRI would have a huge impact on the deaf community in Gippsland
- He could just carry a laptop with him to contact his clients. This would make it easier for him, since he works in the office only 2 days a week
- He would also be able to contact the clients more frequently, effectively, and faster.
- He believes that the younger generation would jump at it and love to become involved with VRI, but the older generations may be frightened by the technology.
- Many people tend to move into city areas because they don't have certain services or technology available in the regional area.
- *How hard is it to book interpreters for deaf community members in your region?*
  - In Gippsland, it is not too hard to book interpreters
  - However, He provided an example in which booking an interpreter would become a hassle. If someone was to make an appointment for a client, it would involve organizing a time in which the client and the interpreter could meet up the same time (doesn't always work).
  - He mentioned that sometimes people just give up in frustration, if they can't get interpreters, and opt out of the service
- *Do you think members of the deaf community would do things differently if they had better access to interpreters? Such as communicating with hearing individuals, take advantage of other services (health care, lawyers, government, education), improve quality of life in general*
  - Yes, the community might be more inclined to stay in the country rather than moving out to the cities if they had the technology
  - It would help a lot.
  - He explained that there are free interpreters for medical appointments, and that for other, minor issues the person will have to pay for interpreters, themselves, which is very expensive
- *Do you know of anyone we can contact to get more insight on the deaf community in your region? (i.e. deaf community members, others who work in the region for Vicdeaf)*
  - He will send letters to clients to see if they will help us with our research
  - He mentioned that posting is probably better because not many clients are using the computer, so it may take a little while to get a response
  - Our short time schedule was mentioned and that we will only be here for 5 more weeks
- *Other notes:*
  - He explained that there is a whole range of communication fluency within in the Gippsland deaf community
  - They range from excellent and fluent in Auslan or lip reading to individuals who are barely able to communicate and more likely to use a case manager.

## Appendix O: Hume Case Manager

Interview – Hume Case Manager  
March 26, 2008

Interviewer: Tyler Waterman

Note Takers: Cara Schafer, Karyn Gottardi

- *How long have you worked as a Case Manager for the Victorian Deaf Society?*
  - 7 years
- *What is your specific role as Case Manager of your region?*
  - She provides advocacy and support to access services, generic services, and overall to support clients and help ensure that the service provider is aware of any deaf issues that may arise. She also supplies deaf groups in the region with information and works to get funding for grants, etc.
- *What types of support services are currently available for the deaf community in your region? What types of communication services are available?*
  - There are 2 schools available – primary and high school deaf facilities, but everything else is generic services. The communication technologies available only include basic services such as TTY, texting, and some clients use relay by Internet. One client takes his laptop to work and others will use pen and paper. Most clients use text rather than TTY, which a lot of service providers do not have.
- *How do you inform the deaf community in your region about a new program or communication technology?*
  - The best way to spread word of new technology or promote services is through a monthly newsletter from Deaf Access Victoria in Hume. She does not use much email correspondence because only a limited number of clients have or use email. Also, a lot of the promotional items are not deaf friendly, so she would have to spend a lot of time changing things to make the wording more deaf-friendly. So the best method is to stick with the newsletter.
- *Are you aware of Video Relay Interpreting? [If not explain]*
  - She mentioned that she has used it a couple times while supporting a client. One court in Hume has the equipment for VRI, which they only use for legal matters.
- *Based on what you know about VRI, what kind of impact do you think this service would have on the deaf community in your region?*
  - She believes VRI would be fantastic if it was made more widely available. Interpreter access is a huge issue in the region because there are so few. Often she will need to get an interpreter from Melbourne, which is an enormous cost, due to commuting distance. It would be great for clients in Hume.
- *How hard is it to book interpreters for deaf community members in your region?*

- There are a lot of issues regionally with booking interpreters. There are not many interpreters in the area and those that are available work in the schools, so clients would have to make bookings after school hours or during holidays.
- The bookings that cause the most anxiety and inconvenience are law cases. If the individual can't get an interpreter on the assigned date, it can cause major problems.
- When interpreters are not available, many deaf people will use their children or other family members to interpret for them. Some resort to just using pen and paper.
- *Do you think members of the deaf community would do things differently if they had better access to interpreters? Such as communicating with hearing individuals, take advantage of other services (health care, lawyers, government, education), improve quality of life in general*
  - She believes they would be more comfortable in accessing medical and hospital services if VRI was more widely available. She did mention that there could be some hesitation due to uneasiness and unfamiliarity with new technology. The technology itself has been accepted, however, it would be something that people would have to get used to over time.
- *Auslan Fluency*
  - Some members of the community have poor literacy skills and are not fully fluent in Auslan. A lot of the deaf community in Hume use home signs or signed English to communicate rather than Auslan. She has noticed that when Melbourne interpreters come to visit the region, there is more of a struggle with metropolitan interpreters than with regional interpreters because they do not know the client or their communication style.
- *Do you know of anyone we can contact to get more insight on the deaf community in your region? (i.e. deaf community members, others who work in the region for Vicdeaf)*
  - There are a couple people that She will have to talk to first, but she will email us with contacts.
- *Other notes*
  - Privacy issues? - She believes that privacy could be an issue regardless of having VRI or not. Personal issues (i.e. counseling, sexual assault cases, or family violence) would make people feel more uncomfortable when using an interpreter. Some regional interpreters act both as an interpreter and a support person, so depending on the situation the deaf individual may be hesitant to have that particular interpreter translate.
  - What would it take to make people willing to use VRI? – She believes that the deaf community in Hume would absolutely have to have education available for the service. It should be backed by Vicdeaf and other deaf organizations that could provide educational and peer support to show the benefits of the service.

## Appendix P: Deaf Access Victoria

Interview - Representative of Deaf Access Victoria  
March 19, 2008

Interviewer: Karyn Gottardi

Note takers: Cara Schafer, Tyler Waterman

- *How long have you worked with the deaf community?*
  - About 10 years
- *What is your specific role at Deaf Access Victoria?*
  - She is a coordinator, but the aim of the program is to provide information, support, and advocacy to individuals who have a hearing loss, are hard of hearing, or are deaf. Their goal is to make the community aware of services and new information. She has also been an interpreter but not for Deaf Access Victoria.
- *What types of support services are currently available for the deaf community in your region? What types of communication services are available?*
  - The Ballarat Deaf Social Club meets once a month, which is very family-oriented and in the past has been oral. There is also a hearing society based in Horsham that consists of 60+ year olds and farmers. As far as support services, Pauline Lillie, Deaf Access Victoria, Better Hearing Australia (closing soon), and a deaf facility are available in her region. There is also a program for parents with deaf children which has been around for approximately 15 years. Regarding communication services, SMS has had a huge boom in the region. The survey that was conducted tried to get an idea of everyone's preferred communication methods. The preference seemed to be the captioning. There are only 10 fluent Auslan users/signers in the whole region – 10 actual signing deaf and the rest are generally oral.
- *What sorts of needs are unmet in the Grampians deaf community?*
  - Knowing what their rights are, contacting NABS, or how to obtain an interpreter at the doctor's office, are the most common unmet needs in the Grampians deaf community. Oppressed (oral) adults, even in their early 40s, will still try to speak to their teachers because they are afraid of signing to them. Deaf Access Victoria hopes to set up a trial day for VRI, but the system would have to include both written text and video ques.
- *Are you aware of Video Relay Interpreting? [If not explain]*
  - Yes
- *Based on what you know about VRI, what kind of impact do you think this service would have on the deaf community in your region?*
  - It would have a huge impact. Issues faced in regional areas (such as needing interpreters in hospitals) could be alleviated. The deaf individuals that would benefit most are those who are isolated and live 4-5 hours away from Melbourne (a major city).
- *How hard is it to book interpreters for deaf community members in your region?*



- 4 live in the region but only 3 are working. Many individuals do not access interpreters due to the travel time involved and the high booking cost.
- *If deaf individuals cannot get an interpreter, how do they cope?*
  - They will often use family members to translate or they will rely on written notes, which is not always the best option.
- *Do you think members of the deaf community would do things differently if they had better access to interpreters? Such as communicating with hearing individuals, take advantage of other services (health care, lawyers, government, education, etc.), improve quality of life in general?*
  - Yes, it would make a big difference and would include a huge education component. The whole process would be a learning curve for them. Since most are not native Auslan users, they do not have much experience working with or booking an interpreter, so they would need to learn how the process works. Those who are not fluent in Auslan would also need to understand that there are people/organizations available to assist them with communication to meet their particular needs.
- *Is there any other information from the survey conducted that might help us with our research?*
  - Might be able to send us her survey results.
- *For those who are not fluent in Auslan and have poor communication skills, would they require an additional component along with VRI to accommodate this issue, or should more educational opportunities be provided?*
  - They are looking at trying to get more Auslan education courses, however the written component along with VRI would still be needed. The technology will eventually have running captions so it would be more of a combination of live remote captioning and VRI. If VRI is implemented, Vicdeaf could run some workshops to facilitate transition to the new technology. The more hands-on opportunities available, the easier it will become. If it was introduced, more individuals would be encouraged to use Auslan.

## Appendix Q: ASLIA Interpreter

Interview –ASLIA interpreter

April 2, 2008

Interviewer: Karyn Gottardi

Note Takers: Tyler Waterman, Cara Schafer

- *How many languages are you fluent in?*
  - Two, Auslan and English
- *Are there interpreters in ASLIA who are fluent in languages besides these two?*
  - Yes, there is one British sign language interpreter and a couple of American sign language interpreters. There aren't many because there is not a high demand for their services.
- *How often do you have to travel more than an hour to provide interpretation services for your clients?*
  - She has personally had to travel more than an hour on very few occasions. She suggested we contact the booking office to find out how often people are booked and must travel.
- *What are the 3 most popular bookings you receive (doctor/lawyer visit, leisure, etc.)?*
  - There are a lot of interpreters who are booked for educational purposes, more than any other type of service (Universities, TAFE). VAIS does mostly community bookings (again she mentioned asking the booking office about what the bookings are typically made for). NABS is a free service for all private medical appointments which is why Vicdeaf does not get many interpreter requests for medical. Vicdeaf is used to make bookings for legal appointments and meetings for professional deaf people primarily.
- *Do interpreters have specific areas that they are appointed to interpret in, or do they generally interpret in every situation?*
  - In Australia the interpreters are tested based on their spoken language skills. There are level two interpreters (paraprofessional) and level three interpreters (professional). Level three interpreters have very proficient interpreting skills. The National Accreditation Authority for Translators and Interpreters tries to ensure that only level three interpreters interpret during legal appointments or mental health appointments. She mentioned that people can be interpreters in America without certification, but having the RID certifications is impressive. Interpreters should be able to interpret anywhere, but people who have more experience in a specific area generally are the first selection for that job (courts, etc). When working in educational areas, a level two or a level three interpreter is fine.
- *In your opinion, do you believe that the need for interpreters in the deaf community has been met?*

- There is definitely some unmet need, but more important is that many deaf people don't know that they have access to interpreters (especially in the country, the deaf don't ask for them because there aren't any). NABS started offering free interpreters and can be contacted via SMS, this has spread awareness quite a bit. The professional deaf workers sometimes don't get invited to union meetings and such because people think they won't be able to participate. Hearing professional also don't understand that legislation mandates that they provide an interpreter for the deaf. They don't want to pay the money so they don't work with the deaf.
- *Do you feel that the increasing need for interpreters will continue?*
  - The need for interpreters will increase because the deaf community will eventually realize that they can use them. With the technology that is coming out, there are less deaf people using Auslan and more oral deaf due to cochlear implants. When they get to tertiary school they realize that they need an interpreter to understand what is going on and must then learn Auslan.
- *Are you familiar with video relay interpreting?*
  - She has used VRI before in a legal setting. She thought it was a little bit scary and strange and worried about reading signs, most notably finger spelled ones. The finger spelling came out blurry but it has improved since she used it and is getting better still. She mentioned a legal setting where more than one interpreter is present so they can switch off after a certain amount of time. She said that when they switch off, the interpreter that takes over is unfamiliar with what is going on. They need information that everyone in the courtroom already knows, such as names and previously mentioned issues. For each additional person that an interpreter can address in a setting, the more complex the situation is.
- *From what you know about VRI, how do you think it will impact the deaf community?*
  - VRI will be good for the deaf who live in the country. One issue is that there are currently many level two interpreters who work in the country. The deaf need a good interpreter who can go between Auslan and English effectively. The deaf might have a specific interpreter in mind that they like when using VRI. (I think I asked a question here that I didn't take notes on)
- *Would you ever consider becoming a VRI interpreter? Why or why not?*
  - She would definitely consider becoming a VRI interpreter, but she would not be willing to sit in a booth all day for an entire week. She said maybe one or two days a week working in a booth would be fine. Some work might have to be done training interpreters who have different dialects to communicate with the deaf from any region in Australia. There are a few signs that are different depending on the region, but if the interpreters became familiar with all the different dialects, then all states could participate in VRI. Regarding comfort/trust level with interpreters, She said that all interpreters should be encouraged to participate in VRI so that the deaf have a choice.

- *Do you think VRI will still help the deaf that have no experience with interpreters?*
  - She said she thinks it would be a sensible approach for deaf organizations to go to the country and set up workshops. If members of the deaf community cannot attend the workshops or miss out somehow, a videotape should also be prepared so that they can see what they missed. For the most part, the deaf are very good at filling in gaps. Even if they don't understand the technology entirely, they will figure it out. Information spreads like wildfire through the deaf community so if one person uses VRI, everyone will find out about it.

## Appendix R: Auslan Free Lance Interpreter

Interview – Auslan free lance interpreter

April 10, 2008

Interviewer: Karyn Gottardi

Note takers: Cara Schafer, Tyler Waterman

- *Do you know any other Sign Languages? If so, what are they and how fluent?*
  - She can sign some ASL, some BSL, and International Sign Language, but is not as fluent in these as she is in Auslan or English.
- *How often do you have to travel more than an hour to provide interpretation services for your clients?*
  - She usually has to travel more than an hour everyday, if not, more than two times a day.
- *How many days a week do you have to travel more than an hour?*
  - It varies, but usually 3 days a week. The other two days she goes into state or country Victoria (at least once a week). Sometimes she is flown within Victoria.
- *What are the 3 most popular bookings you receive (doctor/lawyer visit, leisure, etc.)?*
  - The most requested bookings are for meetings, but she usually turns those down. She would rather do medical appointments, so a majority of her bookings are for medical appointments.
- *Do your clients specifically request for you to interpret? If so, why?*
  - Yes, they have confidence that she understands them. Regarding confidentiality issues, they also have confidence that she will do a good job. By requesting her for multiple appointments, they only have to share information with one person. She is a Free Lance interpreter, so she is not contracted to any agency. Most often she declines a booking if she is not free. Since she lives an hour away, taking an interpreting job in the city will cost \$40 in parking. Since she only gets travel/petrol pay for traveling 40 or more km from the central business district, it makes more sense to do country work; it is more profitable than city work. She also keeps a log of expenses from travel time, petrol, parking costs and claims them for tax deductions.
- *In your opinion, do you believe that the need for interpreters in the deaf community has been met? Do you feel that the increasing need for interpreters will continue?*
  - She believes that the need for interpreters will increase, but the quality of interpreters will still be an issue. For example, someone who got qualified as an interpreter last year will get the same pay as someone with 23 years of experience. She mentioned that the whole system is limited in judgment of interpreting skills. Level 2 interpreters work primarily in education, which creates disillusionment among the deaf community.

There is such a wide range of skills between level 3 interpreters; there is no effective way to measure someone's language ability after they become a level 3 interpreter.

- There is a high need for skilled interpreters. The deaf prefer to cope *without* an interpreter rather than become frustrated *with* an interpreter that is not skilled.
- *Is there a difference between the regional deaf and the metropolitan deaf community?*
  - The regional deaf have less knowledge about available services, less accessibility to services, and are less likely to stand up for their rights. They are usually isolated and have many language differences, but this can also be the case if a deaf person living in the city isolate themselves and do not pick up on variations in signs.
- *Do you they tend to use home signs or Auslan?*
  - It is more common to see home signs from people who are isolated, either in the city or in rural areas. One can still be isolated in the city. Home signs used are very basic (e.g. signs are used to indicate people or family member's names). They are used with people who don't mingle with other deaf people. Most home signs are logical and can be figured out after clarifying with her client.
- *Are you familiar with Video Relay Interpreting? Have you ever used VRI?*
  - Yes, she has used VRI at Vicdeaf and has also used it at a hospital and at a court in the country. She was involved in the ACE trial about 7-10 years ago, and said that it seemed successful although the technology at the time needed improvement.
- *From what you know about the service, do you think VRI would make an impact on the interpreters' jobs? How so?*
  - Quality and skill of the video interpreter would have to be taken into consideration because the deaf would not be able to cope. They need to focus on and analyze each interpreter's skill and ability level, or assign jobs by difficulty order. The interpreter would have to be able to interpret in certain areas, such as hospital, mental health, court, police appointments. They also need to find people who have skills to work in a room. A VRI interpreter works 9-5 and can be paid every 15 minutes or so. As a Free Lance interpreter, she does more face-to-face work, but is only paid by each booking. While commuting and driving to different appointments, she gets a chance to rest her signing arm; video interpreters would have to constantly be signing. OHSI would need to investigate these issues that concern the well being and thus the quality of interpretation. She also commented that it is harder to look at a 2D screen than a 3D person.
  - In order to educate people on VRI, she would recommend using really fluent Auslan teachers to teach and show people how it works in a stress-free environment. Using well-respected individuals within the deaf community to promote the new technology could also help.
- *Would you ever consider becoming a VRI interpreter? Why or why not?*

- She prefers not to come into the city to work, especially because of the cost of parking.
- She would consider becoming a VRI interpreter if she could work from home and if the pay was higher than an on site interpreting job. Currently, VRI interpreters get paid by the hour, not by how many bookings they have. The payment system needs to be considered.
- *As a Free Lance interpreter, how do your clients make bookings?*
  - They can book her through NABS, Vicdeaf, or the NAATI directory. NAATI can contact her directly and she can give them a quote. If they go through Vicdeaf, she would get work cover insurance and other benefits.
- *How does Free Lance interpreting compare to working as a staff interpreter?*
  - Staff interpreters do not get many choices for interpreting jobs. They have to interpret for whomever they are booked for. They do, however, get a salaried pay, sick pay, and holiday pay.
- *What is it like to work with people who are using an interpreter for the first time?*
  - Most people don't get it because they have no exposure to interpreting services, especially older people. This goes for both the hearing and the deaf. They usually prefer a consecutive type of arrangement where the message is relayed directly to the interpreter (e.g. "Tell him/her I said..."). If it is a one time appointment then she lets it go, otherwise she tries to advise them on how to properly use an interpreter.
- *Have you ever worked with a foreign language translator during a booking?*
  - With a foreign language it is harder because you have to wait for the spoken message to be relayed. With sign language you can say it at the same time and don't have to wait for the other person to finish talking.
- *Are there any problems you think might be encountered with the implementation of VRI?*
  - It might be harder to use on a school level. Personality issues will be important because you have to negotiate with someone who is not in the same room as you. Compared to face-to-face, VRI is not as intimate. There may also be some technology phobic people when the equipment first comes out, but once they have experience with it, more will start to use VRI. Once they see the benefits, it will take off. Another problem they might encounter is attracting interpreters to work in the area. The pay and the salary are also issues that need to be considered. VRI, at this point, would not be suitable for mental health appointments because they are too difficult and complex.
- *Are there any privacy issues that should be considered?*
  - Clients and video interpreters should be aware that there is a monitoring policy in the call center and that the interpreter's interpretation will be monitored for linguistic performance analysis and quality assurance to avoid any medical or legal issues if the wrong information is relayed from one party to another.
  - In Australia the only time an interpreter can break confidentiality is when the interpreter sees something and has a responsibility to tell the legal

authorities. Legal protection exists for interpreters in these cases (e.g. someone is going to hurt themselves).

- When introducing VRI, make sure that deaf people or very fluent Auslan users promote it.



## Appendix S: Deaf Community Member

Email interview - deaf community member

- Demographic questions:
  - What is your age?
    - 34
  - What is the highest level of education you have completed?
    - Bachelor of Education, Special Education
  - Location of residence and how long have you lived there?
    - Torquay, all my life
  - Please list any written, spoken, or signed languages you know. For each one please note your level of fluency on a scale of 1 to 5 with 1 being limited knowledge and 5 being fluent.
    - Auslan 5, Written English 4, ASL 3.
  - What is your occupation?
    - School teacher, currently taking a break from the occupation and looking at other options.
  
- How often and in what situations do you need to communicate with people who do not know sign language?
  - In mainstream school, with hearing colleagues.
- How do you usually communicate with these people?
  - Pen and paper, or gestures. Some colleagues can sign and help as interpreters themselves.
- Are there any other types of communication modes or technologies you have used (i.e. TTY, email, etc.)? Please describe your experience.
  - Email is used frequently.
- How has interpreter availability affected your ability to communicate?
  - Without an interpreter, pen and paper is used to communicate, which is fine, albeit a bit slower.
- Have you ever been unable to communicate with someone because interpreters were not available?
  - Yes, if pen and paper are not available as well.
- If you had better access to interpreters what would you do that you cannot currently do?
  - Participate in meetings, in the past I couldn't attend any as there were no interpreters available in my area, and also the funding from the government was not enough to cover all meetings. The school were unable to afford them.
- Who pays for face-to-face interpreting? Do different people pay in different situations?
  - A government grant was applied for and received, however it is not enough.
- Are you familiar with Video Relay Interpreting?

- Yes, I have heard about it being used in the U.S, along with feedback of U.S. Deaf people on its efficiency.
- If so, is it a service you are interested in using? What about it do you like/dislike?
  - I think it is an essential service much needed in Australia, the current situation in Australia we use National Relay Service via TTY or typed text on computer. The concurring problem is that some Deaf people struggle with written English or have poor typing skills, so it affects the hearing people on the other line. It takes their time away from their customers in their business, etc. With VRI, this will solve the problem as Deaf people can converse in their native Auslan at the same speed as spoken English. Our Australian deaf people will finally have equal access to quality interpreting services that other minority language groups in Australia currently receive.
- If not, [provide brief explanation of VRI]...would you be interested in taking advantage of this service? What about it do you think you might like/dislike? What concerns or expectations do you think you might have regarding this service?
  - I would be very interested in taking advantage of this service and promote awareness of it once the service is underway in Australia. It is a long awaited technology since Australia is behind compared to other nations. It will bridge the communication between Deaf people and the hearing community in Australia.
- From what you know about VRI, in what situations do you think the service would be most helpful to you?
  - For business related discussions.
- Would you feel comfortable sharing personal information through a video interpreter with whom you are not familiar?
  - Probably not, depends on the content of the information! For bank details, I'd probably use the VRI and ask the other end for their fax number so that I can fax the info directly to them.
- Would you be willing to pay for VRI if you needed to in order to use the service? If so, under what circumstances would you be willing to pay?
  - It will be wonderful if the services could be provided free of charge, or if the VRI equipment are provided for free. If that is not possible, the prices need to be affordable for all Deaf community members, including those without occupation. It needs to be what we can afford, the bonus being at a bargain price, so that everyone looks forward to using it.

## Appendix T: Focus Group

Focus Group-Vicdeaf  
April 9, 2008

Participants: 8

- I think VRI is great, I think there are some positives and negatives at this point in time.
  - On the positive side, I have had hospital appointments using the public system through NABS. It is their responsibility to book a level 3 interpreter if I need one or a male interpreter if I am more comfortable working with one. In two cases, I got to the hospital after requesting an interpreter and he was not there. I went to the booking office and asked what happened; they told me “sorry, it’s our fault”. This really upset me because I had to reschedule the appointments. If VRI was available in these situations, it would be a great fallback.
- I am worried about the IT support, will parts be provided to the deaf community because they generally aren’t wealthy and couldn’t afford them? Will the government help us pay for the equipment?
  - There are two committees (advisory and steering) that are \*helping provide services for the rural deaf in five regions. That would provide the infrastructure (equipment). They already have most of the equipment. There is a business proposal that states they must have approximately 8,000 dollars of VRI equipment in order to operate. This equipment is very high quality which is why it is so expensive.
- I think there are two areas that need to be looked into. One is the \*technical area and the other is interpreting skill. I went to a conference in San Francisco here they discussed how to train interpreters for VRI.
  - The training issue was discussed at the committee level. One of the suggestions was a VRI training course offered at RMIT.
- Can the service be provided nationally?
- Can preferences be met at the interpreters end?
- Was there any resistance from hearing consumers in the U.S?
- Do all doctors have equipment for VRI? Do I go anywhere I want or are there specific places I need to go?
  - In the U.S, it depends on the population of the deaf community in a region and the specific needs of the area. These factors determine where VRI sites are located.
- There are some places that have video conferencing equipment. Will this equipment need to be replaced or can they use it for VRI?
  - People who have the videoconferencing equipment can use it for VRI. The only thing they need is access to the VRI service network so that they

can participate. At this point in time, the primary focus is DHS-funded services.

- Will there be trials held in regional areas or in Melbourne?
  - We are currently trialing VRI in Melbourne at Vicdeaf.
- ACE is on the committee, they are keen to set up a video relay service to replace the national relay service. Instead of TTY, a home installed video service would be used.
- Where will VRI centers be based?
  - Melbourne
- Will you steal face-to-face interpreters to come work in VRI in Melbourne?
  - I reject that idea. I think you should get interpreters\* into Melbourne from regional areas instead of taking the face-to-face interpreters who already work in Melbourne because I prefer those. I want them working at my university, etc.
  - Yes that is a problem. We need to find a good balance between VRI interpreters and face-to-face interpreters.
- Some interpreters like VRI, but some still prefer face-to-face. It can be stressful using video as a medium.
- I am worried about VRI corporations taking all the face-to-face interpreters.
- Why would an interpreter want to work in VRI as opposed to face-to-face? One of the intrinsic joys they get is getting to interact with people face-to-face. Also, I was wondering if there was going to be a clash between choosing VRI over face-to-face for the hearing.
  - The deaf client's preference is always face-to-face. If it is available then they should use it.
  - \*education is important because VRI is adequate; the deaf just need to know about it.
  - The interpreter needs to get information about a meeting prior to it so that know what they will be talking about (vocabulary, etc). Preparation is vital in these types of situations.
  - If VRI is used for meetings, people need to understand turn taking and be prepared for lag time. The person chairing the meeting especially needs to understand how VRI works and make sure the meeting does not run too quickly.
  - There will be a clash when the hearing want to use VRI and the deaf want to use face-to-face. There might be legislation to sort that out. If the deaf client understands the difference in cost for the third party, they might be willing to use VRI.
  - There are some situations where VRI can/will not work and a face-to-face interpreter must be used.
  - Better pay and perhaps the ability to do work from their own home will probably motivate interpreters to work with VRI.

- Is it possible for different businesses to set up their own equipment so they can use VRI?
  - The scope right now is essential services (police, hospitals, court). After the primary scope comes businesses, etc.
  - Anybody can get access to the VRI services network through the broadband gateway.
  - The infrastructure will be constructed in a way so that eventually anyone can have access
- Some of the issues now are choosing face-to-face interpreting over VRI interpreting and who pays in specific situations. The hearing will want to give deaf VRI because they are paying the bill. “You’re getting VRI or nothing”
- Has the lack of interpreters affected your ability to access services?
  - Yes, most of the time I write on pen and paper. I try and ask a lot of questions but I still don’t always get the information I need. I want detail. I am very assertive about getting interpreters for my appointments. Pen and paper takes time that doctors do not have. I need to get the full information.
  - I can’t express myself with pen and paper, it is not adequate.
  - I either write it down and go home or book another appointment when an interpreter is available.
  - Time are negotiated which disrupts everyone’s schedule. More and more businesses are building their meetings around interpreter availability because of supply and demand.
  - Sometimes I go into a meeting without an interpreter and I cannot participate. Now I demand notification before hand so I can schedule the interpreter myself for the meeting ahead of time. I need highly skilled interpreters.
- Will education programs be provided?
  - There will be separate organizations employed specifically to inform people about how VRI will operate. These workshops are necessary.
- What about people who have never used an interpreter before?
  - There are many young deaf people in Melbourne who will probably take up the technology quickly. The deaf community has a strong grapevine, there needs to be a group of people who really push the message.
  - They could advertise VRI on community television
  - They might also use practice booths so people can see what it is like to use VRI.

## Appendix U: Department of Human Services

Interview – 2 Representatives from the Department of Human Services (DHS)  
April 9, 2008

Interviewer: Cara Schafer

Note Takers: Tyler Waterman, Karyn Gottardi

- *What is your specific role working for the DHS?*
  - She is the senior project officer. She does work on diversity issues and deaf culture.
  - He does consulting business analysis assisting with writing the business case for VRI.
  -
- *What was the motivation behind the VRI project?*
  - Access to services, particularly in rural area was a motivation because most interpreters are located in metropolitan areas. The cost of the service was also a motivation.
  - There was also a ministerial promise regarding funding for services for the deaf ICT and videoconferencing technology.
  - This project is building off the business case submitted in 2006 (Vicdeaf).
- *Have you ever used VRI? What was your experience with the system?*
  - Neither she nor he has used the service, but both have seen demonstrations.
- *Are there any other communication services for the deaf that are paid for by the State Government?*
  - The DHS funds face-to-face Auslan interpreters. There is a federal government level of funding (NABS) which pays for medical services.
  - The provider who books the interpreter pays for VRI, public hospitals pay out of their own budget.
  - TTY is paid for privately
- *How long do you think it will be before VRI becomes fully implemented and available to deaf consumers?*
  - They aren't sure when the final product will be delivered. They will have developed a business case by June 2008. They have funding over 4 years starting this fiscal year. What happens depends on the outcome of the business case.
- *What are some of the expected outcomes of the project?*
  - The desired outcomes for this project are to establish a VRI service and increase access to interpreters. There are primarily social benefits, not cost benefits.

- *Has the DHS encountered any problems so far?*
  - Managing the expectations of key stockholders and looking at access points can be problematic. Stakeholders want VRI to be accessible across the community, right now the focus is DHS funded services.
  
- *How many access sites will there be? Can you give us a few examples of specific locations?*
  - The sites will be located at DHS regional offices, deaf programs (Deaf Access), and also mainstream organizations (community health centers).
  
- *How does the DHS determine which locations will be chosen as VRI accessible sites?*
  - They look at the signing deaf population (rural in particular) and also the relevant services they want to provide in order to get optimum access.
  
- *How do you plan to overcome the Internet bandwidth speed barriers?*
  - It is not defined at this point in time.
  
- *Who will be providing the service to the deaf community? Through which telecommunications organizations or companies?*
  - The DHS has an agreement with one provider (On Call) at this point in time. They have a 3 year contract that expires in September of 2009. Whether things will be running at that time remains to be seen. Vicdeaf is also a consideration.
  
- *Do you plan on setting up workshops to educate potential VRI consumers about the technology?*
  - Workshops will be set up where rules and procedure will be developed. They would also like to raise awareness.
  - Right now they are in the business case phase where they determine what capabilities the service needs to have.
  - There will also be a technical solution outline to generate figures for costing (plus or minus 10 percent)
  - Design and build is the next stage

## Appendix V: DHS Workshop

DHS Requirements Gathering Workshop – Auslan Video Relay Interpreting Initiative  
April 1, 2008

Note taker: Tyler Waterman

### Introduction

- 12 weeks writing business case for VRI
  - Building on Vicdeaf and NMV work in 2006
- Generate accurate costing to submit in a proposal
- Stakeholder consultation

Each requirement (see handout-1) proposed must be

- Specific
- Self contained (added or removed without impacting other requirements)
- Prioritized on a scale of 1-3

Primary Focus is DHS funded services at mentioned access points (see handout)

- Future consideration for access points outside of current scope (NABS)
- Can VRI be used to access non-DHS funded services (private interpreters).
  - It is possible but right now the focus is on critical access points (where they will be as opposed to who)

### **Point number 3 (Auslan interpreting required) on the flow chart**

- Should there be any criteria in deciding whether an Auslan interpreter is present or not at the appointment.
  - Gender specific interpreter or a preferred interpreter
  - Interpreter skill (e.g. tactile interpreting for blinddeaf)
  - Interpreters who are experienced in a specific area (medical, etc). The agency may already have this info and can suggest one if the client is not aware.
  - Requirement to inform client of available service
  - Hearing people make bookings on behalf of deaf people, they should have questions prompted to them as a kind of checklist because they may otherwise be unknowledgeable.
  - Proposed rotating system for interpreters in video relay
  - Interpreters have different interpreting areas (e.g. health, counseling situations, etc)
- Settings VRI is not suitable for
  - Large tutorial settings
- VRI training and use
  - Training for VRI (spatial area, set up, etc)



- Providing information and training to people
- Communicate how it works to people
- Also explain credit line funding options
- Choosing VRI interpreter or face-to-face interpreter when making a booking
  - Rules for making this choice
  - Cost issues, lesser expense of VRI puts pressure on people to use it
  - There must be a line drawn somewhere as to what is critical when considering face-to-face vs. VRI. Face-to-face should be mandatory for some who do not prefer VRI.
- Future consideration: the need for court and police interpreting

**Point number 4 (booking request for interpreter) through 6a on the flow chart**

- How are bookings made?
  - Bookings are made via telephone, SMS, MSN, fax, Internet (real time) to cover all suits. The bookings are made by the service provider or deaf person. The deaf person would have to inquire because the DHS provider would need a PIN number to access credit line funding.
- Deaf person might want to know who the interpreter is
  - Information required for booking, (ACTION?) acquire pro forma used for booking.
  - Included in awareness training should be who is booking the interpreter, if the interpreter has been booked or not, who the interpreter is, and notifications should be available.
  - If no interpreter is requested, then there is a judgment call made by the agency
- Availability of interpreters
  - Bookings can be made a maximum of 30 days in advance for spoken interpreters using “on call” through DHS.
  - Bookings can be made a maximum of 60 days in advance for Auslan interpreters.
  - If there is no funding left, the client can pay for the interpreter themselves or defer the booking until the next month when there is funding.
  - Hoping that VRI can be booked at shorter notice
  - On demand interpreting for emergency situations. Demand is very seasonal. Depends on the type of service being accessed.
  - Some sort of system to cover after-hours interpreting for serious situations (police, hospital, maternal health care).

**Point number 7 (confirm availability of interpreter) on the flow chart**

- Agency will check if the specific interpreter is available, generally it is the responsibility of the agency.

- Profile of each interpreter in agency database that captures qualifications, availability, specific experiences, etc
  - Match the booking criteria and information captured with the interpreter that the agency is providing, the agency is required to match them.
  - Can provide a calendar view or general view of interpreter availability
  - Booking office will have a search facility on interpreters
  - Depends also on language levels of the client, the confidence levels of the deaf person and knowing what to ask of an interpreter. They need to be educated with the fact that the deaf person can request a specific interpreter.
  - Request for photos of interpreters as at times a name is not known
  - Feedback mechanism for satisfaction in terms of the service provided
  - Availability of equipment also at delivery end and provider end, ensuring facilities are available, etc.
- Mention of portable/mobile VRI and VRS tests
    - For some situations use doctor suites, doctor laptops, nursing areas, hospital wards (depending on what booking is and how private the matter is)
    - In rural areas there is stigma attached to the technology. Where the equipment is placed must be considered
    - Make them portable so they can move and meet their privacy needs
- Equipment and set up
    - Depends on setting (e.g. laptops not suitable for conference room)
    - How to set up the equipment and tech problems
    - Internationally accepted blue backdrop for interpreter, sound proof rooms...incorporate best practices guidelines
    - Make the room user friendly
    - Privacy issues, sometimes private rooms are impossible (this is when mobile service is suitable)
    - Try to eliminate visual distractions
- Service delivery
    - Different situational settings (e.g. professional at either end, with or without interpreter)
    - Possibility of two interpreters (one deaf relay interpreter who uses gestures and more contextual things alongside a VRI interpreter)
      - Deafblind interpreting is within the scope
    - In U.S, interpreters working from home, VRI facilities centralized with rotating rosters of interpreters
    - Need to define minimum quality of standards for acceptable quality
    - On call interpreters sitting in a central location for emergency situations.
    - Confidentiality issues with interpreters working at home, also have this issue with VRI