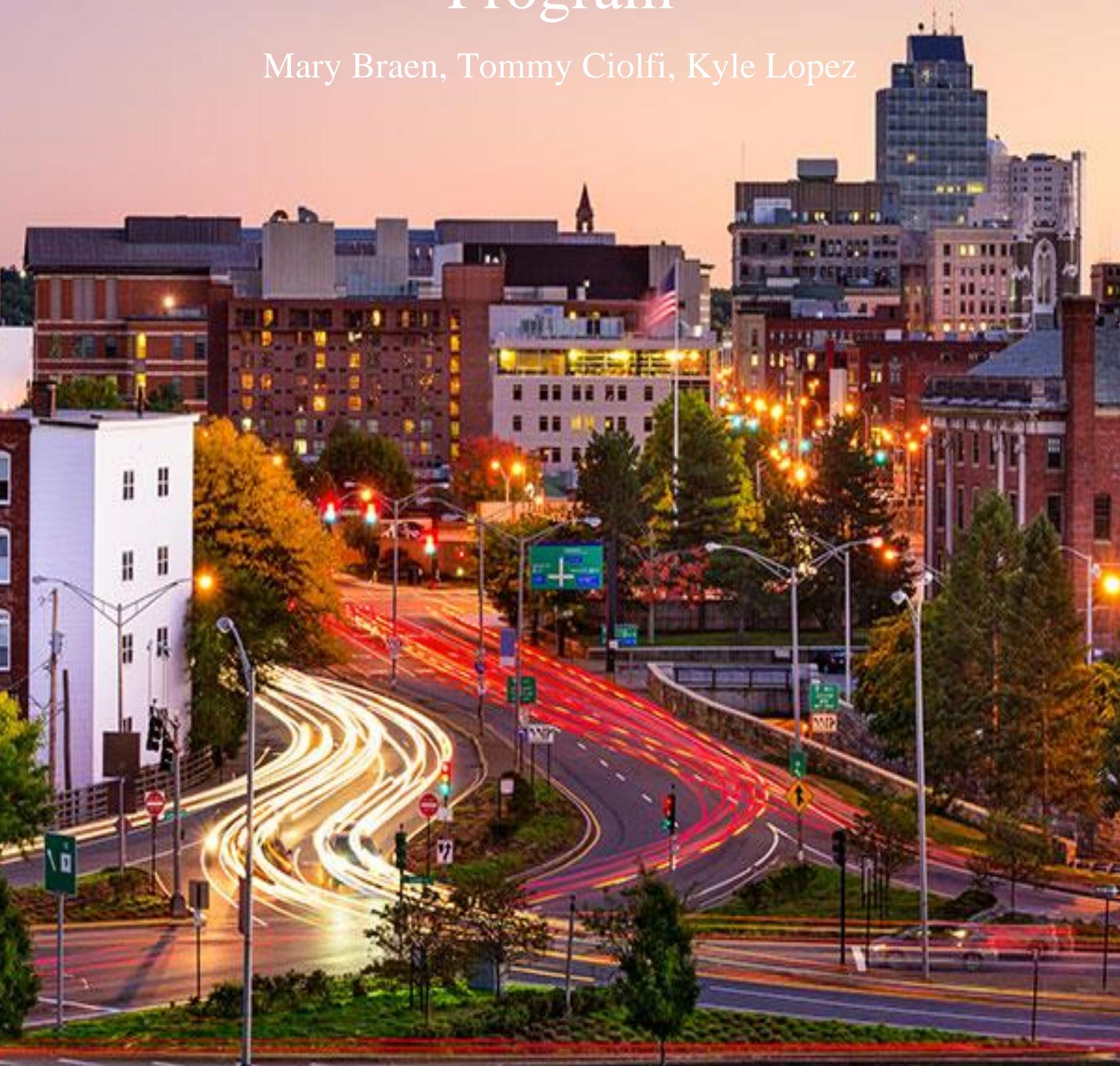


# Increasing Senior Involvement in the Elder Services of Worcester Area Tech Connect Program

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Increasing Senior Involvement in the Elder Services of Worcester Area Tech Connect Program

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*This report represents work of WPI undergraduate students submitted to the faculty as evidence of a degree requirement. WPI routinely publishes these reports on its web site without editorial or peer review. For more information about the projects program at WPI, see <http://www.wpi.edu/Academics/Project>*

# Abstract

This project sought to increase involvement in the Elder Services of Worcester Area Tech Connect program. This program provides financially struggling older adults in Central Massachusetts with phones or tablets, and technical support. The project team interviewed case managers to investigate their understanding of the program, and the lack of senior involvement in the program. The team found that case managers without Tech Connect referrals had a poor understanding of the program and did not view loneliness as a reason to refer. Combining information from the interviews with research into brochure and infographic writing best practices, the team delivered a brochure to inform seniors and case managers about the program, as well as an infographic to teach seniors about helpful online apps.

## Executive Summary

Despite most seniors in Massachusetts (MA) living above the federal poverty line, the average older adult struggles financially to keep up with the costs of living in Massachusetts. The majority of the income for retired older adults comes from Social Security payments, which award approximately \$13,340 annually for single seniors or \$21,744 annually for elderly couples (Russell, 2009). When comparing the standard costs of living to the average social security payment for older adults in Worcester County, MA, research indicates single seniors face an annual financial deficit between 70% to 80% and elderly couples face an annual deficit of about 60% (Mutchler et al., 2012). This comparison indicates that seniors in Worcester County cannot be expected to live on Social Security payments alone and require financial support from external sources to avoid falling into poverty.

The elderly population in the United States experienced increases in internet usage in recent years. Fifty-nine percent of American adults aged 65 years or older reported using the internet in 2016, whereas 73% percent of American elderly reported using the internet in 2020 (Luger et al., 2016; McDonough, 2020). Although more elderly report internet usage, the average financial status of U.S. seniors limits their access to the internet. Of those American seniors with household incomes of \$75,000 or more, 90% used the internet while 82% had broadband at home (Smith, 2014). For older Americans with annual incomes less than \$30,000, 39% used the internet and 25% had broadband at home (Smith, 2014). This trend of wealthier older adults forming a majority of elderly internet users applies to Massachusetts. A 2020 survey revealed one out of three MA seniors did not use the internet (McDonough, 2020). With many businesses moving services to online platforms due to the Covid-19 pandemic,

these low-income seniors limit their ability to access necessary services and support by not using the internet.

One agency working to help seniors connect to important online services is the Elder Services of Worcester Area (ESWA), a private, not-for-profit agency operating in Central Massachusetts. The ESWA acts as a service contractor and provider for older adults in the Greater Worcester Area and currently offers support to 8,000 clients (A. Gibbons, personal communication, March 23, 2022). The organization provides contracted services from local agencies and their own service programs for seniors to alleviate their financial problems. The ESWA employs case managers to enlist older adults as potential clients, identify areas of concern in their living situations, and arrange the services to help their clients. The Tech Connect program is a pilot program started by the ESWA in June 2020 to alleviate senior issues stemming from the Covid-19 pandemic. The program contracts T-Mobile to provide the elderly technological devices such as iPads or iPhones and data plans for the seniors to use at their discretion. The ESWA also offers Tech Connect clients technical support to aid them in learning to use their devices. The Tech Connect program aims to help the elderly live independent lifestyles and access necessary services virtually. The ESWA wishes to expand the program and assist more clients through the development of promotional material.

### Approach

The goal of this project was to increase senior involvement in the Elder Services of Worcester Area Tech Connect program. To achieve this goal, our team had three project objectives: investigate current participation in the Tech Connect program, create promotional material to increase enrollment in the Tech Connect program, and create informational

material to increase the enrolled consumer utilization of the Tech Connect program.

The project accomplished this goal through a variety of methods. The team interviewed ESWA case managers to investigate the lack of participation in the Tech Connect program. We interviewed four case managers with experience referring consumers to the Tech Connect program, and five consumers without experience referring consumers to the Tech Connect program.

To determine consumer reasons for leaving the program, the team reached out to both current and former participants in the program. Our plan was to interview older adults that were formerly a part of the Tech Connect program to inquire about their reasons for leaving. We wanted to survey current participants of the program to investigate their satisfaction with the program.

Based on recommendations from the case manager interviews, our team created a brochure and an infographic for the Tech Connect program. We researched brochure writing best practices and combined that with information from the case managers to create an informational brochure about the Tech Connect program. Similarly, we researched infographic writing best practices and created an infographic detailing helpful apps for seniors.

## Results

Grouping the case managers that the team interviewed based on referral history allowed the project team to compare and contrast the results between these two groups. Figure E.1 illuminates the discrepancy in understanding of the Tech Connect program between case managers with referrals and case managers without referrals. Our team defined an adequate understanding of the program as a description of the program that included providing seniors access to free devices as well as providing technical support to learn to use the

devices. When analyzing the case manager interviews, the team found that all four case managers with referrals reported having an adequate understanding, while all five case managers without referrals reported having a poor understanding. The team defined a poor understanding as either a description of the program that did not include providing seniors access to free devices or no description at all. This could signify that some case managers have not made referrals because they do not fully understand the Tech Connect program. The implementation of the brochure and infographic deliverables allows these case managers to develop a better grasp of the Tech Connect program.

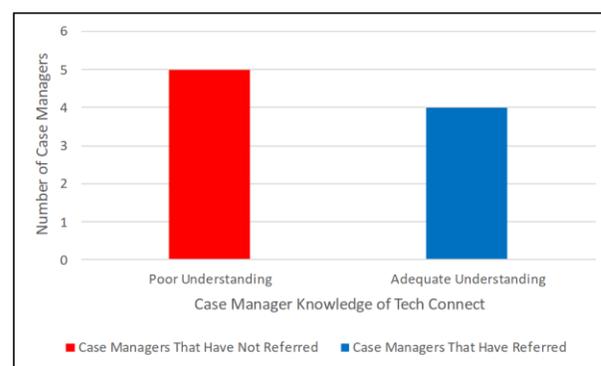


Figure E.1: Case Manager Knowledge of Tech Connect Program (n = 5, n = 4)

Figure E.2 includes information about reasons to refer consumers. For case managers with referrals, the figure illustrates their stated reasons during the interviews for referring certain seniors to the program. For case managers without referrals, the figure graphs the reasons that they would refer someone to the program. The graph shows that three out of the four case managers with referrals would refer someone because they are lonely, while only one out of the five case managers without referrals would refer someone based on loneliness. The “Consumer Expressed Interest” column makes clear that four out of the nine interviewed case

managers would refer someone to the Tech Connect program if they expressed interest. A better understanding may guide case managers to refer more consumers to the program.

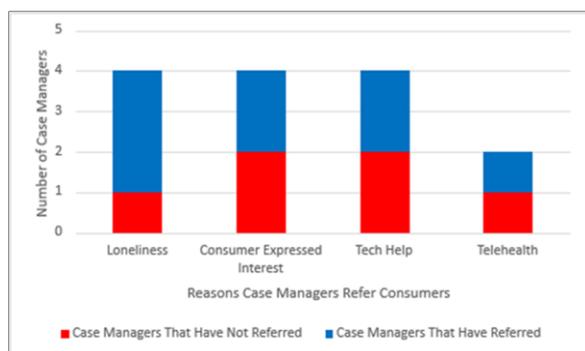


Figure E.2: Reasons Case Managers Refer Consumers ( $n = 5$ ,  $n = 4$ )

Our team called seven seniors currently and actively enrolled in the Tech Connect program to ask them if they would be willing to participate in a quick 15-minute phone survey. This survey was aimed to inform our team of how these seniors use the program, as well as their opinions about it. Out of the seven clients that we called, five answered the phone and only one was willing to take the survey. This left our team with nothing to analyze due to the extremely small sample size.

Our team also conducted interviews with seniors who were formerly in the Tech Connect program. These seniors had stopped using the program and given back their devices. We called 20 clients who fit this category and asked if they would be willing to be interviewed. Out of those 20, only seven of them answered the phone, and none of them were willing to be interviewed. Consequently, our team could not analyze any results. This lack of data suggests ESWA conduct further research in effective communication strategies with older adults. From the interview process, we developed recommendations for future groups to overcome this communication barrier.

From the team's online research into brochure best writing practices, we identified two guidelines to follow during our brochure's creation to effectively assist the elderly. We found seniors were more receptive to brochures adhering to the Cognitive Load Theory (CLT) (Schoberer et al., 2018). CLT proposes brochures should format information in a manner that prevents the viewer from splitting their attention across different sections (Chandler & Sweller, 1991). We incorporated the CLT into our brochure by ensuring that the senior's main focus is on textual information rather than pictures. Our team made the size of the font large and used a sans serif font to prevent confusion among different letters. The second consideration was to establish a clear reading path (U.S. Department of Health and Human Services, 2021). The team set a clear reading path in the brochure by establishing a vertical path for the eye to follow through the brochure's trifold layout and aligning text in the middle of each section for top to bottom reading.

Seniors benefit the most from infographics with large and legible fonts. The large font allows for easier reading, especially for those with eye problems (Balkac & Ergun, 2018). Color is also an important factor for infographics as two main theme colors set the tone and make the subject matter easier to memorize (Crane, 2015). Furthermore, the use of only two theme colors improves an infographic's readability and image visualization for senior audiences (Crane, 2015). Infographics benefit from separating information into sections; this makes the information more digestible for readers (Crane, 2015). A transition between information sections is indicated by changes in background colors (Crane, 2015). For the color scheme, we chose to utilize blue and green due to their respective association with tranquility and happiness (Gage, 1999; Terwogt & Hoeksma, 1995). For the font, we chose to use a large 16-point Arial font (a sans serif font)

for the body text and a 21-point Arial font for the titles.

For our online research into mobile applications (apps) that are beneficial for the elderly, we identified three relevant categories of apps: social connection, safety learning, and exercise games for improving minds or bodies (García-Peñalvo et al., 2014). Seniors use the Facebook and Zoom apps to socialize and cope with problems from loneliness (Joshi et al., 2022; Sen et al., 2022). Older adults can utilize the American Association of Retired Persons (AARP) and iPad Maps apps to access safety information for leading independent, healthy lifestyles (Rosenzweig & Jones, 2014). Research suggested the Lumosity app and Old Time Radio 24 app as beneficial for seniors improving cognitive functions (Joshi et al., 2022). Figure 3 displays an image of the infographic.



Figure E.3: ESWA Infographic

## Conclusion & Recommendations

Our team recommends that case managers use the brochure when referring their clients to the Tech Connect program. The case managers can have printed copies of the brochures and give them to any seniors who seem interested or are identified by the case manager as a potential client to the program. This allows the seniors to read through a physical brochure to gain a better understanding of the Tech Connect program and its potential benefits. The brochure can also be a standalone product for older adults to read as they please. We recommend that the ESWA keeps copies of the brochure in their office to give to any seniors that may be interested in learning more about the program. Our team recommends that case managers take advantage of the infographic to inform seniors who already have a device about types of apps that they can utilize. The infographic can broaden their understanding of the capabilities and uses of their devices. We recommend that the ESWA keep copies of the infographic in their office as well to provide to any interested seniors.

Our team conducted surveys and interviews to gain a better understanding of the Tech Connect program. We then created a brochure and an infographic to support the ESWA in increasing the involvement in the Tech Connect program employing the findings from the surveys and interviews. Although some of our methods were unsuccessful, our team produced the promised deliverables and provided opportunities for future work with the ESWA. The brochure will facilitate case managers having an easier time promoting the Tech Connect program to interested clients. The infographic will provide seniors with useful apps to maximize utilization of their devices. Both of these deliverables provide the ESWA with the tools they need to improve involvement in the Tech Connect program.

## Executive Summary References

- Balkac, M., & Ergun, E. (2018). Role of Infographics in Healthcare. *Chinese Medical Journal*, 131(20), 2514–2517. <https://doi.org/10.4103/0366-6999.243569>
- Chandler, P., & Sweller, J. (1991). Cognitive Load Theory and the Format of Instruction. *Cognition and Instruction*, 8(4), 293–332. [https://doi.org/10.1207/s1532690xci0804\\_2](https://doi.org/10.1207/s1532690xci0804_2)
- Crane, B. E. (2015). *Infographics: A Practical Guide for Librarians*. Rowman & Littlefield.
- Gage, J. (1999). *Color and Meaning: Art, Science, and Symbolism*. University of California Press.
- García-Peñalvo, F. J., Conde, M. Á., & Matellán-Olivera, V. (2014). Mobile Apps for Older Users – The Development of a Mobile Apps Repository for Older People. In P. Zaphiris & A. Ioannou (Eds.), *Learning and Collaboration Technologies. Technology-Rich Environments for Learning and Collaboration* (Vol. 8524, pp. 117–126). Springer International Publishing. [https://doi.org/10.1007/978-3-319-07485-6\\_12](https://doi.org/10.1007/978-3-319-07485-6_12)
- Gibbons, A. (2022, March 23). *Personal Communication with ESWA Business Development & Quality Improvement Director* [In person].
- Joshi, H., Kawli, A., Kounder, K., & Sharma, R. (2022). *Digital Assistant for Elderly People* (No. 7513; EasyChair Preprint).
- Luger, T. M., Hogan, T. P., Richardson, L. M., Cioffari-Bailiff, L., Harvey, K., & Houston, T. K. (2016). Older veteran digital disparities: Examining the potential for solutions within social networks. *Journal of Medical Internet Research*, 18(11), e6385. <https://doi.org/10.2196/jmir.6385>
- McDonough, C. (2020). Determinants of a digital divide among able-bodied older adults: Does “feeling too old” play a role? *International Journal of Aging Research*, 3(2).
- Rosenzweig, G., & Jones, G. E. (2014). *My iPad for Seniors*. Pearson Education.
- Russell, L. (2009). *Lifelines for elders living on the edge: How elder support programs compare to living costs. The Elder Economic Standard Index™ for Massachusetts*. <https://doi.org/10.1007/s11205-014-0577-y>
- Schoberer, D., Eglseer, D., Halfens, R. J. G., & Lohrmann, C. (2018). Development and evaluation of brochures for fall prevention education created to empower nursing home residents and family members. *International Journal of Older People Nursing*, 13(2), e12187. <https://doi.org/10.1111/opn.12187>
- Sen, K., Prybutok, G., & Prybutok, V. (2022). The use of digital technology for social wellbeing reduces social isolation in older adults: A systematic review. *SSM - Population Health*, 17, 101020. <https://doi.org/10.1016/j.ssmph.2021.101020>
- Smith, A. (2014, April 3). Older adults and technology use. *Pew Research Center: Internet, Science & Tech*. <https://www.pewresearch.org/internet/2014/04/03/older-adults-and-technology-use/>
- Terwogt, M. M., & Hoeksma, J. B. (1995). Colors and emotions: Preferences and combinations. *The Journal of General Psychology*, 122(1), 5–17.
- U.S. Department of Health and Human Services. (2021). *Toolkit for Making Written Material Clear and Effective*. 35.

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## 1.0 Introduction

A disproportionate number of seniors (individuals 65 and older) across the globe have trouble supporting themselves financially. The senior population is growing at a faster rate than services that support them, making it harder for them to get the assistance they need. As of 2019, one in eleven people (9%) in the world were over the age of 65, and it is expected that by 2050 one in six people (16%) will be over the age of 65 (*World Population Prospects 2019*, 2019). This increase will cause more financial stress on the senior population, as their growing needs will overwhelm support services. As of 2019, an estimated 8.9% of United States seniors were below the poverty line (Li & Dalaker, 2021). A greater percentage of adults aged 80 and older are struggling, with 11.1% living in poverty (Li & Dalaker, 2021). In addition, older adults believe that the financial support that their family members are giving them is inadequate to sustain them (Samuel et al., 2021).

Many Massachusetts seniors are financially unstable and struggle to make ends meet (L. H. Russell et al., 2006). Sixty-three percent of single older adults in the greater Boston area face economic insecurity (Mutchler & Li, 2021). The same issue exists in Worcester County and the surrounding areas. While most seniors in Worcester County are above the federal poverty level, the average senior in Worcester County is unable to support themselves on Social Security payments without subsidies for housing and healthcare (L. H. Russell et al., 2006).

One consequence of this financial instability is that seniors often cannot afford the technology necessary to connect with their family or attend telehealth appointments. While many of them may have landlines into their residences, relatively few have the devices and technical knowledge to conduct a video call over the Internet. Since the onset of the COVID-19 pandemic,

the need to be able to utilize various digital technologies has increased, with the mass reduction of in-person services world-wide.

Elder Services of Worcester Area (ESWA) has a Tech Connect program which helps seniors obtain and learn to use new electronic devices. It is currently underutilized, with less than 10 active consumers. ESWA is a non-profit organization which offers a variety of services to assist central Massachusetts seniors in remaining independent. To provide these services, the ESWA works with other county agencies to assist seniors. Their Tech Connect program offers seniors free devices, such as iPhones and iPads, and the tech support they might need to use them. The seniors use these devices for a variety of activities, including contacting family and accessing telehealth video calls. Our team worked closely with this program to help the ESWA improve the consumer base and the service overall.

The goal of this project was to increase senior involvement in the Elder Services of Worcester Area Tech Connect program. In order to achieve this goal, the team had three project objectives:

1. Investigate current participation in the Tech Connect program.
2. Create promotional material to increase enrollment in the Tech Connect program.
3. Create informational material to increase the enrolled consumer utilization of the Tech Connect program.

To investigate the current participation in the Tech Connect program, our team interviewed case managers from the ESWA. Utilizing the knowledge we gained from those interviews along with research into best writing practices for brochures, the project team created

a brochure to introduce the Tech Connect program to potential consumers. Similarly, our team researched best writing practices for infographics and combined that with information from the case manager interviews to create an infographic highlighting helpful apps for seniors enrolled in Tech Connect. With this brochure, ESWA case managers will be able to more effectively advertise and advocate for the program. With the infographic, enrolled seniors will learn about new applications that they may come to use on a daily basis.

## 2.0 Background

This chapter begins by introducing context about the lives of seniors in Massachusetts, and more specifically in the greater Worcester area. The first section focuses on financial information that affects their daily lives. The chapter then considers the impacts of COVID-19 on seniors and businesses. Businesses had to adapt to the pandemic's restrictions on daily life, and this section details the response of many businesses to the pandemic as well as how these adjustments impacted seniors. The next section discusses senior internet utilization, which specifies the overall internet usage of seniors in Massachusetts and relates it to their financial state. Next this chapter goes into depth about the benefits and drawbacks of telehealth's increasing prevalence, specifically as it relates to seniors. Finally, we introduce the Elder Services of Worcester Area (ESWA) along with background about the ESWA's work with seniors.

### 2.1 Senior Demographics

In Massachusetts, the senior median annual income in 2008 was \$33,332 (L. Russell, 2009). The majority of the income for retired elderly comes from their Social Security payments, which awards them approximately \$13,340 annually if the senior is in a single member household (L. Russell, 2009). Social Security allocates senior couples with \$21,744 on average annually. From 2006 to 2008, 9% of the Massachusetts senior population fell below the federal poverty level (L. Russell, 2009; L. H. Russell et al., 2006). The federal poverty level was \$10,400 annual income for single member households and \$14,000 for couples or two member households (L. Russell, 2009). Non-married women account for 71 percent of all senior

households in Massachusetts that lived in poverty (L. H. Russell et al., 2006). Figure 2.1 provides a visual comparison of average senior Social Security annual payments to the annual federal poverty level. This comparison highlights that the average senior's finances are marginally above the federal poverty level due to their Social Security payments.

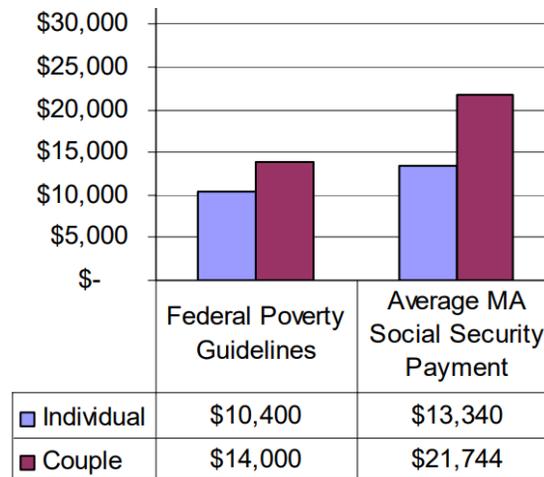


Figure 2.1: Massachusetts average Social Security payment compared with the federal poverty level in 2008 (L. Russell, 2009)

Seniors' cost of living in Massachusetts poses a significant risk to their financial security. Figure 2.2 illustrates the average costs of living for seniors with and without mortgages, as well as seniors living in apartments (L. Russell, 2009). Seniors that pay mortgages have a standard cost of living of \$32,423 if they live on their own or \$42,853 if they live with a spouse (L. Russell, 2009). Seniors without mortgages have a standard cost of living of \$18,044 if they live on their own or \$28,474 if they live with a spouse (L. Russell, 2009). Based on the average Social Security benefits of \$13,340 and \$21,744 in Figure 2.1, Massachusetts seniors are unable to cover all of their annual costs of living if they solely rely on their Social Security. The data suggests that Massachusetts has a higher cost of living than the national average. Therefore,

seniors in Massachusetts need external financial support to overcome the difference between their income and cost of living.

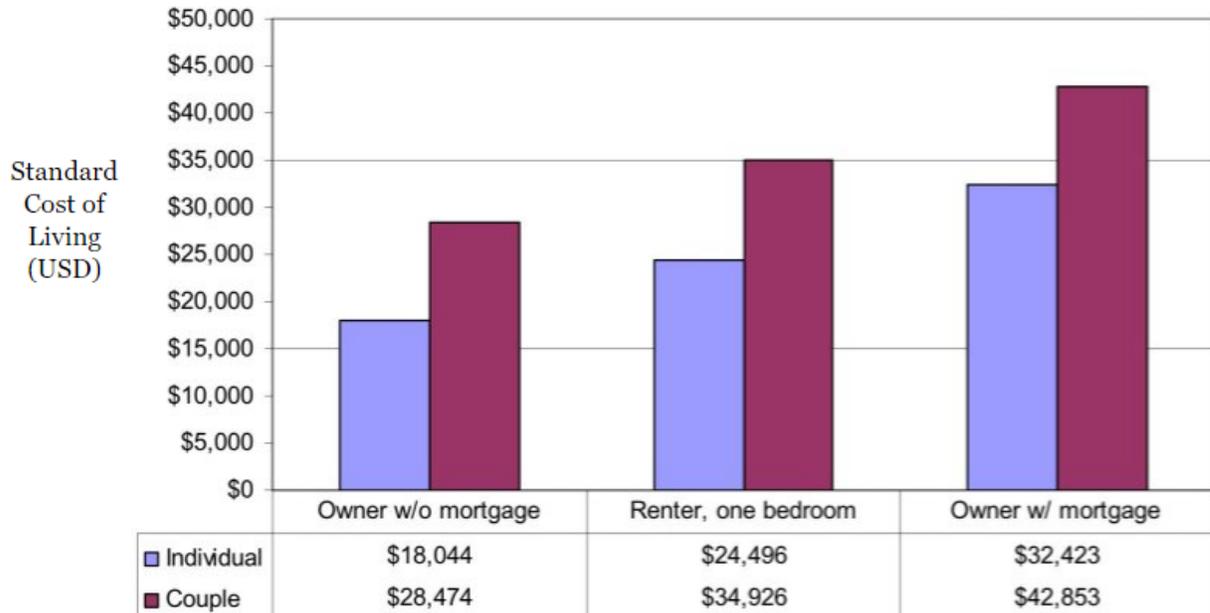


Figure 2.2: The standard costs of living for seniors aged 65+ years old in Massachusetts

(L. Russell, 2009)

A 2011 study conducted by the University of Massachusetts in Boston researched the standard costs of living in Massachusetts for elderly based by county. In their research, the university group concluded that the average senior has a sizable gap between their standard costs of living and their Social Security benefits regardless of the county where they reside. However, different Massachusetts counties have greater gaps between the senior Social Security benefits and standard costs of living (Mutchler et al., 2012). Greater gaps between Social Security benefits and cost of living correlate to greater financial risk to seniors (Mutchler et al., 2012). Figure 2.3 shows that the average Worcester County senior living on their own has an annual cost of living to Social Security benefit ratio between 1.701 and 1.800 (Mutchler et al., 2012).

The ratio signifies the average Worcester County senior lives at an annual financial loss of 70% to 80% of their average Social Security income due to living costs. However, senior couples in Worcester County, as shown in Figure 2.4, have a better ratio of their annual cost of living to Social Security payments, which is below 1.600 (Mutchler et al., 2012). The ratios indicate that seniors living on their own in Worcester County have more financial security risks than senior couples and require the most support from outside services. In 2020, the COVID-19 pandemic exacerbated these financial insecurities.

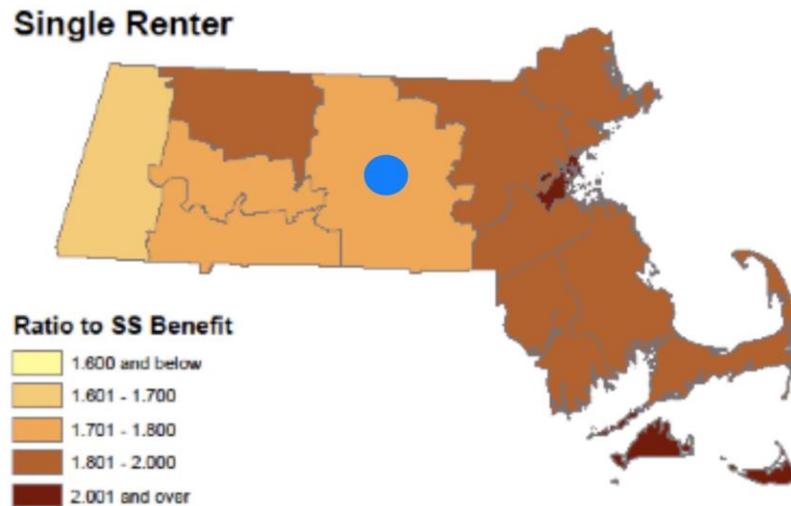


Figure 2.3: Annual cost of living to Social Security benefit payments for single Massachusetts seniors by county. The blue dot indicates Worcester County (Bruce et al., 2012)

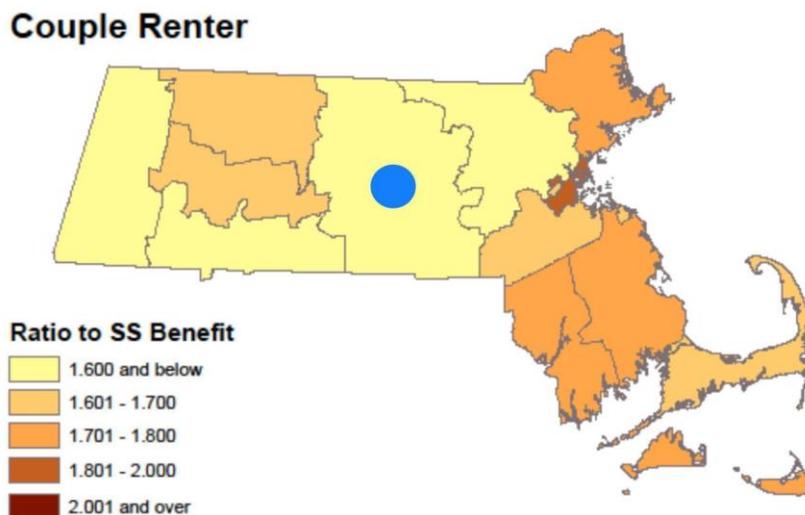


Figure 2.4: Annual cost of living to Social Security benefit payments for Massachusetts senior couples by county. The blue dot indicates Worcester County (Mutchler et al., 2012)

## 2.2 COVID-19

COVID-19 is an extremely contagious and deadly virus caused by severe acute respiratory syndrome coronavirus 2 (Casella et al., 2022). The first reported case of COVID-19 appeared in Wuhan, Hubei Province, China, in late December 2019 (Casella et al., 2022). This single case led to many more within the coming months. The United States reported its first case of COVID-19 on January 20, 2020, in Washington (Sencer, 2022). The virus continued to spread slowly throughout the country, reaching Massachusetts on March 2, 2020 (Department of Public Health, 2020). On March 11, 2020, the World Health Organization officially declared the disease to be a global pandemic (Casella et al., 2022). This virus has infected people throughout Massachusetts. The governor of Massachusetts at the time, Charles Baker, declared a state of emergency in Massachusetts on March 10, 2020 (Baker, 2020). As of March 31, 2022, there had

been 1,562,922 COVID-19 cases in Massachusetts and 191,494 cases in Worcester County since the onset of the pandemic (*COVID-19 Response Reporting / Mass.Gov*, n.d.).

### 2.2.1 Impact of COVID-19

The COVID-19 pandemic has had a significant impact on seniors. Older adults are at a higher risk of serious illness and death if they contract COVID-19; however, the restrictions and lockdowns as a result of the pandemic have also negatively impacted them (Makaroun, 2020). A study done on elderly adults published in March of 2022 found that 53.57% of those surveyed were depressed (Kurniawidjaja et al., 2022). This is more than double the percentage of elderly adults a study reported being depressed in 2017, which was 24.9% (Kurniawidjaja et al., 2022). In addition, seniors have difficulties accessing needed care and supplies due to the ongoing pandemic (Makaroun, 2020).

The pandemic had a disproportionate effect on businesses. A survey done on businesses in the United States found that sales levels fell to roughly one-half relative to normal sales conditions (Meyer et al., 2020). Many businesses responded to the shock of the virus and lack of sales by expanding their digital platforms (Apedo-Amah et al., 2020). While a total of 34% of surveyed businesses had this response, other responses included investment in digital solutions and changing or adding to their products or services. Figure 2.5 displays a slightly modified graph of the responses of businesses and companies to the COVID-19 pandemic, with percentages on the y-axis and responses on the x-axis (Apedo-Amah et al., 2020). This increase in the use of digital platforms and digital solutions affects the way seniors currently access the services that these businesses have to offer. The source of this figure did not give information about 23% of the data.

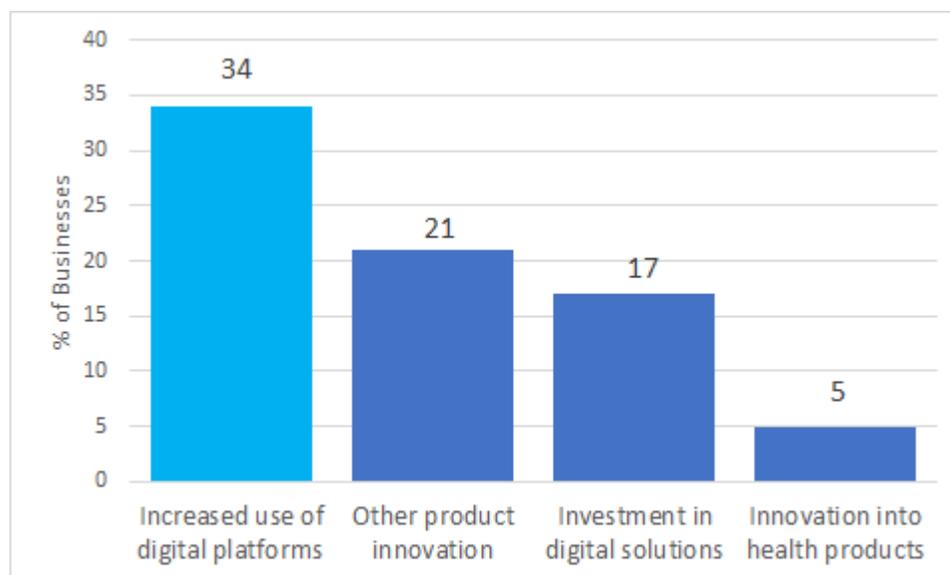


Figure 2.5: 73% of business responses to the COVID-19 pandemic (Apedo-Amah et al., 2020)

## 2.3 Senior Internet Usage

In recent years, the elderly population in the United States has shown increasing rates of internet usage. In 2016, statistics revealed that 59% of American adults aged 65 years or older used the internet, compared to 86% of all American adults older than 18 years (Luger et al., 2016). In 2020, 90% of all adults over 18 years old used the internet and 73% percent of adults aged 65 and older reported using the internet (McDonough, 2020). The increase of 14% in the elderly internet user population over four years suggests a trend of internet usage becoming more common amongst senior citizens. Despite the increasing amount of American senior citizens using the internet, the American elderly population features an emerging socio-demographic divide. Older adults who do use the internet are typically wealthier, educated, and urban (Luger et al., 2016). Among American seniors with an annual household income of \$75,000 or more, 90% used the internet while 82% had broadband at home (Smith, 2014). For seniors that earned

less than \$30,000 annually, 39% used the internet and 25% had broadband at home (Smith, 2014).

The trend of wealthy senior citizens being more active online remains true for elderly in Massachusetts. In northeastern Massachusetts, one out of three seniors aged 65 and older reported not using the internet in 2020 (McDonough, 2020). A survey of Massachusetts senior citizens organized responses based on respondents' income where high-income respondents had annual incomes above \$40,000 and low-income respondents had annual incomes less than or at \$40,000 (McDonough, 2020). The survey reported 92% of higher-income participants and 59% of low-income participants identified themselves as frequent internet users (McDonough, 2020). In terms of education, 87% of college educated older adults and 48% of older adults with education at or below a high school level reported using the internet regularly (McDonough, 2020). The data suggests that less educated and poor seniors in Massachusetts form the majority of the senior population that lack internet usage. Due to the increasing prevalence of technology in American society, not using the internet limits seniors in Massachusetts from accessing important services for maintaining their autonomy such as transportation and health care. Furthermore, the onset of the COVID-19 pandemic created a more critical need for these services and caused business to investigate technological alternatives.

## 2.4 Telehealth

Telehealth is the delivery of health care services by medical professionals using technology to communicate with patients (Monaghesh & Hajizadeh, 2020). One common form of telehealth involves video-based doctor appointments. Telehealth is particularly helpful for seniors who cannot physically attend medical appointments because it does not require patients

to travel to the doctor's office. The only physical requirements for Telehealth services are a webcam and a smart device (Monaghesh & Hajizadeh, 2020). Utilizing telehealth reduces the strain on resources in health centers and improves access to care, all while minimizing the risk of COVID-19 transmission (Monaghesh & Hajizadeh, 2020). The COVID-19 pandemic caused a sharp increase in the implementation of telehealth services. One of the nation's early telehealth proponents, Jefferson Health, reported a large increase in demand, scheduling up to 600 telehealth visits daily during the height of the pandemic (Chuo et al., 2020). Similarly, the Children's Hospital of Philadelphia experienced increases from less than 10 daily telehealth visits to over 1500 (Chuo et al., 2020).

Telehealth is particularly useful for seniors. As a high-risk population for COVID-19, their ability to receive medical care without risk of disease transmission is beneficial. One research study found that one telehealth visit resolved between 84% and 86.7% of urgent, non-emergent conditions, which are conditions in which a short delay in treatment would not make an adverse outcome more likely (Bernstein et al., 2021). The same study also found that telehealth offers a cost-effective alternative to a typical physician office visit, without compromising quality of care.

One drawback of the increasing prevalence of telehealth is the technological requirements. The patient requires internet services and a smart device in order to receive telehealth services (Chuo et al., 2020). Additionally, the patient must be familiar with how to use their device to participate in a video-call with their physician. These barriers are more profound with seniors than other age groups, as they are more likely to lack technological literacy (Sachs et al., 2021).

## 2.5 Elderly Services of Worcester Area

Elder Services of Worcester Area (ESWA) is a private, not-for-profit agency operating in central Massachusetts (*About Us*, n.d.). The ESWA is a service coordinator and contractor for their elderly consumers above 60 years old (*About Us*, n.d.). Currently, the ESWA services 8,000 senior consumers in Worcester County (A. Gibbons, personal communication, March 23, 2022). The agency arranges essential services from external companies or from within their agency to provide assistance to the elderly. The ESWA provides these services to the seniors' residences in the hope of alleviating common problems for the elderly and maintaining their comfort at home. The ESWA serves as an Aging Services Access Point, which is a non-profit agency that the Massachusetts state government recognizes and financially supports to assess and manage senior needs. Examples of services that ESWA arranges include Meals on Wheels, a federally sponsored home delivered meal service for the elderly, a home clinical service called Senior Care Options, and Tech Connect, a technology support program for seniors. The full list of programs that the ESWA provides is available on their website: <https://eswa.org/>.

A senior that wishes to become a client of the ESWA must first contact the ESWA's staff in their Information and Referral Department and arrange for an onboard evaluation to outline the senior's needs (*About Us*, n.d.). Next, a case manager from the ESWA conducts an at-home assessment of the senior's living conditions and health. After the assessment, the case manager explains eligibility requirements for becoming a client which includes age, finances, and physical frailty. If the senior is eligible as a client, the case manager becomes the senior's main point of contact with the ESWA. The case manager develops a service care plan with the senior client,

arranges the services to address the senior's needs, and ensures the consumer is satisfied with the services.

One service that the ESWA provides is their Tech Connect program. The program is a pilot project started in June 2020 that contracts T-Mobile to provide seniors technological devices such as iPads or iPhones to perform activities such as remote family connection or attending telehealth appointments. A combination of the State of Massachusetts and grants from Spectrum and the Central Massachusetts Agency on Aging fund the Tech Connect program. Furthermore, it currently offers the seniors remote tech support with Mass Academy students in the form of the students teaching them basic technology usage skills and setting up the senior's account on the devices. Some seniors in Tech Connect bring in their own devices and take advantage of the program's services to understand how to better utilize their own device. The mission of the program is to provide seniors with technological devices to facilitate their own needs independently. The ESWA is generally able to fully cover the costs of the device, including data costs and other initial payments, by subsidizing the senior's monthly data and phone charges via T-Mobile. The seniors then have full ownership of the device, whether or not they continue to be a consumer of the Tech Connect program. The service has 50 seniors currently enrolled in it with less than 10 participants regularly meeting with the EWSA for technical guidance. The ESWA is seeking to improve the following areas of the program: feedback and materials on best technical support practices for seniors, baseline data gathering on how elderly participants utilize the devices, and data gathering for growing their consumer base in Tech Connect.

## 2.6 Stakeholders

### 2.6.1 Seniors

The major stakeholders in this project are the current clients enrolled in the Tech Connect program and the case managers working for the ESWA. The 50 seniors currently enrolled in the program will benefit as the project could instruct seniors on how to effectively use their devices via an infographic about useful apps. The current 8,000 clients serviced by the ESWA have the potential to benefit from the project as our development of additional promotion will allow the ESWA to better inform this community about the Tech Connect's advantages and enroll those that might need the Tech Connect services. A subset of the 8,000 clients which consist of previously enrolled consumers in the Tech Connect also have a stake in the program. The ESWA wished to analyze the flaws and strengths of the program by hearing the perspectives of this subset and the currently enrolled seniors.

### 2.6.2 ESWA Case Managers

The ESWA wished to have detailed information on the experiences of case managers when referring clients to the Tech Connect program. The ESWA identified two different groups of case managers to interview: case managers with referrals to the program and case managers without referrals to the program. By interviewing both groups, we attempted to see similarities and differences between the promotion of the service and referral strategies for both groups. The case managers will benefit from the brochure deliverable because they can print and deliver the promotional brochure about Tech Connect to potential clients during visits. The brochure will assist case managers in promoting and making successful referrals to Tech Connect. From

conversations with Tim Kenney, ESWA's Older Adult Technology Support Coordinator, the ESWA trains case managers to mainly perform social work for the seniors and are currently not expected to have knowledge in technical support.

### 2.6.3 Worcester Agencies

Agencies working alongside the ESWA such as Home Care Options and Navicare are stakeholders in this project. These agencies have a collaborative relationship with the ESWA in which both the agencies and the ESWA refer clients to each other in order to better serve the senior community. However, these agencies are outside the scope of this project due to time constraints. We have considered the interests of each stakeholder throughout this project, to increase the likelihood that Worcester County seniors truly benefit from the Tech Connect program. The implementation of this project involved identifying and executing a set of methods to accomplish each objective, which the next chapter discusses in detail.

## 3.0 Methodology

The goal of this project is to increase senior involvement in the Elder Services of Worcester Area Tech Connect program. In order to achieve this goal, we addressed the following objectives:

1. Investigate current participation in the Tech Connect program.
2. Create promotional material to increase enrollment in the Tech Connect program.
3. Create informational material to increase the enrolled consumer utilization of the Tech Connect program.

This chapter flows in the sequential order of the project's objectives. Each project objective forms a section of this chapter with each subsection detailing a method for the objective's completion. Figure 3.1 visualizes how each section title of the chapter reflects a project objective; each subsection refers to a method used in completing its associated objective. The dark blue boxes illustrate the deliverables produced by the completion of each set of methods which the results chapter discusses.

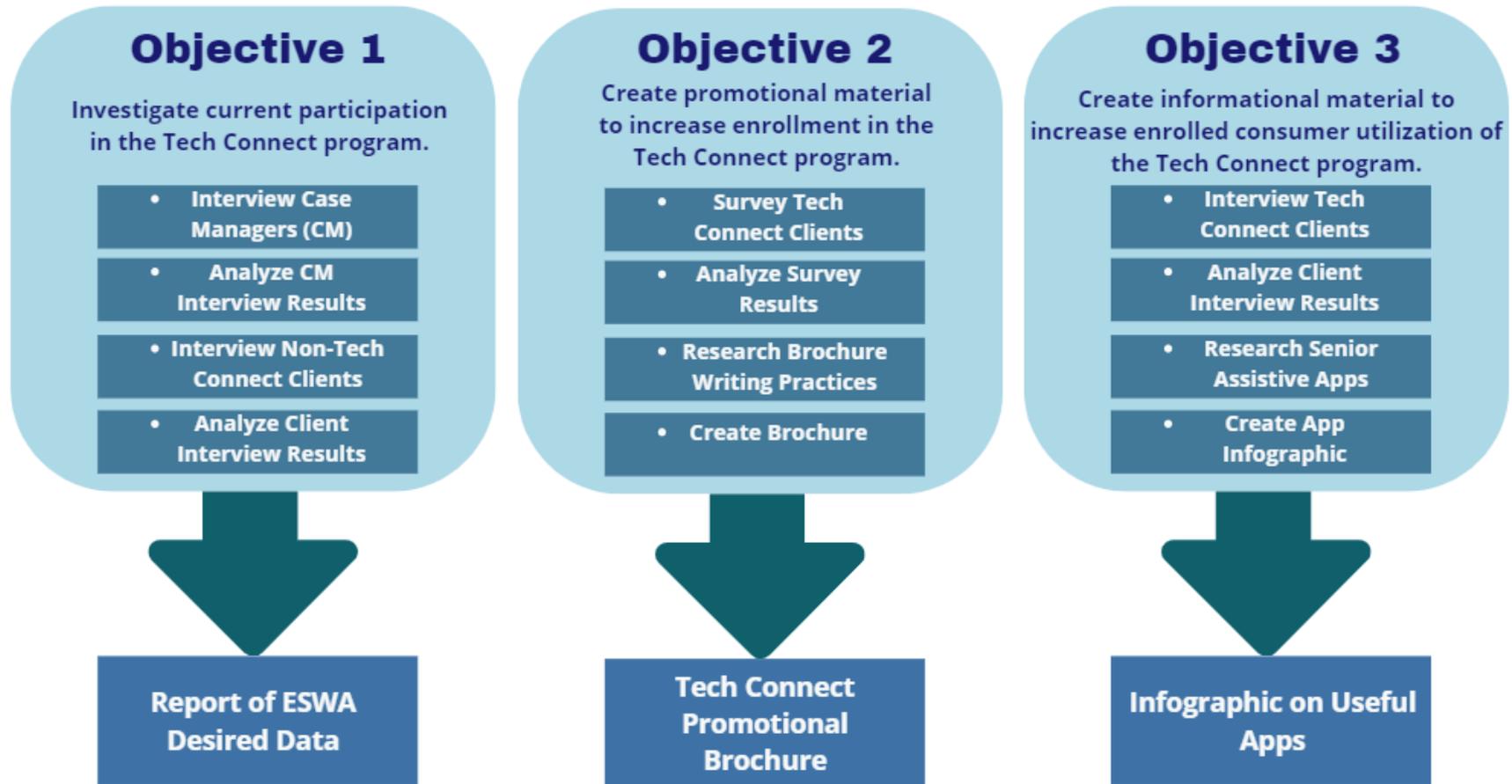


Figure 3.1: The methods and final deliverables for each objective

## 3.1 Investigate Current Participation in the Tech Connect Program

### 3.1.1 Case Manager Interviews

Currently only 50 out of the more than 8000 ESWA consumers have been involved in Tech Connect. In order to investigate the lack of participation in the program, the project team interviewed nine case managers to uncover how they promote the benefits of the program to their consumers. The interviews were a combination of in-person, over the phone, and Microsoft Teams meetings, depending on preference of the case managers. The interviews were semi-structured and lasted approximately 15 minutes. The project team's contacts in the ESWA provided a list of case managers to interview to fulfill this objective. The list included case managers that have successfully referred people to Tech Connect and case managers without any such referrals. For each interview question (see Appendix A), case managers had the option not to answer. We asked all the interviewed case managers questions 1-6, while only asking case managers with successful referrals to the Tech Connect program questions 7-11. Appendix A includes the full set of interview questions for the case manager interviews. Question 1 probed the case manager's understanding of Tech Connect. Questions 2-3 involved deciding factors when referring someone to the program, and the number of consumers they have referred. Questions 4-6 sought case manager input on difficulties that arose when they were explaining the program and referring seniors. In addition, these questions explored approaches to make the process easier for case managers. Questions 7-8 inquired about the benefits consumers have experienced from participation in Tech Connect and the methods the case manager use to present information about the services to consumers. Questions 9-10 covered aspects of the Tech Connect program referral process that worked well, and aspects that case managers find difficult.

Question 11 asked if the case manager had any recommendations about techniques other case managers can use to successfully refer consumers to the program.

### 3.1.2 Case Manager Interview Analysis

The analysis of these interviews helped to shape the questions the project team used during subsequent interviews of consumers involved in the Tech Connect program. With permission from the interviewee, we recorded and transcribed each interview. In order to analyze the interviews, we performed inductive coding.

Each team member read through one interview and discovered seven main themes that occurred in the transcript. We then read through all of the interview transcripts and coded for these themes. This allowed us to gain an understanding of how often these themes came up during the interviews. Once our team established these themes, we took a deeper look into each and developed sub-themes for each. Table 4.1 displays a list of all of the themes and their respective subthemes. The number of sub-themes varied based on the overall theme; there were between three and six sub-themes for every theme. For each sub-theme, the interviewers noted the number of mentions and the number of case managers who mentioned this sub-theme in their interviews. A mention of a sub-theme was considered any time during the interview that a case manager talked about or mentioned that specific sub-theme. The number of case managers was determined by the number of case managers that mentioned the sub-theme. For example, if a single case manager mentioned a sub-theme twice, the number of mentions would be two, and the number of case managers would be one.

### 3.1.3 Former Consumer Interviews

For this project, the population of interest is financially struggling seniors in Worcester County not already participating in Tech Connect. However, the target population for this interview is former Tech Connect clients as their perspectives provide insight as to major flaws or limits in the program that hinder senior interest. The ESWA provided a list of twenty-five consumers that were previously in the Tech Connect program. We selected seniors to interview based on the criteria that they have unenrolled from the program. Team members called seniors that chose to unenroll from Tech Connect. Unfortunately, our efforts to implement this method yielded no phone interviews of these seniors. The team initially called the seniors between the hours of 10:00 am and 12:00 pm. For those who did not answer or told our team to call them back, we called back at 2:00 pm. The full list of intended questions for these interviews is in Appendix B. Questions 1-3 asked about the seniors' introduction to the Tech Connect program. Questions 4-7 inquired about the reasons the seniors chose to leave Tech Connect, and possible changes to the program that would make them want to participate.

## 3.2 Create Promotional Material to Increase Enrollment in the Tech Connect Program

### 3.2.1 Survey Tech Connect Clients

In order to investigate the reasons seniors joined the Tech Connect program, the project team surveyed current clients over the phone. The ESWA provided the project team with names and phone numbers of participants in the Tech Connect program. From the list of consumers, we

chose to survey those still in the program who have not returned their device. This criteria limited our select survey group to seven seniors. The total number of seniors that our team surveyed ended up being only one, the rest were either unavailable or not willing to be surveyed. The client took approximately 10-15 minutes to complete the survey. While surveying the respondent, the team member that was reading the survey to consumers was also recording the participant's responses into an online Google form version of the survey. The senior in the survey remained anonymous in accordance with HIPAA rules. Our team called the seniors between the hours of 10:00 am and 12:00 pm. For those that did not answer or told our team to call back later, the team called them again at 2:00 pm.

Appendix C contains the full question list in this survey. Question 1 identified potential under-aged participants in the survey and allowed us to remove them from the sample group to avoid compromising the survey results. Questions 2 and 3 focused on ascertaining information on how the seniors currently used their devices in the Tech Connect service. These questions were to determine if most seniors pay for their devices to join the program and the technological complexity of the devices they used in the program. Questions 4 and 5 inquired about how the seniors participate in Tech Connect. We hoped to investigate the amount of activity and usage of the devices to gauge the seniors' motivation in the program and technical skills. Question 6 illuminated if senior clients willingly seek technical support or teaching from the ESWA. Questions 7 and 8 probed about their introduction to Tech Connect and the aspects of its promotion that caused them to enroll. Question 9 allowed the seniors to rate their satisfaction with the program on a scale of 1 to 5. We sought ratings from the seniors in order to unveil their satisfaction with Tech Connect. Question 10 identified seniors willing to participate in interviews for the next objective. For each question, the participant had the option not to answer. The

surveyor notified participants of their right to not answer questions by reading a consent form before administering the questions (see Appendix C).

### 3.2.2 Tech Connect Client Survey Analysis

The results were not analyzed because only one person filled out the survey.

### 3.2.3 Research Brochure Writing

The team performed online research into the best practices for developing brochures for senior audiences by reviewing online journals and report databases such as JSTOR on relevant writing topics. With the research information gathered, the team designed a brochure about the Tech Connect program for case managers to use in referrals.

### 3.2.4 Create Brochure

The project team utilized information from the research for developing brochures and the results from the surveys and interviews to create a brochure. This research informed many of our brochure design decisions. A more detailed discussion is included in the Results chapter of this report.

## 3.3 Create Informational Material to Increase the Enrolled Consumer Utilization of the Tech Connect Program

### 3.3.1 Interview Tech Connect Clients

Based on conversations with the ESWA staff, many of the seniors who are part of Tech Connect do not know how to properly use their devices. Thus, our team interviewed over the phone a subset of the previously surveyed seniors who are all in the Tech Connect program. The interviews were semi-structured and took less than 30 minutes. Interviewers asked the questions in Appendix D. Questions 1-2 of the interview invite the seniors to discuss their issues in the program and their perceptions on its benefits. Question 3 provided them a chance to share any personal experiences that they have had with the program. Question 4 asked for seniors to share any ideas on improving Tech Connect. We used questions 5-6 to learn about the apps that they currently use and if they had experienced any technology issues. Question 7 checked if the seniors were comfortable with sharing their answers publicly. Based on the answers that they gave to these questions, our team notified the ESWA if they needed further technical support assistance. This included both helping the seniors during the interview time, as well as scheduling a separate meeting time for larger tasks that took longer to accomplish. For each question, participants had the option not to answer. The interviewer notified participants of their right to not answer questions by reading a consent form and recorded seniors' verbal consent as outlined in Appendix D.

### 3.3.2 Tech Connect Client Interview Analysis

We recorded and transcribed the interviews, allowing us to analyze the answers and perform inductive coding. Each member of our team read through the first interview's transcript and coded it with categories. We then came together and compared our categories to decide the final common themes and sub-themes for the coding process for all the interviews.

### 3.3.3 Research Senior Assistive Apps

Based on the themes that came out of the coding process, our team researched apps that would be helpful for seniors. The research involved searching through Google's App Store for top-rated and secure apps relevant to performing the tasks desired by the seniors. The team used this research to create a list of potential easy-to-use apps.

### 3.3.4 Create Infographic

The team features the list of apps in an infographic, which we discuss in the deliverables section of this paper. The team followed the best writing practices for senior guides and infographics from our research (see sections 4.2 and 4.5). The writing process involved each member of the team writing concise how-to guides for the apps in the list while designing a graphical representation and ranking of the apps. Through the execution of the methods described in this chapter, our team collected data including interview transcripts, survey results, and external research sources. The following Gantt chart details the timeline of this process, including the time spent on the creation of the project deliverables, the ultimate result of this project.

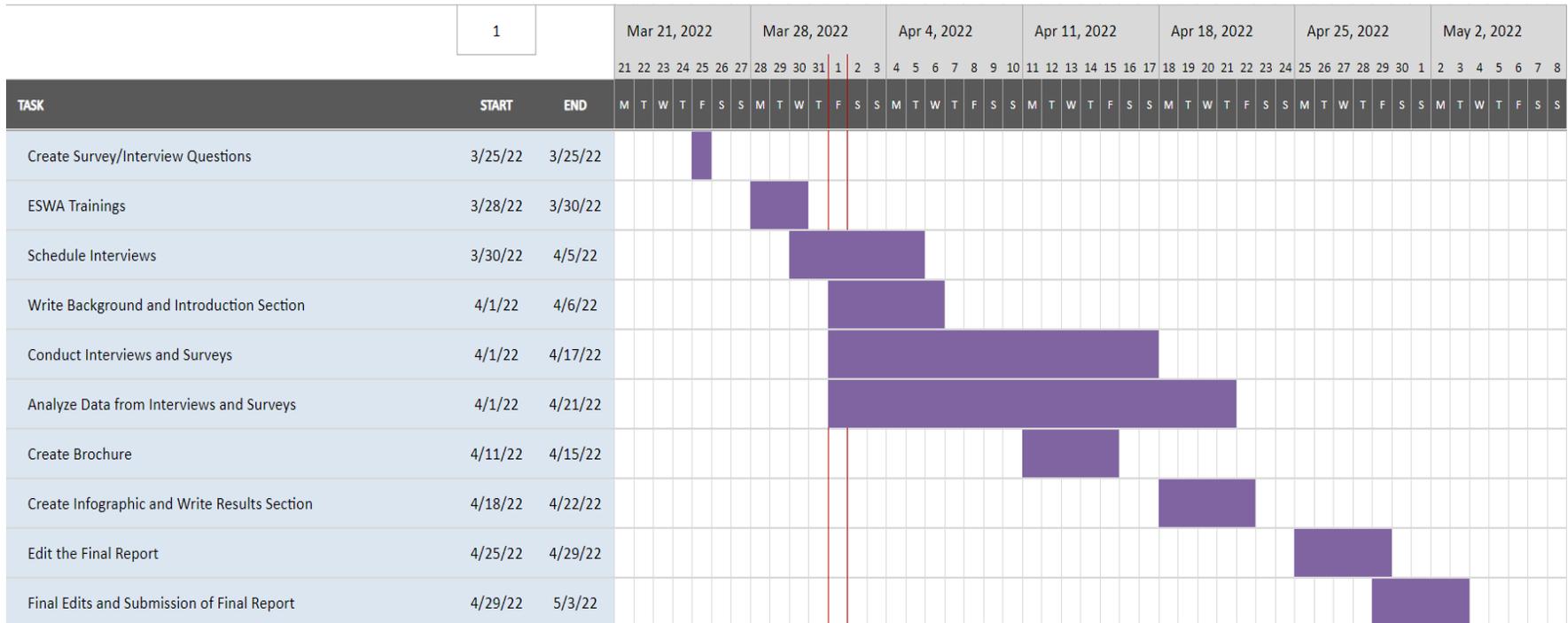


Figure 3.2: Gantt Chart of the execution of the project’s methods over the 7 weeks

## 4.0 Results

Section 4.1 details our analysis of the nine case manager interviews. Section 4.2 discusses the barriers our team faced when attempting to survey seniors enrolled in the Tech Connect program. The next section highlights seniors' stated reasons for not participating in interviews. We report the research found on best practices for designing the promotional brochure in Section 4.4. We developed an infographic detailing useful apps for the ESWA to give to seniors enrolled in the Tech Connect program to encourage active device use. The chapter ends by highlighting the findings of the research into the apps chosen for seniors to use and the research into the best practices for writing guides.

### 4.1 Analysis of Case Manager Interviews

In pursuit of investigating the lack of participation in the Tech Connect program, the team conducted interviews with nine case managers at the ESWA. We interviewed four case managers that had previously referred seniors to the Tech Connect program, and five case managers that had not referred any seniors to the program.

#### 4.1.1 Coding Process and Themes

After interviewing the case managers, our team analyzed the results of the interviews using inductive coding. Table 4.1 lists the themes and sub-themes, as well as the number of mentions and number of case managers. The coding process considered a mention of a theme to be anytime that theme came up during the interview.

Table 4.1: Themes and Sub-themes of the Case Manager Interviews

<b>Themes:</b>	<b>Sub-themes:</b>	<b>Number of Mentions</b>	<b>Number of Case Managers</b>
<b>Benefits to Consumers</b>	Free iPhone/iPad	13	4
	Online Social Interaction	3	2
	Technical Support and Guidance	3	2
	Access to Online Shopping and Services	2	2
	Reduce Health Risks/Seeking Medical Attention	2	2
<b>Case Manager Experience</b>	Has Referred Before	4	4
	Has Not Referred Before	6	5
	Has an Adequate Understanding of the Tech Connect Program	4	4
	Has Poor Understanding of the Tech Connect Program	5	5
	Consumer Interest that the Case Manager has Seen	1	1
	Consumer Disinterest that the Case Manager has Seen	2	1
<b>Case Manager Training</b>	Has Had Little to no Training on Tech Connect Program	3	3
	Has Had Some to Extensive Amount of Training on Tech Connect Program	4	2
	Has a Recommendation for Increasing Case Manager Training	4	2
<b>Promotion</b>	Brochure Would be Helpful	6	4

	Direct to Consumer (Not Through Case Managers)	2	2
	Lack of Case Manager Knowledge	2	2
	Promotion to Case Manager	2	2
	Word of Mouth	5	4
<b>Reasons to Refer</b>	Telehealth	2	2
	Safety Reasons	1	1
	Consumer Expressed Interest	2	1
	Tech Help	7	4
	Loneliness/Communicate with Family	5	4
<b>Referral Process</b>	Process is Long and a Large Time Commitment	5	5
	Straightforward Process	3	3
	Consumer Interest	2	2
	Consumer was not Previously Familiar with Technology	4	2
<b>Tech Support for Seniors</b>	Recognize Tech Support as a Built-In part of Tech Connect	8	7
	Improves Technical Skill of Seniors	9	5
	Offers Encouragement to Continue Learning	9	4
	Requested by Seniors	2	1
	Seniors Use External Tech Support	6	3
	Positive Experience and Views of Tech Support	7	3

	Program		
	Helps Seniors Overcome Technology Aversion	4	4

#### 4.1.2 Comparing Responses by Case Manager Referrals

Grouping the case managers based on referral history facilitated a comparative analysis of the interview results between these two groups. Figure 4.1 illuminates the discrepancy in understanding of the Tech Connect program between the groups.

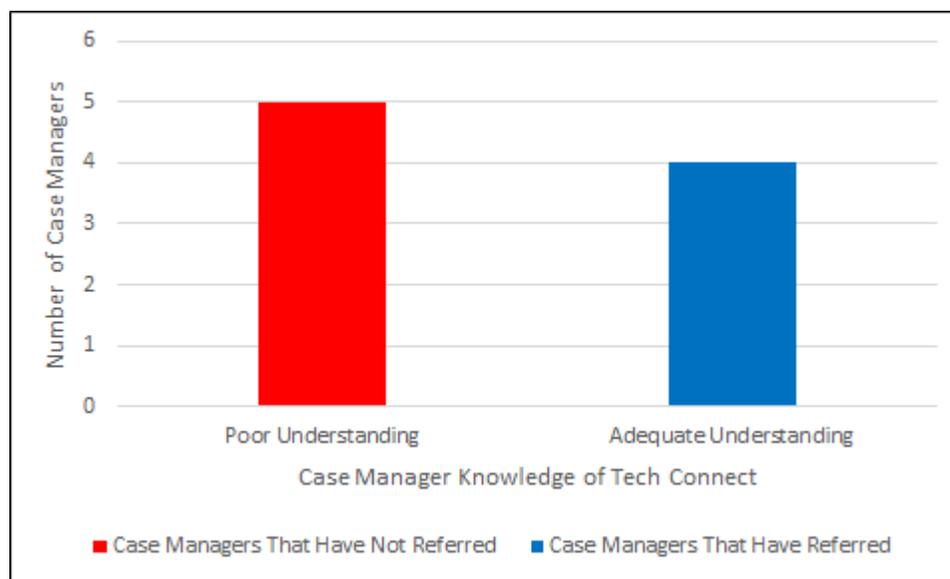


Figure 4.1: Case Manager Knowledge of Tech Connect Program (n = 5, n = 4)

During the interviews, the first question that the team asked the case managers was: “What is your understanding of the Tech Connect program?” When analyzing the case manager responses the team found that all four case managers with referrals reported having an adequate understanding, while all five case managers without referrals reported having a poor understanding. Our team defined an adequate understanding of Tech Connect as a description of the program that included providing seniors access to free devices as well as providing technical support to learn the devices. We defined a poor understanding of the program as either a

description that did not include providing seniors access to free devices or no description at all. The sub-themes shown in Table 4.1 of “Has an Adequate Understanding of the Tech Connect Program” and “Has Poor Understanding of the Tech Connect Program” were dependent on the case manager referral experience. This could signify that some case managers have not made referrals because they do not fully understand Tech Connect.

Figure 4.2 conveys additional information between case managers with and without referrals. It reveals that all four case managers with referrals understood that the Tech Connect program involves tech-support for the seniors, and three out of the five case managers without referrals were also aware of this fact. Furthermore, the graph discloses that both groups believe the Tech Connect program improves the technical skills of seniors, helps them overcome technology aversion, and that seniors occasionally use external tech-support. The sub-themes that this graph displays were not directly related to any questions that the project team asked in the interview; these ideas came up in conversation within the interview.

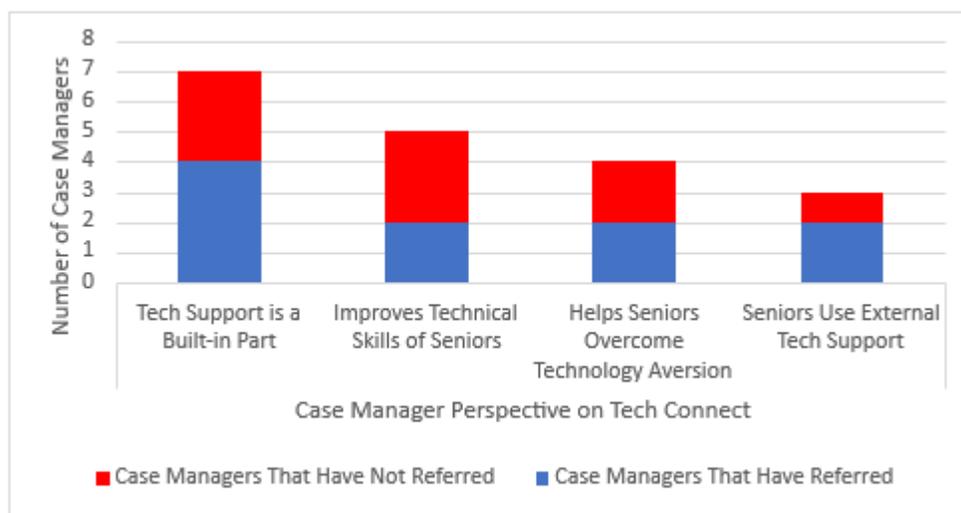


Figure 4.2: Case Manager Perspective on Tech Connect Program (n = 5, n = 4)

Figure 4.3 includes information about reasons to refer consumers. For case managers with referrals, the figure illustrates their stated reasons for referring certain seniors to Tech

Connect. For case managers without referrals, the figure shows reasons that they would refer someone to the program. The sub-themes presented in the graph were case manager responses to the third question in the interview, which was “How do you determine whether or not to refer someone to the Tech Connect program?” One takeaway from Figure 4.3 is that the results from this question were not related to the case managers’ referral history, with the exception of the loneliness sub-theme. Since the results feature no differing distinctions when looking at the referral history of both groups, the data indicates that case manager experience and history with referring clients to the program does not majorly impact the case manager reasons for referrals. This figure displays that the most common reasons to refer a consumer to Tech Connect are: they express interest in the program, they have a need for technical support, and they are lonely. One case manager from each group cited telehealth as a reason to refer a client. The small number of case managers mentioning this sub-theme was surprising, considering a main reason the ESWA developed Tech Connect was to give seniors access to telehealth during the COVID-19 pandemic. While not explicitly stated in the Figure, consumer loneliness also includes occasions where case managers refer someone to the Tech Connect program to be able to connect with their family or friends. Loneliness is cited as a reason to refer consumers by more case managers that have referred than those that have not.



Figure 4.3: Reasons Case Managers Refer Consumers ( $n = 5$ ,  $n = 4$ )

This collective set of comparative results coming out of our coding process indicate that the only significant difference in responses between case managers with and without referrals is in their understanding of the Tech Connect program.

#### 4.1.3 Analysis of Overall Case Manager Responses

While completing objective one, the second part of the case manager interview analysis involved finding common themes when considering all nine case managers as a single sample population. The first common theme within the nine interviews was “Benefits to Consumers” in Table 4.1. Figure 4.4 provides the results for this theme from the analysis of all nine interview responses. An important result of this theme was the case managers’ perception of the Tech Connect’s free devices for seniors as the most important aspect of the program. The case manager interview responses contained thirteen different mentions of Tech Connect giving free

devices as beneficial. The large number of mentions for the “Free Device” sub-theme demonstrates that case managers may focus on Tech Connect alleviating financial costs for their clients when obtaining a device during referrals.

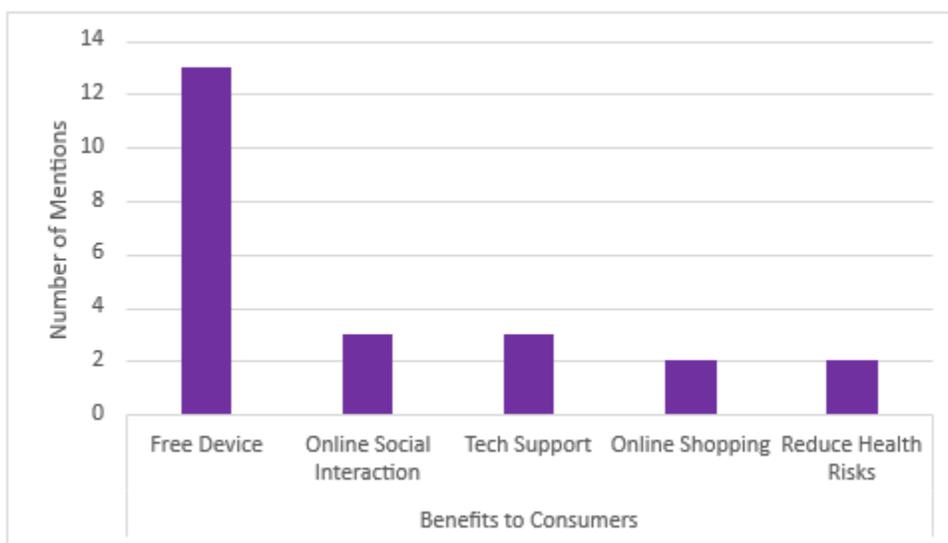


Figure 4.4: Case Manager Perceived Benefits of Tech Connect Program (N = 9)

The interviews yielded case managers’ opinions and ideas on what hinders the enrollment of seniors into the program. Figure 4.5 showcases the number of mentions to the theme titled “Barriers to the Referral Process”. When coding for this theme (see Table 4.1), we recognized the case managers pinpointing two different aspects in the referral process that prevented new seniors from enrolling. Five mentions of the first reason, titled “Takes Too Long,” implies that several of the case managers felt that the referral process was too time consuming. The amount of time it took to refer a consumer to Tech Connect discouraged case managers from making referrals. The ESWA has recently implemented a new, less time-intensive referral system. The “Consumer Resistance to Technology” sub-theme received four mentions of clients being apprehensive about learning technology during consumer visits.

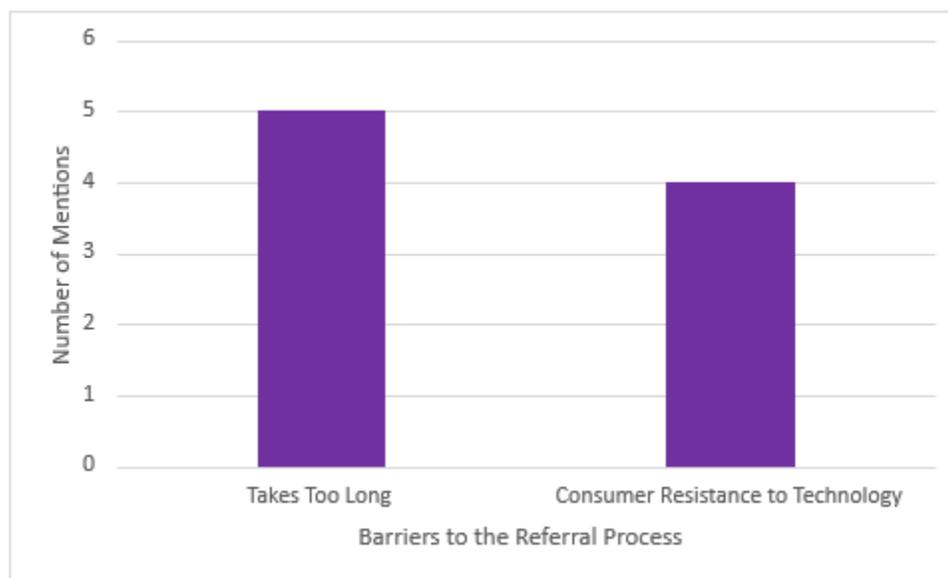


Figure 4.5: Case Manager Referral Barriers for Tech Connect Program (N = 9)

The second common theme from the interview responses was “Methods of Case Manager Promotion.” This theme highlights sections of responses in which the case managers discussed how they promote the Tech Connect program. Figure 4.6 depicts six mentions of case managers believing a physical brochure would be helpful in promoting the service to clients during referrals. These case managers believed that a promotion brochure would be beneficial for the referral process as it gives seniors the ability to understand Tech Connect at their own pace. After completing the surveys and interviews, the team created a Tech Connect promotional brochure for case managers to print out and give to seniors to better convey the program’s benefits during referrals.

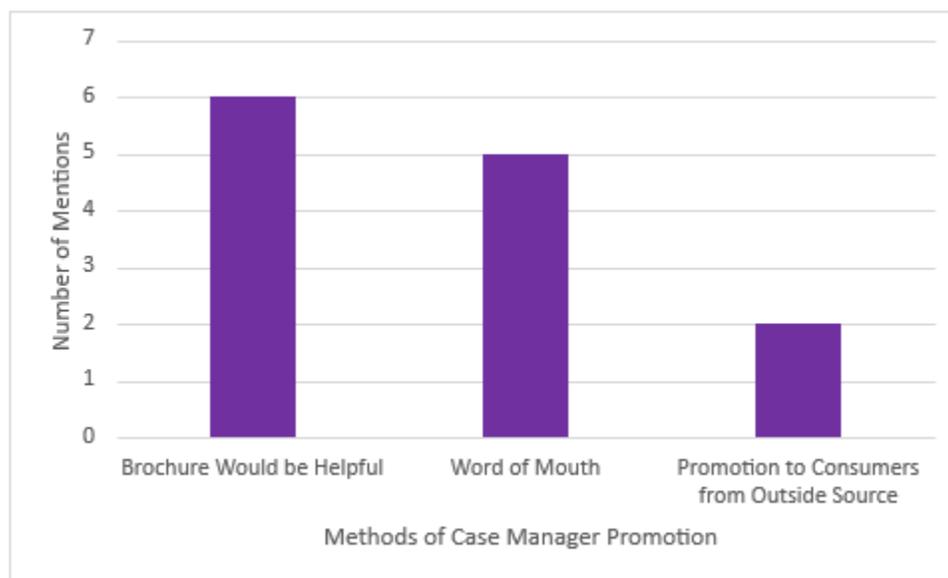


Figure 4.6: Case Manager Methods of Promotion for Tech Connect Program (N = 9)

## 4.2 Archival Research for Brochure Development

Throughout the team's research on the best writing practices for creating brochures, the Cognitive Load Theory (CLT) was prevalent. The CLT is an instructional design theory which focuses on providing clear directions to reduce working memory load and ensure readers focus on extracting essential information from the material (Schoberer et al., 2018). Materials that present information in a manner that causes the viewer to split their attention are less effective (Chandler & Sweller, 1991). Reformatting and presenting the information in a scheme that eliminates this split of attention reduces the cognitive load which leads to an increase in comprehension (Chandler & Sweller, 1991). Researchers state that when elderly participants read a brochure which had textual information embedded into the pictures, it drew their attention and they understood them without any additional text description (Schoberer et al., 2018). This in-picture text reduced the split attention effect, and the response of the participants supports the CLT. The study established formatting the headings as questions and keeping the brochure

simple by putting one topic on each page improved the clarity of the material and encouraged participants to continue to read more (Schoberer et al., 2018). In creating the ESWA brochure, our team ensured that the pictures were not the focus, leaving the center of attention on the words. This reduces split attention, and thus is in accordance with cognitive load theory.

The physical design of brochures is a point of interest throughout their creation. The size and shape of the brochure can impact user readability and interpretation of information. Creating a brochure that is different from a normal size or shape draws attention to the presented information. This can be as simple as creating a square shaped brochure instead of the traditional 8 ½ by 11 sheet, or the design could involve folding the brochure into a new shape. Whatever the shape and size, the written style of the information in the brochure should look appealing at first glance. This includes not cramming too much text into one page, as well as keeping white spaces for the eyes to rest. Users should see a clear path and transition between topics to follow when reading through the brochure. The project team chose a vertical eye path on the brochure we created. The brochure folds into thirds, leaving six sections (U.S. Department of Health and Human Services, 2021).

### 4.3 Surveying Seniors

Our team called the seven seniors actively enrolled in the Tech Connect program to ask them if they would be willing to participate in a quick 15-minute phone survey. The intent of this survey was to ask the seniors questions to gain an understanding of their experiences with the Tech Connect program. However, only one person completed the survey. Three of the seniors did not answer, two of them did not have the time to take the survey, and our team had the wrong number for one of them.

## 4.4 Senior Interviews

Our team attempted to interview seniors who had previously been enrolled in the Tech Connect program and have since voluntarily dropped out. This interview process failed to explore potential shortcomings and feedback on the Tech Connect program. In total, our team called twenty seniors who fit the criteria for our interview; however, only seven of them answered the phone. Unfortunately, none of the seniors were willing to partake in the interview. Most of the seniors did not answer the phone, or the number that we had for them was not in service. There were three seniors who gave times to call back later; however, when called back at the specified time none of them answered their phone. Two seniors were sick, one did not speak English, and one did not want to be recorded. As we were unable to interview any members of the target population, we believe the results indicate that a different method of communication is needed to elicit responses from the consumers of ESWA.

## 4.5 Archival Research on Infographic Development

During our discussions with the ESWA, the Tech Connect employees noted that their current clients have mentioned rarely utilizing the devices provided to them. Mainly, the seniors use the devices for phone calls and emailing. The ESWA wanted us to find a way to increase technology activity among their clients in the program. We believe an infographic informing seniors about useful phone applications (apps) could alleviate this problem.

### 4.5.1 Infographic Writing Best Practices

During our research into the best practices for creating infographics, font size, font style, color, and organization rose to the top as important considerations. Elaborate fonts such as

cursive make reading the infographic difficult and distracting for the elderly (Balkac & Ergun, 2018). Seniors prefer large and legible fonts when reading infographics; elderly people with eye diseases benefit the most from infographics with this font style (Balkac & Ergun, 2018). Another main style guideline was color scheming. Research indicates choosing the correct color is important for communicating the tone of the subject and makes the subject matter easier to memorize (Balkac & Ergun, 2018). Furthermore, use of neutral background colors and black text to contrast with supplement images improves the legibility of the content for seniors and those with eye diseases (Johnson & Kent, 2007). An infographic color scheme should have only two primary colors to provide easier visualization of images and text (Crane, 2015). The project team found green the most likely to invoke happiness and blue the most likely to invoke feelings of tranquility (Gage, 1999; Terwogt & Hoeksma, 1995). Through our research, infographic designer Crane suggested that separating information into sections makes it more manageable for adults reading infographics (Crane, 2015). Infographic designers typically indicate separate sections in an infographic by different uses of the two primary colors to suggest a change in theme (Crane, 2015).

#### 4.5.2 Senior Assisting Apps

Having generated little input from seniors in the surveys and interviews, we conducted online research into how mobile applications (apps) improve the daily lives of the elderly. After researching senior assistive apps for the Tech Connect devices, the team identified a wide range of apps that attempt to assist seniors. Mobile assistive apps are the most useful for older adults in the following situations: social connection, safety, exercise games for improving their minds or bodies, medication management, and health tracking (García-Peñalvo et al., 2014).

Consequently, the team chose to highlight two apps for each category of social connection, safety, and exercise games for the infographic.

Elder people need to socialize to cope with problems and to minimize depression and loneliness (Joshi et al., 2022). To provide increased social connection for the elderly, we identified the Zoom app and Facebook app as promising candidates to include in the infographic. Zoom is a video conferencing software that enables people to stay connected. A review of 25 different studies related to senior citizens and their use of technology highlighted that interactive media like Zoom should be the focus of research on digital technology for the elderly moving forward, because it is currently understudied despite its recent emergence (Sen et al., 2022). Facebook is an online social media service that provides users with the capacity to network and interact with each other over messages. Facebook supports the social connections of senior citizens that have decreased levels of social engagement, even when they are unable to get together in person (Rylands & Van Belle, 2017). Research shows that there is an improvement in communication between different generations when senior citizens use this social networking site (Rylands & Van Belle, 2017).

Our research indicated that the following two apps provide seniors substantial access to safety information for active aging: American Association of Retired Persons (AARP) app and iPad Maps app (Rosenzweig & Jones, 2014). One report indicated that both apps provide seniors an easy-to-use medium for accessing and learning information (Rosenzweig & Jones, 2014). AARP is an American nonprofit, nonpartisan organization that advocates for elderly issues and empowers Americans aged 50 years and older to live independently by publishing health and safety information articles (*AARP® Official Site - Join & Explore the Benefits*, n.d.). The AARP app provides seniors members with the ability to participate in online lessons and workshops

about safety issues such as protection from online financial scams (Rosenzweig & Jones, 2014). The Apple 'maps' app is a built-in feature in iPads that enables active seniors to plan routes to visit attractions or important places such as hospitals to help with traveling issues (Rosenzweig & Jones, 2014). Furthermore, the app provides the seniors with step-by-step directions to destinations in order to help them with cognitive issues better remember their routes (Rosenzweig & Jones, 2014).

The team identified the following two apps for improving cognitive functions of the elderly: the Lumosity app and Old Time Radio 24 app. Lumosity is a free app that offers challenging puzzles and brain teasers to keep the brain active. The app's activities incorporate the neuroplasticity principle of the brain changing and reorganizing itself given the right kinds of challenges (Joshi et al., 2022). The purpose of the app is for seniors to focus on improving skills such as memory, attention, and problem-solving (Joshi et al., 2022). Studies reported that reminiscing is very effective for reducing loneliness and depression in the senior population, most notably those in nursing homes (Wilson, 2006). The ability to recall and reflect facilitates improvement in the memory of older adults and defines their identity in the current moment (Joshi et al., 2022). The Old Time Radio 24 app offers seniors 35 radio stations that play music from the 1920s through the 1970s (Joshi et al., 2022). The app has the ability to run in the background of devices so seniors can perform other functions while listening to the music (Joshi et al., 2022). We chose this app to allow for seniors to reminisce about their youth through listening to music from their past.

## 4.6 Deliverables

Guided by research results and ESWA case manager suggestions, our team created a brochure to advertise the Tech Connect program. In addition, we created an infographic designed to inform Tech Connect consumers about five applications (apps) they may find useful. Those apps are Zoom, Facebook, AARP, Apple Maps, Lumosity, and Old Time Radio 24. The final project deliverable is a set of guidelines for using the brochure and infographic effectively.

### 4.6.1 ESWA Brochure

This brochure had an overview about the Tech Connect program and how it could benefit consumers. Case managers will be able to use it as an easy way to give their clients a physical explanation of the program, which will help them with the referral process. Our team initially wanted to add a quote from a consumer to further highlight the benefits of Tech Connect. This vision did not become a reality due to the lack of consumers willing to participate in an interview. Instead, our team included a quote from a case manager interview.

Figures 4.7 and 4.8 illustrate the final version of the ESWA brochure.



Figure 4.7: Outside View of ESWA Brochure

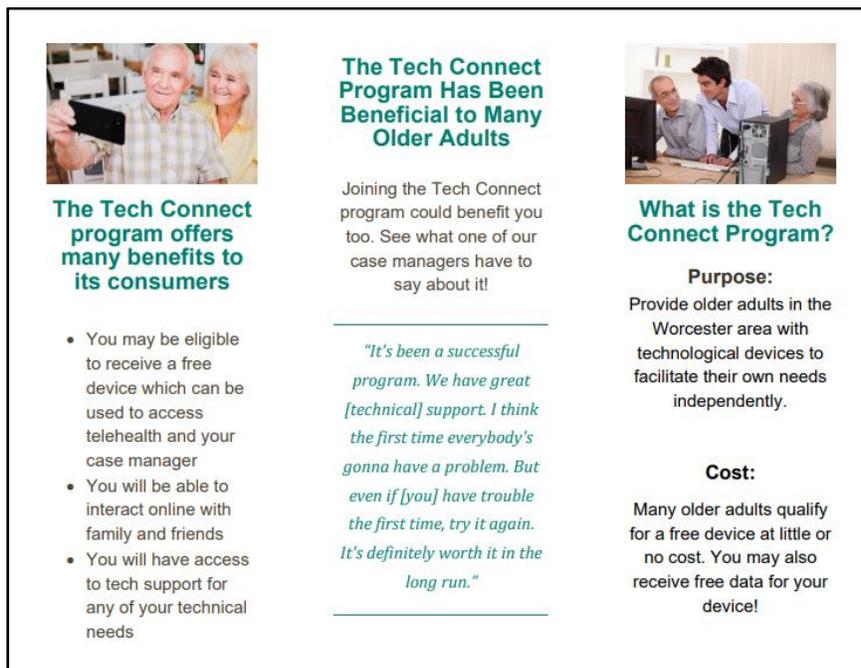


Figure 4.8: Inside view of ESWA Brochure

#### 4.6.2 ESWA Infographic

The project team decided to set the body text font of the infographic to 16 point and the font style to Helvetica. Using a font slightly larger than the standard 12 point font will improve the readability of the ESWA infographic for seniors. The infographic contains the Helvetica font due to its sans serif style. The sans serif nature of the font omits the decorative strokes in letters to avoid seniors confusing different types of letters. As discussed in section 4.5.1, our team chose to have neutral colors of blue and green for the infographic to convey a tranquil tone, and divided it into six sections to be more manageable for elderly readers. Each section showcases a particular app, providing information and pointing out the potential benefits for a senior audience. Figure 4.9 depicts the final version of the ESWA infographic.

# 6 HELPFUL MOBILE APPS FOR TECH CONNECT SENIORS

<p>Apple Maps is a built-in app that plans travel routes to attractions or important places with step-by-step directions.</p> 	<p>Lumosity is a free app that offers challenging puzzles and brain teasers to keep the brain active.</p> 
<p>Old Time Radio 24 offers seniors 35 radio stations that play music from the 1920s through the 1970s.</p> 	<p>Zoom is a video conferencing software that allows people to stay connected.</p> 
<p>Facebook is an online social media service that allows users to interact with each other over messages.</p> 	<p>The AARP app provides the ability to participate in online lessons and workshops about safety issues.</p> 

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Web: <https://eswa.org/>

  
**ESWA**

Figure 4.9: ESWA Infographic

## 4.7 Recommendations on Effective Use of Deliverables

### 4.7.1 Recommendation on Effective Use of Brochure

We designed the brochure intending for it to be effective in two distinct situations. One situation is as a standalone product. The brochure contains sufficient information for an elderly person to understand the Tech Connect program, some of its benefits, and how to join. However, the most effective use of the brochure will be as an aide for case managers to use while explaining Tech Connect to their consumers. Case managers can keep copies of the brochure with them when they visit consumers, and if they would benefit from the Tech Connect program, the case manager can use the brochure to help explain its benefits.

### 4.7.2 Recommendation on Effective Use of Infographic

We created the infographic as a resource for ESWA's Older Adult Technology Support Coordinator, Tim Kenney. When he provides technical support to Tech Connect consumers, he can give them a copy of the infographic, to broaden their understanding of what they can do with their device. Furthermore, the ESWA can distribute the infographic to newly enrolled seniors in the Tech Connect program.

## 5.0 Conclusion and Recommendation for Future Work

Our team assisted the ESWA in achieving its goal of providing financially vulnerable seniors access to technological devices and tech support. Our goal was to aid the ESWA with increasing senior involvement in the new service called Tech Connect. We worked with the ESWA's Tech Connect to learn about the strengths and flaws of the program and improve its outreach among the ESWA's clients. Our sponsor was interested in having the team conduct interviews and surveys of currently enrolled seniors and case managers to investigate the current perceptions of the program. To accomplish our goal, we completed three different objectives.

The first objective involved investigating the current participation in the Tech Connect program. From information provided by the ESWA, we interviewed four case managers with previous referrals to the program and five case managers without any referrals to the program. A key takeaway from the interviews was that all four case managers with successful referrals had an adequate understanding of the services provided by Tech Connect. Another takeaway from this objective was that conducting phone interviews and surveys proved ineffective for communicating with seniors. Both types of case managers evenly cited the same reasons for referring clients to the program, except for senior loneliness.

The team approached the second objective by developing a physical brochure which section 4.6.1 details. After delivering the completed brochure, we provided a recommendation to the ESWA on how to effectively use the brochure in promoting the program. We hope the ESWA's use of the brochure in the referral process better educates case managers about Tech Connect and helps promote it to interested clients. The brochure will hopefully close the gap in case manager understanding of the program.

The third objective was to create informational material to increase the enrolled consumer utilization of the Tech Connect program. To achieve this objective our team created an infographic which section 4.6.2 details. We also provided the ESWA with recommendations on use of the infographic. We hope that the use of this infographic will lead to seniors being able to fully utilize the devices that they have been given.

The materials that our team created to develop Tech Connect's promotional strategy did not include input from the ESWA's senior community due to the lack of seniors willing to be interviewed or surveyed. The failure in connecting with the elderly resulted in our inability to measure the seniors' perceptions of the program. However, our project successfully provides the ESWA information about case manager involvement in the service. The team identified that case managers with previous referrals had a better understanding of Tech Connect than case managers without previous referrals. In this way, our project offers future IQP teams or the ESWA areas to improve and expand the program to better serve Worcester County seniors.

Contact with ESWA seniors is a major opportunity for future work. Since our attempts at interviewing the seniors over the phone failed, we suggest other project teams to conduct in-person interviews in conjunction with case manager visits. By working with the case managers, the consumers will likely be more responsive. This work would allow the ESWA to determine well-working aspects of the Tech Connect program and identify potential limitations for enrollment. Another area for future work includes developing how-to guides for each app in the infographic. Guides for each of the apps would benefit the seniors by offering step-by-step instructions for using the apps.

## References

- AARP® Official Site—Join & Explore the Benefits. (n.d.). AARP. Retrieved April 22, 2022, from <https://www.aarp.org/>
- About us. (n.d.). ESWA. Retrieved April 15, 2022, from <https://eswa.org/about-us/>
- Apedo-Amah, M. C., Avdiu, B., Cirera, X., Cruz, M., Davies, E., Grover, A., Iacovone, L., Kilinc, U., Medvedev, D., Maduko, F. O., Poupakis, S., Torres, J., & Tran, T. T. (2020). *Unmasking the impact of COVID-19 on businesses: Firm level evidence from across the world*. World Bank, Washington, DC. <https://doi.org/10.1596/1813-9450-9434>
- Baker, C. (2020, March 10). *Declaration of a state of emergency to respond to COVID-19 | Mass.gov*. <https://www.mass.gov/news/declaration-of-a-state-of-emergency-to-respond-to-covid-19>
- Balkac, M., & Ergun, E. (2018). Role of Infographics in Healthcare. *Chinese Medical Journal*, 131(20), 2514–2517. <https://doi.org/10.4103/0366-6999.243569>
- Bernstein, P., Ko, K. J., Israni, J., Cronin, A. O., Kurliand, M. M., Shi, J. M., Chung, J., Borgo, L., Reed, A., Kosten, L., Chang, A. M., Sites, F. D., Funahashi, T., & Agha, Z. (2021). Urgent and non-emergent telehealth care for seniors: Findings from a multi-site impact study. *Journal of Telemedicine and Telecare*, 1357633X211004321. <https://doi.org/10.1177/1357633X211004321>
- Bruce, E., Gottlieb, A., Lyu, J., Shih, Y.-C., & Mutchler, J. E. (2012). Evaluating Economic Security for Massachusetts Seniors. *Gerontology Institute, University of Massachusetts Boston*. [https://scholarworks.umb.edu/ocp\\_posters/49](https://scholarworks.umb.edu/ocp_posters/49)
- Casella, M., Rajnik, M., Aleem, A., Dulebohn, S. C., & Di Napoli, R. (2022). Features, evaluation, and treatment of Coronavirus (COVID-19). In *StatPearls*. StatPearls

- Publishing. <http://www.ncbi.nlm.nih.gov/books/NBK554776/>
- Chandler, P., & Sweller, J. (1991). Cognitive Load Theory and the Format of Instruction. *Cognition and Instruction*, 8(4), 293–332. [https://doi.org/10.1207/s1532690xci0804\\_2](https://doi.org/10.1207/s1532690xci0804_2)
- Chuo, J., Macy, M. L., & Lorch, S. A. (2020). Strategies for Evaluating Telehealth. *Pediatrics*, 146(5), e20201781. <https://doi.org/10.1542/peds.2020-1781>
- COVID-19 response reporting / Mass.gov. (n.d.). Retrieved April 5, 2022, from <https://www.mass.gov/info-details/covid-19-response-reporting>
- Crane, B. E. (2015). *Infographics: A Practical Guide for Librarians*. Rowman & Littlefield.
- Department of Public Health. (2020, March 2). *First presumptive positive case of COVID-19 identified by Massachusetts State Public Health Laboratory | Mass.gov*. <https://www.mass.gov/news/first-presumptive-positive-case-of-covid-19-identified-by-massachusetts-state-public-health-laboratory>
- Gage, J. (1999). *Color and Meaning: Art, Science, and Symbolism*. University of California Press.
- García-Peñalvo, F. J., Conde, M. Á., & Matellán-Olivera, V. (2014). Mobile Apps for Older Users – The Development of a Mobile Apps Repository for Older People. In P. Zaphiris & A. Ioannou (Eds.), *Learning and Collaboration Technologies. Technology-Rich Environments for Learning and Collaboration* (Vol. 8524, pp. 117–126). Springer International Publishing. [https://doi.org/10.1007/978-3-319-07485-6\\_12](https://doi.org/10.1007/978-3-319-07485-6_12)
- Gibbons, A. (2022, March 23). *Personal Communication with ESWA Business Development & Quality Improvement Director* [In person].
- Johnson, R., & Kent, S. (2007). Designing universal access: Web-applications for the elderly and disabled. *Cognition, Technology & Work*, 9(4), 209–218. <https://doi.org/10.1007/s10111->

007-0063-2

- Joshi, H., Kawli, A., Kounder, K., & Sharma, R. (2022). *Digital Assistant for Elderly People* (No. 7513; EasyChair Preprint).
- Kurniawidjaja, M., Susilowati, I., Erwandi, D., Kadir, A., Hasiholan, B., & Ghiffari, R. (2022). Identification of depression among elderly during COVID-19. *Journal of Primary Care & Community Health*. <https://doi.org/10.1177/21501319221085380>
- Li, Z., & Dalaker, J. (2021). *Poverty Among the Population Aged 65 and Older*. 25.
- Luger, T. M., Hogan, T. P., Richardson, L. M., Cioffari-Bailiff, L., Harvey, K., & Houston, T. K. (2016). Older veteran digital disparities: Examining the potential for solutions within social networks. *Journal of Medical Internet Research*, 18(11), e6385. <https://doi.org/10.2196/jmir.6385>
- Makaroun, L. (2020). Elder abuse in the time of COVID-19—Increased risks for older adults and their caregivers. *The American Journal of Geriatric Psychiatry*. <https://doi.org/10.1016/j.jagp.2020.05.017>
- McDonough, C. (2020). Determinants of a digital divide among able-bodied older adults: Does “feeling too old” play a role?”. *International Journal of Aging Research*, 3(2).
- Meyer, B., Prescott, B., & Sheng, X. (2020). The impact of the COVID-19 pandemic on business expectations. *ScienceDirect*. <https://doi.org/10.1016/j.ijforecast.2021.02.009>
- Monaghesh, E., & Hajizadeh, A. (2020). The role of telehealth during COVID-19 outbreak: A systematic review based on current evidence. *BMC Public Health*, 20(1), 1193. <https://doi.org/10.1186/s12889-020-09301-4>
- Mutchler, J., Bruce, E., Gottlieb, A., Lyu, J., & Shih, Y.-C. (2012). Evaluating economic security for Massachusetts seniors. *Office of Community Partnerships Posters*.

[https://scholarworks.umb.edu/ocp\\_posters/49](https://scholarworks.umb.edu/ocp_posters/49)

Mutchler, J., & Li, Y. (2021). “*Aging in the 100 Largest Metropolitan Areas: How Do Older Adults Fare?*” by Jan Mutchler and Yang Li.

<https://scholarworks.umb.edu/demographyofaging/50/>

Rosenzweig, G., & Jones, G. E. (2014). *My iPad for Seniors*. Pearson Education.

Russell, L. (2009). *Lifelines for elders living on the edge: How elder support programs compare to living costs. The Elder Economic Standard Index<sup>TM</sup> for Massachusetts.*

<https://doi.org/10.1007/s11205-014-0577-y>

Russell, L. H., Bruce, E. A., & Conahan, J. M. (2006). *Elder economic security initiative: The elder economic security standard for Massachusetts.*

[https://scholarworks.umb.edu/gerontologyinstitute\\_pubs/39](https://scholarworks.umb.edu/gerontologyinstitute_pubs/39)

Rylands, D., & Van Belle, J.-P. (2017). The impact of Facebook on the quality of life of senior citizens in Cape Town. In J. Choudrie, M. S. Islam, F. Wahid, J. M. Bass, & J. E. Priyatma (Eds.), *Information and Communication Technologies for Development* (pp. 740–752). Springer International Publishing. [https://doi.org/10.1007/978-3-319-59111-7\\_60](https://doi.org/10.1007/978-3-319-59111-7_60)

Sachs, J. W., Graven, P., Gold, J. A., & Kassakian, S. Z. (2021). Disparities in telephone and video telehealth engagement during the COVID-19 pandemic. *JAMIA Open*, 4(3), ooab056. <https://doi.org/10.1093/jamiaopen/ooab056>

Samuel, E., Agwu, P., Ngozi, C., & Uzoma, O. (2021). Appraising sufficiency of financial support for older adults in Anambra State, Nigeria. *Ageing International*, 46(2), 115–128. <https://doi.org/10.1007/s12126-020-09379-6>

Schoberer, D., Eglseder, D., Halfens, R. J. G., & Lohrmann, C. (2018). Development and

- evaluation of brochures for fall prevention education created to empower nursing home residents and family members. *International Journal of Older People Nursing*, 13(2), e12187. <https://doi.org/10.1111/opn.12187>
- Sen, K., Prybutok, G., & Prybutok, V. (2022). The use of digital technology for social wellbeing reduces social isolation in older adults: A systematic review. *SSM - Population Health*, 17, 101020. <https://doi.org/10.1016/j.ssmph.2021.101020>
- Sencer, D. (2022, January 5). *CDC Museum COVID-19 timeline | David J. Sencer CDC Museum / CDC*. <https://www.cdc.gov/museum/timeline/covid19.html>
- Smith, A. (2014, April 3). Older adults and technology use. *Pew Research Center: Internet, Science & Tech*. <https://www.pewresearch.org/internet/2014/04/03/older-adults-and-technology-use/>
- Terwogt, M. M., & Hoeksma, J. B. (1995). Colors and emotions: Preferences and combinations. *The Journal of General Psychology*, 122(1), 5–17.
- U.S. Department of Health and Human Services. (2021). *Toolkit for Making Written Material Clear and Effective*. 35.
- Wilson, L. A. (2006). *A comparison of the effects of reminiscence therapy and transmissive reminiscence therapy on levels of depression in nursing home residents* [Ph.D., Capella University]. <https://www.proquest.com/docview/304910705/abstract/E53FB896D214E28PQ/1>
- World Population Prospects 2019: Highlights | Multimedia Library - United Nations Department of Economic and Social Affairs*. (2019, June 17). United Nations. <https://www.un.org/development/desa/publications/world-population-prospects-2019-highlights.html>

## Appendix A: Case Manager Interview Script

### **Informed Consent Agreement for Participation Script**

Hello, my name is Tommy Ciolfi/Mary Braen/ Kyle Lopez. I am a WPI student working with the Elder Services of Worcester Area to improve the Tech Connect program.

This interview will ask you about your experience with referring clients to different programs and the referral process to the Tech Connect program. The results of this interview will help improve the Tech Connect program's promotion.

The interview will take about 30 minutes to complete.

Your participation in the interview is completely voluntary and all of your responses will be kept confidential. No personally identifiable information will be associated with your responses in any reports of these data.

The WPI Institutional Review Board has approved this research study.

Should you have any comments or questions, please feel free to contact me by email. If you would like to write down my email, I can spell it out for you now. (gr-seniors-d22@wpi.edu)

Thank you very much for your additional time and cooperation. If you would, please provide your verbal consent for this interview's use of digital recording and your consent to participate in this interview.

Questions for all case managers:

1. What is your understanding of the Tech Connect program?
2. How many consumers have you referred to the Tech Connect program? How many have joined the program?
3. How do you determine whether or not to refer someone to the Tech Connect program?
4. Are there any aspects of the Tech Connect program that are hard to convey or promote to your clients? If so, please explain.
5. What would make your job easier in referring clients to the Tech Connect program?
6. Do you see any additional strategies for case managers to increase membership in the Tech Connect program?

Questions for case managers who have made successful referrals to the Tech Connect program:

7. How has the Tech Connect Program benefited the consumers who have engaged in it?
8. How do you present the Tech Connect program to your clients? What media or other materials do you use to present the information?
9. What aspects of your referrals do you think were successful in gaining senior participants in the Tech Connect program?
10. Were there any issues or barriers in your early referrals that you found that made it hard for you to promote the Tech Connect program? If so, what were these issues and how have you overcome them?
11. Can you think of any strategies that other case managers could employ to address and improve these issues?

## Appendix B: Seniors Formerly in Tech Connect Interview Script

Hello, my name is Tommy Ciolfi/Mary Braen/Kyle Lopez. I am a WPI student working with the Elder Services of Worcester Area to improve the Tech Connect program.

I am calling you to request your participation in a brief interview. You were selected as a participant because of status as a client of the Elder Services of Worcester Area. This interview will ask you about what you have heard about the Tech Connect program and any issues that you see with it. The results of this interview will help improve the Tech Connect program.

The interview will take about 30 minutes to complete.

Your participation in the interview is completely voluntary and all of your responses will be kept confidential. No personally identifiable information will be associated with your responses to any reports of these data.

The WPI Institutional Review Board has approved this survey.

Should you have any comments or questions, please feel free to contact me by email. If you would like to write down my email, I can spell it out for you now. (tciolfi@eswa.org)

Thank you very much for your additional time and cooperation. If you would, please provide your verbal consent for this interview's use of digital recording and your consent to participate in this interview.

1. Who first told you about the Tech Connect program?
2. When did they tell you about it?
3. Could you describe what you were told about the program at that time?
4. What was your experience with the Tech Connect program?
5. What caused you to decide to leave the Tech Connect program?
6. Can you think of any ways that the Tech Connect program could address and improve these issues?
7. If these issues were addressed, would you change your decision about leaving the program? If your answer is no, could you explain why not?
8. Based on what you know about the Tech Connect program, is there anything else that you would like to see added or changed to better support their senior consumers?

## Appendix C: Survey for Seniors in the Tech Connect Program

Hello, my name is Tommy Ciolfi/Mary Braen/Kyle Lopez, and I am working with the Elder Services of Worcester Area. I am part of a team of WPI students that is working to help improve the Elder Services of Worcester Area Tech Connect program. Do you have a few minutes to complete a brief survey?

I am calling you to request your participation in a brief survey. You were selected as a participant because you are in the Tech Connect program. This survey will ask you about your experience with the program. The results of this survey will help grow the Tech Connect program.

This telephone survey is brief and will only take about 10 minutes to complete.

Your participation in the survey is completely voluntary and all of your responses will be kept confidential. No personally identifiable information will be associated with your responses in any reports of this data.

The WPI Institutional Review Board has approved this survey.

Should you have any comments or questions, please feel free to contact me by email. If you would like to write down my email, I can spell it out for you now. (tciolfi@eswa.org)

Thank you very much for your additional time and cooperation.

Introductory Information

1. How old are you?
  - a. Younger than 65
  - b. 65-70
  - c. 71-75
  - d. 76-80
  - e. 81-85
  - f. Older than 86
  
2. What kinds of electronic devices do you use?
  - a. Laptop
  - b. Tablet or iPad
  - c. Smart phone
  - d. Feature phone
  - e. Landline
  - f. Other: (Fill in blank)
  
3. Was the device provided by the Tech Connect Program?
  - a. Yes
  - b. No
  - c. Do Not Remember
  
4. What do you use your device for? (Choose all that apply)
  - a. Telehealth
  - b. Contacting friends and family
  - c. Banking and Finances
  - d. Shopping

- e. Other (Fill in the blank)
5. How often do you use your smart devices?
    - a. (Fill in the blank)
  6. On a scale from 1-5, how comfortable are you using your device? (1 being very uncomfortable, 5 being completely comfortable)
    - a. (Options 1 through 5)
  7. On average, how often do you interact with someone from the Tech Connect program?
    - a. More than once a week
    - b. Once a week
    - c. Once a month
    - d. Less than once a month
  8. How did you learn about the Tech Connect program?
    - a. Case manager
    - b. Nurse
    - c. Family member
    - d. Other: \_\_\_\_\_
  9. What made you want to join the Tech Connect program?
    - a. (Fill in the blank)
  10. On a scale from 1-5, how satisfied are you with the Tech Connect program? (1 being completely unsatisfied, 5 being completely satisfied)
    - a. (Options 1 through 5)
  11. Would you be willing to be interviewed at a later date, which will include more specific questions about your experiences in the Tech Connect program?

- a. Yes
- b. No
- c. Maybe

## Appendix D: Tech Connect Participant Interview Script

### **Informed Consent Agreement for Participation Script**

Hello, my name is Tommy Ciolfi/Mary Braen/Kyle Lopez. I am a WPI student working with the Elder Services of Worcester Area to improve the Tech Connect program.

I am calling you to request your participation in a brief interview. You were selected as a participant because of status as a client of the Elder Services of Worcester Area's Tech Connect Program, and in a recent survey you indicated you were willing to participate in an interview. This interview will ask you about your experience with the Tech Connect program and any technical issues that you have experienced. The results of this interview will help improve the Tech Connect program.

The interview will take about 30 minutes to complete.

Your participation in the interview is completely voluntary and all of your responses will be kept confidential. No personally identifiable information will be associated with your responses to any reports of these data.

The WPI Institutional Review Board has approved this survey.

Should you have any comments or questions, please feel free to contact me by email. If you would like to write down my email, I can spell it out for you now. (tcioffi@eswa.org)

Thank you very much for your additional time and cooperation. If you would, please provide your verbal consent for this interview's use of digital recording and your consent to participate in this interview.

1. What kinds of technical problems have you had since joining the Tech Connect program?
2. Have you had any other non-technical issues since joining the Tech Connect program? If so, please explain.
3. How has the program helped you with these problems?
4. How has the Tech Connect program helped you personally? What has it enabled you to do?
5. Are there ways you think the Tech Connect program could support you, that it is not currently doing?
6. What applications do you use most often on your device?
7. Do you have any technology questions that I could help you with now?
8. Are you comfortable with your answers to these questions being used in promotional material for the Tech Connect program?

## Appendix E: Transcript of Case Manager Interview with Person A

The project team recorded this interview with participant permission. Present was Person A, an anonymous ESWA case manager, and Kyle Lopez, project team member. Interviewer comments are bolded for clarity.

**Kyle: For the record, today is April 5th, 2022 at 2:33 PM. I am with Person A. Could you please provide your verbal consent for this recording and for participating in this interview?**

Person A: You have my consent.

**Kyle: So for the first question, what is your understanding of the Tech Connect program?**

Person A: Um, Honestly haven't heard about you guys too much. I'm hoping to learn more about you. You try to find ways to include technology in our referral process. I'm hoping you develop something good.

**Kyle: Sounds good. Thank you. Moving on. How many consumers have you referred to the Tech Connect program? How many have joined the program?**

Person A: As of now, none.

**Kyle: If you were to refer one, how would you determine whether or not to refer someone to the Tech Connect program?**

Person A: I honestly run everything by my supervisor, Viv. And if she reads my openings and she thinks I May have missed a program or resource that I didn't write in my reports. So either by myself or through Viv.

**Kyle: Are there any aspects of the Tech Connect program that are hard to convey or to promote to your clients? If so, please explain.**

Person A: Just, you know, the elderly population. If you mention any technology, they throw their hands in the air. I think they need a little more coaxing like encouragement and say the assistance of learning the technology is huge. The time because the day to day care givers do not have that time on top of their own lives and taking care of elders.

**Kyle: Sounds good. Yeah. Sounds reasonable. What would make your job easier for referring clients to the Tech Connect program?**

Person A: Honestly, if there was like a power-, like we have a clipboard for cabs and everything. If we could click it and just someone's name – write that they are just interested in talking about it to you. And someone could reach out and whether they take an active referral or not. Maybe that could be useful?

**Kyle: Yeah. That's a good suggestion. We haven't actually heard that one yet. Are there any other ones, before I cut you off again?**

Person A: I don't know if... You probably don't have anything to do with this. This is our bill paying process. We don't have anything online and people keep asking me.

**Kyle: Oh ok. Yeah.**

Person A: You probably don't have influence. But hey.

**Kyle: Maybe. Potentially. Moving on to the next question. Do you see any additional ways for case managers to increase membership in the Tech Connect program?**

Person A: Honestly, maybe... if you... I wouldn't hesitate to send like a monthly email. "Hey, we are here! This is what we are doing." I know a lot of people are doing that. We are having a bunch of emails every day. If its just one more, at some point someone will say, "Oh. I forgot

about that.” Because we get busy and if an email pops up at the right moment. And... we just remember that moment about you. It would be helpful.

**Kyle: Yeah. Kind of like, just like, an update email. Just to say the status of the program and how many members are currently involved.**

Person A: Yeah. And I don't know your budgets exactly, but you could maybe say in the email, “This is what we still have money for:...” If you can, I don't know.

**Kyle: Yeah. We are definitely trying to design ways to do something similar. I think that is it for the interview. Thank you very much for your participation.**

## Appendix F: Transcript of Case Manager Interview with Person B

The project team recorded this interview with participant permission. Present was Person B, an anonymous ESWA case manager, Mary Braen, a project team member, and Kyle Lopez, another project team member. Mary Braen was the primary interviewer, while Kyle Lopez was a secondary interviewer. Interviewer comments are bolded for clarity.

**Mary: Just for the record my name is Mary. And if you could please provide your verbal consent again just for the recording.**

Person B: I approve the recording and my participation in this study. And my name is Person B if that helps.

**Mary: Should have mentioned that. So starting off, what is your understanding of the Tech Connect program?**

Person B: They can help our elderly consumers with how to work any devices they have. We had a recent training on it so I know there's a lot more help that they offer than I was aware of... So I do have a resource in my email account that I can access whenever, like, I have any tech related questions as far... as far as what services you can help with.

**Mary: Alright, how many consumers have you referred to the Tech Connect program? And how many have actually joined the program?**

Person B: I haven't personally recommended anyone yet. But I always have consumers looking for help with tech stuff so I'm sure I'll be sending them your way.

**Mary: Gotcha, and how do you determine whether or not to refer someone to the Tech Connect program?**

Person B: Basically if they say they need it or if I feel like they need to do telehealth visits with their doctors and they don't... I know they don't know how to operate say a smartphone let alone a tablet to do any of that. Any indicator on their end that they need help with it. They will usually straight up say "I don't know how to work my smart phone let alone set up a zoom call" or so.

**Mary: Awesome. So, are there any of the aspects... are there any aspects of the Tech Connect program that are hard to convey or promote to your clients? If so, please explain?**

Person B: I don't have any points of that. No hard points that I could think of.

**Mary: OK and what would make your job easier if there's anything that you can think of in referring clients to the Tech Connect program?**

Person B: I think that the applying process was pretty straightforward. It's just a form online, right?

**Mary: I believe so.**

Person B: Yeah, it seemed pretty straightforward so I think it's probably good to go.

**Mary: Awesome and do you see any additional ways for case managers to increase membership in the Tech Connect program?**

Person B: Can you say that again?

**Mary: Do you see any additional ways for case managers to increase membership in the Tech Connect program?**

Person B: No... I mean we had recent training so I think you'll probably start seeing a lot more referrals just because it's you know refreshed in our memory of what you guys offer and that it's available and I just pulled up the referral thing here about things to consider. And I feel like it's pretty straight-forward.

**Kyle: I was gonna say... do you notice any particular flaws in the promotion of this program to consumers? Do they... do you feel that they have a good understanding of the program?**

Person B: If they, if they... I feel like there... I don't know if you guys are doing any other promotion directly to them but as far as going through case managers and us offering it to them, I can only speak on what I do personally and I would just tell them they can... what you guys can help with. Then I'm the one doing the referral process, so I think that's not something we have to worry about. So I feel like they don't really have any confusion there.

**Kyle: OK good to know.**

Person B: It's limited on there end and what they have to worry about. I feel like they just know they need the help and that's how they're gonna get it.

**Kyle: I see yeah.**

**Mary: So you said you haven't actually referred anyone yet but you have been interacting with people who you are planning to refer?**

Person B: Yeah I have. I've had other consumers who need help with that kind of stuff. A lot of people don't know how to use like any type of devices like so a lot of people need help with that.

**Mary: OK so do you have any insight on how the Tech Connect program has benefited any of the consumers who have engaged in it?**

Person B: I haven't talked to them directly. I know someone on our team, Julia, has done that but I haven't talked to them personally to know how they benefited.

**Mary: Um see I think that was all of the questions I wanted to ask you then this was kind of a short interview but I think we got a lot of good information out of it. So thank you for**

**your participation in this interview. Yep yeah that's it thank you that sounds good thank you for meeting us.**

## Appendix G: Transcript of Case Manager Interview with Person C

The project team recorded this interview with participant permission. Present was Person C, an anonymous ESWA case manager, and Kyle Lopez, project team member. Interviewer comments are bolded for clarity.

**Kyle: OK, um, just for the record, it is 1:34 PM on April 5th, 2022. I am with Person C. Uh. My name is Kyle Lopez and my fellow interviewer with me is Miss Mary Braen. Could you please provide your verbal consent again to the recording and to participating in this interview voluntarily?**

Person C: Uh, I agreed to participate in this interview.

**Kyle: Thank you very much. I'll get started then. First question, what is your understanding of the Tech Connect program?**

Person C: I have very little understanding of all that and I'm not really even sure why I was chosen are asked to do this.

**Kyle: That's perfectly fine. Now we're just trying to get a wider range of. Data from other case managers. Could you? Do you have any details or do you know anything? About the Tech Connect program.**

Person C: No 'cause. I've never had to use it. The only thing I remember is ordering an iPad for a member, but the person didn't really need any tech support.

**Kyle: OK, um.**

Person C: I never had to.

**Kyle: So yeah, so next question then, how many consumers have you referred to the Tech Connect program, how many have joined the Tech Connect program, I'm guessing 0? Based off your answer.**

Person C: I would think.

**Kyle: OK, um. So how do you determine whether or not to refer someone to the Tech Connect program?**

Person C: I don't know.

**Kyle: That's fair. Uhm. Are there any aspects of the Tech Connect program that are hard to convey or promote your clients? If so, please explain.**

Person C: So the only thing, the only time we would use it is to my understanding is if we order them a smart phone or an iPad and they have difficulty getting, you know, understanding of it. But we have our IT team that I would reach out to first and then maybe my team would reach out to tech support with WPI.

**Kyle: Uh-huh.**

Person C: Just never, yeah.

**Kyle: So you're. Uh, OK, uhm, what would make your job easier in referring clients to the Tech Connect program do. Does your department refer people to the Tech Connect program often?**

Person C: No.

**Kyle: OK. Uhm, do do they? Would there be any ways that your job would make it easier to refer people to the Tech Connect program?**

Person C: Be referred referred them for what? Like what do you do?

**Kyle: Uh, we refer clients, seniors. Uh to use a device, particularly to maybe contact family that are far away or to operate Tele health conferences, things like that. If they have an interest in that. Uh, maybe they even go into social conferences like or clubs. Those are some of the reasons, but. Do you have any other insight into this?**

Person C: No.

**Kyle: OK. Uhm, do you see any additional ways for your case managers in your department to increase membership in the Tech Connect program?**

Person C: So it's this is a new thing that just started during Covid because before we were offering this, it all started when people couldn't go out. So we started offering iPads. That's the only time that I would ever think to refer to them for anything. But I, like I said, I really haven't. And I was a little surprised when I was asked to do the interview.

**Kyle: OK. Yeah. No, that's fair. So, uhm, what kind of referrals do you do if? Uh, may I ask?**

Person C: Most of the people that I work with have very little experience with technology and the ones that do have experience with technology, they get helped by their families. I've never been asked to help them with it. We don't really make sure like, I'm sorry.

**Kyle: I like. I know you can go ahead. Sorry to cut you off.**

Person C: We haven't really needed to or made any referrals for tech support their their interest more than technology is getting services so.

**Kyle: Uh-huh. Yeah. Can I get? It's like an understanding of what other programs other than like the Tech Connect program, do you refer?**

Person C: Uh, do you mean like services?

**Kyle: Yeah, services, yeah.**

Person C: OK. Homemaking services, somebody that goes in and helps them clean the house personal care to help the people bathing. We have a purse which is like emergency button. If they fall, they press that. home delivered meals, adult day health programs, social programs.

**Kyle: Uh-huh.**

Person C: But not much to do with technology.

**Kyle: Alright. Sounds good. Yeah. Thank you. Um that is it for the interview. I thank you very much. Yeah.**

Person C: I'm sorry I couldn't be more helpful.

**Kyle: No, no, no, this is perfectly fine. We're trying to interview people that have referred to the Tech Connect program and case managers that have not and we're trying to understand their perspectives as to.**

Person C: When I ordered the iPad, I was asked by the team that orders them if text support was needed, and at the time I asked my Member, I was like, do you need any help by text support?

And then she said no because I know how to use a laptop in her sense she she knew. So like, you

know, she's English speaking. She used to be a teacher, so she's familiar with it. The only thing is that after, like a month RIT Guy went out. It's just the protocol they do and make sure the person is using the the device well. But I know other people have done it. I just haven't had a chance to do it. Yeah, I might in the future.

**Kyle: No. Yeah, you're good. We're just trying to get a general overview of this, but we appreciate, yeah, your time spent here and there, this interview. Thank you very much.**

Person C: No problem. Thank you so much. Bye bye.

**Kyle: Bye bye now.**

## Appendix H: Transcript of Case Manager Interview with Person D

The project team recorded this interview with participant permission. Present was Person D, an anonymous ESWA case manager, Mary Braen, a project team member, and Tommy Ciolfi, another project team member. Mary Braen was the primary interviewer, while Tommy Ciolfi was a secondary interviewer. Interviewer comments are bolded for clarity.

**Tommy: OK. I just started recording and the transcription also, so if you could repeat it one more time that would be awesome.**

Person D: Sure. Yes, I give you permission.

**Mary: OK. And then just for the transcript, my name is Mary Braen and I'm here with Tommy Ciolfi and we are interviewing Person D. OK. So the first question that we have for you. Is: what is your understanding of the Tech Connect program?**

Person D: I don't know anything about it actually.

**Mary: OK. Uhm.**

Person D: Sorry.

**Mary: No, You're good. So have you. How many consumers have you referred to The Tech Connect program and how many have joined the program?**

Person D: I haven't had any, so I think I might have briefly heard about it in the sense of like you guys are — I really don't know anything about it. I'm like, you know. Being honest.

**Mary: OK. No. Yeah, we definitely... honesty is definitely the best policy. Uh, OK, so. How do you determine whether or not to refer someone to the Tech Connect program?**

Person D: So is it just? Are you going to be able to teach them about technology or what is the purpose of the program? And then I could tell you whether I could be referring them 'cause I just do assessments. So I don't have an ongoing case load. So I'm meeting them and then. Starting them in ESWA so you know I do meet a lot of people that need technology assistance, but I'm not sure what it is. If you could just kind of tell me.

**Mary: Yeah. So the Tech Connect program, my understanding of it is. They provide devices such as iPads, to seniors and. The seniors can use those iPads to complete tasks such as like trying to. FaceTime, their family or stuff like that.**

Person D: OK. And are you guys showing them how to use it or no?

**Mary: Yes. So that is part of our project. We are going to.**

Person D: OK, so then I do have an understanding. OK. Yeah. So I actually there's a lot of people that usually want to know more about it.

**Mary: Gotcha. OK.**

Person D: I just didn't realize it was WPI. I thought it was something else, so anyway. I know we have. The referral for the tech connect anyway. Go ahead. I didn't realize it was WPI.

**Tommy: It's it's not really WPI, it's there's a Tim Kenney is somebody that works at ESWA and he like runs the whole program and it's mostly him. There's right, there's some mass Academy students who helped with it, tech support, stuff like that too.**

Person D: Yes. OK. Yeah. Yes. OK.

**Tommy: We're just hopping on now until the beginning of May, really for doing this project to help them grow the program.**

Person D: OK, so then I do understand what it is 'cause. He's new to elder services and I did know about the mass Academy. So go ahead. Yes.

**Mary: OK. Uhm. So are there any aspects of the Tech Connect program that are that you believe are hard to convey or promote to any of your clients? If so, please explain what they are.**

Person D: So I think that a lot of them are just apprehensive about technology in general. So just they need someone to talk to them to just explain that it can be easy and that they can learn to do it. So they just are so apprehensive about any kind of change.

**Mary: Gotcha. That's what we have heard about that through our conversations as well for sure. Ah, OK. What would make your job easier in referring clients to the Tech Connect program? If you can think of anything.**

Person D: umm. I think that if they already had their own devices, and I think the device piece getting the device to them. You know, is the hardest part because they're resistant to. Get it. Like having a device and having. You know, Internet, some of them don't have Internet. Some of them you know. So the device itself could be overwhelming for them to just have.

**Mary: Gotcha.**

Person D: Does that make sense? Like meaning like they don't even have a device they've never had, like a iPhone, so they just don't even know what to expect. And sometimes going through the process, there's so many. Last time, like I avoided it almost because there was so many steps and questions. And then if there's too many questions for them to have to answer to get the device and start the process, it's too complicated. Nobody wants it. It needs to be simple, basic questions.

**Mary: So like simplicity in the actual like instructions on like getting the device and how to use the device.**

Person D: Yes. Yes.

**Mary: OK. Uhm. Let's see. Do you see any additional ways for case managers to increase the membership in the Tech Connect program?**

Person D: I I guess. Not really other than like now if they I think they have it online where before I don't think the referral was online until Tim came in is that what his name is? Whatever.

**Mary: Tim yeah.**

Person D: I don't think it was designed like an online. Submission because they're so overwhelmed as case managers, is like the tech part is like. The last thing they're thinking about when you're thinking about basic necessity so. It's kind of put to the wayside, so it may get pushed off, so maybe if it's made a priority like. In the sense of like if it if it's streamlined so it's easy, then the case manager will probably make more referrals like, but if they have to go through too many steps, it's just too much and they're going to avoid it. In all honesty, 'cause, you're dealing with their lives and what they need like their basic needs like food and heat and things like that. So if it's too many steps to get the device and then case managers will avoid it because it's not necessarily a necessity, although it can make their life better.

**Mary: Yeah, I think, uh, we through our conversations with Tim like he was saying.**

**Similar things. If it's. That's why he was trying to make it easier and streamlined like online. Uh, so that's actually all of the questions that we have. This interview was a bit shorter than we anticipated I think.**

Person D: Sorry.

**Mary: But if you do, you have any other like comments on this topic at all that you'd like to share.**

Person D: No, thank you.

**Mary: And then, Tommy, if you wanna stop the recording, if you know how to do that.**

# Appendix I: Transcript of Case Manager Interview with Person E

The project team recorded this interview with participant permission. Present was Person E, an anonymous ESWA case manager, and Kyle Lopez, a project team member. Interviewer comments are bolded for clarity.

Person E: But I was told the email that you had, you had asked for me specifically. I just want to know why.

**Kyle: Good question. So uh it is voluntary. Yes. Uh, we would just would like specifically you because you were most likely free during the week during your schedule. You had a Monday to Friday schedule. And you are a case manager. So we had thought that you were the most likely candidate to be free or have time to interview. Participate in this interview.**

Person E: OK.

**Kyle: Uhm, OK, so just for the camera a while.... since it is recording. Today is April 5th 2022 around 11:00 AM. I am interviewing... I'm Kyle Lopez and I'm interviewing Person E. Uh Person E do I have your permission to? Record and to interview you.**

Person E: Yes.

**Kyle: Alright, thank you. Um. So for the questions. Uh, what is your understanding of the Tech Connect program?**

Person E: I believe this is a program to help elders, UM, kind of use technology that we may be able to provide at elder services. A lot of the elders aren't familiar with technology and I think we have someone here now that can kind of help him understand the technology that we might be able to provide.

**Kyle: Sounds good. Thank you. Uhm, how many consumers have you referred to The Tech Connect program? If so, how many have joined the program?**

Person E: I actually haven't referred any to the Tech connect program. come to my you know in speaking to the elders I have none of them that are really tech savvy or have any any interest in being tech savvy at all. I'm haven't referred anyone yet.

**Kyle: Sounds reasonable. How do you determine whether or not to refer someone to the Tech Connect program?**

Person E: If they express interest in our visits that they want to learn technology, phones, computers, things like that. Uhm, you know if they have. Pretty much like if they have an interest in it. You know during our conversations and and things like that, then I'd refer them too. But I haven't come across anyone who had that interest.

**Kyle: OK, sounds good. Uhm, are there any aspects of the Tech Connect program that are hard to convey or promote to your clients? If so, please explain.**

Person E: Uhm. I'm not too familiar with the ends and outs of the Tech Connect program. UM, so I'm not sure what would be necessarily hard conveyed because I really haven't. I haven't really gone into going into any depth with that with any of my elders, so I couldn't really, you know, give you any any aspects that are hard to convey.

**Kyle: Yeah. OK. I'm just a little going off script a little bit, but uh, how many have you can? If can you give you a ballpark figure of how many that you see? Would you refer per say? Like, how, how often would you think? Um Do you prefer they? Did you see a client? Most likely interested or in the Technet program.**

Person E: Uhm, well, like I said, I haven't really had any elders who had any interest in technology that would warrant a referral to this program. Umm so really, I guess zero at this point.

**Kyle: Sounds good. Uh, what would make your job easier and referring clients to the Tech Connect program?**

Person E: Uh, what would make my job easier in this? Uhm. I mean, I guess like I said, the population we work with a lot of them aren't interested in in technology like they've done the bulk of their life, you know with, with the technology and stuff that they were used to in retirement, I would say a lot of people aren't willing to learn, you know, new technologies 'cause, it's not really going to benefit them much. But what would make my job easier? I'm not sure I wouldn't know how to answer that question.

**Kyle: OK, UM, maybe to help you jog your I thinking. Uh, would there be any idea for maybe like promotional material or other such information? Do you maybe need some? Uh additional like guides around or something to help convey the UM. Tech Connect program details. To Send something that would help.**

Person E: Yeah. I mean, maybe if we had like a little, I don't know if you have like a pamphlet or something like that, we can just leave with elders. I know we have pamphlets for other things that we leave with elders that visits, maybe caregiver support. You know, maybe dealing with loneliness, stuff like that. You know, maybe we could just leave a little pamphlet about, you know, the Tech Connect program and technology as a whole. Maybe that could pique their interest and they and they may have more interest in the program.

**Kyle: Sure. Uh, and last question, do you see any additional ways for case managers to increase membership and Tech Connect program?**

Person E: Umm additional ways to increase membership? I mean, I guess if we during our visits if that was something that we have to discuss with them, that will probably increase... increase membership. But we already have to discuss so much with them. I'm not really seeing how that would uh, how that would kind of how we would fit that time into our into our visits.

**Kyle: OK. Sounds good. That, that's helpful. I'm yeah, I know. 30 minute interview.**

**Probably 7 minutes.**

Person E: Does it usually run longer?

**Kyle: No, it's been averaging about 10 to 15 minutes, but I'm fast.**

Person E: OK.

**Kyle: Thank you very much for participating. I appreciate it.**

Person E: No problem. You have a good day.

**Kyle: You too.**

Person E: Bye.

**Kyle: Bye.**

## Appendix J: Transcript of Case Manager Interview with Person F

The project team recorded this interview with participant permission. Present was Person F, an anonymous ESWA case manager, and Kyle Lopez, a project team member. Interviewer comments are bolded for clarity.

**Kyle: OK just for the record today is April 5th 2022 at 1:02 PM. I'm with Person F. Person F could you please provide your verbal consent again for participating in this interview and the recording.**

Person F: Yes, I do provide it.

**Kyle: Um, first question. What is your understanding of the Tech Connect program?**

Person F: well as I understand it helps our consumers to obtain either iPads or iPhones to be able to communicate with their health providers or their relatives with case managers if needed to do assessments and any other activities that they might participate in.

**Kyle: That's good. Moving on. How many consumers have you referred to the Tech Connect program? How many have joined the program?**

Person F: I have referred 3. 1 individual and a couple. And they all got the iPads. They have different reasons yeah but they all benefit certainly from the program.

**Kyle: OK. How do you determine whether or not to refer someone to the Tech Connect program?**

Person F: Well I go over my list and see because I have my consumers for a pretty long period of time so I kind of have a knowledge of, you know, who has something they need. And I go over

my list and think who might actually benefit from that and then if I identify some consumers, I call them and I ask first if they have a technology already. If they do, so I move on and that's how I was able to identify this one individual and another couple.

**Kyle: so you don't... You don't refer consumers that already have technology or like they have a device. Or would you recommend or refer these people that have a device or if they're willing to learn about their device.**

Person F: That's how... that's how the program started. Yeah. We will identify consumers who do not have the device. So they will need help right, right now. It'll be wider spread so you know others can participate and receive Technical Support. But that's how it started. That's how I was involved.

**Kyle: Good to know. Yeah. Are there any aspects of the Tech Connect program that are hard to convey or promote to your clients? If so, please explain?**

Person F: Not really because they have such a great tech support. So whatever questions they have, they communicate and they've been solved.

**Kyle: So when you're in... during the initial referral process, you don't have any trouble like... the seniors don't have any trouble understanding any aspects of the program like how to get involved?**

Person F: They did. Well, not aspects like enrolling into the program but how to set up the iPads, how to operate with them. Yes, there were difficulties. And and that's why they actually... there was some difficulties communicating over the phone explaining them how to do things. So that's why one-on-one sessions was done actually here at Elder Services. So that was a great help.

**Kyle: Mhm, moving on. What would make your job easier referring clients to the Tech Connect program? .... Do you have any suggestions or...?**

Person F: It was actually pretty easy. Yeah, it was very well organized.

**Kyle: Nice. Do you see any additional ways for case managers to increase membership in the Tech Connect program?**

Person F: Let me think.... Well, I can't really say right now. I might need to think about it.

**Kyle: Yeah sure yeah. No worries. yeah you don't have to have an answer right away.**

**Moving on. This is more going into depth in the tech connect program. How has the Tech Connect program benefited the consumers who have engaged in it?**

Person F: OK let me start with my individual. So what happened with her, she was a very active person and she had a husband. And all of a sudden, her husband dies and then the Covid hits. So she's without a husband, she is with no means to communicate. And um she... she loves to paint and she was taking um art classes at Worcester State. So of course when Covid happened everything was online and she had no means to do so. She didn't know the technology. She didn't have the iPad. And that's how I identified her to be a good candidate. So I talked to her. I met with her personally. I identify the need and I asked her if that will be something helpful. She was thrilled. Yeah so I made the referral and the connection was established. So what we did uh with the tech support person and myself and her we had a conference call. So I introduced her and then he took over and started talking to her. So and then well of course I brought the iPad to her. And he was trying to help her over the phone how to set it up. She was having difficulties understanding of course and then they met in person here in the office. And yeah she's up and arriving and taking classes online and very happy. Yeah and so the... the other couple. They , like their personality was a very close in couple. They were having very difficult time establishing connections, making friends. Their only daughter lives in Poland and again they didn't have like... well they, they were calling of course but calling is one thing. Like seeing the

faces and all that communication's a totally different level of communication so again I was able to obtain the iPad for for them and yeah now they communicating, yeah. Seeing the daughter, the grandchildren so that of course reduces the depression and isolation greatly.

**Kyle: Yeah I agree. How do you present the Tech Connect program to your clients? What media or other materials do you use to present the information?**

Person F: I don't really use any media. I just explained to them what it is and how it might help them and ask if they will be interested so.

**Kyle: And so like word of mouth?**

Person F: yeah yeah exactly correct.

**Kyle: What aspects of your referrals do you think were successful in getting senior participants in the Tech Connect program?**

Person F: What techniques?

**Kyle: Yeah or what aspects?**

Person F: yeah I think personal relationship because I've known them for so long they trust me. They trust my judgment if basically if I'm trying to explain to them that it will be helpful they they trust... they believe and you know they go forward.

**Kyle: Yeah so how often... so going back to that story, how long did you know that client that paints?**

Person F: Well the first one I knew for maybe three years. Yeah, the other couple for maybe 10 years.

**Kyle: Umm, moving on. Were there any issues or barriers in your early referrals that you found that made it hard for you to promote the tech connect program? If so, what were these issues and how have you overcome them?**

Person F: I didn't really have any problems with the individual. With the couple, um what I experienced with them... again they're very specific couple. There is a trust issue. There is of course... they are not tech savvy and all that stuff. So when they started using the iPad, they had this idea little bit of paranoia or something because they were thinking that we are watching what they doing so I had to kind of explain to them how that works and that's not the case to build that trust. So yeah that was a little bit of a challenge yeah with that program but we overcame it.

**Kyle: Can you think of any ways that other case managers could address and improve these issues that we mentioned like these trust issues?**

Person F: Just you know talk to the consumer more. Engage in more conversations not just do your job from you know from a to b. Yeah go a little bit more further.

**Kyle: OK yeah.**

Person F: Like let's say we, we make our our visits... the mandatory visits twice a year and another twice a year. We can do... we can skip or we can do a telephone visit. I personally prefer to do home visits and establish that relationship with my consumers. So that's how you build a trust.

**Kyle: That's nice yeah. Yeah, you mentioned another issue with the... like the tech savvy seniors. Yeah do you see any aspects that case managers can overcome for this area?**

Person F: that's hard to say yeah because some some of our consumers they totally have no even idea how to use a phone except for "OK this button is I need to push it to make that phone call". Yeah so once I remember I came to my consumer and I forgot to turn off my phone and it started ringing. And she's like "oh I like your ringtone. Can you put it on my phone too please?" So you see that a lot. So that and... and it's, it's hard of that.... it's it's hard for them to even think about this new step up. "IPad... Ooohh. I don't know. I don't think I will be able to use it." Yeah but if

you tell them you're gonna have a great tech support. You know, they will guide you through. They will talk to you like you are a three year old, you know? No worries. They'll help you. Then you know they'll be receptive most of the time.

**Kyle: yeah that's good insight. Yeah so I think that was the last question. yeah that's it... I know you said take it... going back to one of the questions. Did you see any any additional ways to increase... to make your job easier? I know... if you could think of anything but doesn't have to be now.**

Person F: It's hard to say I mean I guess I guess the tech support and you know communication that's that's the key, if they know that they're gonna get a lot of tech support, even with a simple question. Because sometimes they hesitate to ask like dumb questions so if they know it's, you know, it's not a dumb question question ever and they will be, you know, guided all the way through... I think that can you know ease the process.

**Kyle: yeah I think that's it so I thank you for your time yeah thank you appreciate it**

## Appendix K: Transcript of Case Manager Interview with Person G

The project team recorded this interview with participant permission. Present was Person G, an anonymous ESWA case manager, and Kyle Lopez, a project team member. Interviewer comments are bolded for clarity.

**Kyle: OK. Just for the record, today is April 7th, 2022 at 1:03 PM. I am here with. Who am I here with again, I'm so sorry I had to... Person G.**

Person G: That's OK, Person G.

**Kyle: Yes.**

Person G: Yeah.

**Kyle: Person G, could you please provide your consent again for this participating in this interview and for the digital recording?**

Person G: Sure, I. Consent.

**Kyle: Thank you. Alright, so start the interview. First question.**

Person G: You're welcome.

**Kyle: What is your understanding of the Tech Connect program?**

Person G: That we can refer our elders if they would like to have an iPhone, an iPad, to talk to their children, to talk to us, to talk to doctors, nurses. Things like that.

**Kyle: Sounds good. Umm. How many consumers have you referred to the Tech Connect program? How many have joined the program?**

Person G: I'd say I've had about 3.

**Kyle: OK. And and so you... is that three referrals or and how many have joined like continuing to work at the program?**

Person G: OK. Yeah. So, OK, so maybe if I've had about five referrals and then maybe about 3 have actually had the equipment.

**Kyle: OK, sounds good.**

Person G: The iPads and the iPhone is, yeah.

**Kyle: OK. Umm. How do you determine whether or not to refer someone to the Tech Connect program?**

Person G: If they say to me you know, they they have grandchildren that they like to talk to or if I wanted the questions we have to ask is when's the last time you saw your primary care? And if they say they've had, they're gonna have a video call with the doctor. Then I can start talking to them about getting an iPad. Or if they say that they talk to their grandchildren all the time through the iPad, through FaceTime. Then I start talking about. You know the video conferencing and that we have an iPad, we have an iPhone. Do they know about the program? And then they seem really interested.

**Kyle: Hmm, sounds good. OK. Moving on. Are there any aspects of the Tech Connect program that are hard to convey or promote to your clients? If so, please explain.**

Person G: A lot of times. If you start to explain then you'll get someone you know. "I don't even know about computers." It happened a lot with COVID with the vaccine, because they had to go online and a lot of them were like, I don't even know what to do with the computer. I don't even know the Internet. I can't even do that. So if they start talking about that, that's sometimes that's a barrier that's hard to get by, you know.

**Kyle: Hmm.**

Person G: I have a landline. I'm never going to get a cell phone. That's you know that that's a big thing. Sometimes you're you're up against that stumbling block.

**Kyle: Yeah, just they're limited technology experience.**

Person G: Exactly. Yeah, yeah.

**Kyle: Makes sense Umm. What would make your job easier in referring clients to the Tech Connect program?**

Person G: Umm. We might even have these. I'm so bad. But just because we haven't been in the office that much, if we had a flyer that I could probably bring with them and explain, you know, these are the programs that we have, this is we will offer you this for free, you get a free, you know, you get a free iPad, you get a free iPhone. And then I also think the follow up is great. You know, telling them that there's gonna be someone helping them is awesome. That's a big help.

**Kyle: Hmm, that's good. Yeah, we're currently in the works of making a, like, a pamphlet like you said, and just trying to get some ideas for that. Another question, do you see any additional ways for case managers to increase membership in the Tech Connect program?**

Person G: Umm. I really think like. The the flyers would be a big thing and then when you start being a case manager there is a package of introduction package that we all get. This is what you bring on your visits and even if I think the Flyers are stuffed into these packages and if it's listed as... There were so many things that we have to ask. We go down this checklist and just having that put on the checklist as something that's automatically asked, we asked about falls. We asked about hospitalizations, just having something standard that we ask, you know, so we get used to asking them about it.

**Kyle: That's a really great answer actually. Haven't heard that one.**

Person G: OK, good.

**Kyle: Like to hear that, yeah. How has the Tech Connect program benefited the consumers who have engaged in it?**

Person G: It helps them definitely with isolation. Umm I have a couple. Last year I had a couple people, you know, with COVID they couldn't go anywhere. I had a woman with her iPad and she was able to talk to the doctors and she was able to talk to her children and her grandkids. And that was a big help for her. It was hard. She didn't want to talk to me because she was one that she didn't want me to see her, but she was able to talk to her kids and her grandkids, and that was a big thing. That was a big thing, especially when it's someone who lives alone. She lived in a housing complex, and she really, the housing complex stopped all activity. So they stopped Bingo. They stopped all this. So they weren't even getting out of their apartments. So I think the isolation was a big thing, and they were able to to see their family members. That was a big thing.

**Kyle: Hmm. Yeah, just a kid over. Like that. Loneliness and being, yeah.**

Person G: Exactly, yeah.

**Kyle: OK. How do you present the Tech Connect program to your clients? What media or other materials do you use to present the information?**

Person G: Umm. I just start talking about it. I just start, you know, uh, talking about the program that we have. If they have any questions. I'll come back here and you know, I'll say someone else can talk to them, give them more information if they want. But basically, it's just word of mouth from me.

**Kyle: Yeah, Mason. From what I'm hearing, mostly word of mouth. And during your visits.**

Person G: Yeah. Yeah, yeah.

**Kyle: OK, OK. What aspects of your referrals do you think were successful in gaining senior participants in the Tech Connect program?**

Person G: What aspects? I'm sorry.

**Kyle: Yes, yes. What aspects of your... Of your referrals.**

Person G: Umm. Probably you know the the age that the younger ones, the younger ones, tend to tend to go for it more than more, more than the 100 year olds. Umm, but if also, if they do have grandkids and children that are that are active with them and. Know how to use the uh, the iPad and iPhones and things like that. I think that helps them a lot. Umm. Yeah, I mean, but sometimes once in a while, someone, someone older will surprise me. And they're like, yeah, sign me up for that. You know, they wanted. They wanna see that they wanna they wanna get involved in that. So sometimes that's surprises me.

**Kyle: Hmm, so do you often have, like, these grandchildren or these children sit with you during your visits and help explain the the program a little bit?**

Person G: No, they won't be there, but the person will say to me. "umm anytime I need help I just call my grandchildren." You know, they'll say they'll say "I can just call them up and they'll help me."

**Kyle: OK. OK. Yeah, sounds good. Yeah. Were there any issues or barriers in your early referrals that you found that made it hard for you to to promote the Tech Connect program? If so, what were these issues and how have you overcome them?**

Person G: Umm, a lot of times, they'll say. "Ohh I tried this once and it didn't work or I didn't get on or the Internet didn't work or I tried this once and it didn't work." Umm. Or "there was no one to help me or I couldn't get through to the help desk." So I I just try to say this is this is a great

program we have we have. Great help. We have great support. It's been a successful program, I just you know, I just tried to stress that. I think the support is a big thing, so if we say we have support and and the support is there for you. I really think if they know that they're going to get helped. That's a big plus.

**Kyle: Hmm. So mainly these issues are the tech technical issues and that they're mostly overcome because you have like a great tech support program within the Tech Connect program.**

Person G: Umm. Exactly. Exactly. Yep.

**Kyle: OK. Umm. Can you think of any ways that other case managers could address and improve these issues?**

Person G: Umm. Probably just by saying, you know that other consumers have had the same problems they were able to overcome them. Umm. With a little bit. I think just with a little bit of practice, I think the first time everybody's gonna have a problem. It's not easy, but again the support the support is the big thing. But even if they had trouble the first time, try it again, you know. It's definitely, definitely a big help. It's definitely worth it in the long run.

**Kyle: Umm. Yeah, I just mostly being a source of encouragement for the seniors during this program.**

Person G: Exactly. Exactly. Yeah.

**Kyle: OK, OK. Umm. And that is it that wraps up this interview. Thank you very much for participating and have a good day. Yeah. Thank you.**

Person G: You're welcome. You too. Thank you. OK, bye. Bye.

**Kyle: Bye bye.**

## Appendix L: Transcript of Case Manager Interview with Person H

The project team recorded this interview with participant permission. Present was Person H, an anonymous ESWA case manager, and Mary Braen, a project team member. Interviewer comments are bolded for clarity.

**Mary: OK. OK. I think we should be good. So just for the transcript again. Uhm, my name is Mary Braen. I'm here interviewing Person H, and it is April 5th. Could you please provide your verbal consent again just for the transcript?**

Person H: Yep, I provided verbal consent for this interview about IT device.

**Mary: Awesome. OK. Uhm, so the first question that we have for you is what is your understanding of the Tech Connect program?**

Person H: My understanding is that this provides a service for our clients and our community of the Greater Worcester area so that our clients can afford Internet and cell phone and tablet devices to be able to communicate with their relatives, families and friends.

**Mary: That's a great understanding. Uh, OK, so how many consumers, if any, have you referred to the Tech Connect program and how many have actually joined the program?**

Person H :I've referred two and I just completed my first application I believe was yesterday.

**Mary: Awesome. So the application was for what?**

Person H: For a cell phone.

**Mary: Awesome. OK. So how do you determine whether or not to refer someone to the Tech Connect program?**

Person H: Some I would definitely see if someone is home alone for long periods of time with no communication. Uhm, if someone is unable to afford having a telephonic device, iPhone or even a tablet. Uhm, if I see someone's high risk of falls, I would ask what devices they use to make contact in the case of an emergency, and I would refer their you know a pendant unit or if they have a cell phone. If they do not have a cell phone, I would then refer to the IT device.

**Mary: Awesome. Uhm, so when you're referring, are there any aspects of the Tech Connect program that are hard to convey or promote to your clients?**

Person H: If they already have a device.

**Mary: If they already have a device, sorry, could you clarify?**

Person H: Yep. So if they already have a device, they don't see why they would need a new device.

**Mary: Gotcha. OK. So that is hard to like. Conveyed to them.**

Person H: If they already have a cell phone, I'm trying to convince him to get another cell phone. I'm not.

**Mary: Gotcha. OK.**

**Mary: Uh, OK, so. What would make your job easier in referring clients to the technique program?**

Person H: Uh, I think you do a pretty great job with clarifying UM, which consumers would need the device. Uhm. I think that it's it's, it's you guys are doing a pretty good job as of now. So I can't really think or identify what would make it easier at this time.

**Mary: OK. Awesome. Uh me. If you have any thoughts about that later in the interview, we can just you can just hop back to that question, you can come. Uh answer that.**

Person H: Yeah.

**Mary: OK. So then do you see any additional ways for case managers to increase membership in the Tech Connect program?**

Person H: Maybe if we were to create Flyers that you can mail to our clients because we are working with an older population, they kind of like things hands on. So if a flyer with the information that's easy to read, easy for them to look through and understand, you know, not to worry. Then if they receive a paper form in the mail with this information, maybe they would be more inclined to want to call themselves and. Share their interest in wanting one. Or and see what how they would be able to identify what they want and what benefits they can gain from it, whether it be a tablet, a cell phone or Internet service.

**Mary: Awesome. Yeah. We actually do have plans. Hopefully to make something similar to that. So that's an awesome response. Thank you. Uhm.**

Person H: Welcome.

**Mary: So how has the Tech Connect program benefited the consumers who you have engaged in it?**

Person H: So I just completed a referral, yes, I so she has not yet obtained the device, which would be a cell phone, but I know that this would be a great benefit to her specifically because she had just had a recent discharge from rehabilitation. Uhm, and she's very limited with her movement and high risk of falls. So for her to have a cell phone device it lowers her risk of not having contacts. So having a cell phone would allow her to have contact in the case of an emergency.

**Mary: Awesome. And how do you currently present Tech Connect programs to your clients? What media? are there materials do you use to currently present the information?**

Person H: Word of mouth.

**Mary: OK. And I know you mentioned before that, uh, like pamphlet kind of would be awesome to have for you?**

Person H: Yeah, that actually to go back to that question, what would make it easier for us if there was already a pamphlet or flyer that we can present to our clients?

**Mary: Awesome. Uhm OK so. What aspects of your referrals do you think were successful in gaining senior participants in the Tech Connect program?**

Person H: I'm sorry. I'm going back to the last question, pamphlet or flyer. That's easy for them to understand. That's really important. Like simple terms, right?

**Mary: Right.**

Person H: So what was the last question? Can Maybe you repeat that?

**Mary: Uh, yeah. So what aspects of your referrals that you do, do you think were successful in gaining senior participants in the Tech Connect program? So like any aspects or techniques or anything that you do, that thing you think helped.**

Person H: I'm not really. I think the device itself is something that they need, like if they need it, they would just take it. So it's not like it didn't take much for me to try to convince that wasn't convincing. Them of needing it, but uhm. They needed a phone and this program offered an opportunity to have a phone at a discounted rate for them to be able to afford their lifestyle and other needs for whether it be shopping or transportation. They can spend their money elsewhere and spend less on having phone.

**Mary: Gotcha. So from your experience, the clients, the senior is pretty much you don't have to really convince them at all. They already want to be in the program where they need it?**

Person H: Right. Right.

**Mary: Gotcha. Ah, OK. And were there any issues or barriers in your earlier in your referrals that you found that made it hard for you to participate to? Sorry, let me start that again. Were there any issues or barriers in your earlier referrals that you found that made it hard for you to promote the Tech Connect program? If So what were those issues and how did you overcome them?**

Person H: That's OK. No, like I said, I think you are all doing a wonderful job in promoting the information and you know definitely it was a very I've received a very detailed three page form on how to make the referral itself. So that gave me enough information to be able to spread knowledge on like what what this program is about. So that there was no conflict. I think you you're doing a wonderful job with what you're doing currently.

**Mary: Awesome. OK. And then the final question that we have for you is, can you think of any ways that other case managers could address on any possible issues that they come up with?**

Person H: Uh, yes. Uh, you. The client does need an email. And some of the kids I know, some of my consumers do not have an email and have a challenge creating an email because they're not very technology savvy. They're not tech savvy. So uhm, my our IT department was great enough. They're they're awesome. They created an email for my clients that took a little while because her, you know, at first I don't know our IT department could do it. So I had to ask the client if she had a family member that could help her with in. And there was a delay in that because you're relying on someone else. So. I found out later on that our IT department can help with that and that made the process a whole lot easier, a whole lot quicker. And then I was able to move on after I was made aware I my client needed an email address. So. Making sure that an email at... the client has an email address prior to.

**Mary: Gotcha.**

Person H: Starting the referrals so it limits the back and forth.

**Mary: And you think that like some sort of like, tech support would help with that?**

Person H: Yeah, I mean, our IT department was great to help create an email. If if you're if WPI can help with that too, that that's great too, so. Definitely the email process would be certainly helpful for our elderly clients.

**Mary: Awesome. So like I said, that was the last question. If you have any like final.**

**Thoughts or anything that you want to say?**

Person H: Uhm. The application process itself could take about. 30-35 minutes. Possibly. You know when you're creating the profile to create create in the application, going onto another profile, safe link or whatever device you're going for and then creating the application and also obtaining the information from the elderly. Sometimes they have to go back and forth themselves. So just the time frame. I would say with my consumer and and getting the information from her took about, I would say, average 35 minutes.

**Mary: Yeah, that's definitely good information for us to know.**

Person H: Yeah.

**Mary: Well, if that's all that you can think of a thank you so much for participating in this interview.**

Person H: You're welcome. You are welcome.

**Mary: Good interview for us, I think.**

Person H: Good Good.

**Mary: OK. Well, thank you and we will see you.**

Person H: Alright, well.

**Mary: Later.**

Person H: Alright, thank you so much for your time. Have a good day.

## Appendix M: Transcript of Case Manager Interview with Person I

The project team recorded this interview with participant permission. Present was Person I, an anonymous ESWA case manager, and Tommy Ciolfi, a project team member. Interviewer comments are bolded for clarity.

**Tommy: If you could repeat one more time that if you consent to this being recorded so that it's actually on the recording**

Person I: Yes

**Tommy: alright thank you very much yeah we can get right into it then the first question is what is your understanding of the tech connect program?**

Person I: um you guys will go out and give Technical Support to my clients

**Tommy: yeah OK that's pretty good understanding that in addition they can provide devices right there's that component also**

Person I: Oh yeah Oh yeah yes I though you meant the student yeah elder services provides a device yeah

**Tommy: yeah awesome how many consumers have you referred to the tech connect program and of the number that you referred do you know how many joined the program?**

Person I: I have no idea II I'm a floating case manager so I don't have a caseload I see random people I have no idea. more than two but less than 10

**Tommy: sounds good perfect I was gonna say do you have a ballpark but OK and then how do you determine whether or not to refer someone to the tech connect program?**

Person I: if they need a phone or not

**Tommy: gotcha OK so it's if they need a phone be it to contact like you or family or anything like that that's kind of how you said?**

Person I: yeah

**Tommy: OK that's a pretty good metric. Are there any aspects of the tech connect program that are hard to convey or promote to your consumers**

Person I: no, other than the fact of looking into the lifeline discount that that can be challenging because they don't want to do the work of applying

**Tommy: OK so they don't like to apply to the lifeline discount.**

Person I: yeah they will gladly take a free phone from Elder services.

**Tommy: gotcha so it's not normally difficult to get them to want to get involved in the program**

Person I: ooooooh no

**Tommy: that's that's good information though 'cause that's good information. is there anything that would make your life or not your life your job easier in referring clients to the tech connect program?**

Person I: well I haven't done the new form yet but that intake form I don't the whole intake process was horrible I could not I could never get it to work I can never ever go onto the SharePoint and be able to enter the information but my understand from last weeks in-service they've changed that I've not I've not used the new system yet

**Tommy: Yeah I think Tim did some work to to make it a little bit easier, or he said he thinks it's easier now so hopefully the next time you go to do that it's not as complicated or**

**it's more straightforward. Do you see any additional ways for case managers to increase membership in the tech connect program?**

Person I: yeah making the process easier and make it less work for us.

**Tommy: that makes sense and then I've got just a couple more questions that are specifically for case managers who have successfully made referrals which you are included in cause you came up on our list a bunch of times which was awesome. do you know I don't know if you know yeah probably but how is the tech connect program benefited the consumers who have engaged in it?**

Person I: they get a free phone.

**Tommy: right do you know like how like I know you said you were a floating case manager so you don't have like the same people...**

Person I: I I don't follow up I literally make the referral and that's it and I don't ever I don't I might see someone... if the case was uncovered, I might see them in six more months I might see them in a year I might see them in a year and a half

**Tommy: gotcha but you're not with those people after you make their referral OK so that question-**

Person I: no no I'm not sorry yeah.

**Tommy: OK how do you present the tech connect program to your clients or consumers?**

Person I: would you like a free phone that elder services will cover the data plan for now but I cannot guarantee how long the coverage will last and after that you either would be responsible for covering it yourself or you would lose the service and the phone is yours to keep

**Tommy: and that tends to be a pretty effective way of doing it I'm guessing?**

Person I: yeah yeah who doesn't want a free iPhone? yeah I wish I could get one.

**Tommy: right well you know maybe once you're whatever that that minimum age is you could apply for tech connect program too.**

Person I: Thank goodness I have a little ways to go I'll take my phone for now.

**Tommy: There you go. What aspects of your referrals do you think were successful in gaining senior participants in the tech connect program?**

Person I: free phone.

**Tommy: Yeah that makes sense. were there any issues or barriers in your early referrals that you found made it hard for you to promote the tech connect program if So what were these issues and how have you overcome them?**

Person I: well I will say one thing the first referral I made the guy didn't get that did not get a phone for months and months and months and months I mean it was it was crazy but I think that since then I think that's since been rectified I don't think client wait like that but the first one it was crazy how long he had to wait.

**Tommy: do you know like when that was, like what year or month so to speak?**

Person I: we we did that in the beginning whenever the program first started right when it first started I made a referral to somebody.

**Tommy: OK yeah good news there is that I've talked to Tim about that a bit and he said that now if he's in the office the next day he can have the phone ready to go out in like 24 or 48 hours pretty often now.**

Person I: yeah I know it definitely has improved the last two I made people got got the phone right away. another issue is too is that well I guess it goes back to the question you said how can make this better for you it's it's a lot it's additional work like you have to go back out and deliver the phone to the people to that's the other thing to is like you've already probably made a home

visit 'cause that's how you identify the client needs a phone and now it's more work for you 'cause I you can go back out and deliver the phone. I don't think there's anything they can really do to change that.

**Tommy: right but just that that makes it pretty inconvenient for the case managers 'cause they have a whole bunch of other people that they have to go over there and stuff like that.**

Person I: yeah yeah so now you're going out to see somebody you've already seen it's not like you can like piggyback it and go I'll bring it out to you on your visits to 'cause they'd have to wait three to six months to get the phone

**Tommy: right OK 'cause you don't right.**

Person I: You only see somebody every 3 to 6 months.

**Tommy: OK that makes sense and then the only other question that I have is do you have any advice for case managers that maybe haven't made any referrals yet but that are looking to start making referrals to this program?**

Person I: no not really

**Tommy: Okay, that's totally fine. but yeah so I ran through all of my questions so again thank you very much for taking the time to talk to me**

Person I: you're welcome

**Tommy: alright and again you could contact us via email that you have if you have any questions or comments but besides that I hope you have a wonderful day!**

Person I: Alright have a great day yourself!

**Tommy: alright bye.**

## Appendix N: Survey Response from Senior A

Mary Braen surveyed Senior A over the phone, the following are the questions and answers.

**Question: What is the person's name?**

Answer: Senior A

**Question: How old are you?**

Answer: 71-75

**Question: What kinds of electronic devices do you use?**

Answer: Feature phone and landline

**Question: Was the device provided by the Tech Connect program?**

Answer: No

**Question: What do you use your device for?**

Answer: Job searching

**Question: How often do you use your smart devices?**

Answer: Every day

**Question: On a scale from 1-5, how comfortable are you using your device? (1 being very uncomfortable, 5 being completely comfortable)**

Answer: 2

**Question: On average, how often do you interact with someone from the Tech Connect program?**

Answer: Once a month.

**Question: How did you learn about the Tech Connect program?**

Answer: Friend

**Question: What made you want to join the Tech Connect program?**

Answer: She was looking for a job because she can't retire yet

**Question: On a scale from 1-5, how satisfied are you with the Tech Connect program? (1 being completely unsatisfied, 5 being completely satisfied)**

Answer: 5

**Question: Would you be willing to be interviewed at a later date, which will include more specific questions about your experiences in the Tech Connect program?**

Answer: Yes