

Evolution of Life Care Planning with Technology

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Abstract

When the concept of life care planning was introduced in the 1980s, only certain technology-based tools were available to the general public and life care planning practitioners. During the last 30 years as life care planning evolved, so too did the role of technology-based products. During this time, workplaces adopted the personal computer, as well as internet, email, and cellular telephones. This adoption of advanced technology improved the life care planner's efficiency and delivery of services in a competent and ethical manner. During the COVID-19 pandemic, enhanced technology including the use of video conferencing, has assisted with the restrictions of social distancing and the safety of evaluatees. This article reports findings from a 2020 survey of 100 life care planners who responded to five questions about the role of technology in their life care planning practice.

Keywords: life care planning, technology, software, COVID-19

Any discussion of technology in life care planning must examine the roots of life care planning as a professional discipline. It is well-known that life care planning emerged as a result of the work by Frederick Raffa, economist, and Paul Deutsch, psychologist, in the 1970s (Weed, 2019), and by the early 1980s, the concept of life care planning was introduced in *Damages in Tort Actions* (Deutsch & Raffa, 1982). Since that time, there have been multiple articles written, tens of thousands of life care plans developed, numerous life care planning conferences held, and several textbooks written about life care planning as a practice area. Like all disciplines, life care planning tools reflected the times in which the field emerged.

A review of reports from the United States Census Bureau regarding the percentage of American households with computers starts the timeline in 1984, two years after *Damages in Tort Actions* was published. Based upon data collected through the Current Population Survey in 1984 (the first time that data about computer use was reported), 8% of American households had a computer and 59% of the people in those households reported that they were learning how to use the computer (Ryan, 2018). Contrast this to the 89% of American households that reported having a computer during the last round of data collection in 2016 (Ryan, 2018). The

availability of personal computing changed how work was performed in almost all disciplines, and this is true of life care planning.

A review of early life care planning publications revealed statements such as "The biggest aid to the rehabilitation professional during the research phase of the life care plan will be the telephone" (Deutsch & Sawyer, 1994, A-7), reflecting the tools available to life care planners at the time. As computing technology became more accessible in the United States, this transition was reflected in life care planning publications. The first edition of the *Life Care Planning and Case Management Handbook* (1999) included a 28-page chapter entitled "Technology and Life Care Planning," where it was noted, "Most life care planners will be using the Windows 95 operating system by Microsoft, Inc." (Thomas, 1999, p. 411). In that chapter, there was an explanation of email, which was noted to be "in the early stages of development" (Thomas, 1999, p. 414). To provide a cost summary for items contained in a life care plan, the options of using a calculator or programs such as Excel or Lotus were referenced (Thomas, 1999, p. 409). In a 2001 International Academy of Life Care Planning (IALCP) *Academy Letter*, Paul Amsterdam wrote, "Many life care planners use mail order catalogs or some Internet sites to get prices for wheelchairs" (Amsterdam, 2001, p. 1). In this same Academy Letter, a section was found entitled *Research Websites for Life Care Planners*. By 2002, the IALCP Academy Letter (McCollom, 2002) reflected that the IALCP maintained a website.

It is clear that as computer technology was emerging, some of it was being incorporated into the practices of life care planners. The personal computer, eventually equipped with internet access, obviously became available to life care planners, as did other industry-specific technology tools, some of which were developed by rehabilitation professionals, to address other needs within a life care planning practice. This included computer-based programs that provided medical coding information; computer programs that provided access to aggregated healthcare-related costs; and computer programs that generated the actual life care plan report. Martino (2007) emphasized that computer programs could help to save time when preparing life care plans although the programs could not analyze and interpret the data. These tools emerged as the field of life care planning was developing and healthcare costing became increasingly complex.

For example, until the 1970s, which was essentially the same time that the concepts of life care planning were formed, the Diagnosis-Related Group (DRG) coding system did not exist (Busch, 2017). It is doubtful that any of the early life care planners could have anticipated the complexity that exists in 2020 medical coding and healthcare reimbursement systems.

Life Care Plan Interviews

Historically, life care planning documents have emphasized the importance of conducting an interview with the evaluatee and/or their family members (Weed, 1999; Weed & Berens, 2010; Weed & Berens, 2019; Weed & Field, 2012). Weed and Owen (2018, p. 15) note,

Observing or interviewing the client/evaluatee at their place of residence not only is typically more convenient for the client/evaluatee, but also will provide more information. An on-site tour will help identify and inventory equipment, supplies, environmental and transportation needs.

The in-home interview also allowed the life care planner to observe the individual in their home environment; to observe the behaviors of caregivers in the home; and to document accessibility issues in and around the home. However, there has been little written in the life care planning literature about technological tools that can be utilized to complete the interview.

While the advantages of conducting in-home visits are outlined above, this approach is not always followed. Some life care planners conduct evaluatee interviews at their offices or other professional settings which then do not provide the life care planner the opportunities identified above.

Any form of in-situ evaluation is also likely to involve travel costs for one party which can include airfare, mileage, lodging, meals, ecological impacts, etc. There is likely to be billable time charged by the professional for their travel and if an evaluatee requires a companion as well as durable medical items or other support that can make travel difficult and add expense.

A concern about the life care planner being present in the home of the evaluatee that has become increasingly pertinent over time, is the environmental impact of travel. According to the EPA (2020), transportation was responsible for 28% of greenhouse gas emissions in 2018.

With the onset of the 2020 global COVID-19 pandemic, disease transmission issues have also been raised when considering in-home assessments of evaluatees. Life care planners often work with individuals whose health status is fragile, and there is the inherent risk of disease transmission for any participating party from public exposure, such as when traveling or by unwittingly transferring germs to another party in face-to-face interview. After the spread of COVID-19 began, consideration of how to conduct evaluatee visits was undertaken.

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Given the current access to technology that enables remote assessment, questions about how life care planners can best use these tools to complete life care planning procedures is being considered. Historically, in life care planning, there was discussion of conducting virtual visits at the 2002 Life Care Planning Summit, 18 years prior to the spread of COVID-19 and in a time when many of our now widely-available technology tools simply did not exist. Discussion of life care planners utilizing video conferencing tools was first introduced by Weed and Berens (2010, p. 864) when they note, "The value placed on the face-to-face meeting is so significant that the life care planner and others will pay premium prices for reliable video conference software and hardware."

In 2020, due to the COVID-19 pandemic, many businesses increased their use of Zoom and other video conferencing platforms, and many life care planners switched to or increased their use of virtual home visits. At the 2020 International Association of Rehabilitation Professionals virtual conference, rehabilitation professionals (including life care planners) who attended one presentation were surveyed on this topic. Forty-two percent ($n=72$) of respondents ($n=170$) noted that 91-100% of their assessments were being conducted via remote/ tele- assessment after the onset of the COVID-19 pandemic, while prior to COVID-19, only 3% ($n=6$) of respondents ($n=170$) conducted 91-100% of their assessments remotely. In this sample of rehabilitation professionals, 40% ($n=67$) of total respondents ($n=166$) conducted 0% of their assessments remotely prior to the onset of COVID-19, while only 5% ($n=9$) reported conducting 0% of their assessments remotely after the onset of COVID-19 (M. Hildebrandt, personal communication October 9, 2020). It is noted that while 170 individuals responded to the first question, only 166 responded to the second question. Like many other businesses, this shows a significant shift in how rehabilitation professionals were accomplishing their work prior to and following the onset of COVID-19.

When considering whether or not to use videoconferencing tools for evaluatee assessment, each individual life care planner must consider the manner they determine is best to complete their interview. First, the objectives of the in-person home visit must be clearly identified. To achieve the purposes outlined above, the life care planner who uses this tool must be comfortable observing how the individual functions in their environment via videoconferencing. The life care planner can note and assess equipment already in use by videoconferencing. It is possible to get a visual representation of the individual's home through such means. However, some life care planners may not feel comfortable collecting their interview data through technology and may prefer to appear in-person. Additionally, some evaluatees may not have

technology available to accomplish remote interviews. Some individuals with disabilities may have difficulty using such technology, including individuals with verbal impairments. All of these factors must be considered by the life care planner.

As all life care planners are bound by a Code of Ethics through life care planning credentialing bodies and/or their primary professional Code of Ethics, consultation of these codes can also be an important step in consideration of how to complete evaluatee interviews. For example, the Commission on Rehabilitation Counselor Certification (CRCC) Code of Ethics (2017) requires that rehabilitation counselors avoid harming those we work with and require that we use procedures that have empirical or scientific foundation (6a). For review of remote assessment studies, the reader is referred to Appendix B that includes an extensive bibliography developed by Dr. Mary Barros-Bailey, which provides resources for determination of efficacy of tele-assessment. Additionally, based upon communication with the International Commission on Healthcare Certification (ICHCC), the body that issues the Certified Life Care Planning credential, this agency approves the practice of virtual life care planning visits with the evaluatee (B. May, personal communication, December 29, 2020).

Changing Use of Technology in Disability-Related Work

Long before the 2020 outbreak of COVID-19 in the United States, agencies that provide services to individuals with disabilities were beginning to deliver services through technology rather than in the person's home or in the professional's office. Certain technologies had historically been used for tasks such as report preparation. Increasingly, a number of agencies have adopted videoconferencing technology to conduct meetings with individuals with disabilities. For example, while telehealth services were used by agencies who serviced individuals with disabilities in rural communities prior to COVID-19, such services have been needed by many more individuals with disabilities in other locations during COVID-19.

The adoption of technology-based tools has also occurred within the United States Social Security Administration (SSA). Only 15 years ago, vocational experts working in Social Security disability adjudication hearings were mailed paper copies of the files of claimants. With time, that evolved into compact discs (CDs) being mailed to the vocational expert, and, by 2020, this same data is accessed in almost all cases through an electronic records program managed by the Administration. Prior to COVID-19, many Social Security Disability adjudication proceedings throughout the United States evolved from in-person hearings to administrative law judges appearing remotely by video conferencing capabilities.

The Veterans Administration (VA) was a leader in utilizing internet-based telehealth and by 2013, the VA noted that more than 600,000 veterans had been treated via telehealth care (United States (U.S.) Department of Veteran Affairs (VA), 2020a). The Connected Tablet program was established at the VA in 2016, and a VA study found that veterans had "high levels" of satisfaction with virtual care, missed fewer appointments, and found the access to be easy and convenient to use (U.S. Department of VA, 2020b). In 2018, the VA had accomplished more than 1 million video telehealth visits using VA Video Connect (U. S. Department of VA, 2019). More than half of the visits were accomplished remotely for veterans living in rural areas and more than 100,000 veterans used mobile devices (i.e., cell phones or personal computers) to access the VA Video Connect application (U. S. Department of VA, 2019). In 2018, a federal rule allowed practitioners, regardless of the state in which they were licensed, to cross state lines to assist veterans through telehealth (U. S. Department of Veterans Affairs, 2018). Today, VA virtual services include mental health, educational counseling, vocational rehabilitation and employment services, and treatment across state lines (U. S. Department of Veterans Affairs, 2020c). Hence, the VA health care providers are increasing access to care through video technology for veterans throughout the country (U.S. Department of VA, 2020c).

Impact of COVID-19 on Use of Technology

With the rapid spread of COVID-19 throughout the United States, many employers moved employees home to work remotely to contain the spread of the virus. Employers who provide disability-related services were no exception. This impact was felt from local developmental centers that provide daily services for people with disabilities to the United States Supreme Court, who heard oral arguments via telephone for the first time in history in May 2020, with the public listening through a live audio feed (Coyle & Scarcella, 2020). The November 2020 Supreme Court oral arguments were also held in this same manner (Coyle & Scarcell, 2020). Notably, however, the Supreme Court has expressed intent to resume in-person proceedings when it is deemed safe to do so.

Not only did the U.S. Supreme Court conduct proceedings virtually, so did many state courts. On March 24, 2020, the North Dakota Supreme Court was one of the first of a number of state supreme courts to hear oral arguments through videoconferencing applications (National Center for State Courts (NCSC), 2020). In addition, since COVID-19, remote depositions have been taking place through the use of Zoom, Skype, Webex, or other videoconferencing providers (Keenan & Strongman, 2020).

In 2020, with the COVID-19 pandemic, the Social Securi-

ty administration began to offer claimants telephone hearings to avoid delay in processing Social Security disability claims with many claimants participating by telephone in their own homes. According to the National Center for State Courts (NCSC, 2020), judges began to use videoconferencing at unprecedented levels, and there have been discussions that the use of technology tools may continue after the pandemic in order to save time and money.

In March 2020, vocational rehabilitation counselors (VRCs) employed by the U.S. Department of VA began working remotely, and these VRCs were requested to communicate with veterans electronically, via telephone, and virtually through the tele-counseling program (U. S. Department of Veteran Affairs, 2020c). In September 2020, the VA announced their partnership with Apple to provide veterans who qualify with “cellular-enabled” iPads so they could easily access virtual care (U.S. Department of Veterans Affairs, 2020b). To promote telehealth services, the U. S. Department of Veterans Affairs (2020d) provides apps that require “secure identify authentication” and secure messaging to assist the veteran to manage their health care, and the veteran is cautioned to only use password-protected devices, to not save medical records on a public computer, and to avoid using public Wi-Fi (U.S. Department of VA, 2020d).

Martin (2020) reported that the larger commercial insurance payors including Blue Cross Blue Shield (BCBS), Aetna, Cigna, and United Healthcare covered telemedicine visits in their healthcare plans. At the onset of the pandemic, medical practitioners were able to use FaceTime, Skype, Zoom, or any two-way audio-visual device. The Office of Civil Rights (OCR) which enforces Health Insurance Portability and Accountability Act of 1996 (HIPAA) did not want practitioners to use “public facing communication service” like Facebook Live, Twitch, or TikTok (American Medical Association (AMA), 2020). According to the AMA (2020) practitioners were encouraged to notify patients of potential security risks and to secure business associate agreements (BAAs) with telehealth vendors to make sure that the software platform was secure for any online meetings and these agreements outlined the responsibilities to maintain protected health information (PHI). For mental health providers, there are software vendors with full encryption security who can assist with managing and maintaining records, scheduling, keeping notes, and telehealth appointments (Cottone & Tarvydas, 2016). Only with time will it become evident which providers return to in-person based service delivery and which continue to incorporate technological tools into service-delivery models.

With the shift of some disability-related service provision toward the use of technology-based tools by psychologists, physicians, nurse practitioners, and counselors, surveying life care planners to see how they were conducting their

services in 2020 was proposed. Specifically, questions about the use of technology in life care planning practice and how evaluatee interviews were being conducted were researched.

Methodology

In order to answer the research question, *How are life care planners using technology?* A five-question survey about technology and life care planning was developed by the authors. Survey questions are attached in Appendix A. Survey questions were informed by the anecdotal experience of the authors who, because of the 2020 outbreak of COVID-19, were using technology in different ways to accomplish life care planning tasks during the COVID-19 pandemic. Life care planners were asked to respond to the survey, and responses were collected for a period of 30 days, between August 16, 2020 and September 16, 2020. The survey link was disseminated through the IALCP section discussion group, which at the time had 499 members. The survey was also shared through the International Commission on Healthcare Certification listserv.

Results

A total of 100 responses were collected during the data collection period. Respondents’ years of experience in life care planning ranged from one month to 45 years, with the mean number of years in life care planning reported at 18.52 and the median reported at 20.05 years. Responses to each of the remaining four questions are discussed below.

Responses to *Question 1: Do you use life care planning software in preparation of your life care plan reports/ tables?* included 100 responses with 75 individuals indicating “no”. Of the 25 individuals who responded affirmatively to using life care planning software, specific programs identified included Active LCP (3), LCPStat (8), FormPro, Excel(2), Word (3), WordPerfect, MDS, “proprietary”, LCP for Word, Advocate, Maniha software, Fluent, and Prolaw.

Responses to *Question: 2: Do you conduct home visits/ evaluatee interviews virtually?* included 100 responses with 72 individuals responding that they did conduct virtual visits and 28 saying they did not. To the follow-up question, *If yes, what percentage of the time?* 62 responses were received. The percentage of time in these responses ranged from 1 to 100 percent, with an average of 69.87 percent of the time and a median of 90 percent of the time.

Responses to *Question 3: Prior to the COVID-19 outbreak, did you conduct home visits/ evaluate visits virtually?* included 96 responses, 30 of which were “yes” while 66 individuals responded “no”.

To *Question 4: Please check other technology that you use in the life care planning process?* a total of 81 responses were received. When asked about “other technology” used in the life care planning process, survey choices includ-

ed Dragon Dictate, Costing Database, ProQuest or other literature database, All of the above and Other. Response counts included 59 individuals who used costing databases; 14 who used Dragon Dictate; 15 who used ProQuest or other literature databases; and 3 who responded that they used all of the above. For open responses in the 'other' category, responses included: Pub med (2); online facility databases; MD guidelines; Apple dictation and Access database; AHD (2); "proprietary", "custom templates" or "company specific"; Physicians' Fee Reference (PFR); FairHealth; Context 4Healthcare; Medscape; FormPro; LCPStat (2); Zoom; Custom Pro Law; Word tables; Google shopping; AT databases; GoodRx; case management contacts, state and federal websites; and vendor cost database.

Discussion/ Analysis

A review of the above data indicates that life care planners are readily using technology in their life care planning practice but are doing so in various ways. In this sample, 75% (n=100) of life care planners reported that they did not use life care planning software in preparation of their life care plans. This may be in part due to the cost of such software, which may be cost-prohibitive for some life care planners, particularly those with smaller or newer practices. Others may be unfamiliar with the types of software available to life care planners.

In addition to life care planning software, life care planners were asked about other technology used in their life care planning practices. Overwhelmingly, the most often-cited tool used by life care planners included costing databases (used by 73% of individuals who responded to this question, n=81). Literature databases were also commonly used by life care planners, with both ProQuest and PubMed mentioned. The widespread use of these tools may be explained by presentation of these tools at life care planning conferences and advertising in life care planning materials. Additionally, obtaining costing data has been reported by life care planners as a major practice challenge (Owen & Wilkins, 2019), and costing databases help to overcome this barrier by providing cost-related data in an efficient manner.

In this same sample of life care planners, the majority of respondents indicated that they conducted virtual home visits with valuees. However, over two-thirds of the respondents indicated that they did not conduct home visits virtually prior to COVID-19. While many newer life care planners were trained in an era when videoconferencing was widespread, and discussion of remote assessment is now part of life care planning training (M. Barros-Bailey personal communication December 3, 2020), other life care planners who were trained in an era when computers were less available may be less comfortable adopting such technology. A review of life care planning documents notes that telehealth as a

method of service delivery is not mentioned until 2019 in the fourth edition of *Life Care Planning and Case Management Handbook* (Weed & Berens, 2019), while the cost of videoconferencing is discussed in comparison to the cost of travel for face-to-face meetings in the 2010 third edition of *Life Care Planning and Case Management Handbook* (Weed & Berens, 2010). With the spread of COVID-19, however, all life care planners were forced to evaluate the best method of service delivery during these changed circumstances. It is beyond the scope of this manuscript to predict what percentage of life care planners will change their technology use after COVID-19.

Like all technology, the pros and cons of using videoconferencing platforms to conduct valuee interviews must be considered. For example, using such technology removes the risk of illness transmission to the valuee. However, it may not be appropriate for some individuals based upon their disability-related limitations or their particular evaluation. Use of such technology has become standard for some programs and agencies that provide disability related services including the Social Security and Veteran's Administration, who both plan to maintain use of remote video conferencing post-COVID-19.

As life care planners evaluate the use of such technology in their practices, further discussion in the community is warranted on this topic as each life care planner determines on a case-by-case basis the efficacy and appropriateness of available approaches, the cost and inconveniences of issues such as travel, and risk of illness transmission relative to the value of the activity of face-to-face meetings. Future discussion of this issue may be a timely topic for the next Life Care Planning Summit.

Limitations

The data collected in this research were not collected randomly, and the authors relied upon self-report by life care planners to accurately report their use of technology in their practices. The sample contained 100 respondents, but demographic data were not collected on the respondents; therefore, whether these 100 respondents are representative of the population of life care planners cannot be determined. As such, it is unknown if life care planners who responded to this survey were principally trained as nurses, rehabilitation counselors, physicians, etc. Life care planners were not queried about their satisfaction in their use of technology when performing life care planning tasks. Life care planners were not queried about the number of life care plans completed annually or the venues in which life care plans were prepared. While extensive resources have been reviewed for efficacy in remote assessment, none were reviewed specific to life care planning, and this is recommended as a further area of study. Based upon these factors, follow-up research is

recommended.

Conclusion

Life care planners have always considered the tools available to them in their practices. Whether using a telephone to collect costing data or fax machines to send communication to healthcare providers, life care planning service delivery has also been a reflection of the era. In the 1980s and 1990s, when many life care planners were trained, the internet was not used, there were few cellular telephones in circulation, and videoconferencing tools were not accessible to the majority of people. As such, the literature in life care planning often cited the use of in-home visits where the life care planner traveled either by car or plane to conduct an in-home interview with the evaluatee.

With time, individuals and agencies who provide disability-related services have changed how they have delivered these services and have incorporated the use of technology to improve accessibility and efficiency in service provision. This is also true of life care planners. In this research, 100 life care planners provided information about how they use selected technology in their life care planning practices. The use of life care planning software, costing databases, and virtual evaluatee visits were all reported in this sample. While differences were seen in how life care planners use technology, it is indisputable that technology has changed the practice of life care planning. As evidenced-based research supports the use of such technology, we can expect continued evolution of life care planning practices. It is important for life care planning organizations to recognize changes in life care planning practices as they occur.

Appendix A

Life Care Planning & Technology Survey

1. Do you use life care planning software in preparation of your life care plan reports/ tables?
 Yes
 No
 If Yes, what _____
2. Do you conduct home visits/evaluatee interviews virtually?
 a. Yes
 b. No
 c. If yes, what percentage of the time?

 d. If yes, what platform do you use (e.g., FaceTime, Skype, Zoom, etc.)
3. Prior to COVID-19 outbreak, did you conduct home visits/ evaluatee interviews?
 Yes
 No
4. Please check other technology that you use in the life care planning process.
 Dragon dictate
 Database consultation for costing
 ProQuest or other literature review database
5. How many years have you worked as a life care planner?

Appendix B
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BIBLIOGRAPHY OF TELE-ASSESSMENT RESOURCES

Methodology

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