



Chairperson's Corner

By Jackie Lee

Happy New Year! I am thrilled to be the new chairperson of the Health Section Council. This is my fourth and final year on the council, because I began with a one-year term and followed up with a three-year term. I have some big shoes to fill, following Karen Shelton, Sarah Osborne and Brian Pauley, but I am backed by the wonderful leadership team of Joan Barrett and Doug Norris.

Typically, a new year and a new role signify new beginnings, and there is some of that. But this year, the council is continuing our hard work through the strategic initiatives, webcasts, research and timely communication that we began over the last couple of years. Our goal is to be innovative for our members, and I have strived to press this onto our council members.

As we have prepared for our major deliverable this year, the ACA@10, I could not help but think about my marriage. What does my marriage have to do with the Affordable Care Act (ACA) you ask? It is a strange connection; I completely agree. My husband and I are planning our 10-year anniversary trip without kids to New York City. Traveling is a passion we share, but we usually include our three children. So, this has been exciting, to say the least.

We have been making restaurant reservations, booking tours and buying tickets to a play; but until now, it never dawned on me that we share this anniversary with an event that shook a large part of my career as a health actuary, the signing of the ACA. In the past, the council has put in a lot of work through strategic initiatives, *Health Watch* articles, webcasts, sessions meetings and much more to educate actuaries about the implications of the ACA.

On March 23, 2020, we will celebrate the 10th birthday of the ACA with the ACA@10. This initiative will deliver a research paper from Hans Leida and his team at Milliman, *The State of Key ACA Markets: Medicaid and the Individual Markets*. This



paper includes research on measurable outcomes to assess the markets' viability. In addition to the research, a team of experts are writing more than 10 articles about the ACA. This is an exciting deliverable that health actuaries can look forward to as we celebrate its birthday (and coincidentally, my anniversary).

Did you know that *Health Watch* is now exclusively digital? By reading this, I hope you do. If not, the council is dedicated to bringing articles to your inbox each month. This will help us provide up-to-date content in a more readable and sharable way. While we have done our best to communicate this to everyone, please spread the word about this new and exciting change with your friends and colleagues.

Speaking of sharing, our council has been focusing on relevant and timely communication with our membership and other interested parties. To accomplish this, we have been utilizing the [Health Section group on LinkedIn](#). Please visit this page, join it, invite your friends to join and share relevant topics with our community. We are so happy that we have almost 650 members, but we know we are missing some of you! Please jump over to our section group right now to be a part of our community.

While I highlighted three major happenings with the council, there are so many other things we are involved in. If you would

like to help us, please reach out to me or visit the [Volunteer Database](#) to see where you can get plugged in. I am so excited for the coming year with all of our goals and materials we will be delivering. Cheers to new beginnings and celebrating our past! ■



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March 1–4 | Las Vegas, NV

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May 4–5 | Saint Louis, MO

Health Meeting

June 8–10 | Chicago, IL

Valuation Actuary Symposium

Aug. 31–Sept. 1 | New Orleans, LA

Annual Meeting & Exhibit

Oct. 25–28 | Seattle, WA



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The Big Three of Telehealth

Three Benefits, Three Obstacles, Three Delivery Systems

By Traci L. Hughes

With artificial intelligence on the rise, it's no surprise that telehealth utilization grew 53 percent in 2017.¹ This is compared to the 14 percent growth for urgent care centers, 7 percent growth for retail health clinics, 6 percent growth for ambulatory surgical centers and 2 percent growth for emergency departments. Telehealth is the use of digital information and communication technologies to access health care services. These technologies may be used by the patient to access services or by the provider to coordinate care, improve efficiency or receive training.

TELEHEALTH BENEFITS

Telehealth benefits include improved patient health, increased patient satisfaction and cost savings. Improved patient health stems from easier access to care, especially in rural areas; efficient care management; and more informed care providers. Because care is more available to patients, they are more likely to seek treatment before their condition gets worse—and possibly more costly to treat—or before it progresses into an emergency situation. With the use of technology within care management, providers can monitor patients and communicate with other providers more efficiently.

Increased patient satisfaction is also due to easier access, as well as less costly care. A study published in the *Journal of General Internal Medicine*² stated that 95 percent of survey respondents reported being “very satisfied” with all telehealth attributes. Some of the characteristics that increased the odds of liking or preferring telehealth were: convenience of care, overall understanding of telehealth services, no medical insurance and female patients.



The idea behind telehealth cost savings is that a telehealth visit is cheaper than an in-person physician office, urgent care, retail health or most notably, emergency department visit. Those questioning the cost savings generated by telehealth argue that while more costly services may be avoided, ease of access also causes an increase in utilization. Therefore, the increase in frequency counteracts the decrease in severity. Another concern is that diagnosis and treatment may not be as accurate without an in-person examination, and follow-up care may be needed. Therefore, not only does the increase in frequency counteract the decrease in severity, but the decrease in severity is not as impactful as it may seem initially. Published cohesive and comprehensive studies on telehealth cost savings are limited at best.

However, one recent study in the *American Journal of Emergency Medicine*³ accounted for both of these concerns. Researchers conducted a survey immediately following the telehealth visit, asking patients what care they would have sought if telehealth had not been an option. The team then conducted a follow-up survey one to two weeks after each patient's visit to see if any follow-up care had been pursued. The survey found that 16 percent would have “done nothing” if the telehealth visit had not been an option and that 75 percent did not seek any follow-up care. After accounting for increased utilization and follow-up care, the overall net cost savings was calculated as being between

\$19 and \$121 per visit,⁴ with most of the savings generated from avoided emergency department visits.

Many states have telehealth policies that address reimbursement requirements. These requirements can hinder the opportunity for cost savings, especially if the policy requires that telehealth be reimbursed at the same level as an otherwise equal in-person service.

TELEHEALTH OBSTACLES

Telehealth obstacles include cost investment, security and privacy concerns and implementation. Setting up equipment, IT systems, operational procedures and staff to implement telehealth comes at a cost. Even though there is structure for and evidence of cost savings, these savings do not always equal return on investment. One option for overcoming the initial cost investment is through state and federal grant funding. For example, the U.S. Health Resources and Services Administration (HRSA), an agency of the U.S. Department of Health and Human Services (HHS), offers grant funding for telehealth programs.

Technological security is a major concern these days for everyone, businesses and individuals alike. Many people, especially those who are less healthy or chronically ill, believe that the benefits of using telehealth outweigh the risks.⁵ A California Health Care Foundation survey found that, although 66 percent of adults thought there was a need to address concerns about the privacy of their personal medical information, they agreed with the statement that “we should not let privacy concerns stop us from learning how technology can improve our health care.”⁶ There are ways to help mitigate security breaches, such as device and data encryption or file authentication, which providers should consider when choosing a telehealth vendor.

Implementation of telehealth services can be a massive task, including building the infrastructure, establishing protocols, training staff, setting up billing procedures and so on. It is recommended that providers start small and expand over time to help alleviate hardships during implementation.

TELEHEALTH DELIVERY SYSTEMS

Three types of telehealth most often used today are live video, remote patient monitoring and store and forward.⁷

Live Video

Live video telehealth is used for virtual visits, case collaboration and distance learning. Virtual visits range from primary care to specialty care. Reasons for virtual visits include injury and respiratory, digestive, mental health, joint, skin and pregnancy-related issues.⁸ Case collaboration is handy for specialized cases in which highly specialized or extremely experienced physicians are needed. This can be used in areas such as intensive care, emergency care, neurology, psychiatry, orthopedics, pediatrics and so on. Live video also equips physicians and other health

The telehealth virtual visit market is projected to grow at a compound annual growth rate (CAGR) of more than 25 percent from 2018 to 2027.

care providers with easier, direct access to continuing education opportunities around the world.

You may have heard of virtual providers like Teledoc, MDLIVE, American Well or Doctor on Demand. But these providers are just a small sample of the vastly growing number of virtual care providers. The telehealth virtual visit market is projected to grow at a compound annual growth rate (CAGR) of more than 25 percent from 2018 to 2027.⁹

Connecting with providers via live video involves picking up your smartphone or logging into your computer and requesting an appointment either by schedule or “as soon as possible.” While you wait, you may be required to fill out some medical history questions to inform the doctor of any history that wouldn’t be at hand if he or she isn’t your normal physician. You then connect to video when the doctor calls you and proceed with the visit; if medication is necessary, the prescription will be sent to your pharmacy. Some providers even offer an audio-only or chat option if the patient prefers not to be on camera.

Remote Patient Monitoring

Remote patient monitoring (RPM) is used to manage chronic care, acute care and high-risk patients. For managing chronic care conditions, providers can use RPM to get Bluetooth health measurements such as blood sugar readings for monitoring patients with diabetes or blood pressure readings for monitoring patients with hypertension. For these same types of patients, providers can send out reminders to take medication, exercise or eat healthy. Acute care management includes follow-up care for minor or even major surgeries, monitoring rehabilitation or follow-up to an initial acute care visit. High-risk patient RPM is similar to chronic care RPM and can be used for patients at high risk of developing a chronic disease or those who have multiple chronic diseases.

One RPM vendor, Connected Home Living (CHL), improves patient care after discharge with remote monitoring technology and remote care coordinators. The company’s remote telehealth monitoring kits are personalized to each patient via a preloaded tablet that, with provided devices, can monitor vitals such as blood pressure, temperature and glucose levels. The tablet can also provide medication reminders and video calling. CHL

reports its three-year average readmission rate to be 5.8 percent, which can be compared to the U.S. average of 14 percent.¹⁰

A more specialized RPM vendor, InfoBionic, has created a wearable cardiac monitor that continuously streams real-time ECG and motion data to physicians monitoring patients with heart conditions. Other specialized RPM includes wearable insulin pumps or respiratory monitoring.

Store and Forward

Store and forward telehealth technologies are used for digital images—such as x-rays, health records and training videos—and provides a means of gathering, storing and sharing patient information. This is particularly helpful in practices where images or lab results, without physical examination, can be used for diagnoses; such practices include dermatology, radiology or pathology.

Store and forward vendor iClickCare (ICC) provides HIPAA-secure collaboration for all health care providers by securely storing and forwarding pictures, video or patient information. With the use of this technology, consulting with a specialist is more efficient since the patient, physician and specialist do not need to be available at the exact same time; this allows for fewer delays in getting the best care and treatment plan to the patient in need.

AN ACTUARY'S ROLE

With health care costs on the rise and providers taking on more and more risk, actuaries are often being asked to weigh in on cost-reduction strategies. Additionally, a lot of emphasis is being put on value-based health care in the United States. If we are paying so much more than other countries for health care, are we at least getting better quality care? Telehealth presents the opportunity to both save on costs and increase quality of care. Actuaries should do their due diligence to investigate the potential risks and rewards of telehealth to inform stakeholders of this important option for improving the delivery and consumption of health care. If telehealth is determined to be a valuable pursuit for a particular stakeholder, actuaries will also need to be informed on the potential outcomes resulting from the introduction and implementation of telehealth and its effect on any assumptions used in financial projections.

In April 2019, the Centers for Medicare and Medicaid Services (CMS) finalized policies that will allow additional telehealth benefits for Medicare Advantage (MA) plans

starting in plan year 2020. Benefits of this type were previously limited to certain services in rural areas. This is one specific product type for which actuaries should be aware of the potential new benefits and pricing reasonableness since many actuaries are involved in the pricing and bid review processes for MA plans. ■



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ENDNOTES

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Digital Health

By Marilyn McGaffin



During one of our Health Section Council meetings, the topic of digital health came up, as it seems to be an area of great interest right now. The Centers for Medicare and Medicaid Services (CMS) has recently expanded the amount of telehealth services that can be paid for with Medicare Advantage rebate dollars. Many administrative services only (ASO) groups want to know the cost-savings component to these types of programs before purchasing. But what is digital health? What does the term encompass? How is it regulated? What lines of business are best suited to digital health products? Is it just an add-on, like SilverSneakers has been for Medicare, or must there be a cost savings component to it? These seem to be the questions that begin any conversation on the subject.

WHAT IS DIGITAL HEALTH?

Digital health is the convergence of digital technologies to enhance the efficiency of health care delivery. It may include hardware and software solutions, information and communication solutions with applications and services. It is ideally a multidisciplinary domain made up of clinicians, researchers, scientists with expertise in health care, engineers, social scientists, public health representatives, and experts in health economics and data management. In reality, many digital health startups may have only a couple of these disciplines working together.

The areas impacted by digital health are quite varied. Clinical trials for digital health involve companies working to improve operations in drug research and development, study design, patient recruitment and adherence and compliance. In the area of genomics, companies are involved in the capture, sequencing and/or analysis of genetic data. Once the data have been sequenced, it will hopefully provide new knowledge in the area of genomics. In the world of mental health and wellness, companies apply technology to problems of emotional, psychological and social well-being. A couple of examples are Quartet and Talkspace. Quartet hopes to lower costs by aligning payers, behavioral health clinicians, medical providers and patients. Talkspace

is a telebehavioral health company that connects individual users with a network of licensed therapists through a HIPAA-compliant web and mobile platform, allowing text messages, videos, pictures and audio messages. Many startups focus specifically on providing health care products and services to women.

Digital therapeutics is a broad field within digital health. Its focus is on tech-enabled, out-of-hospital solutions that either complement or replace standard medical treatments for a condition. Artificial intelligence (AI) is used to develop products for the health care market, with AI solutions even being sold to health care clients. A prime focus for AI is radiology and pathology. For example, SigTuple uses artificial intelligence to develop hardware and software products to digitize pathology test results for hospitals and clinics. Lifetrack Medical Systems is a teleradiology startup that makes it easy to interpret radiology readings for medical diagnosis by pairing hospital residents with experienced radiologists who help evaluate medical images and send their reports. Many of these products require FDA approval to give digital health credibility, which will be discussed later.

How does digital health affect us in our daily lives? Wearable devices such as the Fitbit or the Apple Watch are just two examples. The field of e-health delivers health information and services to enable data transmission, storage and retrieval for clinical, educational and administrative purposes. Mobile health involves the practice of medicine and public health supported by mobile devices. We can download many apps on our smartphones that can help monitor our happiness levels, heart rate and the number of steps we take. Through our workplaces, we may be familiar with such companies as TelADoc, Livongo, Retrofit and Noom.

Many of these digital health startups have come about by identifying a specific health care problem and are backed by an

entrepreneur who is passionate about that problem. Research ensues, and a digital solution is developed, which is then evaluated and implemented. Once implemented, the solution becomes a commercial product. Products are perfected through regular re-evaluations and improvements. This is called the *innovation cycle*.

DIGITAL HEALTH REGULATION

In 2019 the FDA created a digital health innovation action plan to continually improve the safety and effectiveness of medical devices, especially since there are so many frequent updates and modifications being made to these devices. There are numerous challenges with cybersecurity and interoperability as this technology transcends international boundaries. The FDA's program focuses its oversight on mobile medical apps that present higher risk to patients. The program does *not* focus on technologies that receive, transmit, store or display data from medical devices, or on products that only promote general wellness. However, the program does provide clarity on expectations pertaining to cybersecurity. The FDA has a 510(k) form that must be submitted when there is a software change to an existing device 90 days prior to offering that device for sale. One medical device that has received a 510(k) approval is for heart failure patients. Biovitals Analytics Engines says that its device may be able to reduce hospital readmissions and decrease the need for emergency department visits by monitoring physiological data (vital signs) and a heart failure patient's daily activities, and comparing them to an established baseline for that patient.

HOW AND WHY DIGITAL HEALTH IS USED

As already stated, digital health is an international practice, and the United States is its largest market. Users include insurers (Oscar and Clover), drug shopper discounts (GoodRx), genomics (Grail), imaging (Heartflow), drug delivery (Intarcia), and primary care networks (One Medical). The states of Texas, Illinois, Pennsylvania and North Carolina are emerging as hubs of the digital health field. The United Kingdom, India and China follow the United States in use of digital health technologies, with Japan, South Korea and Sweden among the emerging countries in this area. "Health care unicorns" are startup companies valued at \$1 billion or more that are backed by venture capitalists. At one time they were rare, but there are now more than 38 such unicorns worldwide. CB Insights has a superb map showing the locations of these top unicorns.¹

Health venture capital companies, pharma companies, device makers, imaging manufacturers and insurers may purchase all or part interests in digital startups. One of the top health venture capitalists, Echo Health Ventures, has offices in Portland, Oregon. Since this is city where I work, I will focus on that

company. It has 38 digital health companies in its portfolio, and according to its website, it is "identifying bold, new and original ways to meet the needs of tomorrow's health care consumers in an economically sustainable way." It is common for a health venture capitalist to approach health insurance companies to sell them access to a digital health operation. One of the selling points is that it will save the insurance company money. How this cost savings is calculated depends. In these contracts, penalties may exist if a contracted return on investment (ROI) is not met; others, such as Livongo, also use a net promoter score.

Livongo is a health startup that focuses on diabetes. Glen Tullman founded the company when his 10-year-old son was diagnosed with type 1 diabetes. Livongo sells an FDA-cleared, two-way, interactive glucometer with unlimited supplies for monitoring A1C levels using cloud-based analytics and real-time monitoring. Its personalized insights prompt members to take actions that are most likely to have a clinical impact, including health coaching for weight loss. The goal is to reduce HbA1c levels.

Tullman has also created Zest Health, which is a smartphone app that provides telemedicine wherever you are. Users can upload their insurance card into the Zest app. A Zest concierge can then answer questions about coverage, schedule in-network care (via email, call or chat in the app), and preview the price for the procedure/visit. If there are billing issues, the concierge can help with those and even with filing an appeal.

ONGOING QUESTIONS

As I continue to learn about Zest Health, cybersecurity issues come to mind. I also start to wonder how to calculate an ROI or a net promoter score for this app and what the sales pitch would be. I can see the need for actuaries' analytical skills in the development of digital health solutions, but there is also a need for them to evaluate the true cost of a company using this type of a feature with its health plan. A key question for actuaries is whether digital health will be an add-on to spending or can it actually provide money-saving advantages. ■



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ENDNOTE

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