A growing number of PTs are engaging in telehealth.

By Stephanie Stephens

Nearly 90 years ago, deep in the Australian outback, isolation, distance, and poor communications made medical emergencies especially dangerous. The Reverend John Flynn, a roving outback missionary, realized that 2 new inventions—the airplane and radio—might be able to save lives. He recruited an electrical engineer who designed a radio powered by a set of bicycle pedals that could generate just enough power to send messages in Morse code. With this simple radio, people in the outback could call for a doctor, and doctors could send instructions and communicate with bases up to 1,500 km away. [See “The Very Early History of Telehealth.”]

Depending on how you define it, that perhaps was the earliest instance of telemedicine.

Fast forward to today. Location: Dillingham, Arkansas. Population: 2,300. The state is sprinkled with many small, remote communities often only accessible by air.

Clayton Brown, PT, DPT, at Kanakanak Hospital in Dillingham describes the case of “John Smith,” age 27, from nearby Togiak, who was in a bicycle/vehicle accident resulting in lower left extremity injuries including fractures and ligament tears that required surgery. Six weeks postop, Smith began 10 days of “therapeutic exercise, gait training, and functional training in compliance with bracing and non-weight-bearing injuries,” says Brown.

Smith was discharged home to his family to complete 6 weeks of telehealth sessions with Brown. “After completing treatment, he was fully weight-bearing with functional lower extremity strength and range of motion, and could ascend and descend stairs, walk on uneven terrain, and ride a bike,” reports Brown. “He avoided expensive prolonged hospitalization and a round-trip airfare of $448 plus costs of food, housing, and local transportation for follow-up.”

What Is Telehealth?

The prefix “tele” means transmission over a distance—as in telephone, television, or telework. Chances are you’ll soon be using telehealth in education, clinical research, or in your practice to improve access and quality, reduce costs, and meet patient demands … if you’re not already.

Actually—despite its reliance on technology—telehealth isn’t new, as the Australian outback experience shows. Twenty-five years ago, in 1989, the first interactive telemedicine system, operating over standard telephone lines and designed to remotely diagnose and treat patients requiring cardiac resuscitation (defibrillation), was launched.¹

At least 3 distinct technologies fall under the umbrella of telehealth. These are:

- **Real-time (synchronous or instantaneous).** These may include videoconferencing and the use of peripheral devices to enable live communication.
- **Store-and-forward.** Data are captured locally, then stored or cached for forwarding and later use. Requires use
of a secure Web server, encrypted e-mail, appropriate store-and-forward software, or an electronic health record (EHR) system.

- Remote patient monitoring. Devices remotely collect, store, and communicate patient or client biometric health information to practitioners.

APTA says, “Telehealth may be used to overcome barriers of access to services caused by distance, unavailability of specialists and/or subspecialists, and impaired mobility. Telehealth offers the potential to extend physical therapy services to remote, rural, underserved, and culturally and linguistically diverse populations.”

Definitions differ depending on who's talking about telehealth. Near-synonyms for telehealth include the terms “telemedicine,” “virtual care,” “eCare,” “mHealth,” “remote care,” and “telepractice,” according to Gary Capastrant, senior director of public policy for the American Telemedicine Association (ATA).

Although health care providers may understandably view telehealth as connecting the provider to the patient, ATA points out, “It’s about bringing information to the patient, rather than vice versa. To some people, telemedicine is more about physician’s services, while telehealth includes nonphysician services.”
The Very Early History of Telehealth

Deep in the outback, isolation, distance, and poor communications can make medical emergencies especially dangerous. The Reverend John Flynn, a roving outback missionary of the Presbyterian church’s Australian Inland Mission, realized that airplanes and radio could save lives in the outback. In 1926 he recruited Alf Traeger, an electrical engineer, to solve the problem of communicating with isolated farms and communities.

Traeger realized that it was impractical to transport batteries over rough bush tracks. He designed a radio powered by a set of bicycle pedals that could generate just enough power to send a message in Morse code. With this simple radio, outback people could call for a doctor, and doctors could send instructions and communicate with base up to 1500 km away.

Ready for Their Close-Up

Telehealth can do more than eliminate distance from the equation. “Video close-ups that magnify a patient’s wound allow you to see better than with the naked eye,” explains Harriett Loehne, PT, DPT, CWS, FACCWS, who until recently was the clinical educator for Archbold Medical Center in Thomasville, Georgia.

Loehne explains that Archbold served 5 counties in a network with home health agencies, small rural hospitals, subacute units with swing beds, nursing homes or long-term care facilities, and specialty outpatient clinics in poverty-stricken areas. Loehne worked from the flagship home base.

The center introduced telehealth in 2004. It used a hub-and-spoke model with a PT in Thomasville connecting to a patient in his or her own environment—home or a community center.

Technology allowed her to do more to help her patients, Loehne says. She recalls the rigors and the satisfaction of seeing a patient every half hour. Sometimes she’d collaborate with the surgeon in charge, where—armed with lab results and medical history—the pair saw 8 patients in 2 hours.

“At first the Flying Doctor, as it became known, was basically an emergency air ambulance, with 1 aircraft, 1 pilot, and 1 doctor. Patients “called” them in Morse code using their 2-way pedal-powered radio.

By 1931 the Royal Flying Doctor Service (RFDS) had gone national, the pioneer of many similar services around the world, and eventually radio communication was by voice rather than code.

Today, the RFDS covers an area over 7 million sq kms. In 2012, the service handled 35,386 telehealth calls.14

Adapted from “Royal Flying Doctor Service”12 and “Royal Flying Doctor Service of Australia”13

The Next Big Thing?

Right now, telehealth taps on your door, but doesn’t pound for good reason, noted a recent article in Executive Health Care. “The truth of the matter, however, is that while these technological innovations are indeed being created by companies here in the US and elsewhere, Europe remains the only market where the necessary governing bodies are doing anything about implementing telehealth on a significant scale and with sufficient funding,” the publication said. It added, “Realign incentives with pay-per-outcome instead of pay-per-volume, and e-care will catch on.”3

The Center for Connected Health Policy recently found that 44 states have some form of reimbursement for telehealth in their public programs.4

Another needed step is reducing red tape, suggests information sciences expert Bambang Parmamoto, PhD, of the University of Pittsburgh. He appeared in a recent APTA telehealth podcast now available online. “Rigid and fragmented regulation is the reason why the US is far behind other countries in telehealth,” he says.

That’s mainly because payment, license uniformity, and portability remain such challenges for PTs,
says Alan Chong W. Lee, PT, PhD, DPT, CWS, GCS, associate professor at Mount St Mary’s College in Los Angeles. Lee wants the profession to advocate for all 3 issues. Lee also maintains a clinical practice at Scripps Mercy Hospital in San Diego and is secretary of the ATA’s Telerehabilitation Special Interest Group (SIG).

“Remember that not all telehealth is the same and it’s not a panacea,” Lee says. “The focus can’t just be on early adoption, but on majority acceptance.”

And telehealth is coming whether invited or not, adds Katharine Stout, PT, DPT, MBA. Stout is the former tele-TBI program manager with the Defense and Veterans Brain Injury Center in Kensington, Maryland.

“Telehealth isn’t a part of everyday practice. Sometimes it’s hard to impress upon PTs how important this is—but the rest of the medical world is headed this way,” Stout says. “If PTs don’t start looking at this as a solution to access to care for increased adherence, someone else may figure out how we fit into the overall picture, and we probably won’t like it. For example, how do we want to be included in reimbursement or medical home models? Do we want to be behind the curve, be marginalized, and let someone else to decide how telehealth models incorporate PT for us?”

Recall the changes in Medicare reimbursement, she suggests. “We now must look at ways to stake our claim in reimbursement models so we all can get paid for services, come back and do them again tomorrow,” she says. “We’re still dealing with caps in Medicare for traditional face-to-face services while physicians, social workers, and nurses get reimbursed for telehealth services through Medicare.”

That’s a shame, Stout says, since her observation is that telehealth improves adherence when soldiers visit a small clinic close to home for interventions that otherwise might require traveling great distances.

“Better access leads to better adherence and thus improved health outcomes,” she says. “An overall decrease of secondary conditions that occur because of chronic conditions means indirect cost savings. Whether individual appointments will be cheaper is yet to be seen.”

Equipment cost is often another deterrent. “No one really wants to pay for it. There’s an initial infrastructure cost,” she says.
Telehealth Is Affordable Care

Few would argue that the health care landscape is undergoing a seismic shift, and that cost reduction is job 1. Even as stakeholders weigh obstacles to delivery, telehealth use likely will increase under the Patient Protection and Affordable Care Act (ACA).

ATA predicts that 14 million people in insurance exchanges will result in expanded funding, especially in 19 states with mandated private insurance payments for remote health services. Medicaid eligibility in at least 25 states will add approximately 20 million people to those rosters. Prepare for increased telehealth demand, “especially in those states that have recently expanded payments for telemedicine under their Medicaid fee-for-service and managed care plans,” the nonprofit says.

“APTA’s public policy priorities to improve coverage under Medicaid fit well with this payment model opportunity,” wrote Lee and co-author Nancy Harada, PT, PhD, of the David Geffen School of Medicine at UCLA and the VA Greater Los Angeles Healthcare System.6 The pair’s paper on telehealth appeared in APTA’s journal Physical Therapy.

In the article, Lee and Harada call for stronger advocacy from PTs, who still aren’t listed as eligible providers of telehealth services through Medicare. That, they say, is the “ultimate barrier.”

The Medicare Shared Savings Program will reward accountable care organizations (ACOs) that lower health care costs while meeting performance standards on quality of care and putting patients first.7

PTs Weigh In on Telehealth

A recent thread on LinkedIn explored reimbursement and other issues involving telehealth. Participants had a wide range of opinions. Excerpts appear below.

Physical Therapist

Physical therapy has the brand of being a “hands on” profession. Will making telehealth reimbursable open up a giant can of worms?

Physical Therapist Student

Ensuring that telehealth is reimbursable won’t change the profession from being hands-on. It will just add another dimension in which we can help our patients. All clinicians know that evaluations and treatments are hands-on. Completing these through a telehealth platform would take away from their efficacy as professionals. I think that the majority of PTs and PTAs will use telehealth for consultation purposes (confirming that a patient is completing their HEP the right way, doing a home safety evaluation, and so on), which serve to help our patients and their outcomes.

Dee Daley, PT

It would be irresponsible not to be scanning and preparing for environmental and regulatory changes. We are in a culture where there are unmet needs, limited services, things that don’t necessitate the cost and face-to-face of an office visit, and a social/electronic culture that is curious, explorative, and aware of their “time spend.”

Speech-Language Pathologist

Telemedicine opens up another dimension to treating patients. We have proven its efficacy in speech and occupational therapy and have become involved using this medium with physical therapy. As long as a PT is following the Code of Ethics and licensure laws, and understands how to treat/consult through telepractice, we can reach out to folks in ways in which we’d never dreamed.

Physical Therapist

If telehealth becomes reimbursable, there would need to be very strict regulations regarding its implementation. Drawing those lines will be very difficult and there will be a clear opportunity for businesses to monetize this fast, easy way to bill. For example, think of phone-based wellness coaching for large companies to decrease their medical expenses.

Daley

Outcomes will help us determine which elements of telemedicine have cost benefit, and which elements need personal contact. It is similar to how companies, professions, and military groups have found that some elements of electronic communication allow for non face-to-face meetings. Those, too, initially had nay-sayers.

The views expressed are those of the participants and do not necessarily reflect those of APTA or PT in Motion. Physical therapists (PTs) and other participants who granted permission for their names to appear are identified. Others are not identified by name.
says, “If properly constructed, a full-service telemedicine network would provide the foundation for a successful ACO.”

License to Tele

“Most states don’t address how a treatment session is defined at all, although they don’t expressly prohibit it, and each state is different,” says Michael Billings, PT, MS, CEEAA, of Infinity Rehab. The company contracts in 9 western and Midwestern states to retirement communities and skilled nursing facilities. Billings is in Oregon.

“In Washington we encountered supply issues in terms of therapists in rural areas and certain practice settings such as geropsychology, because this state requires a certain level of supervision of PTs over PTAs. Every fifth visit must be provided by a supervising PT,” says Billings.9 “[Previously] we struggled simply to provide PTs. Or the practice setting just wasn’t desirable or required a certain skill set, and we didn’t want to risk violating the state requirement. Then we thought of telehealth.”

The unknown in all of this is: What is effective and efficient care? If telehealth offers an opportunity, we need to test if it is or isn’t “better.” The “better” model could be one that maximizes client and provider opportunity (translating to resources such as time and money).

Working with industry, the folks I see are constantly challenged to do things more efficiently. We must respond to the environment we are in and take the good of the challenge and show the less desirable parts so they can be weeded out.

Physical Therapist

I respectfully disagree. I think telehealth (for the majority of people) is an inappropriate reaction to our currently poor state of affairs with regards to decreasing reimbursement and increasing productivity demands. Unless eventually you want to provide all services via a flat screen TV as in a sci-fi movie, I suggest fighting for other ways to provide direct care. Even the telehealth providers may regret this decision if it becomes a slippery slope to offshoring.

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You are right to be concerned about telehealth because the main advantage is lower cost. I agree with the points made here—such as more efficient consultations. However, these consultations won’t be reimbursed at the current rates like an evaluation in the clinic. The upside may be a larger user base and greater patient volume. If you can set up a practice that delivers telehealth, you may be able to lower your operating costs and remain profitable at the lower reimbursement.

Richard Curry, PT, MS, MBA

To define telehealth, we must understand that it is used in many fashions, primarily as an adjunct to in-person physical therapy.

Many countries already are using telehealth physical therapy out of necessity. Australia leads the world in research because its very large rural population has limited access to physical therapy.

One reason to introduce telehealth into the scope of practice in physical therapy practice acts: New goals and modifications to existing physical therapy trends that were proposed by APTA with Vision 2020. The APTA Board has said that autonomous practice applies to all physical therapists regardless of their practice setting or business arrangement. Autonomous practice means that a physical therapist is entitled to independent and professional judgment within the scope of her practice and in the patient’s best interest.

The Affordable Care Act supports infrastructure development, innovation, redesign, and care improvement projects that can include telehealth delivery and services. While these efforts are especially directed at remote and underserved areas, telehealth may be a critical tool in addressing chronic care management, prevention and wellness, and reorganization of services delivery.

Daley

While I do like sci-fi and think that things such as electronic communication and education can be a “no brainer,” the jury is still way out on the details of this one. My reason for engaging is the original question: Why is APTA pursuing it? If we don’t engage in the conversation and work to influence incremental/logical evaluation, we can’t objectively safeguard what may need to be safeguarded.

I would posit the real question may not be related to APTA specifically, but what is going on and how do we positively influence the dialog for the safe and justified use of telemedicine. If we don’t differentiate components—if we just say telemedicine is wrong or outsourcing—we oversimplify the matter. This issue will be driven at the state level, and that really requires some work and coordination of multiple groups.

Daniel Curtis, PT, DPT, MTC

We always are going to have challenges with reimbursement. That is the nature of health care and its ever-changing landscape. As PTs, we have to think about the big picture. Can the use of telehealth enhance practice to help our patients? That is the question, not necessarily addressing it only on the basis of reimbursement. Can we use telehealth to help achieve APTAs new Vision (“Transforming society by optimizing movement to improve the human experience”)?

Telehealth can be used appropriately either alone or as an adjunct to a patient/client interaction. It also can allow us as musculoskeletal experts to have a broader reach. Think outside

(Continued on page 38)
of your clinic and community and on a societal scale. We as physical therapists have much to offer society. Telehealth could assist in giving society what it needs.

Richard McGuire, PT

We have just started using a version of telehealth for our patients. We will go over their exercises through an app called PT Pal. We send the exercises to their iPhone or Android smart phone. It counts out the reps, sets, and rest times for them. It then sends a completion record to us at the clinic. There are app settings to alert patients to do their exercises at whatever time is most convenient for them. All the patients instantly get it and love the idea. Compliance is good, especially when I tell them I can see if they did their exercises.

I also can send more exercises to their smart phones and modify their programs. As I said, we just started it, but I can see it useful for therapy scripts when the doctor just wants the patient to have a home exercise plan. This will help with quality of fulfillment and compliance. I also can see it being used in worker’s comp cases to help document home exercise compliance.

I am excited about the positive uses of this technology. I see it being an accepted part of our therapy services in this telecom- munication age.

Erik Nieman, MBA

It is in every PT’s best interest to remain open to the idea of incorporating telehealth technologies into his or her practice as patient demand grows. As to when and at what level, that’s completely up to you. Do you start with a hybrid treatment model once reimbursements kick in, conducting evals in-house and moving exercise-based treatments online? Maybe. It is one of many options—and one that I would propose as a healthy place to start.

As you continue to explore this for yourself, I would encourage you (as a fellow entrepreneur) to focus on 2 fairly simple questions with perhaps complex answers:

1. Would it benefit my practice? Keep money out of the equation for now. It’s too big of an unknown to focus on at this stage of the game.
2. Will my patients want the option?

Keep in mind that the answers to these questions may conflict. But they may help shed light on the road ahead. And there is opportunity in that.

Finally: Try not to focus too deeply on what your current PT model is, but on what it will be.

Mike Billings, PT, MS, CEEAA

As a profession, we have an obligation to contribute to the triple aim of health care reform. The use of technology is 1 strategy to help us get there.

As with any modality, the risk of overutilization of telehealth would be possible (if it were actually reimbursed in most settings). However, as health care reimbursement moves away from fee-for-service and toward value-based models, likely based on episodes or bundled payments, the physical therapy provider not using evidence-based practice will suffer. The body of research supporting the efficacy of telehealth in physical therapy is growing, but more research is needed.

Finally, other health care professions are way ahead of physical therapy in terms of addressing practice acts and

For More Information

APTA offers many resources on telehealth. Among them:

- Legislation and regulation updates
- Risk management considerations
- Billing and coding considerations
- Implementing telehealth in your practice
- Incorporating telehealth into physical therapy education
- Research opportunities in telehealth

Go to: http://www.apta.org/Telehealth/.
“Ultimately, remember that telehealth may not be for everyone,” says Matt Elrod, PT, DPT, MEd, NCS, in APTA’s Department of Clinical Practice. “Just because you can do something doesn’t mean you should do it.”

Stephanie Stephens is a freelance writer.

References
9. Geropsychology is defined as a specialty in professional psychology that applies the knowledge and methods of psychology to understanding and helping older persons and their families to maintain well-being, overcome problems and achieve maximum potential during later life. http://www.apa.org/ed/graduate/specialize/gero.aspx.

licensure portability issues as they relate to telehealth. We have to catch up.

Physical Therapist

The big trouble with telehealth is that it seriously hurts the local business model of therapy providers—which is one of things that has kept the profession more secure from outsourcing and has left opportunities for small providers. The risk with telehealth is that it drives many more small practices out of business. What will be will be, but I don’t think many PTs are seeing the big picture impact of allowing remote therapy intervention.

Bryan Doke PT, DPT

I practice in a very rural area of Nebraska where there are strict laws about home health services. I can see how this could increase our access to these patients, but personally I am not going to do an evaluation or advance a plan of care based on telehealth. I also have concerns that those rural patients are going to have surgery 4 hours away from their homes, receive telehealth physical therapist services, and then—when it all falls apart—come see me because they are not functioning at their highest level.

Jerry Durham, PT

Telehealth is coming. Rather than think no based on an older model, we need to ask how.

McGuire

To further add to the way we are using this type of therapy is with patients who have limited allowance for therapy with their commercial insurance. Once we have gone through a basic 8-12 therapy session, we graduate them to home programming. So instead of coming 3 times week, they come twice week to the clinic. Once a week, they perform home exercises via their smart phone app. Depending on progress, we can taper off the clinic visits and convert them to the home exercise program app. Given the technology, we can see whether they are doing their exercises at home. So far, the patients love this added dimension to their program.

Durham

That to me is a valuable use, facilitating an already in-person established consumer/patient/client relationship.

Nieman

If outcomes suffer, the whole argument in favor of telerehab is sunk even under a hybrid treatment model. And let’s not kid ourselves into believing that telerehab will be appropriate for every patient and condition. There always will be the need for manual therapy and in-person exercise prescription based on the PT’s judgment. In other words, the sky’s not falling.