CEO Leadership Series: Vol. 7

The Age of Telemedicine

Master Medical Network®

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Roy Bejarano recently sat down with SCALE's Executive Partner, Telemedicine, **Gilbert Leistner**, to learn more about trends in the telemedicine sector.

Gil has been developing solutions for healthcare industry problems for over 40 years with a focus on telemedicine technology for the past 30 years. In 2010, he founded Master Medical Network®, a telemedicine company providing communications, human resource allocation and telehealth implementation solutions to the healthcare industry. He has been granted multiple patents covering healthcare financial products and the management and delivery of remote healthcare services.

Gil is a member of the American Telemedicine Association where he has served as a peer reviewer for annual meetings, co-presented continuing medical education courses on the business of telemedicine, and co-authored ATA publications on telemedicine implementation.

Defining Telemedicine

How do you define the Telemedicine category?

In its broadest sense, telemedicine is the provision of healthcare at a distance, meaning the patient and the provider are separated by some distance and that clinical information is shared over that distance. Technically, transmission is usually thought of as involving electronic information and communication technologies such as high speed digital networks, the internet and cellular systems. But there isn't any reason you couldn't use semaphore or jungle drums if the provider and patient can meaningfully communicate. Practically speaking, it is happening electronically mostly over the internet or cellular networks.

A common usage of the term embraces two-way synchronous audio and video, store and forward technologies, and remote monitoring but there are no hard boundaries so it is extending to include artificial intelligence and predictive analytics in addition to apps and devices. The devices run full gamut. Everything imaginable from computers, smart phones, tablets, spirometers, thermometers, oximeters, ultrasound, invasive surgical machines like Da Vinci and robots to haptic lips and hands—all are in use and/or being developed.

And it involves tremendous creativity. Sometimes just pairing of devices or technologies is a leap, such as otoscope extensions for smartphone cameras or the use of light bulbs to candle peritoneal dialysate in a clear container held between the bulb and a smartphone camera to provide a quick check for infection. It just needs to balance clinical judgment or standards with needs. In the examples I just cited, the otoscope might be acceptable to many clinicians just about anywhere. But the candling of dialysate would not likely be accepted in many first world places even though it is in use in some third world locales to monitor the patients receiving dialysis at home—often there is no other practical way to manage renal disease patients. That

said it also needs to balance against technical limitations, including bandwidth. There are places in the US where our clients often struggle to get a connection stable enough for basic two-way video. In such circumstance remote robotic surgery will not likely be done soon. But in East Africa for example, where many parts are limited to low-level connectivity but cell phone distribution is high, Nestlé recently conducted a pilot to deliver nutrition and wellness counseling where there was little to none before. High performance is relative.

We should also probably differentiate telemedicine from telehealth. Generally, telemedicine refers more to remote clinical visits and telehealth to the multitude of services and data, including non-clinical ones, which can be delivered remotely. So in this sense, a doctor's exam at a distance would be telemedicine, while the use of an Apple watch or a diabetes app would fall more toward telehealth. The diagnostic or prescriptive use of the data from the watch or app by a physician would be a hybrid but more toward telemedicine. I believe common usage is merging them and I use them here mostly interchangeably.

Obstacles Telemedicine Faces

I think I have a picture on the technology, but what would you say are the largest non-technical obstacles?

Legal constraints and limits to service supply.

Can you expand on that?

Sure. Laws, rules, and regulations control what forms of telemedicine can be practiced, who can practice it with what devices, and very importantly–perhaps most importantly–who can get paid for delivering the remote care. There is enormous legal variation in the many sovereigns of the United States. Globally too.

In the United States, for example, Medicare has limited service reimbursement to 8 categories of healthcare providers while New York State allows at least 22. But that's not all. Until now Medicare has allowed store and forward technology only in grandfathered projects in Alaska and Hawaii, while New York and 13 other state Medicaid programs will reimburse it. And for remote monitoring, which some practitioners advocate as having the potential to radically alter care outcomes, around 20 state Medicaid programs allow it, while Medicare has limited it. New rules adopted this year or proposed by Medicare are allowing for greater coverage and flexibility, but it has a long way to go to meet need.

What about the private sector?

Private sector reimbursement falls into two main categories: service parity and payment parity. Service parity requires private insurers (and some others) to cover services delivered via telemedicine if they cover it for in-person visits. Payment parity requires identical payment levels. Usually, some limits on frequency are allowed. Some states have both. I don't think there is a single state that not does allow some form of telemedicine. A number of states, including some with payment parity, allow for mutually agreed upon rates. Mutuality on rates is important.

For example, we have a client who received payment for a high level CPT code at over 30% less than the equivalent in-person rate. The rationale seems to be that telehealth is somehow worth less than an in-person visit, an element present in many telehealth reimbursements. While for some services—like mental health–a reimbursement reduction due to a different technical cost profile might be appropriate because the remote patient might require different—or no–office resources, that is not the case in this instance. Rather, it appears—and this is not the sole instance we have encountered—that the insurance company is seeing what they can get away with. In this case the practice group did not negotiate in advance of providing the service, they just submitted to see what they got. Now they need to argue uphill in a payer contract in which the final arbiter of appeal is the same entity that made the initial determination. That contrasts with a negotiation we participated in for an addiction management clinic in advance of providing telehealth services. In that case one of the insurers said they would pay 15% less than in-person because telehealth had a lower value. In response, we asked the insurance company if they paid their lawyer less for services delivered by phone. They reverted to full price for the physician. Why is that? In my view it is because healthcare providers and systems are accustomed to the cost cutting squeeze of the reimbursement python and doing more for less while lawyers wouldn't likely tolerate their clients announcing a lower fee for electronically communicated advice.

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I mean, the intellectual capital of any given competent healthcare provider does not go down because medically necessary services are delivered remotely. Moreover, we have econometric models that show that remote management of patients can be worth more per provider hour than legacy in-person healthcare management models. In our view this means healthcare provider services delivered remotely may be undervalued, even within the context of new models like accountable care, especially over time.

Practicing Telemedicine: The Good, The Bad

I would like to discuss Accountable Care but before we go there can we return to what you mentioned earlier regarding supply as constraint. I assume you mean the supply of healthcare providers.

Yes.

Is that it?

[Laughs.] So far, healthcare is mostly deliverable only by appropriately licensed human providers. There is likely a looming shortage of, say, physicians based on demographic shifts, whether from retirement of the providers or from demand forecast for an aging patient population, This is well advertised. But in our view there are other powerful trends that promise a healthcare squeeze. This will be in spite of countervailing trends.

First, let's look at telemedicine. It is often presented as a way to alleviate local shortages of healthcare services, such as in rural regions in the US. You can see this premise in Medicare's long-standing (though changing) restriction on telehealth reimbursement to patients located outside metropolitan statistical districts. And to a degree this is true. Telehealth can bring care to isolated patients.

Telehealth is also convenient, eliminating travel time and other difficulties for patients and providers alike. Convenience feeds demand.

In fact, fear of increased usage—here meaning costs–with telehealth is one of the reasons for the slow rate at which laws and rules have changed. But you can see free market solutions based on convenience driven demand in the rise of telehealth services at pharmacies like Walgreen's and CVS and even grocery stores such as Publix, Giant Eagle, and Safeway, which offer largely self-pay telehealth services in-store for a limited range of services. So, not only is it relatively inexpensive—often priced at co-pays, it is usually easier to go there than make a doctor's appointment for the offered service set. The same is true for direct to consumer services like Teladoc and Doctors on Demand. And it is foundational for programs offered by employers in the workplace, combined with a significant overlay of cost reduction and productivity increase.

However, the rise in demand regardless of how it is distributed comes at a cost. To illustrate, let's make some simple assumptions and do some simple math.

Estimates for individual provider patient panels range from 1200 to 2300 patients, but let's assume an ambulatory patient panel for a primary care provider of around 1,500 patients. Each patient will have on average 3 visits per year. This equals about 4.500 patient-visits/year/provider. Allowing for a five-day week of 30 patient-facing hours over 48 weeks, this equals about 19 patient-visits/day. If telehealth visits are adopted only for the existing panel and it results in two extra visits on average per year per patient, then the number of patient-visits/year rises to 7.500 or about 30 patient-visits/day. If, however, the number of patients increases due to an expanded catchment area, then the throughput per provider becomes difficult to manage and wait times increase. By the same token, if a provider does not adopt telehealth technology, they stand to lose patients to direct-to-consumer on-line providers and drug or grocery stores for some services. Many practitioners have reported this competitive threat to us. There are simple steps that can be taken to adopt the technology in a controlled way.

Can you list some of those?

First principle: Don't try to do too much. Take a look at the technology in relation to patient needs and practice pressures. Then apply it where you think it will work in a limited step-wise way. Then measure results and analyze net revenue along with encounter outcomes and patient and staff satisfaction. One implementation method we recommend is setting aside some time, say two hours to start, once or more per week to conduct video-based sessions with existing patients only. In these, which can be appointment gated or on-demand, a nurse practitioner can triage or provide advice as appropriate. Sessions for existing patients first make some sense because they help preserve current patients, a less expensive undertaking than acquiring new ones. It also helps improve patient satisfaction which is a key retention parameter. Figures from the Cleveland Clinic show that on demand telemedicine accounts for just over 60% of telehealth sessions while appointments are just under 30%. This scales and is translatable to new patients and large practices.

In the broader context, it's true that some patient load can be delegated to other licensure levels, especially when triaged according to risk and task. It is also true that additional staff can be hired if they can be found or trained. But the picture for rising healthcare demand no matter the delivery modality is clear. And I believe it is inescapable because the laws of supply and demand may respond to new technology, but the fundamentals of what is and is not possible remain according to what we think we can afford and the technology we can buy for delivery. This is well illustrated by David ben-Arieh, a professor at Kansas State University that we work with. He uses two images in lectures on health systems management that....you know, no point in describing them.

Technology Improvement When The Problem Is The Process

Low Tech High Tech

Images Courtesy of David ben-Arieh, Kansas State University

The donkey promises one kind of efficient work frontier, the jet another. Process control determines whether the outcomes are in the zone of plausible or implausible outcomes.

This gives a perspective to the recent announcement by the Cleveland Clinic and American Well to provide telehealth globally. It also gives different meaning to the calls for "free" healthcare for all comers that politicians are making in multiple countries. And it should provide a reality check for the World Health Organization and other advocates driving some of the human migration in North Africa, Europe and the Americas with the idea that everyone has a human right to the highest attainable standard of health and that everyone should have access to the health services they need when and where they need them. That is, if the demand aggregation agendas are really about healthcare.

Telehealth can address some of this with technical support for additional persons and services. But some of the pressure release will also come from other technologies, including the adoption of artificial intelligence to monitor and manage patients. This can be seen in the National Health Service stresses in Great Britain as it lurches from one demand-driven crisis to another. More money and more staff have not provided relief because demand continues to overwhelm new supply.

To address the worsening problem, NHS has begun adopting telehealth and AI to triage patients and has recently announced the setup of an AI laboratory. Among the stated aims of the effort is a search for ways to relieve the workload on the NHS workforce. NHS claims that AI is as good as doctors at spotting lung and skin cancer, for example, and that it has provided new ways of diagnosing atrial fibrillation to name a few. Well and good. But once diagnosed by AI, real people will have to confirm the diagnosis because–for now–real diagnosticians are the ones responsible for the real people receiving real initial and follow-on care—even if AI diagnoses a melanoma and a robot slices it out.

Further to the point, a cardiologist we know sees the advent of automation in his field via AI and decries it. He foresees it will replace his in-person interpretations of stress test cardiograms and take bread and butter from his table. What he does not yet see as viable are scenarios in which his patient catchment area is larger and he is perhaps responsible for clinical oversight more than direct interpretation or focused on more complex patients.

In larger catchment areas, more complex patients likely will be more available not necessarily because of increased incidence of disease, but because normal prevalence will produce more patients in relation to the larger geography of the patient pool. Concretized, that means that if 5 patients per thousand present with a given morbidity, a catchment area of 10,000,000 patients will produce more work than a catchment area of 1,000,000 patients.

Telehealth technology can be transformative in this equation for managing the workload as well as the teams of providers it will take to make it work. And teams will matter.

Not just because complex patients require diverse services, but because not everything can be done from afar or in the cloud. In the end we will be making hard choices about healthcare rationing. Or, we will just let backlog and wait times make the decisions for us.

Navigating Telemedicine Best Practice for Physicians

What are some of the factors involved in changing workloads?

A major one has been licensure. Unlike locales such as Switzerland where a license to practice in medicine is valid across the country, in the US, each state is responsible for most licensure. It is only recently that states have begun to adopt compacts that allow for practice in multiple states, especially via telepresence, if a practitioner holds a license valid in another state in the compact. Registered and licensed practical (vocational) nurses, physical therapists, physicians, and psychologists are among the practitioners participating in cross-border reciprocity compacts. There may still be some limitations due to differences in practice acts, but such cooperation can increase the local supply of providers and services, even if everyone, including some unions, has yet to express full joy at the remote presence of their colleagues. But as the WHO has put it when documenting potential shortages: No health without a workforce.

Further, there are tasks traditionally performed by one level of license, say doctors, that perhaps they shouldn't do in relation to their skills and license level, even if it is a bread and butter service. One example ripe for shifting might be back-to-school exams. These could be performed for ostensibly healthy children by a physician assistant or nurse practitioner. I believe it is valid to ask whether it is correct to routinely deploy skills that take at least 16,000 hours to develop to tasks that likely can be adequately managed by people who require 8,000 hours to train.

This is a capital asset allocation logic that can be applied across healthcare and we believe it will be going forward on a larger scale than now. You can see it in the struggle of nurse practitioners to expand their practice acts to allow them to do more, though there is much push back from doctors. The force of the hierarchy is strong with this one.

You mentioned the World Health Organization as driving demand. Does it speak to shortages and does it have solutions?

The WHO has put out a number of reports on future shortages of healthcare workers globally. It advocates for better worker distribution, accessibility, performance and productivity—all obtainable at least in part via telehealth.

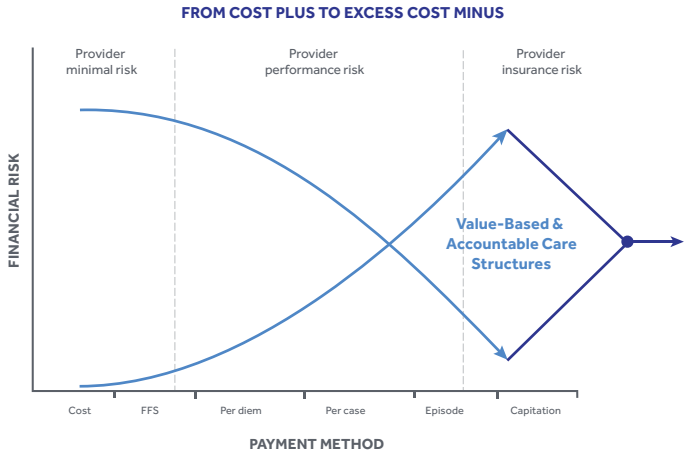
As an important specific, the WHO has advocated for healthcare task shifting. It has done so since at least 2008 when it recommended task shifting to manage AIDS patients. Delegation of this genre is more tractable in a digital health world than in an analog one. That lets the force of the hierarchy be with you. We have developed algorithms that can implement, support or surpass the 22 WHO Global Recommendations and Guidelines for making healthcare more available to patients by shifting tasks in relation to licensure levels.

So returning some to telehealth definitions...it is everything said so far, but the foregoing buttresses my view that telehealth/telemedicine is much more than a modality of care delivery. It is also an infrastructure for technology, systems management, skillset coordination and managed care. Trendy terms like mHealth—meaning mobile health, not mental—and connected health are ways to frame it. Telehealth is ultimately a way of thinking about problem solutions in very complex systems.

Where do you see Accountable Care in the telehealth solution set?

Front and center. In the perpetual Simon Says quest to reshape healthcare, Accountable Care is the model most payers currently seem to want. At its center lies sharing of risks with the payer if patients are not well and efficiently managed and the potential for reward to providers if patients are well and efficiently managed. It attempts to balance decades of healthcare risk shifting between providers and payers through the application of many models. These range from military-style cost plus in the 1950s to capitation variants today. In our view what is happening is two-fold.

First, in the shift from fee-for-service pay to an accountable one providers and delivery systems are being pushed into the business of capped self-insurance. This appears to be the point of making them partially responsible for increased costs resulting from poor management or poor outcomes below some benchmark. At the same time, it is a form of reinsurance provided to the payers, though we haven't yet seen state insurance regulators show up as they did for some concierge payment models.



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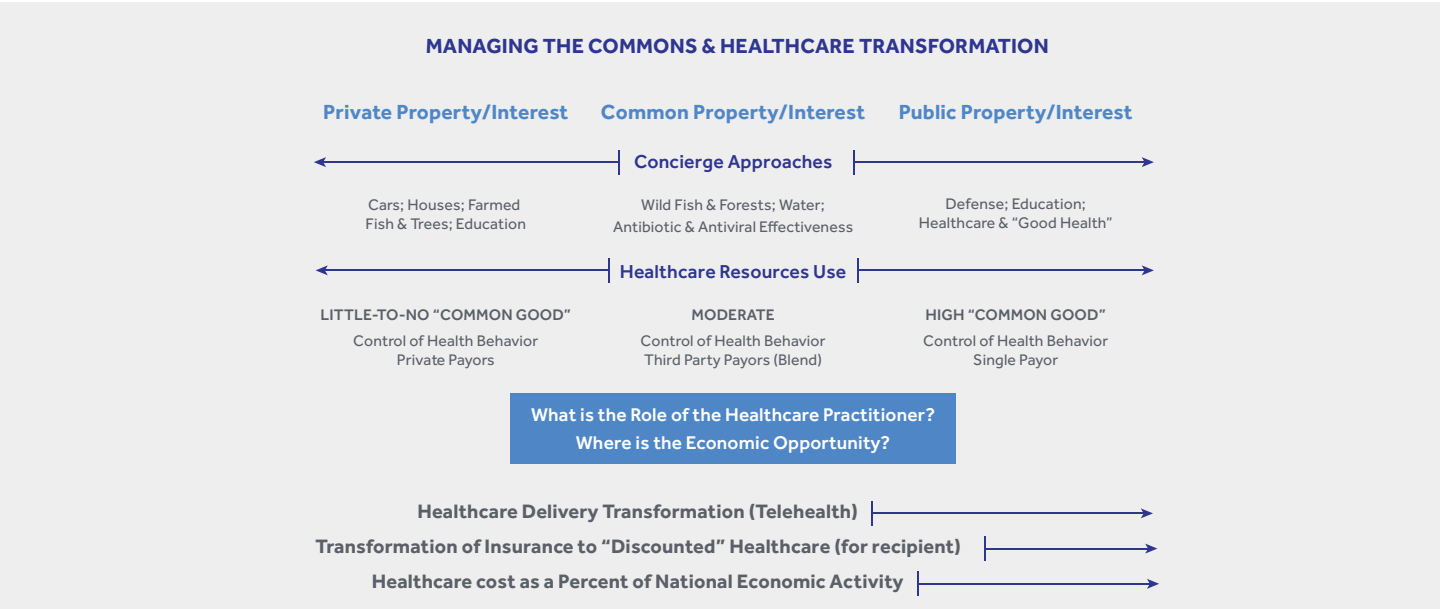
Giving providers a stake in their success in healthcare is an instance of the capitalism dandelion popping up on the regulatory lawn. Lest it be too generous, payment bonuses are capped. So are risk penalties—for now. Since it is a regulatory lawn, Roundup® spray is in heavy use for rambunctious weeds in the form of strict liability laws.

Second, the shift to accountable care has implication for shifts in society and how we view healthcare. If it is a right, if it is to be available for everybody, if it is to be governed by a single payer or consolidated number of payers, then the people must be viewed by the healthcare managers in terms of a population to be managed and to whom healthcare is allocated. This in turn implies that healthcare will move from a calling and art to a job of managing statistically-based protocols. This is in-progress and it is a reason behind the increase in the 17,800 procedure and diagnosis codes in ICD-9 to the 140,000 or so defined in ICD-10. Population management requires statistics.

I believe this is being accompanied by a trend toward viewing the health of the population as a public good rather than a private good. As such, the payer will want a say in how patients manage their lives. Gamification, wherein certain patient behaviors are nudged, plays a gentle role. So does the nudge for providers in accountable/value-based care rewards and risks. Less gentle is cost containment based on a refusal to either reimburse or even provide treatments, like hips or knees to people who are deemed too aged or liver transplants to alcoholics.



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I don't view this as a theoretical issue. Physicians responding to a 2018 Physicians Foundation survey reported that 31% of their patients do not consistently follow their treatment plans. In fee-for-service care, lack of patient compliance can be analyzed differently than for the 47% of the responding physicians that reported quality and value-based compensation. If providers are to be financially as well as medically responsible for poor performance and outcomes for the patients under their care, to what degree are the providers (or the primary payers) going to be empowered to pressure patients to follow prescriptive and proscriptive advice, track them to ensure compliance, conduct interventions, or drop them from their practices or coverage because of recalcitrant behavior?

A full discussion of this shift is beyond this conversation, but I can provide a graphic that illustrates it.

Management of the transition is within our wheelhouse. We have protocols and econometric models that enable and support the continuum of healthcare resource use interests.

What are the benefits of a physician platform working with SCALE to implement a telemedicine program?

Not only are we on the inside of the telemedicine/telehealth sector, having studied and implemented it for a long time, following—and occasionally influencing–its paths and wakes, but as a team we are able to assist you in implementing a telemedicine program holistically. Do you have the right IT infrastructure? Is your payer contracting program up to speed on telehealth practices locally and nationally? Our team of experts can seamlessly integrate telemedicine as a valuable solution to your patient and practice needs. And we can make it a scalable so it grows as your platform grows. Our goal is to partner with and empower providers—from solo practitioners to integrated delivery systems– to build not only sustainable telemedicine practices, but to provide a first-in-class option that benefits your patients and providers.

Special thanks to Gilbert Leistner for his insights and our Executive for their participation in this discussion.