The Health of Nations

Perspectives from Global Leaders Reveal Untapped Opportunity

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Significant potential for national health transformation remains untapped across the globe.

For decades, leaders responsible for their national health sector have faced daunting challenges to improve citizens' health, meet citizen expectations for health services, and offer a more promising health future. Examples abound.

Diabetes cases in adults will more than double worldwide by 2025, from 143 million in 1997 to 300 million, largely because of dietary and other lifestyle factors.[1] Similarly, rates of adult obesity continue a steady climb. The United States and Denmark, nations with above-average annual healthcare spending per person ($7,290 and $3,512, respectively), achieve life expectancies *below* the global average.[2] France and Italy, ranked first and second for overall health-system performance by the World Health Organization (WHO), have less-than-stellar levels of citizen satisfaction. Only 65 percent of French citizens and a mere 20 percent of Italians are satisfied with their health systems.[3] In another study, citizens surveyed in seven countries said "fundamental changes are needed" in their countries' health systems (on the low end, 48 percent of U.S respondents felt this way; on the high end, 60 percent of Canadians expressed this opinion).[4]

Many reforms and responses have delivered only partial or temporary solutions to these and other national health challenges. Pilot projects abound, but large-scale innovations are few. Innovations that deliver lasting improvements remain elusive. Which approaches hold the greatest promise for lasting advances in the health of nations?

To understand how national health leaders view contemporary challenges and opportunities, the Cisco® Internet Business Solutions Group (IBSG) strategic consultancy and Princeton Survey Research Associates International (PSRAI) surveyed more than 100 senior leaders from 16 nations. Secretaries and ministers of health, along with senior government decision makers responsible for public health, health-sector reform, administration, planning, health economics, research, and quality, shared their opinions through an online survey and in-person interviews. These leaders navigate the crosscurrents of citizen expectations, demographic trends, and economic realities. They are leaders who set agendas, create budgets, and are best able to drive nationwide reform and innovation.

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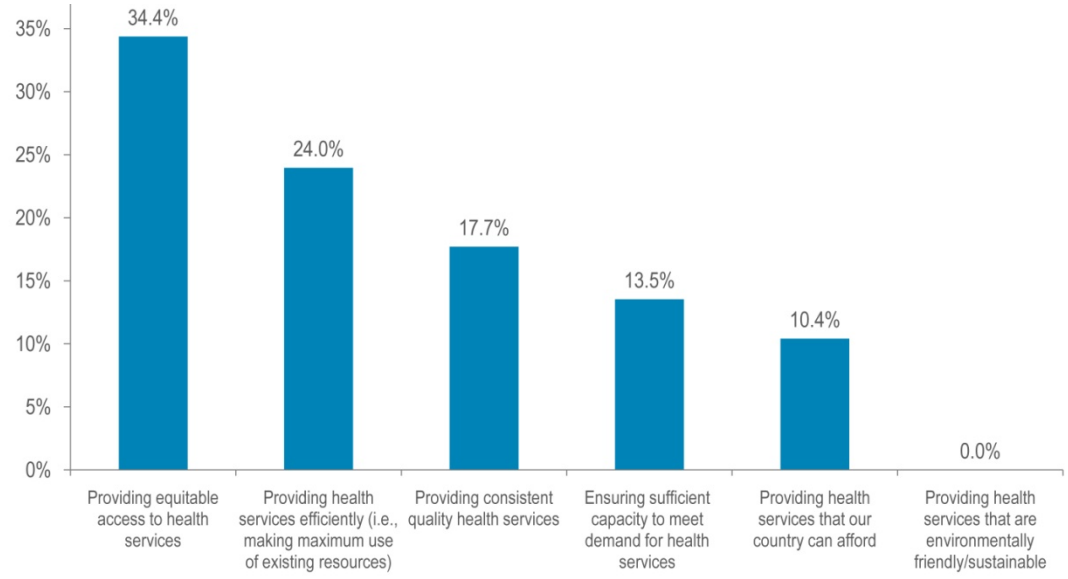
The health leaders' survey responses test several commonly held beliefs and provide thought-provoking opportunities. Healthcare stakeholders who believe that new approaches to health practices, population health management, and health workforce development can deliver more effective, efficient, and responsive health services have the opportunity to help chart a new course. In this case, the road not yet taken is a promising path.

Overlooked Opportunities

A number of the opinions and priorities expressed by health leaders in the Cisco IBSG research call into question conventional wisdom.

- **Leaders prioritize access to care over affordability.** Providing equitable access to health services for citizens was rated the greatest problem by 34 percent of survey respondents, while affordability fell at the opposite end of the list of priorities. Although the cost of health services and total health-sector spending are frequent topics of commentary and debate, "providing health services our country can afford" was the fifth-ranked concern. Just 10 percent of the participating global leaders ranked cost as the greatest problem in providing health services today.
- **Access, efficiency, and quality are the top-tier triad.** Moving the health sector from disconnected to connected can address the three top-tier challenges. Following equitable access as the top-rated challenge, "improving health services efficiency" was the top concern for 24 percent of respondents. Rounding out the top three, "providing consistent, quality health services" was the primary concern for 18 percent of participants. Connecting people and health professionals across organizations and locations creates new ways to deliver services more equally, efficiently, and with the best expertise supporting care quality. In the words of one leader, "Equity of access needs to be much better balanced and aligned with improved health outcomes."

Figure 1. Which of the Following Are the Greatest Problems in Providing Health Services to Citizens in Your Country Today?

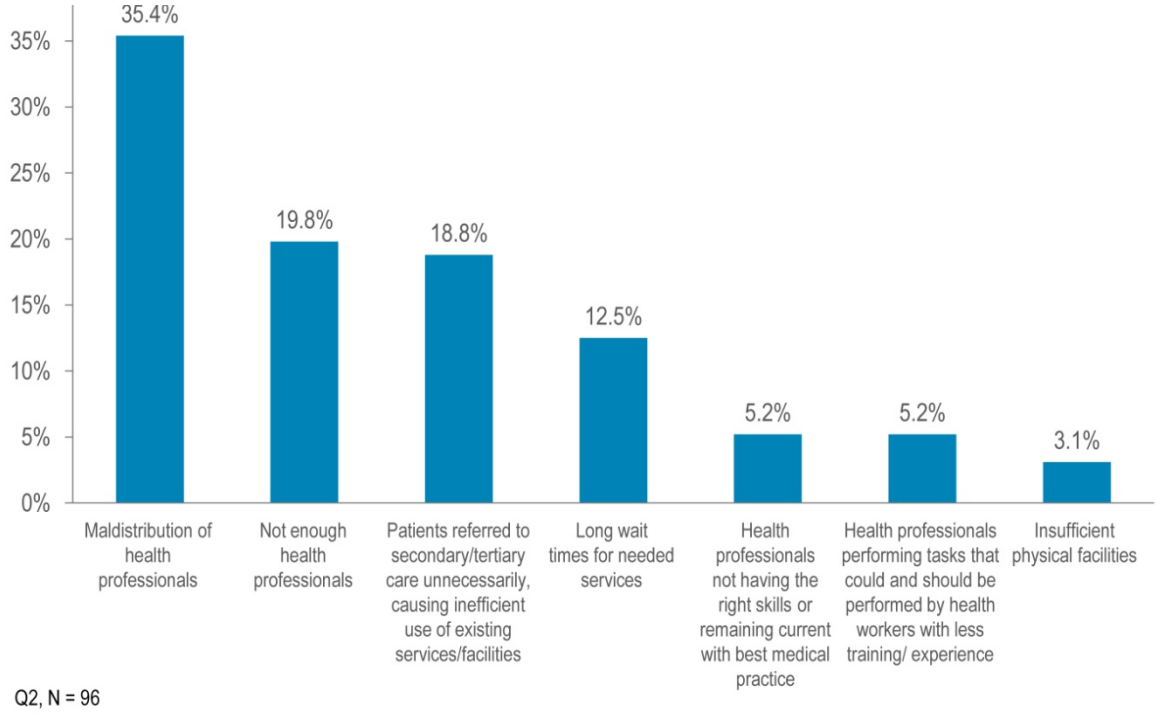


Q1, N = 96

Source: Princeton Survey Research Associates International, 2010

- **Uneven distribution of professional expertise is the greatest practical challenge.** Considering tangible day-to-day challenges in delivering health services, the uneven distribution of health professionals stands alone at the top. Thirty-five percent of respondents ranked maldistribution of health professionals as their greatest concern. The second- and third-ranked challenges—not enough health professionals, and patients being referred to secondary or tertiary care unnecessarily—followed at 20 percent and 19 percent, respectively. These three challenges establish a clear top tier for attention. Availability of, and access to, health knowledge and expertise are critical problems.

Figure 2. In Terms of the Capacity of Your Country's Health Services, Which of the Following Are Currently the Greatest Problems in Providing Services to Citizens?

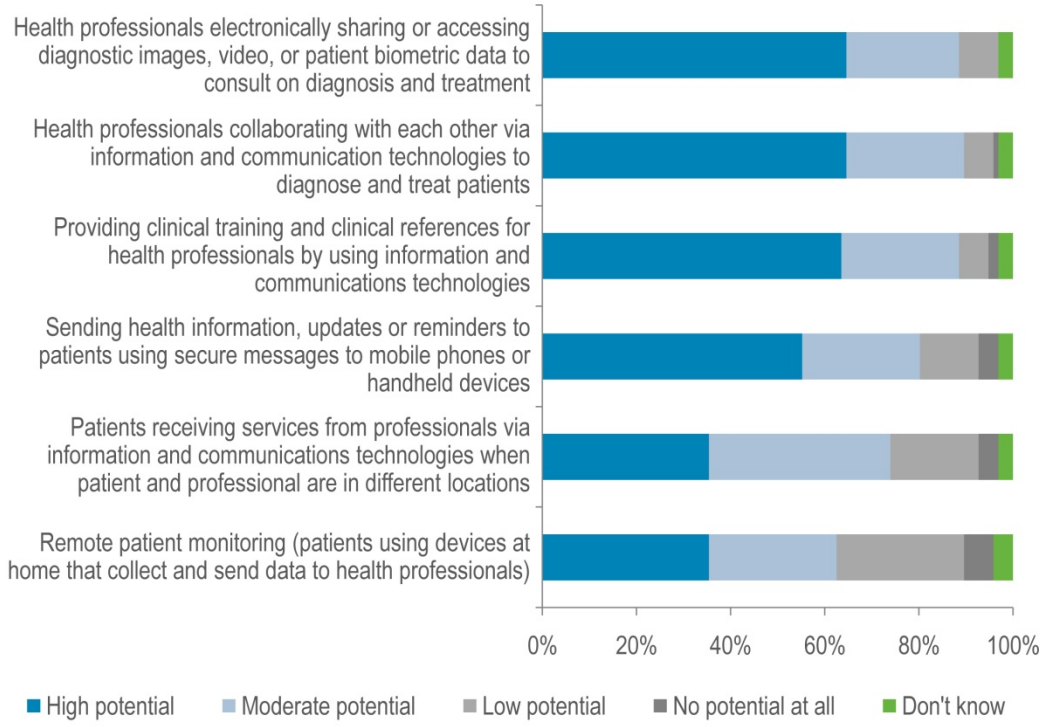


Source: Princeton Survey Research Associates International, 2010

- **Communication and collaboration among professionals ranks as the most promising path for near-term transformation.** Sixty-five percent of respondents said the efficient exchange of information and expertise to diagnose and treat patients had high potential. A little over half as many—35 percent—said patients receiving health services via telehealth held high potential within the next five years.

  Sixty-five percent of respondents said three communication and collaboration approaches among professionals are very important. Sharing electronic data (including biometric information and diagnostic images) and professional person-to-person collaboration rated equally important as the top potential strategies. Clinical training and references available with information and communications technologies (ICT) follow closely, with a 64 percent "high potential" rating. Globally, an untapped opportunity lies with the development of professional expertise, information sharing, and knowledge exchange.

Figure 3. How Much Potential Do the Following Telehealth Approaches Have To Improve Health Services in Your Country Within the Next Five Years?



Q9. N = 96

Source: Princeton Survey Research Associates International, 2010

- **Direct services to patients are a second-order opportunity.** The survey explored three patient-focused options representing new ways to support health and care. The health leaders viewed all three as significantly less promising in the near term than easier, more efficient exchange of professional expertise.

  Delivering health information, updates, or reminders to mobile devices was the strongest patient-focused option, with a 55 percent "high-potential" rating. Patients receiving services from health professionals in distant locations via telehealth[5] followed, with a high-potential rating of 35 percent. Remote patient monitoring received the same high-potential score—35 percent—but also received the strongest low-potential ratings. In fact, 27 percent of respondents saw "low potential" for remote monitoring, and 6 percent saw "no potential" for this patient-oriented service.

The Promise and the Possibilities

What do these findings mean? First, that unleashing and disseminating professional expertise must become a national priority. Removing barriers to effective collaboration among health professionals—whether those barriers are geographic, economic, regulatory, or cultural—is a first step toward a national innovation agenda. Connecting clinicians with each other to better diagnose, treat, and manage patients uniquely addresses all of the highlighted national issues: health service access, efficiency, and quality; uneven distribution of professionals; professional shortages; and unnecessary referrals.

In the words of WHO, "Health professionals play a central and critical role in improving access and quality healthcare for the population." At the same time, WHO has documented a "worldwide shortage of almost 4.3 million physicians, midwives, nurses, and support workers."[6]

Taking efficiency as one example of potential impact, a recent McKinsey study documents the issue. In the United States between 2000 and 2008, the healthcare and social assistance sectors experienced negative annual productivity growth.[7] Not only is the sector failing to match the productivity increases of other industries—healthcare is actually falling further behind. Another study places the national cost of poor communication among health professionals in clear terms: US$12 billion per year, to be exact.[8] In the study, researchers from the Center for Health Information and Decision Systems quantified the economic impact of communication inefficiencies in U.S. hospitals for three categories of waste. Ten percent of the economic burden was attributed to wasted physician time, 36 percent to nursing time, and 54 percent tied to difficulties with care coordination and discharge planning that result in longer-than-necessary patient stays in hospitals.

Think about common models for physician-patient encounters in outpatient settings—physician offices or medical clinics. The two most common situations are inefficient and time-consuming, and impede the fastest, best flow of clinical expertise to support diagnosis, treatment, and care management. The root problem? Most care is sequential rather than simultaneous.

In the first situation, a patient visits a primary care physician or general practitioner (GP). The GP is the source of all expertise within the encounter, which may or may not support the best quality care. If the patient requires the expertise of a specialist, the GP makes a referral to another physician. Or, in other situations, a patient self-refers directly to a medical specialist, skipping a primary-care evaluation. This approach is common in countries like Germany and the United States. In fact, 44 percent of Germans have reported seeing two or more specialists in the previous year.[9] In this model, clinical care is inefficient, patient treatment cycle times are extended, and care quality may be sacrificed. The model exists because convening a team of providers at one time is too difficult and the cost too high.

The importance and value of in-person, multidisciplinary collaboration is well known. The approach is recognized today as the standard of care in "centers of excellence" for high-risk conditions such as cancer. In these centers, diverse teams often include medical, surgical, and radiation oncologists; nutritionists; psychology and social services; internal medicine physicians; the patient and family members; and others. All of the needed health professionals come together to evaluate, treat, and agree upon the best care plan. Professionals share opinions and expertise. All are able to engage the patient. Decisions are jointly made and understood. This model brings all expertise and knowledge to a single clinical encounter. The approach optimizes patient access to needed providers, improves professional efficiency, and greatly increases the ability to provide the best quality care. The only reason some but not all patients receive this level of care is the cost of collaboration based on physical proximity. Technology lowers that cost so all patients can receive the same benefit. Telehealth-enabled care overcomes the cost and complexity barrier to easy, efficient collaboration among care teams.

An example from the U.S. Department of Defense (DoD) Healthcare System illustrates the potential for provider-to-provider teleconsultation. During 2009, pediatric specialists from 28 different subspecialties based at Tripler Army Medical Center in Hawaii provided 300 remote, asynchronous consultations to family medicine physicians and physician extenders. Providers

and patients were located at 20 hospitals and clinics throughout the Pacific region. Clinicians used the DoD's Pacific Asynchronous Telehealth System for professional collaboration. In 74 percent of cases, the diagnosis or treatment plan was modified following the specialist consultation. Telehealth consultations among providers precluded patient transfers to Tripler in at least 12 percent of cases, providing a conservative annual savings of more than $200,000.[10]

Imagine the impact of professional-to-professional consultations on a nationwide basis, when clinicians can collaborate in real time so that faster decisions are added to the cost and quality impact demonstrated by the DoD providers.

Unlocking that potential requires easy, efficient collaboration, regardless of time and distance. Imagine an "expert exchange" that connects the right group of health professionals quickly and easily for specific reasons. Perhaps the next "unknown" infectious disease is emerging in a remote corner of the world. Which members of the public health community have the expertise to determine the best response and containment strategy? How can they quickly confer to reach consensus and continue to manage events as they unfold? A medical "expert exchange"[11] could fulfill a number of functions essential to effective collaboration:

- Identify appropriate experts based upon credentials, expertise, and other factors, regardless of geographic location
- Determine which experts are available for a live interaction at one specific point in time, and through which medium
- Establish and help manage communications among health professionals through chat, voice call, video call, or a combination of these
- Enable real-time content sharing during the course of the conversation—allowing professionals to view materials (patient data, video, images, reference materials) supporting the discussion

Across most of the globe, half of the required technology investment highlighted in the survey findings is understood and under way. Many nations have invested in electronic health records (EHRs) and the interoperable exchange of data and images. England's £13 billion investment in its National Program for IT, Hong Kong's $200 million EHR investment, and the ongoing U.S. government investment of more than $32 billion in EHR adoption and data exchange are a few examples of this global trend. Equal commitment and investment in collaboration solutions are needed.

New National Programs Could Be Game-Changing

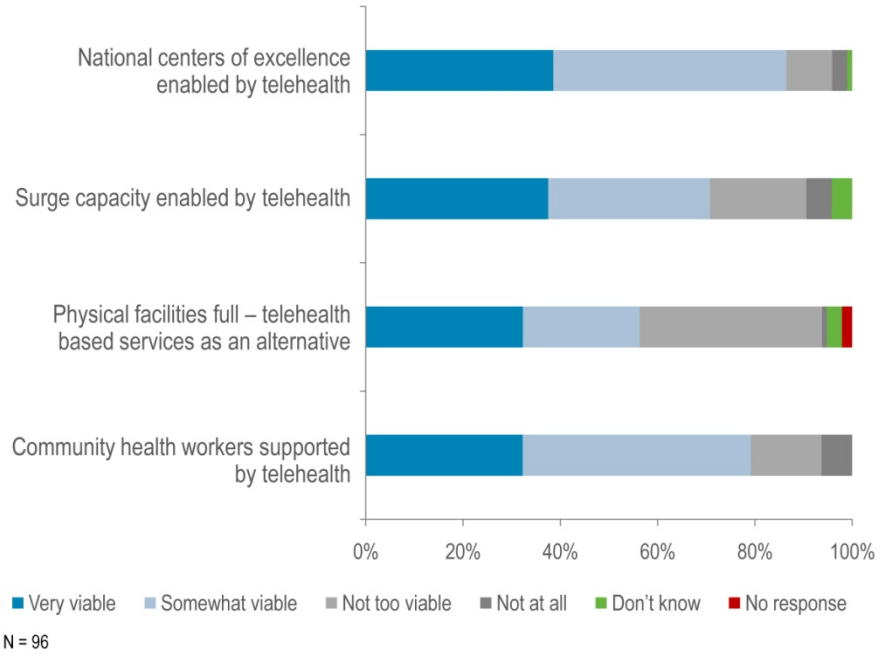
Cisco IBSG asked global health leaders to imagine entirely new national programs in which telehealth-enabled approaches could address significant national challenges. More than 70 percent of respondents believed the scenarios were viable as large-scale, national approaches.

- **Centers of Excellence:** The scenario seen by respondents as having the most potential would establish national centers of clinical excellence. These ICT-enabled centers would provide consultations, clinical encounters, and care-management support across inpatient, outpatient, community, and home-care settings in partnership with local providers. Eighty-six percent of respondents viewed such centers either "very" or "somewhat" viable.

  A national strategy anchored with one or more national centers of excellence can simultaneously address the challenges of equitable access to quality care and the national imperatives to maximize the efficiency and effectiveness of the health-sector workforce. Partnerships between center of excellence clinicians and community professionals can optimize the best of both national and local health resources.
- **Community Health Workers:** In another scenario, leaders were asked to imagine community health workers providing basic in-person health coaching and medical care in underserved locations. Community health workers could treat simple problems and provide more sophisticated care by supplementing their knowledge with online clinical references and access to remote experts when needed. Seventy-nine percent of respondents felt such a national capability could be "very" or "somewhat" viable.
- **Surge Capacity:** Finally, the ability to respond proactively to sudden increases in demand for health services was a sufficient reason to invest in enabling telehealth technologies and workforce development for 71 percent of respondents. Recent world events, including earthquakes, tsunamis, hurricanes, disease pandemics, and waves of refugees from war and famine, highlight the global need to plan and prepare. Both fixed and mobile ICT can help clinicians and public health professionals respond when dramatic, sudden demands are placed on a nation's health infrastructure.

Any of the top three national scenarios can provide unique, near-term opportunities for nations with a vision and commitment to innovate in ways that establish lasting solutions for nationwide challenges.

Figure 4. How Viable Would These National Programs Be in Your Country?



Source: Princeton Survey Research Associates International, 2010

It's important to note that survey respondents retain existing health systems and facilities as the locus of their nations' health infrastructure. They are not looking to reinvent dramatically the way health services are delivered. The survey suggested a range of locations where health services could be provided through "telehealth" approaches. The top telehealth-enabled situations focus on extending specialist clinical expertise to traditional care settings, notably hospitals and outpatient clinics or medical practices. Providing clinical services in other settings, such as schools, was a lower priority.

Other survey findings further confirm that hospitals and clinics will remain the mainstay of health-sector infrastructures in the near term. Having "insufficient physical facilities (hospital and clinics) to meet the demand for services" was the greatest concern for a mere 3 percent of respondents. Long wait times for needed services, an indicator of limited capacity, was considered the greatest problem in providing services for only 13 percent of respondents.

Opportunity Gap

There is strong support from world health leaders to enable health innovation with ICT and telehealth models. Survey respondents were asked to consider a variety of ways that health services could be provided via telehealth technologies. Participants were asked to think of telehealth broadly as they considered options to improve health services and public health practices.

While only 4 percent of respondents said there is "no compelling need to use telehealth," the chasm between perceived potential and actual adoption is great.

Providing clinical training and references for professionals with ICT was seen as having very high potential for fully 64 percent of respondents, while only 13 percent rated this practice "very

common" today. Sharing electronic patient data and images was considered "high potential" by 65 percent of respondents, yet only 9 percent felt the practice is "very common." Similarly, professional collaboration is a high-potential approach for 65 percent of respondents, with only 4 percent rating it a "very common" practice currently. All of the other potential approaches described and evaluated fell below 10 percent when leaders were asked how common they are today.

Call to Action

Governments, health professionals (along with their professional associations), and private-sector entities all have a critical role if near-term responses to the highlighted opportunities are to take root as lasting solutions to health-sector challenges.

Governments and their health leaders must light the way. Three priority roles for government emerge: establishing the required technology infrastructure, driving innovation, and operating telehealth-enabled programs. Just as citizens look to governments for streets and sewers and schools, national ICT infrastructures underpin access to health services and health-sector efficiency. Government funding for the infrastructure necessary to employ ICT (such as nationwide broadband) was rated "very important" by 74 percent of respondents.

Survey findings also highlight the role of government in leading innovation. Establishing telehealth pilots is one tangible form of innovation leadership; conducting multiple telehealth pilots received a "very important" rating from 52 percent of participating leaders. A second possibility, and one considered "very" or "somewhat important" by 82 percent of respondents, lies with governments "initiating a national communications program to inform and generate interest and trust in telehealth." Such an effort is essentially a 21st-century public health campaign to promote citizen-clinician and citizen-government partnerships for better health. A national initiative of this nature would mirror public health campaigns from past decades aimed at preventing tobacco use or encouraging childhood immunizations.

Finally, governments can fulfill an essential role establishing and providing clinical services supported by telehealth. In addition to implementing the telehealth pilots previously highlighted, governments can lead by managing national centers of excellence for specific diseases or conditions.

The strongest role for private-sector health entities lies in partnership with governments. Specifically, "public-private partnerships to establish new ways of providing health services via telehealth technologies" was "very" or "somewhat" important to 84 percent of respondents. This was the highest-rated option among several potential roles for private-sector health organizations.

Survey respondents were asked if governments or the private sector were the better choice for several important roles. While private-sector responsibilities were important, for identical roles or responsibilities, the private sector generally ranked lower than governments. For example, governments establishing and operating clinical services supported by telehealth technologies was considered "very" or "somewhat" important by 82 percent of respondents, while 69 percent rated the ability of private-sector health systems to provide clinical services via telehealth as "very" or "somewhat" important. Similarly, governments establishing and operating national centers of excellence was rated "very" or "somewhat" important by 74 percent of respondents,

while 55 percent assessed the ability of private-sector organizations to operate national centers of excellence as "very" or "somewhat" important.

Health professionals themselves, and as groups, have a crucial role to play in the evolution and innovation of health programs and services. When asked to identify the greatest barrier to widespread use of telehealth today, global leaders rated "health professionals unwilling to change the way they currently work" as a mid-range concern among the 10 top barriers presented. Those who felt telehealth-enabled services were *not* a very viable solution when physical facilities were at capacity said the greatest change needed to make telehealth a widespread, lasting solution was "receptivity of health professionals." Health professionals can promote new collaboration and care approaches within their professions. Professional associations can also partner with governments to overcome barriers such as reimbursement policies and regulatory constraints that impede wider, faster adoption of new professional practices supported by ICT.

Global health leaders also provide a call to action for private sector technology providers. Most significantly, leaders cited the "lack of interoperability standards, processes, and protocols (essentially the ability of different systems to work together) as the greatest technological barrier to widespread implementation of new services and health programs. While the second-greatest technological barrier—lack of broadband infrastructure—is primarily a governmental challenge, the third-greatest barrier offers opportunities for another form of public-private partnership: namely, addressing a lack of requisite technological expertise. Almost 20 percent of respondents noted the "lack of technological expertise within the health sector" as a top technological barrier. Training and education programs in the public and private sectors, and through joint efforts, can address this challenge and support development of a 21st century health information technology workforce.

Final Thoughts

People most easily understand and evaluate what they know. Positive opinions and promising options are often based upon firsthand experience. Cisco IBSG's research findings are important because they draft a map for a phased approach to healthcare transformation. World leaders' views of innovation and telehealth will naturally evolve over time.

The most promising path begins with connecting clinicians and improving collaboration for patient care as well as public health practices. The second phase in the nationwide health-transformation journey can be widespread adoption of telehealth clinical services for patients. Within the next decade, it's entirely possible to imagine a range of telehealth-enabled health practices and services. Innovators have achieved significant advances with medical and information technologies to support direct patient care. Several studies have shown that patients who experience telehealth-enabled care encounters prefer these to traditional in-person medical visits.[12] As national health leaders become more aware of the promise for telehealth models for patient care, their appraisal of potential impact will undoubtedly evolve. Equally, technologies will mature. The research findings suggest a third and later phase focused on patient monitoring and management in any location, and a range of health services available in homes.

Contemporary barriers to widespread adoption will be addressed as both professional and consumer familiarity with new programs and new technologies grows. The journey begins with

the first steps. In the words of one health leader, "No nation is far along on the transformation journey."

Endnotes

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