PricewaterhouseCoopers

HealthCast 2020:
Creating a Sustainable Future*

PricewaterhouseCoopers' Health Research Institute

*connectedthinking

Preface

HealthCast 2020: Creating a Sustainable Future builds on two previous research reports that describe PricewaterhouseCoopers' point of view on global health trends. *HealthCast 2010: Smaller Worlds, Bigger Expectations*, published in 1999, focused on the drivers, such as consumerism and the Internet, which would disrupt the health industry in this decade. *HealthCast Tactics: Blueprint for the Future,* published in 2002, built on the trends described in *HealthCast 2010* and pointed providers and payers toward the tactics that would make them successful during the next three to five years.

In this edition of *HealthCast*, PricewaterhouseCoopers looks at solutions and responses from around the world to the globalization and industrywide convergence of healthcare. What insights, best practices and policy lessons can be learned from experiences in various countries to create a globally sustainable health system? Who, or what, is driving the solutions?

The report is presented in two segments. First, an overview of the evolution of globalized healthcare in stages as its priorities have changed from providing fundamental access in the 1950s to seeking sustainability today. Second, the main body of the report explores the seven key features of sustainable health systems identified by PricewaterhouseCoopers through extensive global research and in-depth interviews with healthcare executives and government leaders in 16 countries. These seven segments are rich in detail and describe ideas and innovations from across the world that are driving the future direction of healthcare.

The solutions are among us. Seek, learn and implement.

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Executive Summary

Look out. Better yet, look outward.

There is growing evidence that the current health systems of nations around the world will be unsustainable if unchanged over the next 15 years. Globally, healthcare is threatened by a confluence of powerful trends – increasing demand, rising costs, uneven quality, misaligned incentives. If ignored, they will overwhelm health systems, creating massive financial burdens for individual countries and devastating health problems for the individuals who live in them.

It is time to look outward. The attitude that all healthcare should be local is dangerously provincial and, in extreme cases, xenophobic. The days when healthcare sectors operate in silos must end. New solutions are emerging from beyond traditional boundaries and innovative business models are being formed as healthcare becomes globalized. These solutions are changing the way the Chinese think about financing hospitals, Americans recruit physicians, Australians reimburse providers for care, Europeans embrace competition, and Middle Eastern governments build for future generations.

In a world in which economies are globally interdependent and the productivity of nations relies on the health of its citizens, the sustainability of the world's health systems is a national competitive issue and a global economic imperative. Moreover, there is a moral obligation to create a global sustainable health system. The stakes could not be higher.

The idea of sustainability is subject to many interpretations. It is often used in the context of environmental protection and renewal of natural resources. One comprehensive definition can be found in Paul Hawkin's book, *The Ecology of Commerce*: "Sustainability is an economic state where the demands placed upon the environment by people and commerce can be met without reducing the capacity to provide for future generations." This definition applies in profound ways to healthcare. At the current rate of consumption and at the current level of thinking, the healthcare organizations of today will be unable to meet demand in the future. Our health systems will be unsustainable.

Beginning in 1997, health spending has been accelerating as a percent of Gross Domestic Product (GDP) among Organisation for Economic Co-operation and Development (OECD) countries. In 2002, the cumulative health spending of 24 OECD countries was $2.7 trillion. PricewaterhouseCoopers estimates that health spending for OECD countries will more than triple to $10 trillion by 2020.

Healthcare organizations and governments around the world are urgently seeking solutions to temper costs while balancing the need to provide access to safe, quality care. Yet, conventional approaches are failing, even in the most advanced nations of the world – throughout Europe, Asia, the Middle East, Australia, Canada and the United States.

Because they are often viewed as a local industry, healthcare organizations haven't exchanged ideas globally as much as other industries such as manufacturing and services. While each country faces unique hurdles – regulatory, economic, cultural – the challenges they face are remarkably similar. In their responses, common themes are emerging.

Despite the complexity of the challenges that the healthcare industry faces, successful initiatives – often involving technological innovation, preventive care and consumer-focused business models – are occurring in many places. These are efforts that have improved health outcomes while also saving money.

In this, the third edition of *HealthCast*, PricewaterhouseCoopers looks at the responses around the world to the globalization of healthcare and efforts to create a sustainable health system. It highlights best practices in innovation and shares insight and lessons learned from around the world. Specifically, the report has four goals:

- Provide a context for understanding global healthcare trends
- Compile a rich variety of "transferable lessons" from the around the world on what's working in a converging global health market
- Identify "solution drivers" within the control of executives and administrators, where health leaders can take action and effect change
- Serve as a call to action for healthcare organizations to look beyond their own boundaries to tackle the complex challenges of sustainability

Our research included a survey of more than 580 executives of hospitals and hospital systems, physician groups, payers, governments, medical supply companies and employers from around the world in 27 countries. In addition, PricewaterhouseCoopers conducted in-depth interviews with more than 120 healthcare thought leaders in 16 countries. They included policy makers, employee benefit managers and top executives of health organizations in Australia, Canada, Europe, India, the Middle East, Japan, Singapore, South Africa, the United Kingdom and the United States.

This extensive study identified several specific findings:

- **Future health spending is expected to increase at a much higher level of growth than in the past.** By 2020, healthcare spending is projected to triple in real dollars, consuming 21% of GDP in the U.S. and 16% of GDP in other OECD countries. PricewaterhouseCoopers' HealthCast 2020 survey showed that nearly half of healthcare executives from 26 countries believe healthcare costs will increase at a higher rate of growth than in the past. Executives in areas with high population growth (e.g., Middle East and Asia) were more likely to say that healthcare costs would accelerate, but more than half of U.S. and Australian executives also said that costs would exceed previous growth rates. Governments, hospitals and physicians are seen as having the greatest opportunity to eliminate wasteful spending in healthcare.

- **There is wide support for a health system with shared financial risks and responsibility among private and public payers versus the historic cost-shifting approach.** Only a minority of industry leaders in the U.S., Canada and Europe think that a sustainable system is one that is mostly tax-funded. More than 75% of HealthCast 2020 survey respondents believe that financial responsibility should be shared. Even in systems where healthcare is primarily tax-funded, such as in Europe and Canada, only 20% of respondents favored that approach. More than 50% of respondents said competition, taxpayer funding of some or all of healthcare, regulated cost controls, and cost sharing by patients were important.

- **Universally, health systems face challenges to sustainability around cost, quality and consumer trust.** Transparency in quality and pricing was identified by more than 80% of HealthCast 2020 survey respondents as a contributor to sustainability. Respondents' opinions regarding who is making the most progress in improving quality vary by locale. In the U.S., patient advocacy groups rated first, while in Europe and Canada, physicians ranked highest. In the Middle East, Australia and Asia, government was viewed as making the most progress.

- **Preventive care and disease management programs have untapped potential to enhance health status and reduce costs, but require support and integration across the industry for their benefits to be realized.** The most effective means of demand management, according to the HealthCast 2020 survey, are wellness, immunization and disease management programs. The vast majority (75%) of respondents viewed queues (waiting lists) as an ineffective way to manage demand. Yet only 26% of respondents thought government and private initiatives promoting better health had been effective and only 33% thought educational and awareness campaigns had been effective. More than 80% of respondents identified lack of care integration as a major problem facing the health delivery system.

- **In support of more empowered consumers, interest in pay-for-performance and increased cost sharing is soaring.** Industry leaders expect tremendous growth in consumer-oriented programs. Only 35% of respondents in the HealthCast 2020 survey said hospital systems are prepared to meet the demands of empowered consumers. But a large majority (85%) of organizations surveyed has initiated pay-for-performance initiatives, above the 70% who had started such programs in 2002. Forty-three percent of respondents said that direct cost sharing by patients is an effective or very effective method to manage demand for healthcare services.

- **Information technology (IT) is an important enabler in resolving healthcare issues when there is systemwide and organizational commitment and investment.** The vast majority of HealthCast 2020 survey respondents viewed IT as important or very important to integrate care (73%) and improve information sharing (78%). But IT is not a solution in and of itself. A smaller percentage saw IT as important or very important for improving patient safety (54%) or restoring patient trust (35%).

Global and industrywide convergence is occurring as best practices are shared and the lines become blurred among pharmaceuticals, life sciences, providers, clinicians and payers in the provision of care, access and safety. It is time that health systems – hospitals and physicians, public sector agencies, governments and other commercial health-related entities – view the benefits of working together and connect by formal partnership or informal business affiliations to deliver health services to consumers.

To create a sustainable health system, what are the common characteristics? PricewaterhouseCoopers' study identifies seven key features of sustainable systems, whether they be governments, networks of affiliated health-related organizations, or individual organizations:

1. **Quest for Common Ground:** A vision and strategy is needed to balance public versus private interests in building an infrastructure and in providing basic health benefits within the context of societal priorities.

2. **A Digital Backbone:** Better use of technology and interoperable electronic networks accelerate integration, standardization, and knowledge transfer of administrative and clinical information.

3. **Incentive Realignment:** Incentive systems ensure and manage access to care while supporting accountability and responsibility for healthcare decisions.

4. **Quality and Safety Standardization:** Defined and enforced clinical standards establish mechanisms for accountability and enhanced transparency, thereby building consumer trust.

5. **Strategic Resource Deployment:** Resource allocation appropriately satisfies competing demands on systems to control costs while providing sufficient access to care for the most people.

6. **Climate of Innovation:** Innovation, technology and process changes are a means to continuously improve treatment, efficiency and outcomes.

7. **Adaptable Delivery Roles and Structures:** Flexible care settings and expanded clinical roles provide avenues for care that are centered on the needs of the patient.

How, specifically, are various health systems addressing the need for sustainability? Some solutions will require far-reaching changes in national policy. Policy solutions can be influenced – but are not made – by the managers of healthcare organizations. Other areas over which management has some ability to effect change are plentiful and are driving solutions. By looking at these solution drivers, health leaders can begin to formulate responses to the major challenges facing their health systems.

Transferable lessons are emerging. The range of potential solutions that are emerging from health systems across the globe is depicted throughout the body of this report. They involve changes to systems, policies and structures. New financing incentives and models. Modifications to people's roles, skills and attitudes. Altered processes and workflows. Discoveries of new technologies and new uses of old devices.

Across boundaries, languages and cultures, these are the strategies being employed by health systems across the world. The solutions are out there. In the global market of health.

Conclusion

Threatened sustainability and convergence. At the broadest level, these are the issues facing health systems across the globe.

Transferable lessons are emerging. The variety is astounding yet so are the commonalities. Around the world and across all sectors of the industry, healthcare leaders are exploring many of the same solutions:

- Collaboration. Payers, hospitals, physicians, and community service organizations are working together to foster standardization and adoption of technology and process changes. They are teaming to enhance access and portability of healthcare services. They are coming together to realign incentives to accomplish mutual goals.

- Consumerism. Providers are reorganizing themselves in a patient-centric continuum through care management approaches. Payers are developing consumer-oriented benefits plans. Pharmaceutical and life sciences companies are using new pharmacogenomic discoveries to pursue personalized medicine.

- Technology assessment and dissemination. Payers, providers and community organizations are coming together on a regional and/or national basis to establish infrastructure and communications standards. They are developing incentives that will distribute the risks and rewards more evenly. Payers and research organizations are evaluating technology relative to productivity and lifespan.

- Transparency. New payment and reporting methods are emphasizing safety, performance and accountability for health organizations across all industry sectors. Payers and providers are participating in pay-for-performance programs. Industry trade groups are establishing quality and safety standards. Governments are establishing reporting mechanisms and requirements.

- Portfolio management. Hospitals, pharmaceutical companies, life science organizations, and payers are increasingly called upon to manage their service portfolios in a balanced, fiscally responsible manner. Governments are calling for rational approaches to regional service planning. Providers are organizing and allocating services to meet consumers' needs for access, manage quality of care, and reduce duplication and inefficiency.

- Manpower management. New models of developing, recruiting and retaining manpower are developing to address the root causes of gaps in service and impending future needs.

The following table summarizes the solution drivers for change.

Solution Drivers for Change

Solution Driver	Description	Transferable Lessons
System	Industry standards and government regulations are the solutions over which individual organizations have the least direct influence. However, healthcare organizations must devote some resources and participate in national policy debates in order to create a more sustainable health system.	1. Collaborate across traditional sectors and territory boundaries 2. Determine what care or benefits are basic to public health and structure an insurance system for the rest 3. Use regulation to encourage and strengthen competition 4. Organise care from the patient's point of view: establish a patient-centric continuum of care 5. Think small 6. Anticipate ways to deliver care to patients who increasingly move and travel
Finance	Organizations must concentrate on improving their financial position in order to meet global challenges. These solutions will be based in both revenue and expense areas, as well as knowing when and how to make investments.	1. Make consumers more personally responsible for the cost of seeking care 2. Put prices on the menu; disclose charges 3. Learn from existing systems when designing performance-based reimbursement 4. Incentivize clinicians for outcomes, not activity, through pay-for-performance models 5. Design financial incentives to anticipate cream-skimming 6. Access new sources of capital through public-private partnerships
People	Ultimately, healthcare is delivered by people for people. The capacity for staff to accept and embrace change will make or break solutions because people are the implementers. Organizations that can help their people manage change will be at an advantage in the global health system.	1. Establish shared incentives to accomplish mutual goals 2. Make wellness the preferred, if not mandated, lifestyle 3. Train workers in new technologies 4. Leverage nursing more widely 5. Challenge conventional training models to create new resources and roles that meet future needs
Process	Process redesign to increase efficiency and efficacy will be a required competency in the fast changing healthcare environment. Exploiting new technologies, clinical developments and globalization will require process change for organizations to be efficient and nimble.	1. Reinforce clinicians' roles as facilitators of appropriate care 2. Reach agreement on quality standards 3. Make error reporting voluntary and anonymous 4. Publish or perish: report performance to enhance transparency and knowledge sharing 5. Leverage quality to move the market 6. Listen to consumers
Technology	New medical technologies and new ways to capture and use medical data are just a few examples of how technology can make health systems better. Health organizations will need to choose wisely within limited budgets when it comes to how and what technology they buy.	1. Invest in a shared IT infrastructure 2. Leverage technology to eliminate duplication and administrative inefficiencies 3. Make technology a reason to collaborate 4. Move information, not people 5. Customize care to patients' genetic needs 6. Value technology's impact on productivity and lifespan

Section 1: Global Convergence in Health

Globalization has radically altered the business model for service and manufacturing industries. Health, traditionally regarded as a local industry, is becoming global as well. It's changing the way the Chinese think about financing hospitals, Americans recruit physicians, Australians reimburse providers for care, Europeans embrace competition, and Middle Eastern governments build for future generations.

"No country has got all the healthcare answers. Whilst different health systems inevitably reflect local societal and political realities, there are valuable lessons to be learned from observing how other health economies make things happen. In England, for example, we have learnt the lesson that those health economies which reward providers on the basis of quality and productivity get more of both. That's what the NHS is now aiming to do, both for primary care and hospital services," said Simon Stevens, President, UnitedHealth Europe and visiting professor of health policy, London School of Economics (and the UK Government's Health Policy Adviser 1997-2004).

Increasingly, the best and the brightest are asking: How can we create a better, more sustainable health system?

Consider the global collaborative process practiced by the World Health Organization (WHO) to settle on a flu vaccine recipe each year. WHO's network of 112 National Influenza Centres in 83 countries monitors the flu viruses, identifies new strains and targets the three most virulent. Imagine how such a global knowledge transfer could identify other best practices in health processes, treatment and funding mechanisms.
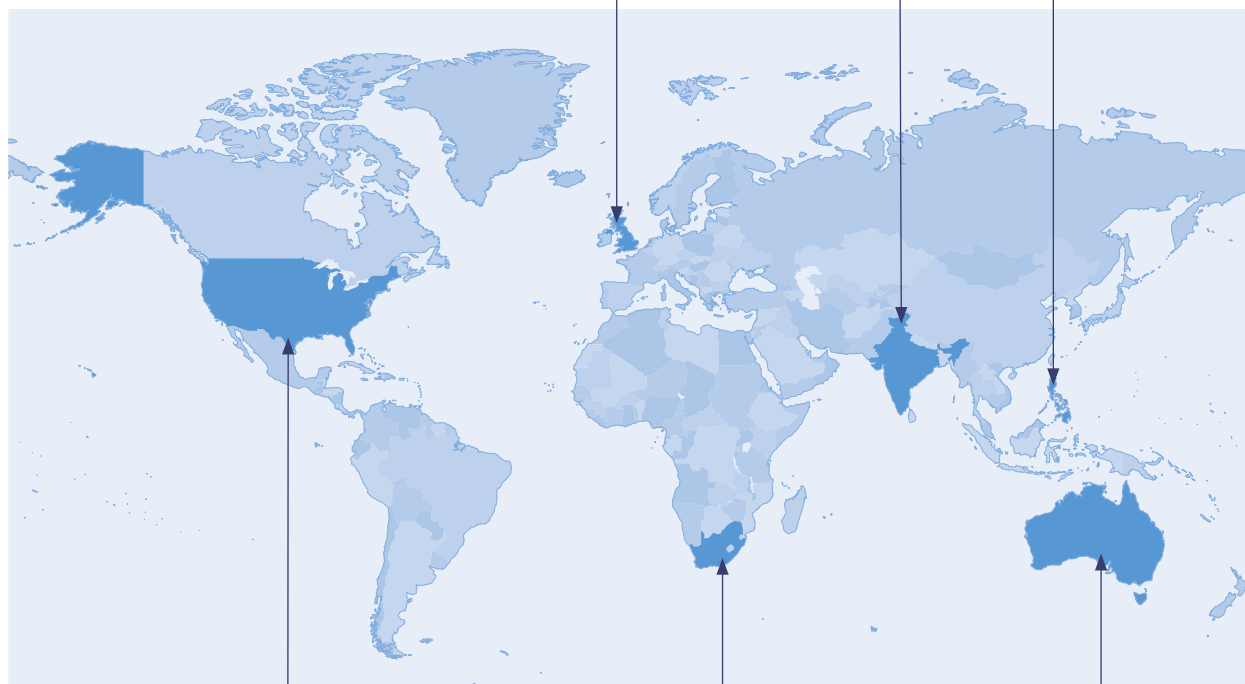
Some global connections are already under way. **(See Figure 1.)**

England builds a patient safety reporting system on same concept as aviation safety system in U.S.

Pharmaceutical makers move clinical trials from U.S. and Europe to India.

The Philippines export nurses around the globe.

The U.S. turns to Indian and Australian companies for outsourcing radiology readings.

Companies in South Africa contract with the NHS in England for a variety of surgical procedures.

Australia enhances U.S.'s DRG system, which is subsequently adapted by Singapore, France and Germany.

Source: PricewaterhouseCoopers Health Research Institute

Globalization of health has evolved in stages, creating opportunities and challenges. The stages of change are: **(See Figure 2.)**

FIGURE 2: Four Stages of Global Health

1950-1970	1970-1990	1990-2010	2010-
Fundamental	**Discovery**	**Reactive**	**Sustaining**
Access Public health initiatives	Pharmaceuticals	Physicians Financing Accreditation Outsourcing	Transparency Disease migration Convergence Patient migration

Fundamental: Global education about health issues began in the 1950s with the founding of WHO and the acknowledgement that fundamental health improvement begins with public health initiatives such as clean water and immunization. Many Europeans adopted a belief in "solidarity" around publicly funded access to care.

Discovery: From the 1970s through the 1990s, healthcare costs spiraled upwards, fueled by increasing demand and medical advances. Pharmaceutical companies were the first to broaden their reach as the need to innovate and compete prompted them to seek global partners and pipelines. Today, the global pharma model continues to expand as companies race to develop genetically targeted drugs and stem cell research. More clinical trials are moved outside the U.S. and Europe to territories where costs are lower.[1] For example, pharmaceutical companies are moving trials to India, which has the world's largest pool of diabetics, many of whom have never received drugs for treatment, simplifying patient enrollment and trial management. Pharma's reach has fueled the need for globally harmonized regulations, a difficult but critical effort spearheaded by the European Union (EU) and foreshadowing the need for broader standards in other health arenas.

Reactive: Between 1990 and 2010, health systems begin considering a variety of global solutions to local problems. Labor shortages? Ramp up international recruiting. Filipino, Caribbean and South African nurses are aggressively recruited by England and the U.S., where the process was facilitated by a more permissive visa policy for registered nurses.[2] By some estimates, Filipino nurses can earn up to nine times in England what they would earn at home, which has fueled the exodus of an estimated 250,000 nurses, sparking fears of a brain drain at home.[3] "Most of the international medical graduates in the U.S. come from India, Pakistan, the Philippines and other English-speaking countries. Although physicians from Africa do not represent a significant share of the physicians coming to America, the loss of any physicians could be a problem for some African countries," said Edward Salsberg, associate vice president of the Division of Medical School Affairs and the director of the Center for Workforce Studies within the Association of American Medical Colleges. By 2002, about one-fourth of U.S. physicians received training in foreign medical schools. Short of money? Hospital systems in more than 50 countries, including Australia, Brazil, Sweden, Malaysia and UAE, are creating public/private partnerships to build new hospitals and clinics.[4] Doubts about quality? Accreditation agencies with global reach are selling services globally. Need to cut costs or expand services? Outsource to foreign health service firms. Known as "nighthawking," some American hospitals have turned to companies in Australia, Israel, India, Switzerland and Lebanon to read CT scans overnight.[5]

Sustaining: In the next stage, healthcare systems – whether they be single organizations or entire countries – will seek sustainability. Cost acceleration is forcing stakeholders to assess their future viability. Communication advances allow information and best practices to be exchanged across continents. These comparisons mean that providers and payers[6] will be challenged to defend processes that have evolved over decades. To be sustainable, health executives will need information, metrics and transparency to support decision making. "Transparency in healthcare is both an asset in learning and an ethical obligation," said Donald Berwick, president and chief executive officer of the Institute for Healthcare Improvement in Cambridge, Mass. In countries with higher tax rates that pay for care, residents will demand more transparency about how their taxes are being spent and how it helps them. Dutch hospitals, for example, are obliged to present their waiting lists on the Internet. Ontario, Canada, is developing a registry that displays wait times in areas such as cancer surgery and MRI scans.[7] Transparency enables a comparative focus on access as well as the cost and quality of care. Understanding costs is seen as a key to reforming many countries' health systems.

Global staging is expanding to patients themselves. The World Tourism Organisation predicts global tourism will triple by 2020. Low-cost air travel, aided by ever-larger commercial jets that can travel farther and faster, is escalating the risks of disease migration. During the 2003 outbreak of Severe Acute Respiratory Syndrome (SARS) in Asia and many other parts of the world, WHO actively demanded an urgent improvement in China's SARS surveillance system and more open and accurate reporting on the epidemic by the government.[8]

Finally, the sustaining stage is one of convergence. Global convergence, as best practices are shared, and industrywide convergence as the barriers among pharmaceuticals, providers, clinicians, biotech and payers melt away. Sustainability requires an understanding of the blended nature of health. It requires leadership to integrate and balance the need of individual sectors for their own sustainability while creating an overall model that will support itself beyond 2020.

Welcome to the global market of health.

Section 2: The Unsustainability of Global Health Systems

The globalization of health brings enormous opportunities, but is overshadowed by common threats. Bloated costs, uneven quality, and inequitable or mismanaged access threaten the sustainability of health organizations, systems and populations. More importantly, rising healthcare costs and related increases in corporate spending can weaken the ability of developed economies to compete globally, threatening to destabilize those economies.

PricewaterhouseCoopers' HealthCast 2020 survey showed that nearly half of healthcare executives from 27 countries believe healthcare costs will increase at a higher rate of growth than in the past. **(See Figure 3.)** Not surprisingly, executives in the Middle East and Asia – areas with high population growth – and Australia were more likely to say that healthcare costs would accelerate, but 51% of U.S. executives also said that costs would exceed previous growth rates.

Concerns about sustainability are growing as costs seem to be running out of control. In the U.S., the Medicare Trust Fund is projected to go bankrupt by 2019,[9] and yet, in 2006, the U.S. begins an expensive new drug benefit for the elderly – expected to cost $1.2 trillion[10] in the coming decade. As Alan Greenspan, chairman of the U.S. Federal Reserve, has stated: "As a nation, we may have already made promises to coming generations of retirees that we will be unable to fulfill."[11]
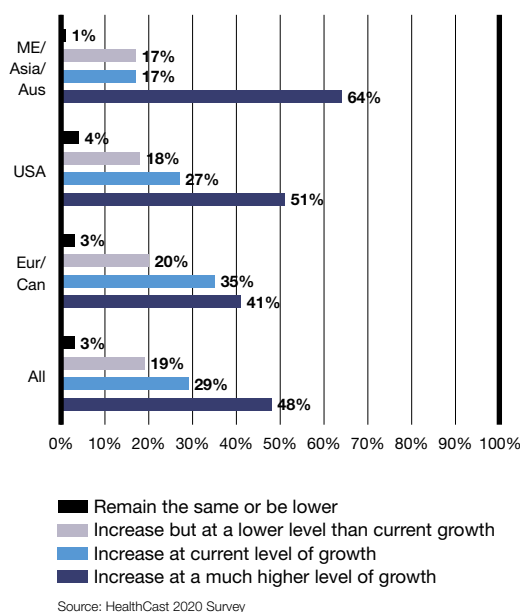
Meanwhile, the French healthcare system, ranked the best in the world by WHO in 2000, is on the verge of bankruptcy, losing €23,000 (U.S.$28,124) a minute and projected to collapse altogether by 2020.[12] In England, despite record increases in health funding since 2000, increasing financial transparency is exposing multimillion-pound deficits across some regional healthcare systems. The combination of provider capture, where the provider has control of the market by determining activity, setting price and quality, and relatively weak purchasing power has meant that in some areas the care provided is viewed as neither affordable nor appropriate.

PricewaterhouseCoopers' analysis of data from OECD countries showed that the biggest spending increases in health spending began in 2000.[13] By 2002, the 24 OECD countries were spending $2.7 trillion on healthcare. According to PricewaterhouseCoopers' estimates, health spending for OECD countries will more than triple to $10 billion by 2020. Like the tide pounding the shore, healthcare spending ebbs and flows on the banks of each nation's economy. As more of the shore erodes, some nations worry that growing health spending will eat away at wages and purchasing power.

By 2020, health spending is projected to account for 21% of gross domestic product (GDP) in the U.S. and a median of 16% of GDP in other OECD countries, according to PricewaterhouseCoopers' estimates. **(See Figure 4.)** In the future, the health spending growth rates of OECD countries are expected to narrow although U.S. spending will remain significantly higher than the rest. By 2020, the U.S., which accounted for 55% of OECD health spending in 2003, will only account for 50% – still a significant sum.

Several trends support this forecast. Both the convergence of the European Union and the global convergence of healthcare are likely to lead to similar growth rates among OECD countries. While at times U.S. health spending has grown at double or even triple the rate of other OECD countries, the gap has been narrowing. Higher utilization is expected in an aging Europe and developing Eastern European countries where there is pent-up

FIGURE 3: How much do you expect health spending to increase in your country?

Legend:
- ■ Remain the same or be lower
- ▨ Increase but at a lower level than current growth
- ▨ Increase at current level of growth
- ■ Increase at a much higher level of growth

Source: HealthCast 2020 Survey

demand for healthcare. At the same time, overall GDP growth is expected to remain in the low single digits. While "consumerism" will be a major disruptive force in healthcare, another "C" may have an even larger impact: China. The growth in wages in America, Europe and Japan has been weak in recent years, and China's huge labor pool is expected to keep global inflation low.[14] Yet, nothing seems to be in the way of higher healthcare inflation, and thus a higher percentage of GDP spent on health services and supplies. In fact, some economists argue that as income rises people spend less of the increase on staples, such as food, clothing and basic housing, and use the extra money to buy things like entertainment, travel and health services.

FIGURE 4: Projected Health Spending as Percent of GDP

Source: PricewaterhouseCoopers' estimates

US — Other OECD Countries
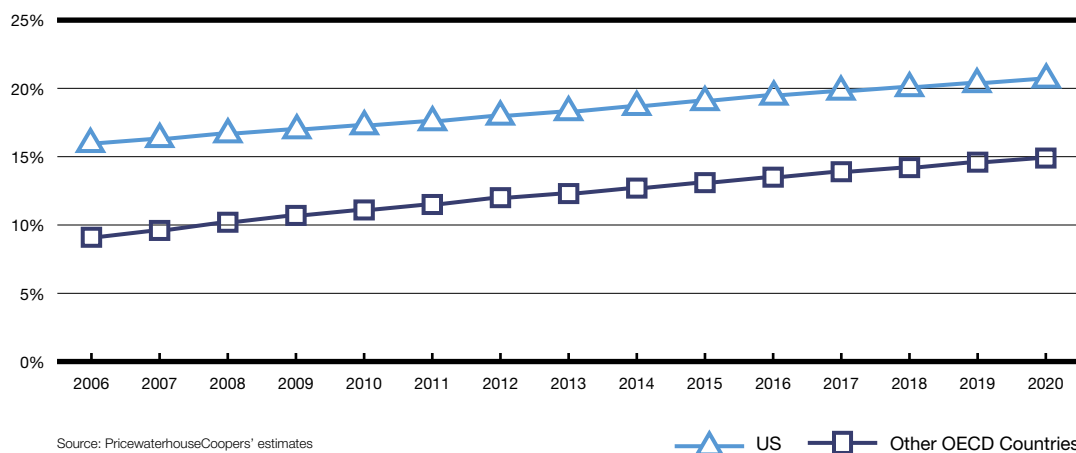
Population growth and shifting demographics toward an aging population are frequently mentioned as root causes for unsustainability. However, these issues alone aren't making health systems unsustainable. For example, Italy, Japan and Spain – three of the fastest-aging countries – spend less per capita than the U.S. Despite beliefs to the contrary, aging Baby Boomers in the U.S. are contributing a small percent of the increase in health spending, and are not a major driver for increases that are far above the overall inflation rate.[15] There is, however, concern about the decreasing proportion of populations who will be paying into publicly funded healthcare systems. Rather than blaming aging as a problem, it should be celebrated as a success. A longer, high-quality and productive lifespan is the goal of most health systems.

Higher spending on healthcare isn't necessarily bad. As economies grow, spending on healthcare also grows and contributes to a more productive society. However, critics say that at some point, higher health spending may deliver only modest additional returns. In addition, recent evidence shows higher spending may not be buying higher quality. According to OECD data, the U.S. spends the most on healthcare per capita as a percentage of GDP, but ranks 22nd out of OECD countries in terms of life expectancy.[16]

Questions about value are troubling and universal. In many European countries, waiting times and hospital infection rates regularly make headlines. "In Ireland, public spending on healthcare increased by 136% from 1996 to 2004. Much of the increase has gone into salary increases, including administration, and not actual care. This has created a general dissatisfaction about the amount of money spent vis-a-vis the value obtained," noted G.A. Lynch, director of finance at the Adelaide and Meath Hospital Dublin, incorporating the National Children's Hospital.

Global healthcare thought leaders worry that healthcare costs are rising too quickly, especially in relation to other costs. "Are our demand management techniques working? No. All spending focuses on acute care and chronic conditions. The current focus on cost containment needs to change to a focus on longer-term solutions," said Anton Rijnen, chief executive officer of Medihelp, a private medical scheme/insurer in South Africa. Gerrit Muller, chief financial officer of the National Department of Health in South Africa, added: "In South Africa, we do not profess to manage demand; we handle demand." This holds true in many geographies.

Features that Create Sustainability

Given the current spending projections and sustainability, PricewaterhouseCoopers conducted interviews with more than 120 health executives and thought leaders and commissioned a survey of more than 580 health executives, policy makers, clinicians and other leading public and private sector executives. Through the survey and interviews, PricewaterhouseCoopers identified seven features that were critical in creating sustainable health systems and are capable of managing costs and providing equitable access to quality healthcare. We highlight them here and provide detail later in this report.

Sustainable systems demonstrate some or all of the following seven features:

1. Quest for Common Ground: A vision and strategy is needed to balance public versus private interests in building an infrastructure and in providing basic health benefits within the context of societal priorities.

2. A Digital Backbone: Better use of technology and interoperable electronic networks accelerate integration, standardization, and knowledge transfer of administrative and clinical information.

3. Incentive Realignment: Incentive systems ensure and manage access to care while supporting accountability and responsibility for healthcare decisions.

4. Quality and Safety Standardization: Defined and enforced clinical standards establish mechanisms for accountability and enhanced transparency, thereby building consumer trust.

5. Strategic Resource Deployment: Resource allocation appropriately satisfies competing demands on systems to control costs while providing sufficient access to care for the most people.

6. Climate of Innovation: Innovation, technology and process changes are a means to continuously improve treatment, efficiency and outcomes.

7. Adaptable Delivery Roles and Structures: Flexible care settings and expanded clinical roles provide avenues for care that are centered on the needs of the patient.

The remainder of this report describes how each of these seven factors plays a role in creating sustainable health systems, and highlights strategies that health leaders from across the globe are beginning to take to respond to these challenges.

Quest for Common Ground: A vision and strategy is needed to balance public versus private interests in sharing risks and responsibilities, building an infrastructure, sharing an information platform, and in providing basic health benefits within the context of societal priorities.

"Healthcare systems in all industrialised countries are under pressure. The challenge is to balance individual responsiveness with social solidarity and, in particular, fiscal sustainability. In Europe that sustainability will not be achieved without strengthening the 'demand side' and radically improving the sophistication of the payer function."
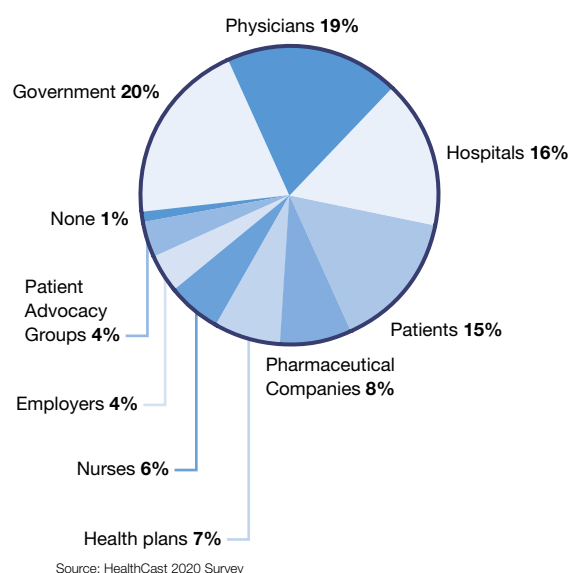
Simon Stevens, President, UnitedHealth Europe and visiting professor of health policy, London School of Economics (and the UK Government's Health Policy Adviser 1997-2004)

Sustainability starts with finding common ground about the goals of a sustainable system. Other industries have come together on standards and infrastructure to eliminate silos. Getting to a common ground requires a pragmatic assessment of what each party can contribute to a sustainable future. As health systems seek common ground – whether on a global, national or local level – they must be introspective about their own weaknesses, strengths and resources.

Here's the good news. It's in our hands. More than half of HealthCast 2020 survey respondents said governments, physicians and hospitals had the most potential to eliminate wasteful spending on health. Patients ranked fourth behind hospitals. **(See Figure 5.)**

FIGURE 5: Potential of stakeholders to eliminate wasteful spending on health

Physicians **19%**
Government **20%**
Hospitals **16%**
None **1%**
Patient Advocacy Groups **4%**
Employers **4%**
Nurses **6%**
Patients **15%**
Pharmaceutical Companies **8%**
Health plans **7%**

Source: HealthCast 2020 Survey

For example, governments have a key role in sorting out common ground and using regulation to make healthcare work more like a market.

The HealthCast 2020 survey provides a view of where to look for common ground. When defining a sustainable health system, HealthCast 2020 respondents saw the ingredients in two tiers. Most important, they said, are transparency and access. More than 80% of respondents agreed that these were important or very important to sustainable systems. The U.S. rated access highest; the rest of the world rated transparency highest. These topics, particularly how to define access and transparency, are issues for common ground discussions on a national scale.

The next tier of important ingredients centered on financing care. More than 50% of HealthCast 2020 respondents said competition, taxpayer funding of some or all of healthcare, regulated cost controls, and cost sharing by patients were important. Clearly, competition and regulated cost controls are opposite ends of the spectrum, but the health industry might need some of both as long as there's agreement on goals. Balancing these divergent needs will require regulation, cooperation and planning.

These differing views exemplify the results of the HealthCast 2020 survey, which found that the importance, and thus the role, of competition has a societal context: It is rated higher in the U.S. than in the government-run systems offering universal coverage, as in Europe and Canada. **(See Figure 6.)**

Another component of creating a common ground is balancing the public and private financing of the healthcare systems. A convergence of financing systems is evolving globally. In the U.S. (traditionally viewed as a privately financed system), expansions of government programs mean that half of all care will be tax-funded before 2020.[17] Meanwhile, market-based reforms are changing the government-run systems of Germany, the Netherlands, England and France, liberalizing provider markets. A new focus on user fees and health insurance is beginning to erode the universal "free" systems of the past.

FIGURE 6: Important Aspects of a Sustainable Healthcare System on a Scale of 1 to 5, With 5 Rating Highest

Source: HealthCast 2020 Survey

USA   Europe/Canada
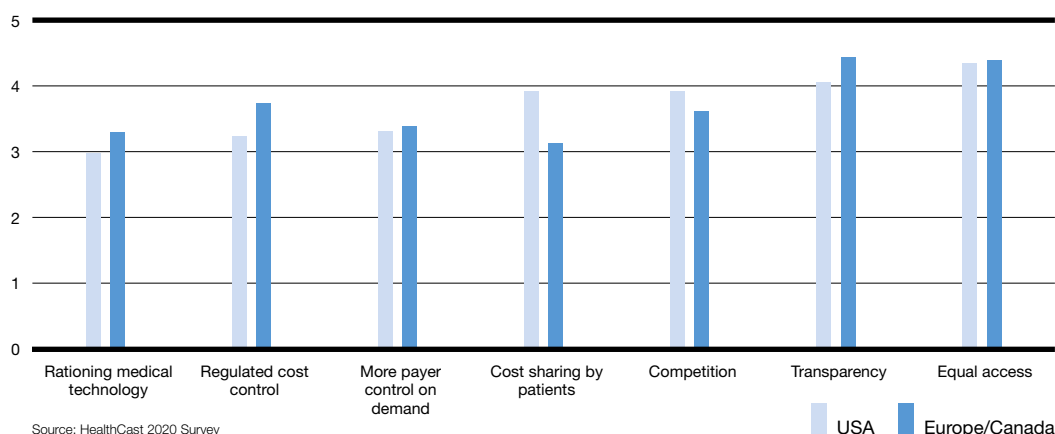
In many cases, governments see future tax-funded obligations as unsustainable. Edward Oh, group business development director of a large healthcare service company in Singapore, explains: "The main hurdle is the amount of funding that the government is willing to allocate towards healthcare. Singapore is attempting to provide first-class healthcare in a third-world financing framework. There are insufficient funds to meet the expectations of patients at every level." Consumers ultimately pay all healthcare costs, either through taxes, donations, user fees or insurance premiums. Stirring up the best blend of those monies, however, depends on each country's social contract. In England, the Commission on Public Attitudes reports that public hostility to tax increases is dramatically reduced if people are told for what the money will be spent. When asked if they favored a one-pence increase in tax as a contribution towards the general pool of government revenue, only 40% agreed. When asked if they would favor a rise if the money was spent on the National Health Service (NHS), 80% agreed.[18] Some countries, such as the Netherlands, require their citizens to pay for some level of health insurance coverage. German and French workers pay for healthcare through mandatory payroll deductions. The U.S., with more of an emphasis on individual choice, only directly taxes workers for care for the elderly through Medicare. The U.S. is also among the least taxed of the developed countries, a situation that may change amid increasing funding demands from Medicare.[19]

Coming to common ground won't be easy. It means confronting the following challenges:

- There's no agreement on the long-term vision of success.
- Incentives are misaligned in a fragmented system, where financial incentives squeeze costs out of one area, but may increase them in another or have unintended consequences on quality or access.
- Even when leaders can agree on common goals, agreeing on funding and governance is difficult.

Transferable Lessons:

✚ Collaborate across traditional sectors and territory boundaries

Delivering the best healthcare is no longer confounded by national boundaries. The European Court of Justice has determined that any citizen of the European Union has the right to cross borders within the EU for non-hospital-based care, and be reimbursed up to the benefit and reimbursement level in the patient's home state. Access to care is eased by a new EU health insurance card, which serves as a medical passport for Europeans needing care in other EU countries. In certain circumstances, the patient may also be entitled to cross-border hospital care, though non-emergency care must be pre-authorized by the patient's own system.

A new reimbursement and insurance system will be introduced in the Netherlands in 2006. This system, in which insurance companies will begin competing for policy holders, demands a higher level of collaboration. As a result, some insurance companies are collaborating with university doctors in Leiden to set up an advisory centre for the treating of patients over 80 years old who tend to have complex and costly health problems. The use of an electronic patient record and a system of communication between specialists and general practitioners (GPs) are being designed to improve the quality of health and life for older patients.

Governments in developing nations are partnering with pharmaceutical companies on free or reduced-price drugs. Government-subsidized care in Trinidad and Tobago

provides pharmaceuticals including anti-retrovirals for HIV/AIDS at reduced prices to patients through a Chronic Disease Assistance Programme.

Determine what care or benefits are basic to public health and structure an insurance system for the rest

More than three-quarters of HealthCast 2020 respondents said financial responsibility should be shared. Despite repeated calls for a universal health system in the U.S., for example, the survey showed that only 6% of U.S. respondents favored a system that was mostly tax-funded. (Currently, 46% of U.S. health spending is tax-funded.) Even in systems where healthcare is primarily tax-funded, such as in Europe and Canada, only 20% of respondents favored that approach.

Amid an ongoing debate about solidarity, some European countries are moving toward basic health coverage augmented by a private health insurance market. Under the new Dutch system, insurance will cover hospital costs and medical specialist costs under a new risk-adjusted payment classification system of Prescription Cost Groups and Diagnostic Treatment Combinations (DTCs). The DTC payment is estimated to cover about 70% of needed care. Under the new law, all Netherlands citizens will receive a basic level of health insurance coverage, regardless of income, but they must purchase supplementary insurance packages for additional care. Opting out of the basic assured system is prohibited by law. Individuals will have to pay about 1,100 per annum for this coverage, and children under 18 are free. Patients will have free choice of doctors, though in some (mostly elective) cases, patients might have to pay an additional premium to be treated in the hospital of their choice. Those with fewer claims may be eligible for a partial refund. Social solidarity is realized in the tax system through care allowances. Insurers will contract with providers and facilities independently, leading to providers needing to differentiate themselves. Insurance companies will structure a settlement fund for higher-risk members, thus eliminating risk selection issues. Reporting requirements for both insurance companies and medical providers will be increased, creating more data

that can be used for benchmarking.

The market for private health plans is expanding in developing nations like India, where Yashaswini Insurance provides coverage for major surgical operations, including those pertaining to pre-existing conditions, to Indian farmers who previously had no access to insurance.[20] In South Africa, only 16% of the country's 44 million citizens have health insurance. Primary care is free, but secondary care is paid for according to patients' means. As a result, those without insurance can't pay for hospital care. Total healthcare spending per capita is about $1,200 for the private sector, but only about $200 in the public sector. Although officials feel more could be spent on health in the public sector, the more pressing concern is rebalancing the inequity between public and private spending.[21]

Many point to the Swiss compulsory basic health insurance scheme, which covers illness, accidents, certain preventative measures, and maternity for all inhabitants, as a model for determining the basic level of care for individuals and designing the system around such care. The insured persons must pay both the premiums and a part of the costs. Contributions consist of a flat rate of 188 per year for those over age 18; plus 10 percent of the costs exceeding the flat rate up to a maximum amount of 438 per year (half for those under 18); and an additional 6 per day for the costs of a hospital stay (unlimited) for persons who do not live in a household. In addition to the compulsory scheme, insurers may offer optional benefits separately, subject to permission by the respective federal authority.

"In principle, a market-driven system is better to achieve a cost-effective delivery system, but access to the public health insurance system has to be open for everyone and primary healthcare has to be guaranteed by the state," said Peter Schöne, chief executive officer, DRK Trägergesellschaft Südwest, a German nonprofit acute hospital system. In Germany, where the public system is financed from salary contributions, the contribution needed to cover the health budget has risen to 14.3% in 2004, from 8.5% in the 1960s.[22]

Use regulation to encourage and strengthen competition

To compete or not to compete? Regulation typically determines the playing field and rules, and increasingly, governments are encouraging more competition in healthcare. "Competition in healthcare will create numerous new opportunities for companies. Practice will show what opportunities will develop and where. The dynamic and complex process towards competition requires adequate specific regulation and careful antitrust control," said Frank de Grave, chairman of the Dutch National Regulatory Authority for Health. "There are foreign entrants into the market and first movers are anxious to invest, but there are regulatory controls and red tape, and outcomes are uncertain. There are strong regional monopolies and antitrust controls are weak." In Australia, regulatory bodies are slow to change, noted Russell Schneider, chief executive officer of the Australian Health Insurance Association Ltd.: "I can't see, in the current regulatory environment, any particular change to what we have had the last few years."

However, an incentive for profit is inherent in competition, and that's a concept that makes some wince. "I believe in my heart that as soon as you bring in the incentive of profit, you compromise the system," commented Altaf Stationwala, corporate vice president of the William Osler Health Centre, the largest community hospital authority in Ontario, Canada. "We just have to change the governance of our system so that instead of competing, we are encouraged to work together to generate the most value and make the best decisions."

Competition is expanding as governments seek more efficient ways to provide care than noncompetitive markets can deliver. Proponents view competition as a way to wring out waste. For example, deregulation of the U.S. telecommunications industry resulted in sizable productivity gains and lower prices, which increased demand for phone lines. "Competition and information technology (IT) were complementary factors that drove productivity growth," noted the Health Information Technology Leadership Panel in a 2005 report to U.S. National Coordinator for Health Information Technology David Brailer.[23]

FIGURE 7: Recent Government-Induced Competition Efforts

Country	Type of Competition Encouraged	Result
Australia	In 2000, government encourages consumers to buy health insurance by offering 30% tax rebate, and mandating pricing system in which premiums are cheaper to early buyers.	Number of insured Australians increased from 30% in 1998 to 45% in 2002.
Canada	In 2005, the Canada Supreme Court ruled to allow private insurance because waiting lists had become so long that they violated patients' "liberty, safety and security" under the Quebec charter.	Enforcement of the ruling delayed until June 2006 while issue under debate.
England	In 2004, NHS outsourced a variety of surgical procedures to South African companies.	Waiting lists are reduced.
Germany	Some public hospitals are privatized resulting in greater efficiency and equivalent quality outcomes.	Reduction in costs, competition among private hospital groups.
Republic of Ireland	National Treatment Purchase Fund set up in 2002 to arrange for patients to be treated in private hospitals in Ireland, the United Kingdom or other countries. Government providing tax relief for private hospitals in a bid to increase capacity quickly.	Reduction in waiting lists. Rapid increase in number of private hospitals.
The Netherlands	Insurance companies will contract with providers independently, forcing providers to differentiate themselves.	Begins in 2006.
Singapore	MediShield Plus, a government plan that paid for hospital care, is privatized.	Under way.
U.S.	Medicare outsources its new drug benefit to prescription drug plans, which compete for beneficiaries.	Benefit starts in 2006.

Despite the resistance to increased competition and privatization, more governments realize that in order to meet consumer needs and to reduce costs, privatization and/or competition may need to occur. **(See Figure 7.)** In England, in order to increase capacity, reduce elective waiting lists, and encourage innovation in delivery, the NHS has recently contracted out some 250,000 elective procedures to the private sector. It has a medium-term goal of increasing outsourced clinical delivery to some 15% of national health spending. Netcare, South Africa's largest private physician and hospital network, is providing 44,500 cataract operations via Mobile Operating Units across England. Similarly, the Irish government has recently purchased specific healthcare procedures from private providers to reduce waiting lists.

"England will need to become smarter about market management; in other words, there have to be sufficient providers available to enable choice, or even to be able to tailor basic solutions to patients' needs. The main issue is the development of the commissioning function; this is the biggest challenge facing us now," says David Colin-Thome, national clinical director for primary care at England's Department of Health.

In the U.S., Congress put a temporary moratorium on new specialty hospitals because community hospitals complained about cream-skimming on high-profit procedures such as heart surgery. The moratorium was lifted in 2005, however, amid a continuing debate over the merits of that competition.

Access new sources of capital to remain competitive

Sustainable health organizations cannot rely simply on government funding, especially while competitors tap a host of private capital sources. A blend of financing, philanthropy and government funding will be needed, but health companies will need a business model to attract investors. A PricewaterhouseCoopers' survey of 55 German hospitals identified lack of capital investment as the top driver of rising costs as they fail to improve the efficiencies of their plants. Countries with infrastructure

needs are partnering with private interests to fund buildings and services. Public-private partnerships that sprouted in England have spread globally, most notably to France, Spain and Romania, where the first private hospital opened in 2005. Since 1997, 68 major acute hospital schemes have been commissioned through such partnerships, with over a third now operational and many more under construction. Contractual arrangements between public and private sectors can be structured so resources, risks and rewards of both a public agency, such as a National Ministry of Health, and private sector healthcare delivery are combined to improve efficiency, access to capital, and compliance with regulations. For example, plans are under way to build 12 privately financed hospitals in Spain at an estimated cost of 3.6 billion. The Spanish Public Administration publishes a "call for tender" to build a hospital by a private company and the company in turn receives the right to operate the nonclinical services of the hospital for the 20- or 30-year life of the financing.

In 2000, St Goran's became the first private acute-care hospital in Sweden when the government converted it to a private one managed by the Scandinavian company Capio. In what is known as the Stockholm model, the management and employees are privatized. This model came from Sweden, which has been known for its deeply rooted belief in solidarity and the welfare state. While the concept is still highly political, St Goran's is often cited as a "best in class" hospital with strong patient and employee support.

Sustainability Feature #2

A Digital Backbone: Better use of technology and interoperable electronic networks accelerate integration, standardization, and knowledge transfer of administrative and clinical information.

"Paper kills."

Former U.S. House Speaker Newt Gingrich in describing the problems of paper health records.[52]

Seventy-three percent of HealthCast 2020 survey respondents said that IT was important or very important to integrating care. Delivering seamless, integrated patient care can be difficult when medical records and other sources of patient information are stored at multiple locations and there are no means of pooling the information. "We perform assessments on all new residents when they enter the facility. Although we will get their hospital orders at that time, currently, it takes 24 to 48 hours to get the patient's [complete] records. This is a fragile, medically compromised patient population that would benefit most from electronically linked information networks," said Patricia Kolling, chief compliance officer at BEI, one of the largest nursing home chains in the U.S.

Healthcare is in data overload, and in need of a means for knowledge transfer. Case mix classification systems, initially developed in the U.S., have been modified and are well established or being further modified for use in Australia, Germany, the United Kingdom, Belgium, Spain, Portugal, Norway, Sweden, Austria, France and the Netherlands. When implemented, these systems create large databanks of financial, demographic and clinical data that can be used for ongoing decision support and performance management. Developing nations, like India, are searching for that kind of data and best practices as they straddle First and Third World health issues. "On one hand, there is a growing urban population, afflicted by lifestyle diseases like hypertension, cardiac problems, and diabetes. On the other hand, the vast rural population has poor access to healthcare systems and is prone to communicable diseases," added Sangita Reddy, executive director of India-based Apollo Hospitals, the largest private hospital group in Asia.

Harnessing the speed of technology and communication to improve care depends on building the shared infrastructure to use these data resources. For example, the U.S. Department of Veterans Affairs has been tracking patient data with a computerized record system throughout its network of 157 hospitals and 869 outpatient clinics since 1994. Yet, outside the government system, such information handoffs do not occur as readily.

Building a digital backbone faces numerous challenges:

- Technology initially requires additional funding.
- Lack of standards makes interoperability and connectivity nearly impossible.
- Adoption of technology can take months, if not years.
- IT solutions are often dumped on clinicians without adequate training and process change.

Transferable Lessons:

🖥 Invest in a shared IT infrastructure

In England, the NHS, which is the largest health organization in the world and the fifth largest employer (after the Chinese army, the Indian railways, Wal-Mart and the U.S. army) with 1.3 million workers, is pursuing that goal. NHS is investing £6.2 billion (U.S. $12 billion) over a 10-year period (formally established in 2002) to create a national network connecting 270 health trusts, 18,000 sites, and 28,000 physicians. The goal is better integration of electronic patient records, e-prescribing, and electronic appointment scheduling with an underlying principle of patient choice.

The NHS started requiring primary care physicians in England to use computers to get paid in 2004. As a result, with very few exceptions, physicians in England use computers to create electronic medical records (EMRs) for their patients. Soon, all clinicians in England will be required to track patient activity via a nationally integrated IT system. This system uses the EMRs for patients to create a warehouse of information available to analyze care. It is also intended to support integrated care pathways, make billing more efficient and improve quality outcomes by creating, for example, an easy way for physicians to report adverse drug events. Germany and other European countries are also creating their own single electronic patient record systems.

Meanwhile, the Canadian federal government has provided $1.1 billion to fund the Canada Health Infoway, Inc., a nonprofit organization with the mandate to accelerate the development and adoption of electronic health information systems in Canada.[24] The organization was created to strengthen a nationwide health infostructure to improve quality and access.

EU health ministers and the European Commission are moving toward a trans-European e-health system by 2010. The European Commission Communication on e-health emphasizes cooperation between national health authorities and sets target dates for member states to identify a common approach to patient identifying data and standards for health data by the end of 2006 and support for network infrastructure by 2008.[25] Theoretical standards can be established in that timeframe, but the question remains to what extent they will be deployed and link into national programs. In a global healthcare setting, there will be various strategic options for convergence and these will depend on factors such as how healthcare processes are converging globally. Convergence in clinical standards and political drivers in different countries will drive what happens to processes and, therefore, data. One example is the distinction between giving patients access to their own electronic record, as is planned in England, and the more common approach to an electronic medical record designed around the needs of clinicians and providers.

Leverage technology to eliminate duplication and administrative inefficiencies

In Australia, payers have been working with the Health Insurance Commission (HIC) on a new online system that is expected to reduce administrative costs for hospitals and payers. By swiping the patient's card, a provider has access to relevant cost and co-payment information. About 40 percent of general practices in Australia now use the system to process patient claims electronically, and Australian Health Minister Tony Abbott recently announced that participation in HIC Online and Healthconnect, two electronic reimbursement programs, may become mandatory. A 2004 survey found that 95% of HIC Online users received faster payments and 84% achieved improved efficiencies.[26]

In the U.S., a 2005 study by the Rand Corp. said $77 billion could be saved annually by properly implementing and adopting health information technology.[27] Some providers and payers are integrating IT and finding savings on a regional basis. Highmark, a large health insurer in Pennsylvania, opened its accounts receivables process so that providers could track and manage their own payments. "We broke the mold by allowing views into our system. While providers benefited from faster payment, we cut our claims volume and reduced our administrative costs," said Jim Klingensmith, the plan's executive vice president. "In our case, transparency improved the operating performance and level of trust among all parties."

To reduce credentialing time and effort, the Council for Affordable Quality Healthcare (CAQH) developed a one-stop resource for providers, health plans and other healthcare organizations in the U.S. The Universal Credentialing DataSource® is a single, national process that eliminates the need for multiple credentialing applications. Through this online

service, providers, free of charge, complete a single, standardized application that fulfills virtually any organization's credentialing requirements. Participating plans and other healthcare organizations in turn go to a single location to pull the data set for each provider. Administrative savings are achieved by both. "The plans are realizing that streamlining administration can pay dividends in improved provider relations," said Robin Thomashauer, CAQH executive director. "By doing so, they also add value to their overall operations."

Make technology a reason to collaborate

In the U.S., more than 200 regional health information organizations (RHIOs) have been established by consortiums of hospitals, physicians and payers to create local networks of electronic health records. Although in some cases insurers are funding these efforts, sustainable funding remains a key issue. For example, last year Blue Cross contributed $50 million to the Massachusetts E-Health Collaborative RHIO to wire community hospitals with interoperable computerized health records.[28]

Development of digital cards is under way in many regions. In the world's second largest economy, digital smart cards with patient data are smoothing communications among Japanese providers. Historically, "the outpatient's doctor was not aware of the prescription issued by the patient's home doctor, the ward doctor was not aware of the prescription issued by the previous hospital the patient visited," explained Mikio Tazoe, general manager of Japan's Hokkaido University Hospital. "In response to these issues, we are engaged in establishing cooperation among district medical institutions."

Sustainability Feature #3

Incentive Realignment: Incentive systems ensure and manage access to care while supporting accountability and responsibility for healthcare decisions.

"If the public sector method of dealing with demand is placing upon the patient the choice to wait, you make people queue. In the private sector the choice is to pay. So, in a sense the mechanism is the same; it is about putting on the consumer a choice, one has to do with money, the other has to do with time or inconvenience."
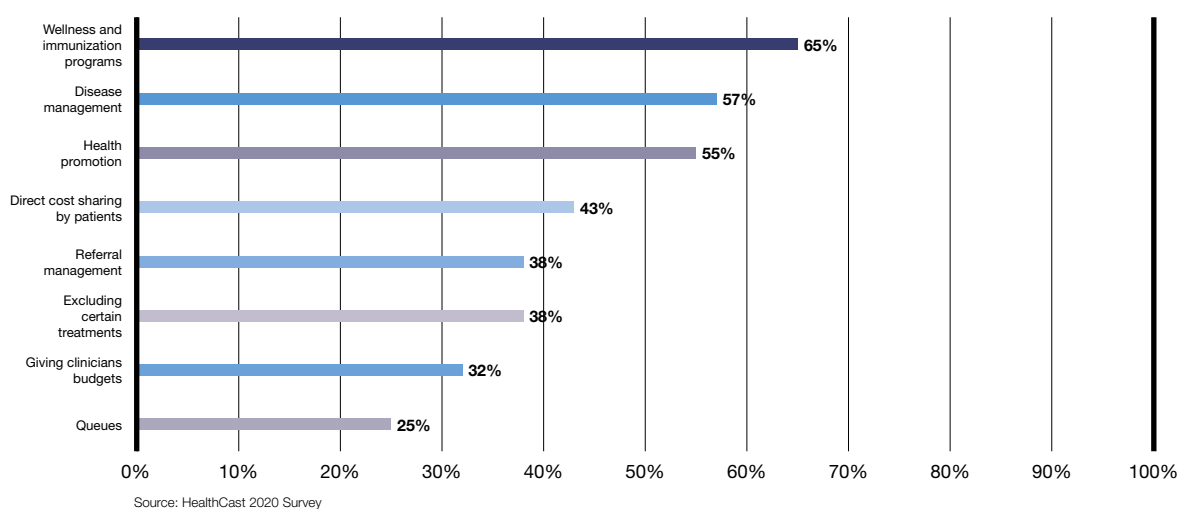
Francis Sullivan, chief executive officer of Catholic Health Australia

More than 80% of HealthCast 2020 survey respondents said equal access was an important or very important factor in sustainability, and interviews indicated that demand management and incentives are crucial to expanding and ensuring access.

Health system leaders in Europe, North America, Africa, the Middle East, Australia and Asia universally expressed concern over the need to realign incentives. Healthcare organizations in the U.S. and Europe have experienced consumer dissatisfaction and eroding trust with the blunt instruments of demand management, namely limited access to specialists in managed care and waiting lists in systems employing commissioning. Only 25% of HealthCast 2020 survey respondents viewed queues as an effective way to manage demand. **(See Figure 8.)** Governments are responding to that view. In the last two years, waiting lists have been substantially pared in England and Ireland; Canada has a major effort to do the same. Nations have learned that waiting lists can impact productivity. The European Union recently reported that 600 million work days are lost annually due to absenteeism for health-related reasons, impacting GDP by as much as 2.6% to 3.8%.[29] The most effective means of demand management, according to HealthCast 2020 respondents are wellness, immunization and disease management programs.

FIGURE 8: Percentage of respondents believing the following demand management techniques are effective

Technique	Percentage
Wellness and immunization programs	65%
Disease management	57%
Health promotion	55%
Direct cost sharing by patients	43%
Referral management	38%
Excluding certain treatments	38%
Giving clinicians budgets	32%
Queues	25%

Source: HealthCast 2020 Survey

Realigning incentives means reassessing the financial drivers for clinicians and patients. For example, some organizations view IT as an enabler to deliver cost-effective care, but run into adoption problems. "We participated in a pilot to get doctors to use handheld devices, and we were willing to pay for them," explained Aran Ron, M.D., executive vice president and president of U.S. health insurer GHI HMO, in describing their ongoing attempt to implement technological innovation. "Physicians were reluctant to take it on, because it meant they had to change the process flows within their offices. Benefits don't accrue to the physicians – we would have to provide incentives for them to change."

As payers design incentive policies and procedures, they find that they must address the following challenges:

- Patients' demands are unlimited.
- Physicians have incentives to provide care beyond what is needed.
- Government must take a larger role in prevention and public health, but competing interests often interfere.

Transferable Lessons:

Establish shared incentives to accomplish mutual goals

Delivering care involves complex interrelationships among multidisciplinary providers of various services and products. Opportunities for waste are rife. HealthCast 2020 survey respondents said sustainability depends on incentivizing clinicians, hospitals, pharmaceutical companies and payers to integrate care and manage chronic conditions together. **(See Figure 9.)** "We have world-class vascular physicians, and we're looking at how to improve health outcomes of those with vascular disease, but all the financial systems are set up to reward things that happen in an episodic acute-care environment, and there's no reward to go upstream to try to do early prevention, early diagnosis," said Dick Pettingill, chief executive officer of U.S.-based Allina Health System.

In the U.S., hospitals can now share cost efficiencies with physicians through gainsharing, which is viewed as a way to control some medical technology costs. Through gainsharing programs, physicians can share in the cost savings achieved by changing the supplies that they purchase, provided that clinical quality is not adversely affected. Approved gainsharing plans have common elements such as transparency, written disclosure to patients, and controlled distribution to physicians of profits to reduce the incentive to push cost savings too far.

Make wellness the preferred, if not mandated, lifestyle

Because the impact of prevention affects long-term demand, governments, versus individual providers or private insurance, must play a lead role in public health initiatives. For example, governments have a role in outlining healthy behaviors, an effort that costs nothing, but can be viewed as trampling personal freedoms. In the face of limited budgets, governments have historically spent more on hospital and physician services, leaving wellness and prevention programs underfunded. An alternative approach has been for governments to motivate consumers by making unhealthy activity illegal. Anti-smoking campaigns were the most frequently mentioned by HealthCast 2020 respondents as being effective, yet that battle remains a challenge. "Patients are accepting more responsibility for their own healthcare as a direct response to [Trinidad and Tobago's] health promotion/disease prevention and patient charter initiatives, but the obstacle to this trend includes sensational advertising of products that are injurious to health such as fast food, tobacco and alcohol," noted Valerie Rawlins, director of health service quality management of Trinidad and Tobago's Ministry of Health.

Lack of government funding may stem from taxpayer skepticism about the value of prevention programs. The HealthCast 2020 survey found that only 26% of respondents thought government and private initiatives

FIGURE 9: Importance of financial incentives in achieving health system objectives
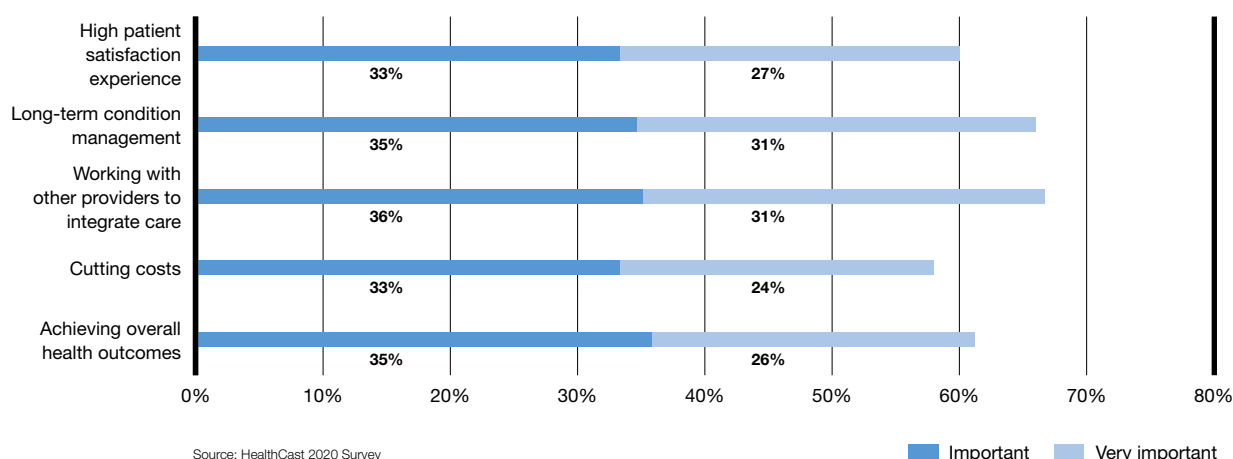
Source: HealthCast 2020 Survey

Important   Very important

promoting better health had been effective and only 33% thought educational and awareness campaigns had been effective. Yet, many governments are getting serious about wellness. The Republic of Ireland was the first nation to introduce a countrywide smoking ban in enclosed work places in 2004, followed by New Zealand. In early 2005, Italy introduced a countrywide ban on smoking in all public places. Despite opposition from some commercial interests, bans on smoking in bars and restaurants are spreading rapidly to Australia, Iran, Montenegro, Malta, Norway, Sweden, Tanzania, the Netherlands, Turkey, Uganda, as well as some cities in Canada, England, and the U.S.[30]

A few countries have proposed initiatives to encourage consumers to undertake healthier diets. For example, England is considering whether to encourage food manufacturers to adopt simple labeling systems that set out the nutritional value of food. Sweden is investigating taxing foods with high glycemic and fat content. In 2005, the U.S. introduced new dietary guidelines and set up a website in which individuals can track their food intake and exercise. In the first 72 hours of the website's existence, it logged 160 million hits, with 20 percent of them originating from outside the U.S.[31]

Governments are not the only ones getting serious about wellness. One U.S. employer, American Standard, has implemented wellness programs that result in better employee health, fewer sick days, and lower costs. "Most people know they should have preventive screenings, including things such as a colonoscopy or mammogram, but life gets in the way. People have many things going on in their lives such as children, church, schools or caring for elderly parents, for example. If we make preventive care easy and accessible by offering as much as possible on-site in our facilities; if we eliminate economic barriers by eliminating

co-pays for necessary preventive services, we will drive the behaviors we want to see. Over a reasonable period of time, these behaviors will result in a handsome payback to the organization, in terms of reduced direct medical spend, increased productivity and enhanced affinity with the organization," said Joseph Checkley, global director of employee benefits at American Standard. "It's a full-court press; from offering low-salt, low-fat snack options in vending machines to on-site mammography and everything in between."

Wellness programs by one non-government entity in South Africa encourage healthy behaviors. According to Barry Swartzberg, managing director of South African-based Discovery Health, the wellness product this insurer offers acts "much like a benevolent bribe." It allows members to earn redeemable points for seeking preventive care, such as cholesterol screening and mammograms, and maintaining healthy lifestyles, for example by joining a gym. Points can be redeemed for travel, leisure and lifestyle rewards. Chronic disease spending is managed as well. Members suffering from certain chronic conditions are awarded points for participating in medical screening, monitoring and healthy lifestyle programs.

"Health promotion and health education are the areas in which investment and reimbursement must be supported," noted Sarper Tanli, M.D., director of planning, Dubai Health Care City (DHCC), which is expected to open in the United Arab Emirates in 2006. DHCC aims to become an internationally recognized location of choice for quality healthcare and an integrated center of excellence for clinical, wellness, and medical services, as well as education and research.

FIGURE 10: Consumers Don't Experience the True Cost of Healthcare
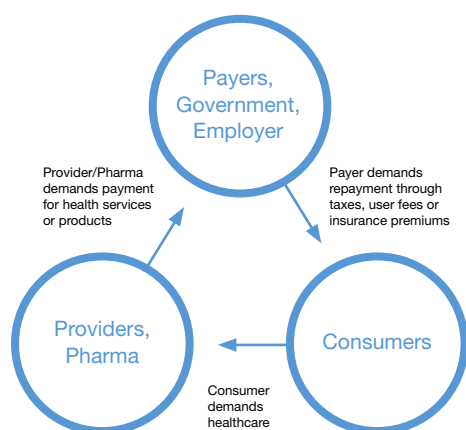
Make consumers more personally responsible for the cost of seeking care

Forty-three percent of HealthCast 2020 survey respondents said that direct cost sharing by patients was deemed to be an effective or very effective method to manage demand for healthcare services. However, under the current payment systems of most industrialized countries, consumers are separated from the direct cost of care. **(See Figure 10.)** While a true market in healthcare isn't practical, consumers need to understand the cost and value of health services and products. The U.S. is moving toward increased consumer cost sharing, which proponents believe reduces the moral hazard that develops when an individual is consuming more healthcare goods and services than he or she might normally be willing to pay for. Pat Shehorn, chief executive officer of Westlake Hospital in the U.S., notes that "as long as we have a system where there isn't much skin in the game for me to have to pay something towards it, I'm going to demand absolutely the best. I'm going to want one of those 64-slice CT scans, and I'm going to demand, if I am morbidly obese, that you pay for my bariatric surgery."

Increasingly, payers are adopting some type of co-pay. For example, co-pays were introduced in Germany in 2004, a move that reduced physician visits by 8.7%. **(See Figure 11.)**

The French government is also looking to give citizens a sense of responsibility regarding health costs. Beginning in 2005, each French citizen was required to elect a medic, who then must be consulted for a referral to a specialist. While French citizens may still consult specialists without first receiving a referral, the co-payment for such consultations would increase to a maximum of 7. In addition, each healthcare service received would include a charge of 1 that would not be reimbursed by the government or by insurance.

FIGURE 11: Effect of co-pay on physicians' utilization in Germany, 2004-2005

General practitioner	-7.9%
Surgeon	-11.6%
Gynecologist	-15.1%
Dermatologist	-17.5%
Orthopedist	-11.3%
All physicians	-8.7%

Source: German Resident Doctors Association

Employers in the U.S. are shifting more direct healthcare costs to their employees through consumer-directed health plans (CDHPs). Surveys show half of U.S. employers are considering CDHPs in order to cut down their health plan costs.[32] The idea of consumer-directed health plans is to combine financial incentives with information about cost and quality to help consumers make better informed decisions about their healthcare choices. One common design for consumer choice plans is a high-deductible health insurance plan that includes a savings account. Consumers pay for health services out of the savings account, which gives them a better idea of cost. Unspent dollars can accumulate and be rolled over to the following year. To date, more than 3 million employees have enrolled in consumer-driven health plans.[33] They work best when employers provide web-enabled databases with information on cost and quality.

Put prices on the menu; disclose charges

Expecting consumers to absorb more costs without transparency is problematic. In the U.S., for example, prices can vary greatly between and among providers and payers. "Consumer-driven health will be the biggest short-term driver for the U.S. healthcare system," said Humphrey Taylor, chairman of The Harris Poll, "However, we are a long way from a well-informed public. Many estimate that it will take 10 to 15 years to develop a well-educated patient consumer and transparent system."

Reinforce clinicians' roles as facilitators of appropriate care

Australia and the U.S. are employing health coaches to help sick patients who are treated by numerous providers and to monitor risk factors. Trained as nurses, respiratory therapists, or pharmacists, such clinical coaches know how to navigate an increasingly complex system. In Australia, case management is provided through health insurers, in which patients work with

a health coach weekly on risk factors identified voluntarily through self-assessment. If the risk factors change, the health coach will make an appointment with the patient's general practitioner.

"Consumers want integrated experiences. Proactively helping consumers navigate the healthcare system is one way we improve the health of the people we serve," said Mark Boxer, president and chief executive officer of consumer-driven health plans, enterprise services and Medicare government business for U.S. health insurer WellPoint, which is using health coaches as a key differentiator. Medicare also is giving the concept a try, offering health coaches to 180,000 chronically ill beneficiaries.

England, France and Italy are all focusing on physicians as gatekeepers to reduce overuse of specialists. Italian experts interviewed for this report agreed that co-payments tend to reduce demand, regardless of whether it is appropriate or unnecessary, whereas strengthening the role of the gatekeeper can reduce unnecessary demand.

In England, the new General Medical Services contract incentivizes general practitioners to be gatekeepers by reducing referrals to specialists, and incentivizes them to do procedures in their offices. However, some are concerned that quality may suffer if GPs are incentivized not to refer to specialists.

Sustainability Feature #4

Quality and Safety Standardization: Defined and enforced clinical standards establish mechanisms for accountability, enhance transparency, and build trust.

"The measure of a successful, sustainable healthcare system is one that can enhance longevity, productivity, and quality of life."
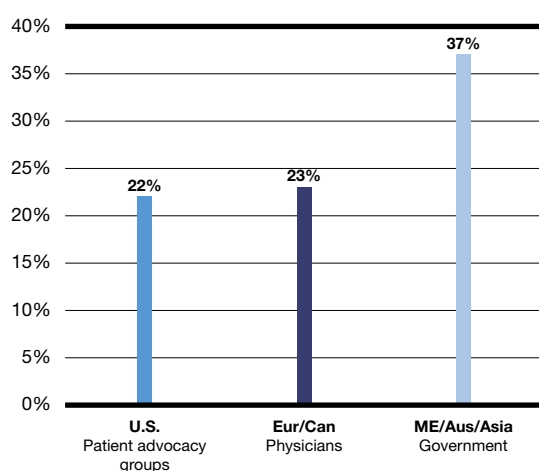
Herbert Pardes, M.D., president and chief executive officer,
New York Presbyterian Medical Center

More than 80% of respondents in the HealthCast 2020 survey said transparency in quality and pricing leads to sustainability. Interest in quality and safety has soared globally. "Providing high-quality healthcare is indeed a covenantal commitment of every government to its people, and there can be no room for complacency or second-best solutions. They should explore innovative and inclusive strategies to facilitate 'health for all,'" notes Sangita Reddy, executive director of operations at Apollo Hospitals, India. However, governments are not the only participants in the healthcare system who can do something about improving quality and safety. Programs such as pay-for-performance and pharmacovigilance, which focuses on drug safety, are being developed in the private sector.

So, what's working in terms of quality? According to the HealthCast 2020 survey, physicians and hospitals were rated overall as making the most progress to improve healthcare quality. Despite the attention received by employer coalitions, such as Leapfrog in the U.S., employers were rated last. Helen Darling, president of the National Business Group on Health, said employers have taken on programs such as pay-for-performance out of desperation to control costs and improve performance by rewarding high-quality performance. However, she adds: "Providers need to take back the quality agenda."

Source: HealthCast 2020 Survey

How should they do that? Providers may benefit by partnering. For example, the HealthCast 2020 survey showed that other segments have made more progress in improving quality. **(See Figure 12.)** In the U.S., patient advocacy groups rated first, while in Europe and Canada, physicians ranked highest. In the Middle East, Australia and Asia, government was viewed as making the most progress. To translate that into action, providers, pharmaceutical makers and insurers may want to confront the world's biggest killer – heart disease – by linking with the sector viewed as making the most progress toward quality in their region.

Interestingly, nearly every stakeholder group in the survey, with the exception of employers, rated itself as first in making the biggest strides on quality. Employers rated hospitals first.

Patient safety is an important component of this. In the U.S., medical errors are estimated to cost between 48,000 and 96,000 lives every year.[34] In UK hospitals, approximately 800,000 medical errors occur annually, which is a rate of around 11.7%.[35] The Australian rate has been reported to be somewhat higher at 16.6%, although researchers in Australia used a wider definition of error.[36] In Canada, researchers found the rate of medical errors to be around 7.5%.[37] However, no one really knows how many errors or adverse events occur because of gaps in reporting processes and differences in definition.

Safe care is also efficient care. One Massachusetts hospital system began a system of bar coding for medications in its hospitals and reduced drug errors by more than 50%, preventing approximately 20 adverse drug events per day. While the goal of the system is to increase patient safety, it also saved money in lower costs.[38] As healthcare organizations and governments design quality and safety programs, they must solve the following challenges:

- Information about quality is sparse and occasionally contradictory.
- Reporting of errors and adverse events is poor.
- Definitions of quality vary.
- Paying for performance can have unexpected outcomes.

Transferable Lessons:

♻ Harmonize quality standards

Quality standards are evolving from those based on structure and documentation to those based on process and outcome. This evolution adds complexity. In the U.S., more than 100 independent organizations monitor quality. In addition, numerous payers and providers have their own ideas about what constitutes quality. Multiply that on a global scale. Some fear inappropriate translations of standards, potentially due to cultural differences, will complicate the process. "The challenge is finding the right set of measures that are easy to generalize and mean the same thing everywhere," said Arthur DeTore, M.D., executive vice president of strategy and business development for Parkview Health, a northeastern Indiana-based hospital system.

To demonstrate quality, some hospitals are seeking accreditation that's recognized globally. For example, 60 organizations in 17 countries are accredited by the Joint Commission International (JCI). Hamad Medical Corp. in Qatar is working to become one of the first Joint Commission International-accredited hospitals in the Middle East. Hamad is seeking the accreditation to provide world-class standards of care to its citizens and ensure its physicians are trained in top-quality institutions.

Make error reporting voluntary and anonymous

When errors go unreported, no one learns from them. By encouraging voluntary and anonymous reporting, clinicians and organizations can understand how failures occur and adjust their processes. For example, England's new patient safety system adopts the principles of the Aviation Safety Reporting System, developed by the FAA for the aviation industry in the U.S. Like the aviation system, it's voluntary, confidential and nonpunitive. Agaplesion AG, a midsize German hospital provider, also is implementing a voluntary system in which doctors anonymously provide information about near-fatal accidents. The idea is to provide information about what might have nearly happened, what might have caused the incident and what should be done to prevent future mistakes and to assure appropriate quality. A similar voluntary and anonymous Intensive Care Unit Safety Reporting System is being used by 23 intensive care units (ICUs) in the U.S. Other nations are embracing the idea of "no-fault" reporting. Architects of error reporting systems say it's important to have a common language and a feedback loop so that those who file reports know what resulted from them.

Gino Tosolini, M.D., managing director of the Regional Healthcare Agency of Fiuli Venezia Giulia in Italy, has implemented a program for the development of clinical governance within local healthcare units and hospitals. The program provides guidance for incident and infection rate reporting, as well as quality standards. The goal of the program is the development of information systems for safety measures, standardizing procedures, and effective training and communication.

Many view mandatory reporting as less important than educating professionals on what to report. "There has been much debate regarding whether spontaneous reporting should be mandatory. Some feel that if you make reporting mandatory, you may drive reporting underground," said Peter Honig, executive vice president of worldwide regulatory affairs and product safety for Merck. "One answer is that we need to do a better job educating healthcare providers. Although we don't know the actual degree of under-reporting of postmarketing adverse events, someone estimated that only 10 percent of actual adverse events are reported. Why is this at such a low rate? Most healthcare providers are poorly trained at recognizing and reporting adverse events." Pharmaceutical companies are developing pharmacovigilance systems that have finely developed signaling to detect adverse events. Judith M. Sills, PharmaD, head of global safety intelligence at Novartis Pharmaceuticals Corp., notes that, "Safety regulations and safety thinking continue to evolve, so a system that will serve that area has to be dynamic and flexible. That's why some companies choose to build their own (pharmacovigilance systems)."

In Boston, Harvard Medical School's major teaching hospitals are taking disclosure one step further. Under a new policy under consideration, physicians would receive training in how to apologize to patients when things go wrong. The hospitals would join a growing number of U.S. medical centers and malpractice insurers that are encouraging immediate and open disclosure and apology to patients when medical care goes wrong.[39]
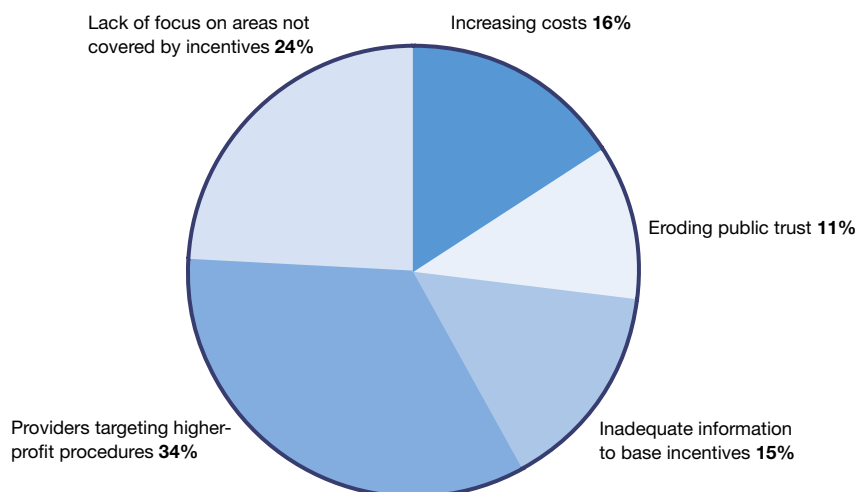
Incentivize clinicians for outcomes, not activity, through pay-for-performance

Physicians are expected to be critical gatekeepers of access to care, but often their financial incentive is to deliver more care. Fee-for-service payment methods and malpractice litigation both can increase the amount of care provided. Most importantly, rarely are patients involved in the decision to treat, even though they are often more parsimonious than clinicians. "Twenty-five percent of Medicare

costs are represented by 12 operations which have a discretionary component and for which there is a patient decision support tool," noted Jack Wennberg, who is known throughout the U.S. for his research in healthcare practice variation through the Dartmouth Atlas. In clinical trials using these decision aids, surgery rates most often decline when patients are fully informed. Over 50% is for supply-sensitive services (such as primary care and specialist visits, hospitalizations and stays in ICUs), mostly for patients with chronic illness. On the problems of supply-driven demand, Wennberg commented, "Miami has twice the costs of Minneapolis for supply-sensitive services – in large part because there are more doctors and hospital beds, and therefore more utilization. By contrast, for discretionary procedures, there is no correlation with overall spending. Indeed, rates in Miami are higher than in Minneapolis for most procedures."

A trio of factors – information availability, online reporting and frustration with the pace of change – has led to the adoption of pay-for-performance. Pay-for-performance has become a natural extension of efforts to record and report quality and safety. Generally, pay-for-performance rewards providers on up to five metrics: outcomes, adherence to certain processes, patient satisfaction, cost efficiency and technology adoption. While many countries are moving toward performance-based reimbursement, they must balance against the risks voiced in the HealthCast 2020 survey. **(See Figure 13.)**
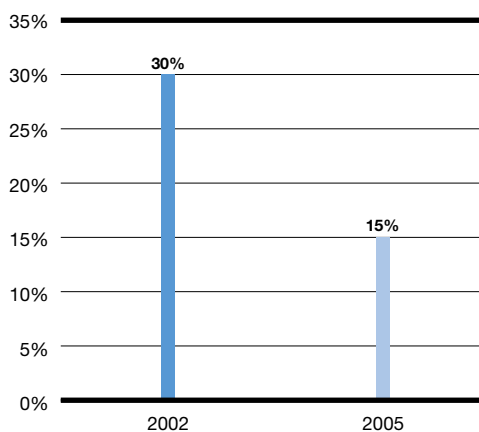
When asked to rate the importance of reimbursement to providers in levering quality and patient safety measures and the extent to which this is happening, HealthCast 2020 survey respondents provided quite different responses in 2005 than when we interviewed thought leaders in 2002. Support for pay-for-performance dropped slightly – 69% thought it was important or very important in 2002 compared to 61% in 2005. However, waning enthusiasm for pay-for-performance likely reflects the experience of some clinicians or organizations that are financially penalized or believe they will be. The survey also showed that more organizations are implementing pay-for-performance. In 2002, 70% said organizations had started such efforts; that increased to 85% in 2005. **(See Figure 14.)**

FIGURE 14: % who said pay-for-performance efforts had not started in their area

Source: HealthCast 2020 Survey

FIGURE 13: In an incentive-based payment system, what in your opinion is the biggest risk?

Lack of focus on areas not covered by incentives **24%**

Increasing costs **16%**

Eroding public trust **11%**

Inadequate information to base incentives **15%**

Providers targeting higher-profit procedures **34%**

Source: HealthCast 2020 Survey

Payers are recognizing the complexity of healthcare metrics in this methodology. The NHS in England is using a scorecard of 146 performance indicators to reward high-quality care in general practice. The accumulated score will determine the magnitude of the quality payment the practice receives. About 18% of practice earnings will be at risk.[40] These indicators cover a mix of organizational (practice management) and clinical areas (10 chronic diseases: including asthma, diabetes, high blood pressure and mental health).

In the U.S., about 100 pay-for-performance programs have been implemented by government and health insurers, and nearly all started with physician groups.[41] In California, the Integrated Healthcare Association offers bonuses to doctors who screen their patients for cervical and breast cancer, coronary artery problems and other conditions that are expensive to treat.[42]

Learn from existing systems when designing performance-based reimbursement

Since the U.S. replaced fee-for-service payment with Diagnosis Related Group's (DRGs) in the 1980s, this methodology has been viewed as a new way to finance health services. And DRGs have been revised and adapted: a half dozen European systems are replacing fixed budgets with DRG-like systems that pay based on procedure, performance or a combination of both. But no two systems are the same.

For example, under a revamped health insurance system that starts in 2006, Dutch providers and insurance companies annually will agree to a common fee schedule and both the basic and add-on insurance components will be administered through private insurance companies. The DTC system has been under development for almost four years and builds on the DRG concept by combining hospital and specialist reimbursement.

In Spain, patient choice is being used to lever change in provider behavior in various ways throughout the different autonomous communities. In Valencia, the government

has implemented an innovative public sector scheme that incorporates pay-for-performance. In three health regions (Alzira, Torrevieja and Jávea), hospitals and primary care physicians are being contracted to private insurance companies that are paid by the government on a capitated basis. The insurance companies are responsible for building the necessary infrastructure, recruiting the personnel, and operating the provider organizations. Consumers are free to choose to go to these private providers or travel to public services in other areas, in which case the private company must reimburse the government for the services received out of area. This business model has been used to build new hospitals in areas where public hospitals did not exist, as well to transform an existing public hospital. A similar system is being developed in Portugal, where the government plans to renovate part of its hospital infrastructure using similar mechanisms.

Publish or perish

According to a University of Geneva study in the *Annals of Internal Medicine*, 61% of doctors wash their hands before examining a patient if they know someone is watching while only 44% wash their hands if they think no one is watching.[43] This simple example illustrates a key tenet about quality and efficiency measures: Compliance tends to be higher when someone is watching. "Real transparency in the industry will lead to much better pricing, better costing, and better information on quality," noted Mark Roman, healthcare leader for EDS, a Texas-based information technology company. "This would assist in establishing or re-establishing trust in the industry."

Examples of voluntary reporting:

- St. George's Hospital was recently the first hospital in England to voluntarily publish complication rates for its heart surgeons online. "Patient safety is a key driver for improved information sharing," said Vaughan Lewis, consultant pediatrician at Royal Devon and Exeter Healthcare, an acute NHS trust. South Africa's Board of Healthcare Funders also intends to publish data on cost and quality for hospital groups. Andalusia, an

autonomous community of Spain, makes performance of public hospitals transparent through online publishing performance on 26 indicators regarding accessibility, care activity and patient satisfaction.

- In Germany, the Institute for Quality and Efficiency in Healthcare was established in 2004 to provide scientific evaluation of the use, quality and efficiency of healthcare services and pharmaceuticals. The institute also will evaluate clinical practice guidelines, making recommendations to disease management programs, and the publication of health information for patients and consumers.[44] The results of their data from 2005 will be published in 2006. Yet, providers haven't been so eager to disclose information on volume, cost or quality. Noted Eugen Münch, president of the supervisory board and former chief executive officer of RHÖN-KLINIKUM AG in Germany: "In Germany, quality is yet relatively on a high level, but there is still a lack of transparency. The major reason for this lack is that doctors are not interested in reporting maltreatment, and without transparency the patients do not have the appropriate information." German leaders of sustainable health systems understand that information regarding the efficacy of clinical treatments is good. Both Bert Uwe Drechsel and Peter Küstermann, member of the board and chief financial officer, respectively, of Germany's Helios Kliniken, are convinced that "the cost of treatment will be reduced through increased quality – thus the length of stay will be minimized, the error in treatments will be reduced."

- In the Netherlands, the Sneller Beter (Better Faster) Programme was launched in 2003 by the Ministry of Health, Welfare and Sport and the Dutch Hospital Association. The program comprises three core activities: benchmarking hospitals and primary healthcare; tracking indicators for safer, better care; and the quality, innovation and efficiency programme, which seeks to achieve major results quickly in the areas of patient security, logistics and control. Also, the Dutch Ministry of health supported a multidimensional home care benchmarking system that was cited

by the OECD as exemplary. It includes specific measures of quality, efficiency, and patient and staff satisfaction. The initiative has resulted in performance improvements and been expanded to long-term care and rehabilitation sectors.

- In the U.S. alone, the number of websites that report information on either hospital clinical or patient satisfaction data has grown from less than 10 to 47 in the past decade.[45] All but about 60 of the nation's 4,200 general hospitals are voluntarily turning over data to Medicare in exchange for higher reimbursement rates. Medicare publishes online the hospital ratings on 10 widely accepted quality measures in treating heart attack, heart failure and pneumonia. Another example is Norton Healthcare in western Kentucky that publishes 200 quality indicators online. The hospital system shows the rating for each of its hospitals compared to the average ratings of both Kentucky hospitals and U.S. hospitals, where available.

Leverage quality to move the market

As transparency impacts global competition, organizations will compete on quality and price. "One of the best quality drivers is competition and the possibility to have a market exit if customers are voting against you," said Axel Paeger, M.D., chief executive officer, AMEOS, a privately owned hospital chain, which is based in Switzerland and provides acute inpatient care and stationary psychiatry services in Germany. "Review of transparency should take place not via the legislature, but via competition and conferences of consent which include patients in decision making," said Germany's Reinhard Schwarz, M.D., chief executive officer of Sana Kliniken, a privately owned acute hospital. Competition fosters specialization with an emphasis on productivity. In Canada, an assembly-line approach to surgical hernia repair has reportedly resulted in high productivity and safety rates. Surgeons at the Shouldice Hospital, which maintains a Centre of Excellence for the repair of abdominal wall hernias, perform about 30 hernia repairs per surgeon per day. The repetitive nature of the work makes the surgeons highly productive and increases quality.

Sustainability Feature #5

Strategic Resource Deployment: Resource allocation appropriately satisfies competing demands on systems to control costs while providing sufficient access to care for the most people.

"The medical system in Japan was not necessarily planned nor established to meet the demands of patients and the defects are now calling attention. So, the future reform will have to focus on what the best way would be for the patient from the standpoint of the patient."
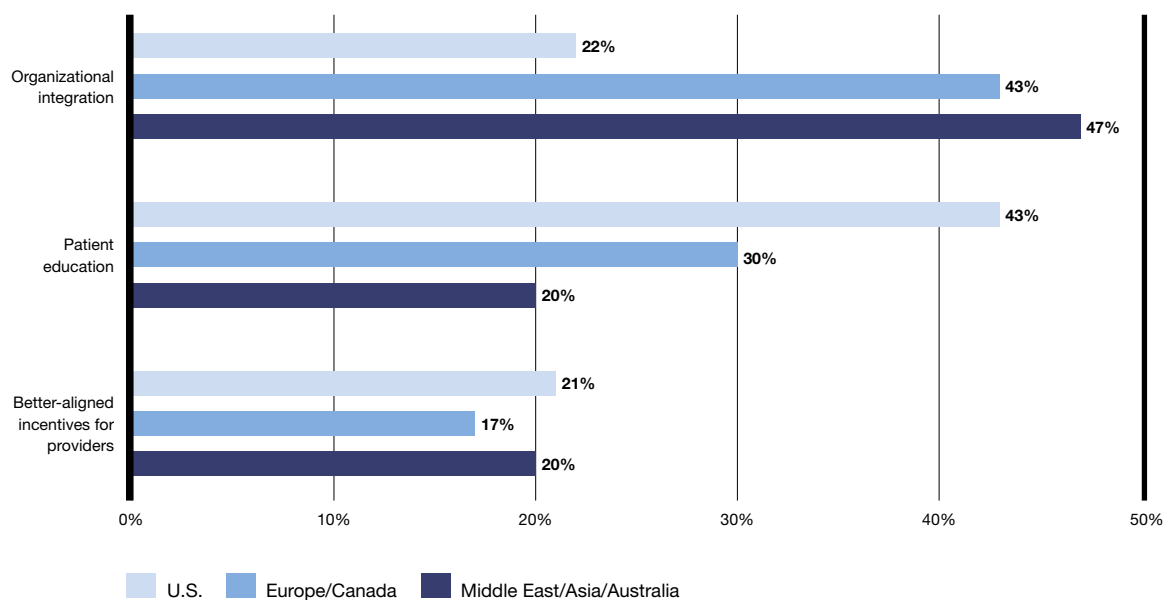
Shigehiko Kamoshita, director of San-iku Kai Hospital in Japan

Patients experience illness as a continuous event in which various health services are required. A patient's illness event challenges provider organizations to create smooth referral and information handoffs between those who deliver services in outpatient settings, hospitals, homecare, etc. Separate financing streams have reinforced care being delivered in separate organizations and typically have not matched the patient's need for seamless healthcare service delivery. The integration of the care across the chain can result in better quality care and efficiencies.

The methods for integrating care need to be consistent with the social and political context in which they are implemented. Finding the appropriate balance between individual choice versus solidarity is key. For example, when asked about how care could be better coordinated, HealthCast 2020 survey respondents in the U.S. thought the onus should be on patients, who receive education about treatments and providers. **(See Figure 15.)** Respondents in government-funded systems in Europe and Canada clearly favored organizational integration, which is easier through single-payer systems than fragmented ones. This philosophy translates into degrees of financial involvement by consumers.

FIGURE 15: Most effective way to ensure better integration of care

Organizational integration	U.S.	22%
	Europe/Canada	43%
	Middle East/Asia/Australia	47%
Patient education	U.S.	43%
	Europe/Canada	30%
	Middle East/Asia/Australia	20%
Better-aligned incentives for providers	U.S.	21%
	Europe/Canada	17%
	Middle East/Asia/Australia	20%

U.S. Europe/Canada Middle East/Asia/Australia

Source: HealthCast 2020 Survey

As healthcare systems attempt to allocate resources appropriately, they face the following challenges:

• Health systems revolve around needs of clinicians.
• Capital is scarce to renovate and rebuild.
• Capital and reimbursement have focused on hospitals and acute care.

Transferable Lessons:

Organise care around the patient

In Victoria, Australia, 45 hospitals offer Hospital in the Home, a government initiative that provides hospital-level care, such as intravenous antibiotics, post-surgical care, non-surgical care, non-surgical wound management and chemotherapy. Alfred Hospital, now one of the largest metropolitan programs with one of the highest acuity rates, provides an example of the services offered through Hospital in the Home programs. Alfred @ Home provides 24-hour on-call support, including pharmacy resources and a medical doctor. Patients are reviewed regularly in clinic by their medical doctors and allocated an Alfred @ Home coordinator.

Orbis Medisch en Zorgconcern is a healthcare provider in the Netherlands that is vertically integrating a chain of services around patient needs. This means connecting the entry points for care (e.g., the general practitioner) with the process of referrals to the hospital using enabling technology, such as a shared electronic patient record. Coordination continues at the point of discharge from the hospital with rehabilitation and home care providers. According to Ludo Jansen, CEO of Orbis, "The key has been facilitating transitions and referrals for the patient who is therefore not left to find his own way in the system. The results have been better quality, fewer doctor visits, faster throughput, less costs, and a streamlined information transfer. The healthcare insurers are also increasingly interested in these healthcare products for the sake of cost control, quality assurance and quality reliability."

Move information, not people

German rural hospitals are being converted into digital diagnostic centers. With the help of electronic data transmission, RHÖN-KLINIKUM AG, the largest stock exchange-listed healthcare group in Germany, intends to connect newly acquired smaller hospitals to highly specialized medical units. Treatment will be delivered through a decentralized, "tele-portal-concept" that provides access to high-end medical expertise.

Norway, a country with vast expanses where few physicians live, has turned to telemedicine. In Oslo, the ratio of patients to specialists is 291 to 1, while in rural Finnmark, the ratio is 1,194 to 1. This situation is exacerbated by long distances and a cold, difficult climate that makes travel difficult, especially during the winter. In 2004, the government spent 1.9 billion NOK (165 million GBP) transporting patients to and from hospitals, most often located in regional centres. The disruptive nature of treatment discouraged patients from seeking care until it was urgent, often increasing the severity, recovery times and potential complications. Government leaders, who faced traditional (and expensive) third-party funding, were looking for incentives to more efficiently use capacity and locally developed solutions. In 2003 the government began a phased transfer (which will be complete in 2006) of both the funds and responsibility for travel to the five regional health authorities. New dynamics have emerged in the debate over alternative ways of providing healthcare services, including use of telemedicine. Norway's government leaders led with a logical premise: change the incentives to enable moving information instead of patients. To enable telemedicine, several efforts had to be accomplished:

- New processes to recognize and document e-health treatment.
- Coordination of IT systems and administration to effectively link the network of providers.
- Greater standardization of care protocols to reduce variation in treatment.
- Reimbursement methodology to track services provided.

Anticipate cream-skimming

Financial incentives embedded in competitive markets often skew the market. In the HealthCast 2020 survey, respondents said the biggest risks to such incentives are healthcare organizations targeting high-profit procedures followed by a lack of focus on areas not covered by incentives. In such cases, the government often must step in to regulate the competition, ensuring that the proper incentives create sustainability.

For example, in Singapore, public sector care is provided by two groups: Singapore Health Services and National Healthcare Group. Each group has hospitals, specialist clinics, specialized medical centers and polyclinics. Competition between the two groups changed when reimbursement moved from piecemeal funding to a block fund allocation, which prompts the two systems to refer cases to each other and thus not incur the cost. For example, one hospital closed its accident and emergency department so that patients would go to the other system's hospitals.

Think small

Health systems are attempting to move closer to patients with smaller units that are less expensive to build. For example, the explosion of small, specialty hospitals and ambulatory surgical centers in the U.S. is bringing care closer to patients and clinicians. More than 100 specialty hospitals have been built in the last five years in the U.S.

In the autonomous community of Andalusia, Spain, 17 new CHARES (Centros Hospitalarios de Alta Resolucion, High Resolution Hospital Centres) are being built. These new hospitals will be small and are being built on the principles of accessibility, high and rapid resolution and digital transformation of the healthcare. CHARES will provide innovative alternatives to traditional acute hospitals like day surgery, reduced waiting times and enhanced logistics for outpatient visits and diagnostic procedures. The CHARES initiative is expected to create a transformative change in the traditional network of hospitals in that region.

Among the executives of German hospitals surveyed in 2005 by PricewaterhouseCoopers, 120 CEOs and CFOs see a process of consolidation in the German market that will lead to a smaller number of hospitals in that country. More than one-third of respondents reported intending to establish medical aid centers (ambulatory centers), and 50% are seeking more intense cooperation with other hospitals. This evolution to seamless services and ambulatory treatments in the German market is expected to be supported by an emphasis on prevention/self-treatment, primary care, day clinics, and telemedicine.

Sustainability Feature #6

Climate of Innovation: Innovation, technology and process changes are a means to continuously improve treatment, efficiency and outcomes.

"It's one thing to introduce a new technology that provides a much more complete diagnosis of a problem, but if you do not have the resources to treat and respond to the problem identified by the technology, what advantage is there?"

Graham Scott, Chairman of the Canadian Institute for Health Information, Canada

All health organizations, from the smallest local community provider to the most world-renowned university, have both a responsibility and an opportunity to foster innovation. Innovation can influence health policy and this is necessary for policy to respond to consumers' needs, for healthcare systems to be sustainable, and – ultimately – for health to improve. Says J. David Liss, vice president of New York Presbyterian Hospital System, "Every hospital, at any care level and in any community, needs to see itself as a center of innovation, as a leader, and as a driver rather than a victim of policy. Hospitals have a responsibility to maximize the impact of the health services they deliver by promoting healthcare as a priority on the national agenda."

For example, sustainable health organizations must be innovative in the ways they adopt new medical information and biological technology. Often, technology is often chastised as a cost driving up healthcare spending. Medical technology is widely viewed as a key driver of health spending increases, yet the HealthCast 2020 survey showed a minority of respondents felt that control or rationing of the use of medical technology was an important or very important factor for sustainability. Clearly, few want to stop the pace of innovation in technology. Perhaps they know that tomorrow's innovation may benefit them. According to a newly released European Commission report, Europe is slipping behind the U.S. in innovation in the drug industry and needs to revamp its research and healthcare systems to reverse the trend.[46]

However, the failure to appropriately use technology and change management creates even more costs. "We [insurers] have not made technology work for us, instead it works against us. Technology drives our costs up, whereas in most economic theory, technology reduces your cost," said Russell Schneider, chief executive officer of the Australian Health Insurance Association Ltd. Indeed, the use of medical technology varies widely. **(See Page 46: A Day in the Life of an MRI.)**

According to the HealthCast 2020 survey, IT is seen as an enabler in resolving healthcare issues rather than a solution in and of itself. The vast majority of HealthCast 2020 survey respondents viewed IT as important or very important to integrate care (73%) and improve information sharing (78%). But a smaller percentage saw IT as important or very important for improving patient safety (54%) or restoring patient trust (35%).

Innovation must be viewed throughout the entire value chain. Innovation is about much more than technology. It is about addressing unmet needs, fostering change and improvement, and adopting transferable lessons. As health systems move toward sustaining through appropriate innovation, they must solve the following challenges:

- Organizations resist change.
- Innovation in medical technology has resulted in earlier disease diagnosis, which can increase overall costs of treatment.
- Technology development and implementation requires significant capital investments, beyond the reach of many health organizations.

Transferable Lessons:

Help workers and clinicians change jobs and processes

Kaiser Permanente, the largest health payer/provider system in the U.S., is investing nearly $2 billion in KP HealthConnect, an electronic medical record and digitization project. Among other things, it has designed the program to enable retraining of workers whose roles change as a result. "KP HealthConnect is currently the largest business change with impact on jobs," said Linda Treml, director of Strategic Workforce Management for Kaiser's Northern California region. The design provides career transition support, including career counseling, assessment and training, and computer literacy. Kaiser physicians receive training on how to hold a discussion with a patient that includes "a third person in the room," in which the "third person" is the computer screen.

In both the Netherlands and the U.S., homecare providers are training nurses and aides to use laptops and handheld computers that are Internet- or cellular-enabled to complete patient medical records. In both countries, these initiatives are driven by the need to create efficiencies, make information transferable, and improve quality by standardizing processes. However, home care agencies report that nurses may need 18 to 24 months to adapt to using Personal Digital Assistants (PDAs) and computer notebooks.

Customize drugs and care to patients' genetic and cultural needs

Even as the industry becomes more global, care will become more personalized. Pharmacogenomics is changing the way drugs are discovered, tested, marketed and prescribed as the industry moves from prescribing treatment based on a patient's symptoms to therapies based on the patient's genetics. By identifying genetic markers associated with specific conditions, researchers expect to find targets for drugs or therapies to cure diseases, rather than just alleviate symptoms. "The emerging discipline of pharmacogenomics may provide the opportunity for drug makers and physicians to develop more effective therapies for patients to achieve more cost-effective development and healthcare delivery. Through our developing knowledge of human disease understanding and use of pharmacogenomics to choose the best targets, research has the potential to move from 500 targets to 5,000," said Denny Van Liew, senior director in the strategic management group for Pfizer Global Research and Development, which has 430 projects in the pipeline.

Pharmacogenomics has big implications for providers. "We are beginning to recognize that different ethnic groups respond differently to drugs," said New York Presbyterian's Pardes. "Despite the fact that global solutions exist, we will always need different approaches in different places." For example, New York Presbyterian spends more than $2 million annually on interpreter services for patients.

Value technology's impact on productivity and lifespan

Can you put a price on health? Healthcare costs are rising, but so is lifespan. Quantifying that cost-benefit ratio is difficult, but doable. For example, Harvard economics professor David Cutler has concluded that the estimated benefit of technological change in heart attacks, low-birthweight infants, depression and cataracts is much greater than the cost.[47] Spending on heart disease makes up about 10% of all health spending, and mortality rates across OECD countries have been dropping since 1970.

Robert Galvin, M.D., director of global health at General Electric (GE) Healthcare, noted: "The move from cost containment to value is a profound and genuine change. The relentless pursuit of lower costs as the single goal of healthcare management is not tenable in the long run as it was rejected by professionals, patients and the public at large. Buying value means being willing to expedite payment for worthy innovations while simultaneously saying no to those innovations that do not drive quality and efficiency." Still, the level of investment becomes contentious. For example, defibrillators, which have been likened to the air bags in cars, are safety devices that are being implanted in an ever-growing number of heart patients at more than $20,000 each. "The resistance from health funds to technology innovations is just absolutely incredible," said Denis Hogg, chief executive of Epworth Hospital in Victoria, Australia. "Effectively the older, more invasive procedures are cheaper to perform, but have a higher cost to the employer and the community in that people do not return to full activity as quickly. But quite rightly the health fund says, 'Well, that is not our problem, we are not funding the wellness of the community.'"

Listen to consumers

In the HealthCast 2010 survey, conducted in 1999, only 24% strongly agreed with this statement: "Hospitals or hospital systems are prepared to address the needs and demands of increasingly empowered consumers." Six years later, in our 2005 survey, only 35% of respondents said hospitals/hospital systems were prepared to meet the demands of empowered consumers.

In an increasingly consumer-centric industry, providers must focus on how to better connect with patients. "My dad had a procedure, and he started talking about it, and the way the procedure was performed made me think. I gave him a list of questions to ask the next time he went in and his doctor said if he kept asking all of those questions, he'd stop treating him. My father said, 'If you can't answer these questions, maybe you shouldn't be treating me,'" said Mark Roman, healthcare leader at EDS, a U.S. IT vendor.

In the future, a larger percentage of physicians will be women, some of whom approach the profession differently than men. In Australia, female general practitioners at a Brisbane medical center are able to charge $5 more per visit because they spend longer with patients and cover more problems than their male counterparts.[48] This has been accepted by patients seeking a more personal level of care.

For the elderly, BEI, one of the largest nursing home chains in the U.S., is styling many of its residential facilities to feel more like home, with meals served family-style and a front porch meeting area where ambulatory residents can congregate. Says Patricia Kolling, chief compliance officer of BEI: "Consumerism and the demand for care in a noninstitutional setting is a threat to nursing facilities as they currently exist."

In some regions of Italy, the elderly are given a voucher to pay for personal care at home from private organizations. The initiative is designed to reduce the demand for long-term beds as well as to improve the quality of life for the elderly population.

A Day in the Life of an MRI

Modern health systems rely on technology, but how do we pay for it and how do we decide who gets to use it? Health system priorities, access and efficiency quickly become tangled in questions of sustainability. Moving beyond the data and statistics this "day in the life" captures the story of how an MRI is used in seven cities around the globe as told to PricewaterhouseCoopers' researchers. **(See Figure 16.)**
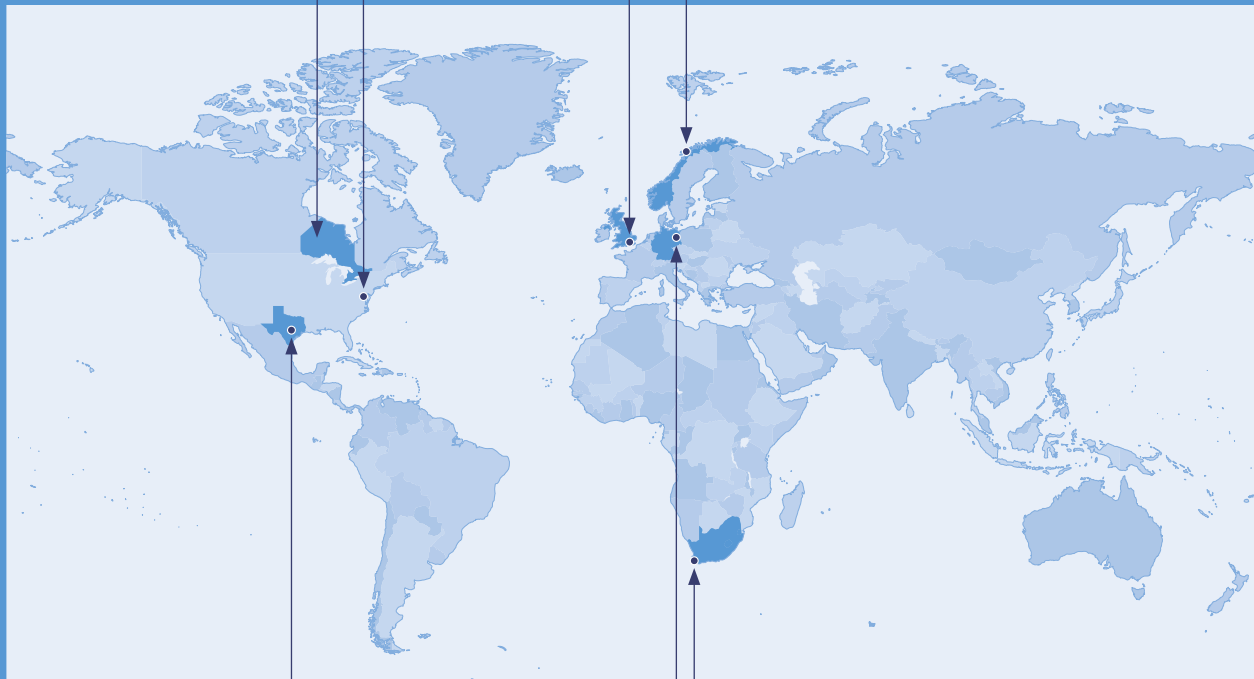
FIGURE 16: MRIs in Seven Cities Around the Globe

Ontario, Canada, averages 48 scans a day.

Washington, DC, averages 17 scans a day at $400 a session.

London, England, averages 1 scan a day at $145 a session.

Harstad, Norway, averages 17 scans a day.

Austin, Texas, averages 15 scans a day at $1,500 a session.

Berlin, Germany, averages 16 scans a day at $550 a session.

Cape Town, South Africa, averages 10 scans a day at $600 a session.

Source: PricewaterhouseCoopers Health Research Institute

Washington D.C. – Cutting-Edge Medicine

Situated in a premier medical center campus, this MRI is owned by the hospital and works seven days a week from early morning to late night completing on average one imaging session per hour. No patient is admitted without a physician referral, and all of the bills are paid by government and private insurance. The machine is operated by a radiology technician, and the results are interpreted by a physician who may not be on-site.

Austin, Texas – Revenue Streaming

With one outside investor and four physician investors, this MRI is meant to make money. It operates six days a week, completing two imaging sessions per hour on average. Patients need a physician referral to access the MRI but can get same-day service if requested. Radiology technicians are on-site to operate the machine.

Berlin Germany – The Doctor is in the House

During the weekdays this machine is running two sessions an hour during the day. On nights and weekends the MRI is idle unless there is an emergency case. Most Germans never see a bill as the country's public insurance system pays the physicians on a quarterly basis for their work. A few users are on private insurance and must submit their bills for settlement. Unlike the U.S. machines, this one is overseen by a radiology technician and a radiologist.

Cape Town, South Africa – Same-Day Service

Sometimes physicians refer patients and sometimes patients refer themselves. If the patient is insured, he needs prior approval. This MRI works five days a week but on average only turns one patient an hour. This MRI is owned by private radiologists who provide same-day service or within 24 hours at the latest.

Harstad, Norway – Working Eight Days a Week

Owned by a hospital, this MRI works 10 hours a day seven days a week making this a highly used MRI. Patients need a physician referral to access the MRI and must pay a $30 co-pay if the scan is on an outpatient basis, nothing for inpatients. Like the MRI in Berlin, the machine is operated by both a radiology technician and a radiologist.

London, England – No Money, No Staff, No Scans

This government-owned, hospital-based MRI is only running half time due to cost pressures from a budget deficit. Productivity is a major issue, but with a lack of funding for radiology technicians, this MRI is one of the worst five in England for patient waiting times. Patients need a referral from a specialist or family doctor but neither will be much help with a scanner that is only running 10 sessions a week.

Ontario, Canada – The Hardest Working Scanner in Show Business

The Canadian government is making a concerted effort to reduce scanner waiting times and results indicate an average wait time of six weeks down from a high of 22 weeks. This hospital-owned MRI works 24 hours a day on weekdays and 16 hours a day on weekends with scanning sessions taking an average of 30 minutes. Physician referrals are required and a staff of seven radiology technicians keep the 24/7 pace while 10 radiologists on rotation interpret the results. All costs are paid by the provincial government health plan.

Sustainability Feature #7

Adaptable Delivery Roles and Structures: Flexible care settings and jobs provide avenues for care that is centered on the needs of the patient.

"I think we have gone past the idea that people have one career for life; they don't anymore. We are now in an age where people have three different careers in their lifetime. We should assume that our health workers are going to as well and plan our workforce on that assumption."

Kathy Eagar, Professor of Health Services Development,
University of Wollongong, Australia

Healthcare is a people and venue business. Rigid clinical roles, cultures and structures are detrimental to sustainable health systems. Technology is eliminating some jobs and creating new ones in informatics and pharmacogenomics. It is also opening up the possibility for more care to be delivered in outpatient clinics, offices and even homes.

Hospitals traditionally have required patients and clinicians to come to them. Most hospitals were built on an inpatient chassis that has been expanded, remodeled and altered into consumer-unfriendly labyrinths. That model is changing. Patients and clinicians are finding other avenues to care that are more convenient, and technology ensures that caregivers connect to the best and brightest clinicians globally.

The focus on hospital care has stifled the development of a care system for the elderly in many countries. For example, in Republic of Ireland, the lack of long-term care venues is increasing hospital lengths of stay and increasing overall costs. The Australian government limits the number of new residential aged-care facilities, creating similar bottlenecks.

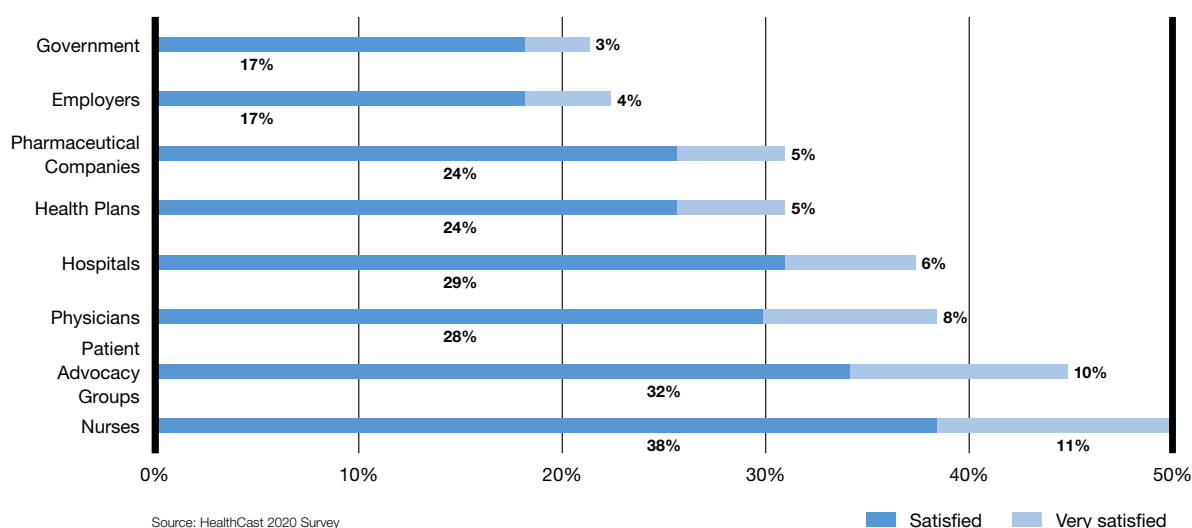**FIGURE 17:** To what extent are the following a problem in delivery systems?

Staff shortages and training: 32% A Problem, 23% A Great Problem
Integrating care across providers and clinicians: 34% A Problem, 21% A Great Problem
Lack of information sharing: 36% A Problem, 18% A Great Problem
Long waiting times/accessibility: 25% A Problem, 23% A Great Problem
Loss of trust/lack of transparency: 26% A Problem, 17% A Great Problem
Focusing on the right mix of services: 26% A Problem, 13% A Great Problem
Productivity levels: 25% A Problem, 11% A Great Problem
Patient safety: 20% A Problem, 16% A Great Problem

Source: HealthCast 2020 Survey

A Problem   A Great Problem

Delivery structures have numerous problems, according to the HealthCast 2020 survey. When asked to rank those problems, respondents placed two labor issues above the others: staff shortages and training, and integrating care across providers and clinicians. Only 20% or less of respondents did not view these issues as a problem. **(See Figure 17.)**

Sustainable health systems face numerous challenges in developing adaptable roles and structures:

- Trade groups, regulatory bodies and even consumers can be territorial and inflexible about clinicians' roles.
- Shortages are worsened by population shifts and poaching, which produce a maldistribution of clinicians.
- Training programs often lag market demands.
- Clinicians are increasingly crossing borders, creating issues around licensure, quality and safety.

FIGURE 18: How satisfied or dissatisfied are you that the following stakeholders have improved the level of communication in the last two years?

Stakeholder	Satisfied	Very satisfied
Government	17%	3%
Employers	17%	4%
Pharmaceutical Companies	24%	5%
Health Plans	24%	5%
Hospitals	29%	6%
Physicians	28%	8%
Patient Advocacy Groups	32%	10%
Nurses	38%	11%

Source: HealthCast 2020 Survey

Transferable Lessons:

Leverage nursing more widely

When HealthCast 2020 survey respondents were asked which stakeholder had succeeded the most in improving communication, nurses rose to the top. **(See Figure 18.)** This acknowledgement of nursing skills coupled with ongoing shortages emphasizes the role nurses play in meeting consumers' expectations for "high touch" healthcare delivery.

The roles of nurse practitioners are expanding globally. In England, patients often prefer to see a physician, but the NHS is shifting more cases to nurse practitioners (NPs) to ease physicians' workloads. In Australia, while physicians strongly resisted the move to allow nurse practitioners to practice independently, the effort succeeded, giving NPs limited prescribing rights and ability to order some diagnostic procedures. NPs in Australia now work in emergency departments, community care settings and within specialist teams such as mental health and drug and alcohol services.

Some states in the U.S. have extended prescription writing powers to NPs, physicians' assistants, pharmacists, midwives, and naturopaths, who work under the supervision of physicians when they prescribe. Vanderbilt University Medical Center in Tennessee is studying how to use advanced practice nurses to expand primary care services traditionally done by family medicine, pediatrics, obstetrics and general internal medicine. "In certain primary care settings, as many as 60% of the visits are unnecessary because they don't require a physical exam; they require only an exchange of information," said Paul Keckley, executive director, Vanderbilt Center for Evidence-Based Medicine. "If we were to reconstruct incentives around outcomes and processes, not around visits, we could actually increase the effectiveness of primary care and increase its efficiency."

Programs in several countries are adopting performance-based pay or creating career paths for nurse managers to increase retention. The NHS has decentralized payment and benefits to acute and foundation trusts, which are providing subsidized housing and other increased benefits to increase nurse retention.

Challenge conventional training and licensing models

If sustainable health systems expand the roles of nurses, they'll need more nurses. Yet, most countries face shortages, primarily because the current systems to train, retrain and retain nurses are not working. By 2010, the nurse shortfall is predicted to be 275,000 in the U.S., 53,000 in the UK, and 40,000 in Australia.[49] As a result, many health systems are poaching nurses from the Philippines and other countries, but foreign recruitment from less developed nations is neither ethical nor sustainable.[50]

Nursing and medical schools need to assess how to increase their pipelines. For example, in the U.S, the Association of American Medical Colleges believes medical schools need to boost enrollment by 15% over the next decade to meet predicted physician shortages stemming from population growth, aging Baby Boomers, physician retirements and female doctors who want to work fewer hours. An additional 2,500 medical school graduates annually would offset a projected physician shortage ranging from 85,000 to 200,000 by 2020. To combat the nursing shortage, some U.S. hospitals are starting their own nursing schools. In California, Catholic Healthcare West and Kaiser are funding the Labor Management Partnership, a training program modeled after a partnership among Union 1199, several colleges and hospitals in New York that sponsors high school equivalency programs, nursing prerequisite education, aide programs, and a visa program for foreign-trained physicians.

Severe physician shortages in Africa have prompted clinics to fill clinical positions through a unique training program: They teach prior patients. The clinicians repair obstetric fistulas, which are caused by ruptured separating tissue that occurs when young mothers deliver babies who are too big for their pelvises. Following the procedure, patients often stay on, and are taught via hands-on training to become nurse's aides, nurses and even surgeons. Chandler Ralph, CEO of the Adirondack Medical Center and founder of the U.S.-based Helena Ptochia Foundation, raises money to fund construction of a fistula repair hospital in Ghana. As she notes, "We do on-the-job training in the U.S. – it's called residency. I think these locally trained surgeons are a tremendous source of labor because the need is overwhelming – truly overwhelming."

Harmonization of training and education requirements eases the movement of clinicians from areas with a surplus. The EU has set up a system for mutual recognition of professional qualifications for medical professions. Sectoral directives guarantee the mutual recognition of professional qualifications in the health sector (doctors, nurses, dentists, midwives, and pharmacists) between member states. Some EU countries, such as Spain, Italy and Germany, report they do not have clinician shortages.

✚ Anticipate ways to deliver care to patients who increasingly move and travel

Urbanization and travel patterns are changing where patients need care. For example, the Chinese are increasingly migrating to larger metropolitan areas. China has 166 cities with more than 1 million residents; in comparison, the U.S. has just nine cities of more than 1 million. Some regions can't keep up with the growing need for more practitioners. Teruo Koromogawa, general manager and vice president for finance of Tokyo Adventist Clinic, notes that, in Japan, "It is actually difficult to keep up the business unless physicians are able to see a high volume of patients by spending only about 3 minutes per patient; this is commonly called '3 minutes treatment.' As a result, doctors cannot spend sufficient time on each patient and thus, the level of information sharing is not improving."

In addition, patients are increasingly seeking care away from "home." Healthcare providers in Arizona, Florida, Spain, and France are treating more and more "snowbirds," who are mostly elderly and retired persons retreating to sunny climates in the winter and are frequent healthcare users. Medical tourism in locales like Abu Dhabi and India represent a potentially huge commercial opportunity, bringing in as much as $2 billion in annual revenue by 2012.[51] Demand is driven by long waiting lists in overloaded health systems, such as those in England and Canada, as well as by Americans seeking lower-cost venues.

Conclusion

Threatened sustainability and convergence. At the broadest level, these are the issues facing health systems across the globe.

Transferable lessons are emerging. The variety is astounding yet so are the commonalities. Around the world and across all sectors of the industry, healthcare leaders are exploring many of the same solutions:

- **Collaboration.** Payers, hospitals, physicians, and community service organizations are working together to foster standardization and adoption of technology and process changes. They are teaming to enhance access and portability of healthcare services. They are coming together to realign incentives to accomplish mutual goals.

- **Consumerism.** Providers are reorganizing themselves in a patient-centric continuum through care management approaches. Payers are developing consumer-oriented benefits plans. Pharmaceutical and life sciences companies are using new pharmacogenomic discoveries to pursue personalized medicine.

- **Technology assessment and dissemination.** Payers, providers, and community organizations are coming together on a regional and/or national basis to establish infrastructure and communications standards. They are developing incentives that will distribute the risks and rewards more evenly. Payers and research organizations are evaluating technology relative to productivity and lifespan.

- **Transparency.** New payment and reporting methods are emphasizing safety, performance and accountability for health organizations across all industry sectors. Payers and providers are participating in pay-for-performance programs. Industry trade groups are establishing quality and safety standards. Governments are establishing reporting mechanisms and requirements.

- **Portfolio management.** Hospitals, pharmaceutical companies, life science organizations, and payers are increasingly called upon to manage their service portfolios in a balanced, fiscally responsible manner. Governments are calling for rational approaches to regional service planning. Providers are organizing and allocating services to meet consumers' needs for access, manage quality of care, and reduce duplication and inefficiency.

- **Manpower management.** New models of developing, recruiting, and retaining manpower are developing to address the root causes of gaps in service and impending future needs.

Across boundaries, languages and cultures, these are the strategies being employed by health systems across the world. The solutions are out there. In the global market of health.

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