

The Future of Health Care as Predicted Using Scenario Planning

A Summary



2015

The Future of Health Care as Predicted Using Scenario-Planning

The Facility Guidelines Institute (FGI) is the nonprofit organization responsible for creation and distribution of the *Guidelines for Design and Construction of Hospitals and Outpatient Facilities* (the *Guidelines*) and the *Guidelines for Design and Construction of Residential Health, Care, and Support Facilities*. Authorities having jurisdiction, designers, and owners in the United States and other countries use the *Guidelines* as a reference as no other document provides this type of basic guidance or is produced with such a rigorous process by such a collection of experienced, informed experts. Many state and federal authorities also use the documents, in some manner, in their regulation of licensing or construction of health care and residential care facilities.

Every four years, FGI convenes the multidisciplinary Health Guidelines Revision Committee (HGRC) to update the previous edition of the *Guidelines*. Members of the HGRC include administrators, designers, planners, and authorities having jurisdiction responsible for health care facility planning, design, and construction as well as clinicians and researchers. The HGRC begins with the presumption that whatever is in the previous edition is correct, unless proven otherwise. The committee then focuses on developing proposed revisions to sections that need to be updated to address changes in clinical practice and technology. The HGRC also receives and reviews proposals from the public and from individual members of the committee. Over the four-year revision cycle, the HGRC develops a steadily accreting set of guidelines, with some changes that are forward-looking, based on the wisdom of FGI and the HGRC, and many changes that look back at the function of health care facilities in the field, based on experience.

This adoption process can take anywhere from one to 10 years and varies significantly from state, from states automatically adopting new editions to those still using an edition more than 15 years old. At the same time, planning, design, and construction of health care facility projects generally takes at least five years. As a result of these lengthy processes, every new health care building is based on thinking that is 10 to 20 years old.

The FGI board of directors considered this situation as they planned for the 2018 *Guidelines* revision process. The *Guidelines* documents published in 2018 will influence the design of health care facilities constructed in the 2020s and 2030s. And because health care is evolving very fast due to demographic, technological, reimbursement, and behavioral and social changes, the services housed in these facilities are likely to be very different than the health care services common today. To match the pace of the evolving health care market, the 2018 *Guidelines* documents must offer a forward-looking set of guidelines that, at worst, do not prevent innovative solutions to future facility problems and, at best, nudge designers, builders, and owners to develop buildings that support quality health care.

If the architectural adage “form follows function” is true, the architecture of our future health care buildings must follow the function of the health care services provided in them. Likewise, the content of the *Guidelines* must follow the function of the buildings its requirements are meant to influence. Therefore, FGI undertook two colloquiums to consider expert predictions about the future of social, technological, demographic, and behavioral patterns and how these patterns will affect expectations for health care facilities in the next two decades. These predictions will provide a platform from which to develop a future-oriented, responsive set of guidelines that are “advised by research” and “advance quality health care.”

This paper provides a summary of discussions at the first FGI colloquium, which yielded four views of the future of health care in the United States.

Applying a Scenario-Planning Process to the Future of Health Care

This section outlines the scenario-planning process used to facilitate the discussions of participants in the October 2013 FGI colloquium on the future of health care, which resulted in the four potential futures summarized in the body of this paper.

The problem with attempting to foretell the future is that we cannot possibly be certain we are guessing right. For most of us, our future vision is blinded by various cognitive biases that make it impossible to easily comprehend and consider and then correctly predict the likeliest outcomes.

Scenario planning is a process intended to overcome these problems. In essence, the idea of scenario planning is to create a set of visions of the future that outline the boundaries, not of what we think *will* happen but of what we think *might* happen in the considered time frame.

The scenario-planning process

The process for creating a set of visions for the future begins with defining the set of forces that will influence the direction of the aspect of society under consideration, in this case health care. Usually, there are a host of such potential influences. Some of these are relatively knowable and predictable (e.g., demographics) and have implications that are reasonably foreseeable. Other forces (e.g., how will pharmaceuticals change the delivery of health care?) could develop in many directions with wide, possibly opposite results (antibiotic resistance versus ability to treat previously untreated conditions). As well, some forces will have more influence on what happens in the future and others less.

To understand such extremes in relation to each other, the forces are ranked to identify which are likely to have the most influence on the future. Once these powerful forces have risen to the top, they can be combined to posit four potential futures that place the two forces in different combinations: both highly likely; both highly unlikely; future A highly likely and B unlikely; and future A unlikely and B highly likely. In general, when scenario planning is performed well, these four scenarios yield a highly reliable map of where the future is most likely to trend.

Using scenario planning to consider the future of health care

To kick off the colloquium process, FGI engaged three respected thinkers in the health care space: Dr. Elliott Fisher of the Dartmouth Institute; Dr. Ajit Singh, formerly with Siemens Medical and now with Artiman Ventures; and Ian Morrison, a respected health care futurist. These individuals worked with FGI to assemble a roster of participants with demonstrated expertise and leadership in health care. (See the list at the end of this summary.) To guide the group's discussions, this oversight committee developed a list of drivers and trends likely to affect the future of health care. Attendees were provided with research describing each of these 16 forces.

The large group was divided into four teams to consider the question, "What forces will most impact the future of health care?" Each team took the list of 16 forces, added any other trends they identified, and ranked them all from highest to lowest regarding their potential impact on the future of the U.S. health care system.

Next, the groups ranked each of the forces in terms of their potential variability. This resulted in quartiles, with some forces with low variability/low impact, some with low variability/high impact, some with high impact/low variability, and some with high variability/high impact. Each group then took the quadrant with high variability/high impact and repeated the exercise with enough iterations to yield two forces that were collectively deemed to be most likely to vary in the future and to have highest potential impact on the future of the U.S. health care system.

Finally, each of the four groups presented their arguments for the two forces they had identified as most significant. The teams then engaged in a spirited debate to try to reach consensus on the top two most variable, most influential forces.

Two factors identified

The two forces ultimately agreed to be most significant were patient engagement and reimbursement model (value-based or volume-based). The group then articulated four distinct potential futures based on four combinations of these two variables.

Patient engagement. Individuals with a “high” level of patient engagement are interested in their overall health and knowledgeable about the choices they must make to protect their physical and mental health. They engage in healthy practices and consult regularly with their health care providers. In this group, people are interested in protecting their own health, the health of those around them, and the health of their community.

Individuals with a “low” level of patient engagement take little to no responsibility for their own health. They are generally uninformed about choices they can make to protect their health and often engage in harmful behaviors such as excessive eating and drinking, substance abuse, and low levels of physical activity. They visit health care providers only when crisis strikes. Low-engagement patients are generally unaware of the impact of their actions on their physical and mental health, and they are generally unengaged in the health of those around them, both at home and work and in their community.

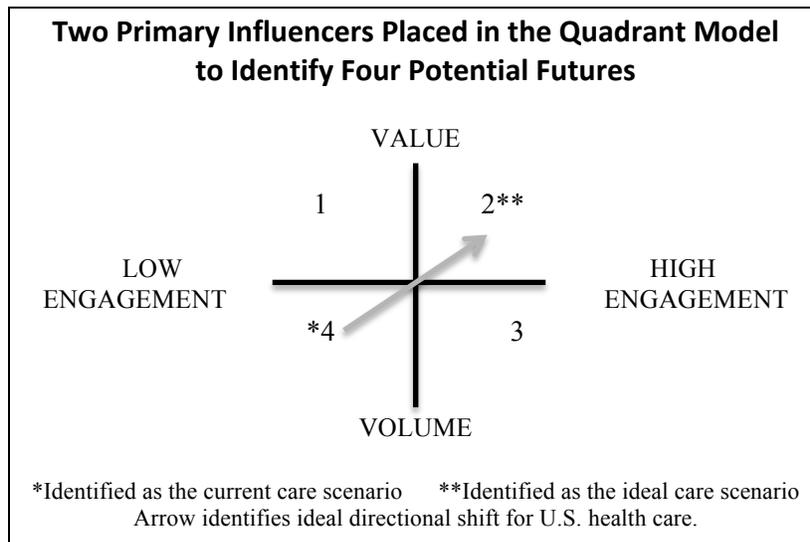
Reimbursement models. The second major force the groups identified is the reimbursement mechanism.

At one extreme, health professionals receive reimbursement based on volume. In this scenario, providers are paid for each person they see, each activity they undertake, and each procedure they perform. In this model, providers profit only if they do more, which results in innumerable schemes to provide more care by stretching the definition of need. Tests are used whenever possible, and all possible interventions are considered.

The other extreme is reimbursement based on “value.” In this approach, health care providers receive reimbursement for keeping patients well and preventive care is emphasized. Providers are generally rewarded for working with patients to develop healthy habits and for sustaining the overall wellness of their patient population. This system encourages providers to focus on the interventions most likely to improve patient health.

Combining the extremes of the two selected factors yields four distinct futures as indicated below and in the accompanying diagram.

- Future #1: Patients are unengaged and health care providers are reimbursed based on the value of the services they provide.
- Future #2: Patients are highly engaged and health care providers receive reimbursement based on value provided.
- Future #3: Patients are highly engaged and health care providers are reimbursed based on the volume of services they provide.
- Future #4: Patients are unengaged and health care providers receive reimbursement based on volume of procedures.



Future #1: Low Engagement + Reimbursement for Value

In this scenario, patients are largely unengaged and reimbursement systems reward value-based care. These two aspects of the future conflict, creating a frustrating situation in which a health care system dedicated to empowering patients finds these patients unresponsive. The population receives liberal preventive care benefits without recognizing their value or taking personal responsibility for building on these services and improving their own health.

Because providers are reimbursed for their costs but receive profit only for reducing demand, adoption of generic processes and procedures is incentivized and specialized care declines. Providers try to compel patients to undertake preventive efforts and comply with medical guidance, but because the system does not require personal accountability and patients are unwilling to engage actively in their own care, these efforts increase frustration and contention between providers and patients. Doctors practice defensive medicine to avoid penalties for poor performance. The health care workforce declines since the best and brightest do not seek to enter a profession that has become unrewarding; at the same time, low health literacy in the population makes it increasingly difficult to find educated paraprofessionals.

The generally low overall level of health literacy results in patients who take little role in their own health and are unaware of effective habits. Because people generally do not engage in preventive health services, the rate of chronic diseases increases significantly and the population overall does not age well. In

addition, people are less invested in caring for family members, resulting in further demands on a resource-starved health care system.

One net effect of this scenario is an increasing prevalence of otherwise preventable diseases. This level of illness taxes available resources, which are inadequate to cover all health care needs. The needs of the poor, elderly population strain the country's finances, and solutions have to be found to deal with poor, sick, mentally challenged, and/or isolated elders.

Technology developments in health care offset the effects of a disinterested population to some degree. Innovators develop new pharmaceuticals, techniques, and technologies to deal with the increasing numbers of chronic and preventable diseases; however, patients' poor lifestyle choices overwhelm the gains offered by such innovations. These technologies also fuel increases in the number of patients with chronic conditions.

Providers cease to take heroic efforts to cure individual cases, and individuals requiring specialized care may suffer from lack of attention. Unable to have much impact on preventive practices, providers develop sophisticated ways to treat a growing array of health challenges in the least costly, most efficient manner possible. Preventive measures are applied as much as possible, but may be limited to childhood vaccines and screening through aggressive public outreach. The medical profession evolves toward a focus on patient managers, who are responsible for overseeing patient compliance and encouraging better health practices.

Overall, the poor health habits of an unengaged population create an abundant need for treatment at the same time reimbursement policies discourage heroic measures on the part of the medical industry. The system is highly efficient, since providers are encouraged to seek efficacious care, but there is a coinciding high demand. The system seeks to provide minimal care for acute and chronic episodes, while working to increase public outreach and engagement.

In this future, disparities increase. Quality problems result from the mismatch between increasingly complex demands and corresponding deficits in skill and availability of clinical support providers. Tiered facilities provide concierge services in high-end facilities to those who can afford them. A lot of home-based and community-based care is offered, along with care in residential facilities. Facing an obesity epidemic, regulators expand the Americans with Disabilities Act to include accommodations for bariatric persons, and health care facilities and many residential care facilities are required to provide significant bariatric provisions, especially lifts in hospitals.

Ultimately, because this future is unstable, it would likely evolve into future #2 or future #4. Either the inertia of the population would force the medical industry to reduce costs by making people pay more for services (future #4: low engagement, volume-based care) or the medical profession, in alliance with employers and insurance companies, would eventually succeed in moving the population to align its values with those of their health care professionals (future #2: high engagement, value-based care).

Future #2: High Engagement + Reimbursement for Value

In this scenario, high levels of patient engagement and value-based reimbursement systems support and reinforce one another, creating a stable dynamic. Patients appreciate the value of care delivered by providers and apply recommendations actively to achieve optimal health.

Reimbursement in this scenario varies with the total cost of care, and payment systems parallel unbundled public utility rate structures. In other words, providers are reimbursed for total costs at reasonable rates but receive profit only for reducing demand and thus the amount of service provided. This form of reimbursement leads to a reduction in specialized care and incentivizes mass application of similar processes and procedures to manage resources. Some individuals may suffer from lack of attention even as the system as a whole supports moderate improvement in population health status. The reimbursement model may migrate toward a fee-for-service system, as procedures and expenses are incurred only for diseases that cannot be addressed through lifestyle alone.

In general, people with high health engagement levels work to increase their physical activity levels and reduce unhealthy behaviors. They eat healthy diets in moderation and exercise regularly. Remarkably fewer chronic conditions are present in the overall population. Although acute episodes still occur, the demand for medical services is dramatically lowered. This low demand causes providers to compete for shares in an ever-decreasing reimbursement pool. Licensing boards increase regulations and more kinds of services require licensed providers.

The overall decrease in patient numbers results in fewer and smaller health care facilities, and the reduction in acute episodes minimizes the need for emergency and urgent care facilities. Wages fall and unemployment rises in the medical professions, causing providers to seek other sources of revenue or leave the field.

Since the population is dedicated to health literacy, people are more willing and able to care for family members, further reducing the burden on the health care system. Elderly and ill family members are more capable of self-care with limited assistance for much longer periods. Public health is delivered through social and government institutions, and people are highly attuned to the mental health needs of community members. Effective community support and outreach reduce behavioral and mental health issues.

Dependence on pharmaceuticals decreases, and public wariness of pharmaceuticals and supplements increases. Educated consumers become discerning customers of the pharmaceutical and supplement markets, and fewer new products come to market with this decrease in demand.

The decrease in preventable and chronic diseases frees up resources for other socially beneficial purposes, and health care is no longer the largest burden on the American financial system. On an individual basis, people with increased levels of physical and mental health participate vigorously in social and professional endeavors, strengthening the country's economic and community base. The country is attractive to global investors, and the population's overall happiness rating competes with that of other successful Western nations.

Future #3: High Engagement + Reimbursement for Volume

As does future #2, this potential future attains high-level engagement at individual, community, and public health levels. However, the volume-based reimbursement model makes this future relatively unstable, as patients demand proactive and preventive services while the profession remains constrained by a system that prioritizes quantity of services. High public demand encourages entrepreneurs to disrupt the health care industry by offering and marketing these proactive and preventive services, forcing the health care industry to mold to consumers' wishes.

Patients who are highly engaged in their health increase their physical activity levels and engage in mindfulness/holistic practices. Reductions in unhealthy behaviors result in remarkably fewer chronic conditions in the overall population. Other effects include healthier eating in many sectors; a thriving health club scene; greater health education in schools and public settings; more capable family care for ill and elderly family members; fewer acute episodes requiring treatment; smaller, more specialized health care facilities; competition among providers for reimbursement funds and higher rates of unemployment and professional desertion in the health care field.

The volume-based, or fee-for-service, approach means that providers are monetarily compensated according to the number of services and procedures they perform. Providers increasingly look for new ways to create demand for their services. There is little incentive to provide preventive services, since the delay between service and benefit is too long to trigger reimbursement.

Patients become frustrated in this environment, as their search for information and collaboration with their providers is met only with paid service offerings. Quantity becomes the overriding principle in the health care profession; as a result, manufacturers of technologies and pharmaceuticals focus on new treatments that manage but do not remedy conditions. People are unhappy with aggressive marketing and recommendations for services from providers and the health care industry as a whole.

Future #4: Low Engagement + Reimbursement for Volume

As in future #1, the population is generally unengaged in health concerns, resulting in a low overall level of health literacy. Patients take little role in their own health and do not engage in preventive health services. The population does not age well, and the rate of chronic diseases increases significantly. People are less invested in caring for family members, placing further demands on a resource-starved health care system.

Low patient engagement and volume-based reimbursement models reinforce one another to create a vicious cycle in which an unengaged populace results experiences increasing numbers of preventable health problems, while providers benefit from maximizing the number of procedures, treatments, and tests ordered. Quantity predominates over quality in medical services, and providers seek new ways to create demand for services. In this situation, the delay between provision of preventive services and their benefits means there is little incentive to offer these services.

The general population foregoes self-care, and individuals wait until acute episodes become extreme, then expect to receive speedy interventions. The patient population habituates to chronic conditions and fails to adhere to treatment guidelines. This lack of engagement results in disappointment with medical outcomes and increasingly hostile and suspicious relationships between providers and patients.

Since the population in general pays little attention to health issues, families provide little in the way of care for the sick and elderly. Families abandon poor, mentally ill patients, and the poor health of the elderly places increasing strain on the country's finances.

Technology ameliorates some health issues, but at the same time enables an increase in chronic conditions by fueling people's belief that medical advancements can take care of their ailments. Improper lifestyle choices outweigh advancements and cures made available with new pharmaceuticals and techniques. As doctors seek development of devices and systems to make up for their patients' inability to comply with recommendations, pharmaceutical and technology companies profit from the creation of new tools. Providers focus on high-volume aggregations of services and solving acute episodes. This scenario

increases competition in the form of alternative health care providers who offer less expensive, though dubious interventions.

In this future, the prevalence of disease increases and resources are inadequate to cover the nation's health care needs. The health care system suffers from a lack of quality programs and severe mismatches between the complexity of demand and available skills and resources. Demand for health care far outstrips the medical assistance available, and the number of educated paraprofessionals is insufficient to meet the need. Increasing rates of preventable disease and poor lifestyles, combined with a system incentivized to perform as many procedures as possible, results in resource shortages and escalating prices. The health care industry and its consumers desperately seek new and better ways to lower costs, leading to the struggle for more efficient delivery processes. As health care quality suffers, governments implement protocols to monitor the flow of resources.

Costs of care rise dramatically. Large populations with similar diagnoses (most often geriatric and disabled individuals) are warehoused to provide care with the greatest efficiency possible considering the dearth of caretakers. The cost of collaborative care and shared decision-making increases due to the population's low health literacy.

What the Four Possible Futures Might Mean for Health Care Facilities

The four possible futures for the U.S. health care system described above outline the extremes of where the health care industry might go in the next two decades. In considering how these insights might affect the facilities in which health care is offered, remember that the actual future is likely to fall somewhere between these extremes. Planners and designers might start by identifying the elements that are common to most or all of the potential futures and considering what changes in facilities would be needed to accommodate them. For example, all of the futures include some version of the following trends:

- More health care provided at home
- More access to medical care in the community
- More specialized diagnosis and treatment facilities
- Hospitals provide only for the sickest or those with most complicated needs
- Navigators and health coaches provide assistance to patients, providers, and/or payers
- Increased use of technology for health care monitoring and communication
- Continued government involvement in regulating health care

As well, assessing the differences between the futures could help us adapt more readily when it becomes clear which aspects of the described futures the industry is heading toward.

Guidelines for the Future

This list of issues gleaned from discussions at the colloquium will help guide FGI in its mission to “promote the development of consensus-based guidelines and publications, advised by research, to advance cost effective quality health care”:

- Health care will increasingly be provided in outpatient facilities and residential care settings of numerous types.
- Acute care facilities will see slower growth and be focused on providing care to higher acuity patients with more complex treatment and care needs.
- As a society, the United States needs to encourage development of “high value, high engagement” models of care; how the design of health care facilities can relate to this goal should be considered.

- A four-year cycle for document development is not optimal for responding to the rapidly changing health care landscape.
- Documents focused on fundamental design requirements are important but do not address complex health care delivery needs. FGI also needs to facilitate development of best practice and alternative concept guidance for health care design.

As noted in the introduction, the gathering that resulted in the predictions outlined in this paper was intended to define the extreme bounds of the possible futures of the U.S. health care system. A subsequent colloquium explored the likely facility responses needed to respond to these futures, along with implications for the content of the FGI *Guidelines*. A report of the results of this second meeting is currently under development.

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