

Assessing and Improving Health Care

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The quality of American health care has been highly debated, nationally and internationally, with perceptions ranging from high regard for medical achievements in scientific techniques and capabilities of clinicians to major concern for patient safety and fairness of the system. Reports of increasing rates of medical errors that result in the deaths of thousands of patients each year and a lack of fairness of the system to provide equal care to each citizen has spurred more debate on the need for significant changes and marked improvements in the delivery of health care. However, an inability to come to a consensus on a definition of quality that would be equitable to each individual has hindered the ability to properly measure our current system and develop approaches for change that would result in a more effective and safe health delivery system.

Defining Quality.

The questions of what is quality and can it be measured must be answered before effective change can occur. First, it must be determined whose perceptions accurately reflect our system and their definitions of quality care. The World Health Organization (WHO) ranks health delivery systems by their achievements in the provision of good health, responsiveness to population expectations, and overall fairness. If we define our system on these criteria, we would see that we were not succeeding in delivering quality care. However, the international community does not represent the primary stakeholders of our system. We are not a socialist state that would likely adopt similar measures. Patients, providers, administrators, employers, and lawmakers would all define quality of care in different terms making the decision on one definition extremely difficult. Numerous human factors are involved with varying degrees of desired levels of comfort, collaboration, and immediacy that shape their opinions of what quality of services they desire. Our system allows for quality to be in the 'eyes of the beholder,' so the difficulty is standardizing 365+ million opinions. The irony of the reports that are critical of our system is that the provision of better healthcare does not mean that we have a better healthcare system. Not many would argue that if one wanted the best individual health care in the world, s/he would make the effort to visit clinics like the Mayo or Harvard rather than those listed in the top ten of the WHO report. Our system of care is not designed to provide a certain standard level of care to all, making it difficult to fit one definition. The bottom line is that if we cannot define quality, we should not expect to be able to make effective changes to the system. Based on our political and economic environments, the decision makers would then tend to focus on measurable values like cost, mortality rates, preventable injuries, and equity to establish systems for measurement.

Measuring for Quality.

The competitive nature of our health care system has forced quality measures to be heavily focused on cost and accessibility of care. Past health care reform has therefore been focused on spending and cost to the consumer and not on issues relating to fairness, equity, and overall quality. National report cards that evaluate health care delivery are observations by 'experts' in the health care community and have possibly misled consumers about variations in care and their expectations of the quality of care they could expect to receive from their local providers. By looking at a broader framework of quality measures, perhaps a system for a wider range of improvement methods can be developed to address individual quality values.

Cost of care is usually the starting point for assessing quality. However, if done incorrectly, the information gleaned from these assessments may not be factual, thereby leading to ineffective change. For example, internal audits are done by clinics on providers to determine their

expenditures of pharmaceuticals with the intent of controlling excessive dispensing of costly drugs that might not be beneficial. If the investigators do not know what they are measuring, they might determine a certain provider is associated with excessive costs from dispensing drugs more frequently than others. A negative action might be the clinic's efforts to control the quantity of drugs that each physician prescribes. In actuality, the provider might be the attending physician of an Oncology ward who is credited with the dispensing of all chemotherapy drugs. An attempt to control the actions of this provider would result in negative consequences by potentially reducing the quality of care being provided to very sick patients.

For these reasons, the outcomes of care might be a better starting point for measuring quality rather than the complex nature of cost. A patient's satisfaction in the care they received would be very beneficial for developing benchmarks for improvement. Positive feedback can be used to make adjustments to good systems while negative feedback might provide indications that major problems exist that require significant change. Patients expect the care they receive to lead to a positive outcome. If that does not occur, the perceived quality of care delivered will be low, so focusing on patient outcomes might be an effective way to improve the perception of quality. However, variations in care due to physician experience, resources available, and cost may hinder the ability to develop a standard measure of quality of outcomes.

To contain cost, ensure quality outcomes, and improve safety and effectiveness it would be beneficial to focus on the processes of care to develop measurement techniques. We should look at ways to complement current practices to improve on delivery. Measuring and developing processes of care have proven to be clinically credible and can help eliminate variables that result in increased risk to patients leading to negative outcomes.

Variations in Care and Medical Errors.

Variations in care are seen in different regions, in different hospitals in the same regions, and among different providers practicing in the same hospitals. The level of experience of providers differs and their applications of the 'art' of medicine may account for this variation. The ability to measure the efficacy of a treatment, or effectiveness of outcomes, is more difficult when these applications of medicine are not standardized. The availability of medical information that provides updates on the latest and most effective techniques may also cause variation in the care provided since it might not be uniformly distributed. This disparity may be a potential quality shortfall that needs to be addressed, as it would mean that only the providers that had access to this information would be able to apply it to patient care.

The increased rates of medical errors identified annually may be an indicator that the variations in the delivery of care may have some association with negative outcomes and should be improved to reduce the number of preventable injuries due to human error. "To err is human" is true, but an annual rate of 44-98,000 deaths due to medical errors per 33.6 millions hospital admissions should be a significant enough indicator a huge problem exists and needs to be corrected. There is no doubt that honest mistakes occur while providing medical care, and people die because of it. However, people may mistakenly believe that medical decisions are always right or wrong (black or white) and there should be a clear solution available to drastically reduce the number of preventable deaths. A closer look at medical error outcomes is definitely warranted to determine those that resulted from judgment calls and those that could have been prevented.

On analysis of these outcomes, some means for developing interventions can become apparent. Health care providers generally operate in stressful environments that require zero-defects to ensure successful outcomes. An increase in levels of stress and sleep deprivation can lead to

greater numbers of errors. The equipment and system designs that providers operate with can influence whether they will make errors. Designs that are outdated, or do not provide sufficient information to a provider, can cause them to make incorrect decisions. The amount of training of a provider and support staff should be considered as well. When stress levels increase, combined with these other factors, the likelihood of making more errors increases.

Medical errors can also result due to the nature of the environment surrounding the health care industry. The decentralized and fragmented nature of the health care delivery system may contribute to unsafe conditions for patients. A more closely regulated system would likely reduce the rates of errors. The information systems available to these fragmented systems differ resulting in the inability to retrieve current and necessary information to make proper diagnosis and treatment determinations. Other external factors may include the availability of the knowledge and tools to make improvements to safety, a lack of strong and visible leadership inside and outside of the health care industry, legislative and regulatory initiatives, and actions from health care purchasers and consumers to demand safety improvements.

An attempt to standardize measures to help develop quality improvement initiatives is warranted to help reduce rates of errors, decrease variation in care, and improve fairness in the delivery of health care. However, the financial burden of measurement may exceed the benefits if the resources needed to measure and report quality improvement are too significant that they affect the ability to provide quality care.

Standardization of Quality Measures.

The attempt to develop universal standards to enhance delivery of care may be an extremely difficult task. However, it has been determined that steps need to be taken to decrease variations in care, decrease costs, increase effectiveness of health care delivery, and ultimately improve quality. The development of practice guidelines, disease management protocols, clinical pathways, and the applications of information technology have been the focus for these changes.

Medical practice guidelines, or practice parameters, are a means of providing organized medical knowledge to health care providers to influence how they deliver care. These guidelines would help make decisions about appropriate health care for specific clinical circumstances by consolidating available scientific knowledge about the best and most appropriate treatments for patients with common diseases and conditions. If used correctly, they should help provide more uniform care, decrease costs, and result in fewer medical errors. However, there is concern that required use of these guidelines could take control of care away from providers and devalue the art of medicine. As long as the 'human factor' is involved in the delivery of care, there is going to be the potential for errors to occur. However, limiting these errors and avoiding preventable errors is an appropriate goal and justification for the further development of practice guidelines. An example of how rigid guidelines might counter their intent can be seen in a study completed by Army physicians at Madigan Army Medical Center to determine how accurately the patients, physicians, and nurses define the patient's list of medications using any available resources. This was extremely important for determining the potential problems of drug interactions during future care. Each person was less than fifty percent accurate in retrieving the names, doses, and frequencies of medications. The potential for medical errors to be made by prescribing further medications based on clinical guidelines increases if this baseline information is not available.

Disease management is a concept that emphasizes preventive care, or care that delays complications from a disease. Confounding the development of disease management protocols is the fact that there are very few disease processes for which a consensus is available. While the

United States Preventive Services Task Force has published guidelines for a number of preventive measures, when the data is evaluated for these, the number for which an A1 recommendation exists is limited with varying agreement among different groups (AMA, ACS, Canadian Task Force). The field of infectious diseases provides one such example. A seemingly simple topic such as duration of antibiotic therapy should be easy to determine for disease processes, but there are actually very few diseases for which this data is available, and those that do exist demonstrate large variations in time by providers. Nevertheless, while these limitations exist, they identify areas needed for research trials and ultimately improved quality of care.

Clinical pathways are strategies to improve the quality and cost-effectiveness of medical care. They help provide structure to patient care by providing information about the most appropriate treatments and their timing to ensure the best possible outcomes while attempting to minimize unnecessary costs. Besides benefiting the patient, clinical pathways can assist health care providers by reducing time spent on charting and tracking down physician orders. They identify the interventions needed for each patient every day and act as a benchmark to identify how each individual patient is progressing compared to the standard. Typed out orders are readable, which decreases transcription errors for record updates and pharmacy orders. If a patient falls off the pathway due to complications, then adjustments can be easily made to the established pathway to get patients back on track. Clinical pathways may also be a great tool for training inexperienced staff, since each stage of care is clearly outlined, resulting in fewer errors made. Standardized procedures and interventions might not be the best solution for every case, but they still leave room for the 'art' of medicine to be performed.

Information technology is another component that plays an extremely large part in the health care industry. Using technology in patient care can help to measure and improve quality by helping to quickly identify patients who display certain illnesses, organize this information quickly and efficiently, identify rates of illness that are being evaluated all in a more cost efficient manner. These systems can also make the use of practice guidelines, disease management, and clinical pathways easier for the health care providers resulting in the best quality of care during clinical visits. Examples of these systems include the use of computerized medication delivery systems, electronic medical records, and patient medication tracking and interactions. This technology can also be used to capture outcomes of interventions and patient satisfaction to be used in the performance improvement process. The military is well ahead of its civilian counterparts in this respect, but still has a ways to go. In a system like the one used at Bethesda Naval Hospital, inpatient hospital records are completely computerized and the addition of physician order entry has just been established within the last year. However, the outpatient records are still completely a paper system. Still, this addition of computerized technology stands in contrast to other facilities, such as the Washington hospital center and children's hospital, which both use a completely paper in- and outpatient chart. Despite the many benefits of the computerized system, potential problems do exist. For example, the possibility for violations of patient privacy if medical information is accessed by third parties that do not have a need to know and if every locality does not have the resources to implement such technologies. On the other hand, the computerized systems do much to improve and expedite the delivery of care to individuals, especially those with multidisciplinary needs.

Approaches for Change.

There has been a call for improvement to our current health care system. This indication of a need for improvement might indicate that there is a lack of quality to our current system, which

has also been rated low by international critics. However, since quality is very hard to define and is 'in the eye of the beholder,' then an approach that works to complement our current systems is probably justified. This type of change is more feasible than drastic changes such as federalizing healthcare and increasing taxes to fund a "socialistic" program that may not coincide with our nation's political and economic profiles. A widely acceptable definition of our goals for health care would be required to accurately measure our current status, implement improvement strategies that use existing systems, and develop new guidelines and technology to assist health care providers.

It will be difficult at best to meet everyone's expectations for defining quality care and many difficult societal choices will have to be made to enable swift and significant changes. We must continue to improve on our current systems to help ensure fairness and equity throughout the nation. This should be accomplished by using our evolving technology to help disseminate the best information available about the most effective and efficient ways to care for those conditions where such information exists. The continuous development and improvement of disease management protocols, clinical pathways, and practice guidelines will help accomplish this goal while reducing the chances that medical errors will be made. We should do our best to contain costs without sacrificing quality or equity of care to the patient. The best use of information technology can help standardize treatment methods to provide prompt and efficient care that should result in cost containment due to the structure of how care will be delivered. We must also develop systems that will expand coverage to the uncovered.

In addition to changing elements of the health care system, the consumers must be empowered to help ensure the outcomes of their care are positive. Patients must take more responsibility for their care and understand what treatments and medications they have had in the past to ensure this information is accurately provided to their physicians and nurses in the absence of accurate records. They need to be experts about their own medical conditions to assist the clinicians in making the correct medical decisions about their health status so that effective treatments can be implemented without spending an exorbitant amount of money on diagnostic procedures. This intervention requires considerable focus in the future to make individuals more accountable for their own health. Perhaps every patient should be required to provide their own medical record that they ensure is accurate and up-to-date each time they receive care. The military has promoted the idea of our medical information being placed on an electronic card the size of an identification tag and is developing this technology. Perhaps the civilian sector should focus on similar efforts.

Despite the complexity of our system, and the many competing values and priorities, our health care system will find ways to make fewer errors, expand coverage, and use the best information available to improve the delivery of health care both fairly and equitably. Continued performance improvement interventions will help to focus our efforts not only in areas where we need major change, but also to continue improving the areas where we are doing well. The results of these changes will hopefully be a steady decrease in the rates of medical errors, increased availability of accurate and timely information, reduction of costs, and an overall improvement in quality. There have been examples of success in areas of the health industry, specifically by anesthesiologist who have made remarkable strides in decreasing rates of errors by implementing technology and models for the delivery of their services. This is proof positive that these measures can be effective, given time and resources. Overall, the prognosis for an improved and fair system is good as long as we are able to come to a consensus on defining it and measuring it so that we are able to continually improve.