

James L. Holly, M.D.

**Medical Home Part V:
Healthcare Education and Delivery: Essential Changes Needed in Both
By James L. Holly, MD
Your life your Health
The Examiner
March 19, 2009**

While SETMA has been thinking about the new organization, structure and dynamic of healthcare delivery, which is called “Medical Home,” I have been simultaneously involved in meetings in which the education of healthcare professionals has been the central focus of discussion. Among many other community, business and consumer leaders, those meetings have involved the leadership of the various schools who train healthcare professionals. At most academic healthcare centers, those schools will include the following and others:

- School of Nursing,
- School of Dentistry,
- School of Biomedical Education which trains doctoral candidates in [Biochemistry](#), [Cellular and Structural Biology](#), [Microbiology and Immunology](#), [Molecular Medicine](#), [Pathology](#), [Pharmacology](#), [Physiology](#), and [Radiology](#),
- School of Health professions which trains healthcare professionals in [Clinical Laboratory Sciences](#), [Deaf Education and Hearing Science](#), [Dental Hygiene](#), [Dental Laboratory Sciences](#), [Emergency Health Sciences](#), [Occupational Therapy](#), [Physician Assistant Studies](#), [Physical Therapy](#), [Respiratory Care.](#), and
- School of Medicine.

One such academic center defines its mission statement as, “to serve the needs of the citizens of the state, the nation, and the world through programs committed to excellence and designed to:

- “educate a diverse student body to become excellent health care providers and scientists
- “engage in biomedical research focused on seeking information fundamental to the prevention, diagnosis and treatment of disease
- “provide compassionate and culturally competent state of the art clinical care
- “enhance community health awareness, education and practices thereby improving the wellness of the citizenry.”

From this point forward, this discussion ceases to be attributable to anyone except this author and is not a reporting of anyone else’s opinions, attitudes or thoughts. The ideal setting in which to deliver and to receive healthcare is one in which all healthcare providers value the participation by all other members of the healthcare-delivery team. In fact, that is the imperative of Medical Home. Without an active team with team consciousness and team collegiality, Medical Home is just a name which is imposed upon the current means of caring for the needs of others. And, as we have seen in the past, the lack of a team approached at

every level and in every department of medicine creates inefficiency, increased cost, potential for errors and it actually eviscerates the potential strength of the healthcare system.

Why is this? Typically, it is because healthcare providers in one discipline are trained in isolation from healthcare providers of a different discipline. Oh, they are in the same buildings and often are seeing the same patients but they rarely interact. Even their medical record documentation is often done in compartmentalized paper records, which are rarely reviewed by anyone but members of their own discipline. This is where the first benefit of technology can help resolve some of this dysfunction. Electronic health records (EHR), or electronic medical records (EMR) help because everyone uses a common data base which is being built by every other member of the team regardless of discipline. While the use of EMR is not universal in academic medical centers, the growth of its use will enable the design and function of records to be more interactive between the various schools of the academic center.

And, why is that important? Principally, because more and more healthcare professionals are discovering that while their training often isolates them from other healthcare professionals, the science of their disciplines is crying for integration and communication. For instance, there was a time when physicians rarely gave much attention to the dental care of their patients, unless they had the most egregious deterioration of teeth. Today, however, in a growing number of clinical situations, such as the care of diabetes, physicians are inquiring as to whether the patient is receiving routine dental care as evidence-based medicine is indicating that the control of disease and the well-being of patients with diabetes is improved by routine dental care. Also, as the science of medicine is proving that more and more heart disease may have an infectious component, or even causation, the avoidance of gingivitis and periodontal disease have become of concern to physicians as well as dentist.

Disruptive Innovation

In addition, Medical Home places major emphasis upon issues which historically have been the concern of nurses. Physicians who use EMRs are discovering that the contribution of nursing staff can make the difference in the excellent and efficient use of this documentation and healthcare-delivery method. No longer is the nurse a “medical- office assistant” ancillary to the care of patients, but the nurse is a healthcare colleague central and essential to the patient’s healthcare experience. As evidence-based medicine expands the scope of what *The Innovator’s Prescription: A Disruptive Solution for Health Care* By Clayton M. Christensen labels as “empirical medicine” which ultimately leads to “precise medicine,” it is possible for physicians and nurses to be a true- healthcare delivery team, as opposed to the nurses only being an aide to the physician.

Christensen identifies the following “Levels of medicine” and makes the following judgments about the future of healthcare delivery:

- Intuitive Medicine -- “when precise diagnoses isn’t possible...where highly trained and expensive professionals solve medical problems through intuitive experimentation and pattern recognition.”
- Empirical Medicine -- “As patterns become clearer, care evolves into the realm of evidence-based medicine...where data are amassed to show that certain ways of

treating patients are, on average, better than others.”

- Precise medicine -- “when diseases are diagnosed precisely...therapy that is predictably effective ...(can) be developed and standardized.”

Change wrought by Precision Medicine

- “...(when) we know what type of bacterium, virus, or parasite causes one of these disease...”
- “...(when) we know the mechanism by which the infection propagates...”
- “...predictably effective therapies can be developed...”
- “...therapies that address the cause, not just the symptoms...” As a

result, Christensen concludes:

- “...nurses can now provide care for many infectious diseases...”
- “...patients with these diseases only rarely require hospitalizations.”

It is easily recognized in this emerging paradigm that all of the schools in the academic healthcare center are actively involved in patient care and in the training of those who will be healthcare providers. Yet, it seems that the farther and farther a person advances in biomedical education, the obvious union of their disciplines at their foundations seems to be lost and the more isolated from the whole these “specialists” and “experts” become. This even creates problems within the various disciplines as egocentrism isolates one medical specialty from another. It is as a result of the need for the integration of healthcare disciplines at the delivery level, that the imperative becomes obvious for the restructuring of the training of the members of this healthcare team. And, the first change must come in the relationships between the leaders of the training programs who educate and mentor future healthcare scientist, teachers, caregivers and researchers. The educational leaders must model this integration for their disparate student bodies and that modeling will require the investment of the most precious and rare resource: time.

Glue? Adhesion and Cohesion

What is the model for this restructuring of the relationships between schools in the academic healthcare centers? It has been suggested that there is “glue” which unites the members of the various schools in an academic healthcare center, which will ultimately create this team. I would argue with that. Glue is an adherent. “Adherence” is described and simultaneously defined by the following:

- “Two dissimilar parts touching each other but not fused.”
- “The union of separate parts; tending to adhere to or be connected by contact.”

If propinquity is the principle motivation for the forming of a team, it will not survive the stresses and pressures which tend to make the team fly apart.

On the other hand, “cohesion” is “the bonding together of members of an organization/unit in such a way as to sustain their will and commitment to each other, their unit, and the mission,”

and it has been further defined as a “union between similar plant parts or organs.” Synonyms of “cohesion” are “harmony, agreement, rationality.” Here is the source of the union of the various elements of the healthcare team in training. It is in the recognition of their commonness and in the acknowledgment of their being part of the same “organism.”

Harmonics

The concept of “harmony” is valuable here also. Harmony is not the absence of discord; it is the presence of a common nature. The typical definition for a harmonic is “a sinusoidal component of a periodic wave or quantity having a frequency that is an integral multiple of the fundamental frequency.” I smiled and chuckled aloud as I wrote this last sentence. It is a mouthful, but how is it related to our problem of healthcare delivery? If you have a room filled with tuning forks of different frequency and you strike one of the forks, all of the forks which are of the same frequency or a multiple of the same frequency, as the one struck, will begin to sound. Those which are intrinsically different will remain silent.

In a room of educators, some health science, some historians, some vocalists, some archeologists, etc., when the sounding is of excellent in healthcare delivery; when the sounding is of evidence-based medicine; when the sounding is of containing the cost of healthcare while maintaining the quality; when the sounding is of increasing the accessibility of healthcare by removing barriers of affordability, linguistics, literacy, etc; each member of the healthcare-education team, whether nurse, dentist, physician, scientist, physical therapist, laboratory technician or other, will begin to resonate, as they are all coherent, by their nature, to the process of sustained improvement in the delivery of healthcare. It is as if the healthcare-education team, as the healthcare-delivery team, has become a symphonic orchestra made up of instruments which are different in sounding method but which harmonize to produce an aesthetically satisfying result.

Remember, the Greek word “symphonia” means “sounding together.” So it is that the members of the healthcare-education and the healthcare-delivery team “resonate together” to produce the results we all desire.

Personal Pilgrimage

My personal pilgrimage in this process began my first year in medical school, but it was not in the classroom. One day, as I was leaving the medical school with a classmate, the Dean’s secretary ran up to us and said, “Larry, you must go downstairs. There is a meeting for the new health careers program and the Dean is there by himself.” Reluctantly, I went and began a two-year participation in the School of Medicine’s Health Careers Program and a life-time of desire to help young people pursue health careers. Every Saturday, we brought high school students, principally Hispanics, to the school of medicine and introduced them to health careers. I realized then that the recruitment of a diverse student body to the various elements of the health science center was not going to be done en masse but it was going to be done one student at a time. As a result, one of the missions of the SETMA Foundation is to help underwrite the education costs for students who qualify but cannot afford health-career education.

The second element to my pilgrimage was in Clifton, Texas, after graduation from Medical School. With the birth of my second child days before graduation and with him in neonatal ICU, I had to work in order to provide for my family. Monday after graduating on Saturday, I left for Clifton. I lived in the hospital around the clock with two days off in a month to take the state medical boards. I learned the value of a healthcare team from an LVN when one night, as I was preparing to treat a patient in the ER, she said, "I have noticed that our doctors do that this way." She was so kind. She didn't say, "Hey, stupid, didn't you learn anything in medical school?" Yet, over the next four weeks, my wealth of knowledge of physiology, pathophysiology, biochemistry, heart failure, etc., was augmented by a wealth of practical medicine taught to me by an LVN. What doctor cannot remember the same kind of experience with a nurse, or other healthcare team member who helped him/her through a patient encounter which was new? Why have we forgotten?

The third element of my pilgrimage was SETMA's migration to EMR. When SETMA was formed there was no uniformity in how medical records were created, filed or stored. Some dictated records, others hand wrote records. Some organized records alphabetically, others used a numeric system. On August 1, 1995, SETMA's medical- record-keeping illustrated all of the problems facing the future of healthcare in America. With the new millennium approaching, with all of the potential of 21st-Century technological care, SETMA was hamstrung by the use of mixture of a 19th-Century documentation system, i.e., pencil and paper, and a 20th-Century system, i.e., dictation and transcription. Neither system was capable of supporting innovation in healthcare delivery. In March of 1998, we purchased an EMR system.

Two events define our success with NextGen EMR and EPM. They occurred simultaneously. The first was our realization that this task was too hard and too expensive if all we were to get out of it was the ability to document a patient encounter electronically. It was this realization which pushed us past electronic patient records to electronic patient management. We realized that we had to develop the functionality for the EMR to enhance the quality of patient care, to increase the satisfaction of patients themselves and to expand the knowledge and skills of health care providers, if it was to be "worth it." It also had to expand the healthcare team to include all participants as active, valuable contributions to the delivery of healthcare. In the spring of 1999, we made this transition to electronic patient management and the investment of time and money suddenly was "worth it."

The second event occurred in May, 1999, and it set the tone for the next ten years of EMR implementation. In a moment of frustration at the new system, which at this point of development was cumbersome to use and yielded little more than an acceptable record of a patient encounter, one partner said, "We haven't even begun to crawl yet," speaking of our use of the EMR. SETMA's CEO said, "You're right, but let me ask you a question. When your oldest son first turned over in bed, did you lament to your wife, 'this retarded, spastic child can't even walk, all he can do is turn over in bed,' or did you excitedly announce to your wife, 'he turned over in bed!'" He smiled and the CEO added, "If in one year, all we're doing is what we are presently doing, then I'll join you in your complaint. For now, I am going to celebrate the fact that we have started and that we are doing more than before."

That celebratory attitude has given SETMA the energy and resolve to face hard times and the vision of electronic patient management has given us direction and substance to our goal. Today, we are not what we were, and we are not yet what we shall be, but we are on a pilgrimage to excellence which will never end. We started eight years ago at MGMA; where is the end? There isn't one and that is what helps us get up day after day, excited about the prospect of the future. Mostly what we celebrate today is the team which EMR has facilitated our forming.

Medical Home

Now, we come to Medical Home. As the healthcare education establishment is reorganizing itself to model the health-care-team concept for those they are teaching and mentoring, those in healthcare delivery are enjoying the opportunity to rethink our approach. Many of us have already experienced through the implantation the value of a healthcare team. Now with the power of the EMR, we have embedding HEDIS standards and other measures of quality into our EMR. We have designed a Coordination of Care review which allows us a snapshot at every visit as to where our patients are in their healthcare journey. We have completed a 408-page review of our practice and have been able to analyze what we are doing well and where we need to improve. Most of all, we have recognized how valuable the healthcare team is to our model of healthcare delivery and how central it is to Medical Home.

We value participants in healthcare delivery by what we pay them, but more essentially, we value them by how we treat and relate to them. In the future, healthcare will undergo significant changes in monetary valuation of services which have been delivered. That will be forced upon us. However, our valuation of the contribution of others to our team is within our power to judge and acknowledge. How well and accurately we do, that to a great extent, will determine how we navigate the future.