Perspectives

It Takes a Village: Interprofessional Collaboration in Cardiology

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In 1986 I was asked to speak at an international critical care conference. That year it happened to be held in Israel. The audience was a mix of physicians and nurses and the topic was collaborative practice. At the end of the lecture a participant went to the microphone and identified himself as a critical care physician working in Jerusalem. He didn't have a question, but rather a comment about my lecture. He declared that the problems in collaborative relationships between physicians and nurses that I had identified in my lecture were uniquely American. In fact, in his experience as the director of a large intensive care unit (ICU), all physicians and nurses demonstrated a spirit of mutual respect and collaboration. He was immediately followed at the microphone by a woman who identified herself as a nurse working in the same ICU. She wanted to clarify that the physician who spoke before her had a unique view of the situation. In fact, their ICU was a difficult place to work, she stated, primarily because of the strained relationships among the professionals working there. My take-away from the experience was that problems in collaboration among health professionals are endemic and cross national boundaries. More significantly, they often are not appreciated by those in leadership positions; apparently the definition of and appreciation for collaboration is in the "eye of the beholder".

Having worked as a nurse for almost five decades, I have witnessed a sea change in the value accorded collaborative practice among physicians, nurses, pharmacists and other members of the health care team. Many forces were at work to create this positive change. The first, and perhaps the strongest, is the recognition that the most common source of patient error is poor communication between members of the health care team.[1] Root cause analyses of medical errors often reveals an unwillingness to "speak up" or to question a member of the team.[2] These analyses, similar to those done in aviation between the pilot and co-pilot, have served as a powerful motivator to examine barriers to effective communication and increase a culture of collaboration in health care.[3]

Hospitals have created impediments to communication either by enshrining the historical power of physicians or by allowing disruptive behavior by various members of the team (including nurses or other professionals).[4] Thus, the primary focus of patient safety efforts has been on promoting effective communication among health professionals, particularly focusing on doctor-nurse communication but extending to every member of the team. Nonetheless, poor communication between health care professionals remains the number one contributing factor to adverse patient events.[1,5]

A second factor supporting collaboration among health care professionals is the evolving demographics of patients. As patients have experienced the additional life expectancy associated with advances in clinical medicine and public health, they increasingly present with multiple chronic diseases. One in four Americans has multiple chronic conditions. That number rises to three in four Americans aged 65 and older.[6] Again, multiple chronic conditions create complexity and require a team approach by health care professionals from different disciplines.

A third force that remains relatively unstudied related to collaborative practice is the change in genders across the health professions. For the first half of the twentieth century, medicine was almost entirely a male profession. However, women now represent over one third of the total physician population in the United States and are projected to exceed men in number by 2020.[7] These numbers are in keeping with an upward trend in the number of women selecting careers in medicine: in 1970, 7.6% of physicians were female; in 1980, 11.6%; in 1990, 17%; in 2000, 24%.[8] An ever-increasing proportion of women in medical school indicate that females will continue to move toward parity with male physicians—at least in numbers if not in salary and leadership positions. In contrast, men still remain a small minority in nursing (slightly less than 10% in 2013),[9] but the number continues to climb. The communication problems stemming from physicians being almost exclusively male and nurses female may soon be a quaint memory.

Historical Perspective

Prior to the 1960s, physicians and nurses in cardiology were constrained in their professional roles by the traditions of

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Manuscript received May 16, 2017; revised manuscript accepted May 17, 2017.

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1071-9164/$ - see front matter

http://dx.doi.org/10.1016/j.cardfail.2017.05.011

hospital care. The authority of physicians was encoded in the hierarchical tradition of the hospital structure and had remained relatively unquestioned through history. One major difference between physicians and other members of the health care team is employment status; the latter were (and still are) all employees of the hospital. The majority of physicians were in private practice, and therefore they functioned as free agents. Physicians were courted by hospital administrators; for example, a "doctors' dining room" was (and still is) nestled in many hospital cafeterias. Physicians were the source of patients and therefore were highly valued by administrators who needed to keep patient census high to balance the budget. In contrast, nurses, pharmacists, and other team members were viewed as "cost centers," since their salaries are not reimbursed by outside sources of funding. It will be interesting to see what, if any, cultural shift occurs in the hospital setting as the increasing trend toward cardiologist as "hospital system employee" and bundled payments continue.

Inter-professional collaboration and the development of highly functioning teams have had a different history depending somewhat on the specialty and the particular needs of the patient. For example, palliative care—with its emphasis on symptom management and end-of-life care—developed a strong collaborative focus from its beginnings. Rehabilitation relies heavily on many disciplines—physical therapy, speech therapy, medicine, and nursing, to name a few—and therefore has a long tradition of interprofessional collaboration. Since I am writing this "bookend" from the perspective of a nurse who has cared primarily for patients with heart disease, I will focus specifically on physician-nurse collaboration in cardiology.

Collaboration in Cardiology and Heart Failure

With the advent of intensive care units in the early 1960's, the relationship between physicians and nurses in hospitals began to change. Nowhere was that more true than in the nascent specialty of cardiology. In 1961, Morris Wilburne, a physician practicing in California, submitted an abstract to the Annual American Heart Association Scientific Sessions entitled "The coronary care unit: a new approach to treatment of acute coronary occlusion". In the abstract, he described the philosophy of the coronary care unit (CCU) with its specially trained nurses, bedside monitoring equipment, defibrillators, and emergency drugs designed to rescue patients from cardiac fibrillation or asystole. Although the abstract was not accepted for presentation, it was published in *Circulation*[10] and was one of the first publications to describe a first-generation coronary care unit. Seeing the benefit for patients with life-threatening myocardial infarction, hospital administrators quickly established coronary care units across the United States.

To help prepare nurses for the increased responsibility of diagnosing and treating life-threatening arrhythmias in the CCU, Meltzer and colleagues wrote a textbook specifically for CCU nurses. In the text, the authors stated "Intensive coronary care is essentially an advanced system of nursing. It is not an advanced system of medical practice based on electronics."[11] Nurses working in the CCU were expected to diagnose an arrhythmia and act decisively. With a change in expectations, the working relationship of physicians and nurses changed as nurses assumed increasing responsibility for the care of acutely ill patients. This change in nurses' responsibilities was partially reflected in the abandonment of nursing uniforms for hospital scrubs and the demise of nursing caps in the 1970s.

Fifty years after the first CCU was described, William Frye wrote that "The advent and diffusion of the CCU transformed the care of patients, the careers of cardiologists, and the boundaries of nursing practice in less than a decade."[12] The CCU heralded the beginning of collaborative practice in the specialty of cardiology and provided nurses and physicians, as well as biomedical engineers, pharmacists, social workers, physical therapists and dieticians, an important breeding ground for inter-professional collaboration.

As cardiovascular clinical practice made rapid advancements in the medical and surgical treatment of patients with heart disease, the number of patients with chronic heart failure increased exponentially. These patients required intensive education and counseling to prepare them for the high level of self-care management required by this condition, as well as the careful titration of multiple medications. Different models of care were developed; for example, multidisciplinary heart failure clinics or heart failure clinics managed by nurse practitioners. The authors[13] of a recent Cochrane review examined seven randomized controlled trials involving 1684 patients with heart failure comparing nurse titration of beta-adrenergic blocking agents, angiotensin converting enzyme inhibitors, and angiotensin receptor blockers with titration of these medications by a primary care physician. Participants undergoing up titration by a nurse were less likely to experience a hospital admission or to die, and more participants reached the maximum dose compared to those who had these medications titrated by their primary care physician. Based on these results, the authors projected that 27 deaths could be avoided for every 1000 patients undergoing titration of these medications by nurses.[13]

Research in the 1990s demonstrated the effectiveness of multi-disciplinary heart failure clinics in reducing the morbidity and mortality experienced by patients with HF.[14] In a more recent update by Takeda and colleagues,[15] 25 clinical trials with nearly 6000 patients were reviewed. The clinical trials tested one of three models of care: 1) case-management interventions, where patients with HF were intensively monitored by telephone calls and home visits by a specialist nurse; 2) clinic interventions involving follow up in a specialist heart failure clinic; and 3) multidisciplinary interventions delivered by a team. Patients who received a case-management intervention had lower all-cause mortality a year after discharge than patients who received usual care. Case management patients were less likely to be readmitted to hospital for HF six months after discharge and at a year were less likely to be readmitted to hospital for any reason than patients who