Interview with Eugene S. Schneller, PhD, Professor and Dean's Council of 100 Distinguished Scholars, W. P. Carey School of Business, Arizona State University

Eugene S. Schneller has been a professor at Arizona State University (ASU) since 1985, where he codirects the Health Sector Supply Chain Research Consortium. Previously, he served as counselor to the president of ASU for Health Professions Education, associate dean for research and administration, director of the School of Health Management and Policy, and director of the L. William Seidman Research Institute.

He is a Faculty Associate of the American College of Healthcare Executives (ACHE) and has served as board chair for the Association of University Programs in Health Administration (AUPHA), as a commissioner and fellow for the Accrediting Commission on Education for Health Services Administration (now CAHME), and as chair of the Western Network for Education in Health Administration. In addition, he was a US Public Health Service Primary Care Fellow and a member of the Arizona State Medicaid Advisory Committee.

Dr. Schneller earned a bachelor's degree from C. W. Post College, a PhD from New York University, and an honorary physician assistant degree from Duke University. In 2007 he was named a supply chain influencer to watch by *Healthcare Purchasing News*. In 2010 he received AUPHA's Filerman Prize for Educational Leadership for his outstanding contributions to the field of healthcare management education.

Dr. O'Connor: *Congratulations on winning the 2010 Filerman Prize for Educational Leadership! You began your career with a PhD in sociology from New York University (NYU). What drew you into the field of healthcare?*

Dr. Schneller: I didn't go to graduate school for healthcare at all. I worked with a sociologist named Eliot Freidson at NYU, who by that time had written two very influential books, *Profession of Medicine: A Study of the Sociology of Applied Knowledge* and *Professional Dominance: The Social Structure of Medical Care*. What I received from working with Dr. Freidson, and from my graduate courses, was a lens for looking at how medicine has developed in the United States and at the decisive influence physicians have had on how and where medicine is practiced. I also learned about the variability in physician decision making and how important physician decision making is to managers, which is what really stimulated my interest. I was very fortunate to receive a fellowship from the US Department of Health, Education, and Welfare

to work with Freidson's group at Montefiore Medical Center in New York, an always innovative and interesting place. Montefiore had the first prepaid group practice in the country and the first home health care in the country, and that was my first exposure to hospital life. Interestingly, every day I walked past the materials management department thinking it was where they did the laundry. I had no idea that materials management would become a principal interest of mine. I ended up doing a dissertation on a group of physicians from the American College of Legal Medicine, which allowed me to see how medicine was practiced and the range of careers that physicians were interested in.

My first job after graduate school was at Duke University, which had just developed a new area, physician assistants (PAs). My chairman was Dr. Harvey Estes. I asked him, "What do you want me to do?" He said, "Whatever you want—just be productive." I decided to follow the PAs around because I didn't know what they did or how they fit into the medical division of labor. While I spent a year conducting fieldwork on PAs, I fell into an environment with people who made me think deeply about these issues. That research was the origin of the idea of a dependency-based occupation—grounded in negotiation between physicians and PAs.

I never thought I would end up in healthcare, but it has been incredibly fulfilling, and the organizations that I have dealt with—ACHE, CAHME, AUPHA, and more recently the Association for Healthcare Resource & Materials Management of the American Hospital Association—have made my life richer in so many ways.

Dr. O'Connor: *What is supply chain management?*

Dr. Schneller: At its simplest, supply chain management is all the parties involved, directly and indirectly, in fulfilling a customer's request. It includes manufacturers, suppliers, distributors, transportation and warehousing personnel, and especially customers. It is really about relationships, networks, and the transactions that allow an organization to fulfill its needs in order to do its work. Managers must make many decisions regarding the design and efficiency of the supply chain.

If a hospital or a doctor doesn't have the correct supplies, the right care cannot be delivered. Inadequate products can have a serious negative impact on care. The supply chain's basic function is to make sure that those products are there. But beyond that, the supply chain can also drive innovation in hospitals and in supply chain practice. As major purchasers, hospitals have leverage that they don't always employ to drive innovation and change.

Dr. O'Connor: *Why is supply chain management strategically important for healthcare?*

Dr. Schneller: Supply costs have grown at an alarming rate. Right now, for hospitals the cost of supplies is second only to that of labor. As technology continues to advance, supply costs may overtake labor costs. Because of changes in reimbursement and other factors, hospitals will become more like technical factories.

Our research group has identified a number of diagnosis-related groups where the cost of supplies plus operating room costs add up to more than half the total cost of an admission. If you are spending so much on supplies and operating room costs for a procedure that represents just a few hours of a five- or six-day hospital stay, you are probably going to lose a lot of money.

Supply chain is one place where you can find new efficiencies in a hospital. Hospitals need to manage the delivery networks for their most expensive, supply-intensive admissions. It is strategically important to make each hospital admission as efficient and effective as possible, and a key area that can be improved within an admission is the supply chain.

Given the aging population, implantable devices such as hip and knee replacements will be among the most expensive admissions. Other costly supply intensive admissions are related to care in the ICU, such as sepsis, which is expensive because of the time spent in the ICU, drugs, and disposable items.

In accountable care organizations or medical homes, supply costs accrue within a single admission. Because reimbursement focuses on an entire case, we can think about what goes into bundled payments and how supplies contribute to the total admission cost. The physician's choice of supplies has always been a key issue. Does the physician put in the most expensive implant, or the most appropriate implant, or does she work with the hospital to make better choices? Putting in the appropriate implant for the best cost is the goal.

Around the world, everyone is examining how to confront the supply market. The relationship between suppliers and hospitals has traditionally not been as strong as the relationship between suppliers and physicians. In this changing environment, we are seeing an environment of better collaboration among physicians, suppliers, and hospitals. Suppliers are realizing that they need to carefully manage their relationships with hospitals as well as they manage those with physicians. Hospitals are aware that their best interests are probably not being served if physicians determine the relationship with suppliers. Through this increased collaboration, we also hope to see innovative new products developed that meet the needs of patients, lead to fewer readmissions, and support other policy objectives.

Dr. O'Connor: *What role do group purchasing organizations (GPOs) play?*

Dr. Schneller: Most hospitals in the United States belong to GPOs. My research group is interested in how well hospitals utilize them. Do hospitals see that using GPOs is outsourcing the purchasing function? Few hospitals are actually good at outsourcing; instead, many view the GPO price as a reference and then see if they can get a better price in the market, especially for items that physicians prefer. However, we are observing some real changes between hospitals and GPOs as part of the evolving supply chain. As GPOs assist in selecting more effective products and use their purchasing clout to drive product innovation, I foresee stronger collaborative relationships.

I have observed that great senior supply chain managers see themselves as making thoughtful outsourcing/insourcing decisions and that more health systems are deciding to become experts in some part of the supply chain. This may entail directly taking on the purchasing function or outsourcing it, self-distributing or going outside. Those decisions regarding the use of intermediaries are important because they can make the difference between being profitable or not. My fear is that those who insource key purchasing functions will merely master the field as it stands today, leading to a lack of innovation and keeping them from becoming drivers of field-wide technology change. Supply chain management technologies must not be seen as static.

Senior management has begun to reconsider where to position the supply chain and where it fits strategically within the organization. A number of systems have moved supply chain into the executive suite at the vice president level. In this case the supply chain director becomes a senior manager and more of a collaborator with finance, the medical director, and others in deciding how to best exploit the materials environment. Our recent white paper on this topic also revealed the important role that consulting firms have played in leading senior managers to realize the potential value for supply chain excellence through repositioning the function.

Dr. O'Connor: *Tell us about your research group, the Health Sector Supply Chain Research Consortium–Arizona State University (HSRC–ASU).*

Dr. Schneller: HSRC–ASU started six years ago. It is organized like an industry–university collaborative research center and has 14 corporate members including GPOs, hospitals, IT companies, distributors, and suppliers. Our goal has been to bring together the full range of supply chain stakeholders to collaborate and to solve cross-cutting problems. Our members identify research issues that they want investigated. I like to think of us as a technology transfer center that clarifies how the best in supply chain practices can advance healthcare system performance.

Dr. O'Connor: *Comment on trends surrounding the profession of medicine and the impact those trends may have on the working relationships among physicians, managers, and supply representatives and on healthcare delivery in the United States.*

Dr. Schneller: We have studied hospitalists since they emerged. Presently, most hospitalists are recruited right out of medical school. Will hospitalist medicine become a board-certified specialty? It has the potential to become an integrative specialty. The hospitalist can work across specialties, understands what does and doesn't work in a hospital, and comprehends which materials produce better outcomes.

Physicians get little training in their residency programs about the materials environment. Residency programs tend to associate doctors in training with the materials of one or a few manufacturers—I am not suggesting whether that is good or bad, but residents are not taught to think deeply about the materials environment when it is prescribed for them. Lack of reflection about materials, in materials-intensive specialties like orthopedics or cardiology, is problematic.

Regarding the role of suppliers and their representatives, our recent research observes that healthcare is coproduced—the physician and traditional personnel are not the only ones contributing to successful care. Delivery involves many other people as well. What, for example, does the supplier's sales representative provide in the operating room? He is frequently the stranger at the bedside or in the operating room whom no one talks about. But he provides a tremendous amount of technical information that medicine has accepted in the care of patients. How does one manage that ethical environment? While the sales representative is bringing great knowledge, you hope that he is pushing not the most expensive product, but the most appropriate product for the patient.

As in the past, physicians make decisions based on their training, on having seen many patients, and from information attained at conferences. Today, however, physicians make decisions in an information-rich environment, with input from comparative effectiveness research and not infrequently from sales representatives' real-life observances of many surgeries. These multi-source decision-making processes remain understudied and not well understood. Perhaps what I am suggesting is that we need to focus on the orchestration of practice, not just the performance of any one individual, specialty, or source of input.

Dr. O'Connor: *What is your view of information technology as it relates to healthcare management? What is your assessment of where it needs to go to improve healthcare management?*

Dr. Schneller: First, there is still a huge fragmentation of information technology across and within hospitals, making integrating the latest technologies difficult.

Second, and perhaps on the more positive side, enterprise resource planning (ERP) systems are increasingly able to manage much more of the hospital environment. Healthcare organizations use ERP systems to help manage their supply chain, acquisitions, warehousing, and so on. Integration is important, although it is slow in coming.

Third, electronic health records (EHRs) need to be able to record important aspects of the materials environment, but currently most EHRs do not. Are implants and implant identifiers included? If there is a recall, can the patient with a potentially defective product be identified? The clinical implications are enormous. Surgeons need to identify the primary implant in the case of revision surgeries. Implant information is not always clearly available in the patient record. Ascertaining this information by X-ray or visualization at surgery is not always possible, so a more extensive surgery may be necessary.

The materials, supply, cost, and business environments need to be linked up, not isolated, and information technology is what will link them. I believe that the movement to require unique identification for medical devices is tremendously important. Just think how easy it is to track a supermarket product back to the point of manufacture. But the failure to have such common identifiers on medical devices precludes fully managing recalls.

Dr. O'Connor: *What topics and issues would you like to see addressed by authors in the* Journal of Healthcare Management*?*

Dr. Schneller: I would like to see more about executive decision making, especially the competencies and capabilities of leaders in the most progressive healthcare organizations and their abilities to make critical strategic decisions about sourcing for the clinical and materials environments. In addition, we probably spend too much time benchmarking ourselves against what we believe to be best practices in the health sector, rather than best practices in broader professional and business environments. Healthcare executives tend to be very late adopters of management technologies, such as the use of ERP systems and barcoding. I would like to see authors demonstrate how best practices in other industries could more quickly be transferred to healthcare.