

# Guest Editorial

---

## The Deoxyribonucleic Acid of Health care Delivery Institutions

I have an admiration for hospitals, particularly through a lens of administration. In fact, my fascination with health care delivery institutions started as a student in medical technology in 1986. Over the years, the feeling grew stronger when my interactions with hospitals took place in different capacities. Upon graduation, I became an employee, years later a supplier of medical devices and research systems, then a patient, and a family or friend of a patient who was visiting, and finally, as an economic development official to facilitate greater adoption of innovation (from the private sector or academia) into hospitals. These exposures have taken place in different countries, on different continents, in both public and private sectors and also in civilian and army hospitals.



I found that hospitals share similarities and differences. I am going to focus on similarities, as it offers a greater context. Health care professionals are well aware of the deoxyribonucleic acid (DNA) to be the building block of all living organisms—a double helix with four bases known as A (Adenine), C (Cytosine), G (Guanine), and T (Thymine). Metaphorically speaking, one might view hospitals to have their own DNA. Let's assume one string is health care professionals delivering required care to patients and the other string is the management who is looking after the many investments and operations in the hospital.

While this might come across as a simple idea, in reality, each string would differ in many characteristics from the other one. For example, health care is deeply rooted in natural sciences, while management is somehow a social science. The differences in these two disciplines would impact how experiments, theories, and knowledge are developed, interpreted, and utilized. While management-trained professionals don't (and can't) engage in direct health care service delivery to patients, it is not unusual to see that health care-trained professionals engage in various management functions. As such, different personal and professional views, experiences, biases, expectations, misinterpretations, and miscommunications are likely to challenge an optimized bonding of the two strings (i.e., health care and management professionals) in a hospital. The managerial and leadership issues will surface even more when conflicts of priorities, values, and resource allocation are among the dividing factors.

Reflecting on some of my past experiences and observation (while not a formal study with academic rigor), I have noted that many issues could have been avoided, reduced, and more efficiently resolved in many cases if one side had a better understanding of the other. So, let's see what could ideally be the equivalent of A, C, G, and T as key building blocks of a hospital DNA through the lens of management:

- A (Administration): Henry Mintzberg (a Canadian scholar) described management as a science, art, and craft in one of his bestselling books. While the science can be learned, the art and craft of management require certain capabilities and experience to master. Like a good wine, it often comes with time. The relevance of this item is mainly for cross-disciplinary functions, suggesting that workers in each string require a good understanding of the other side to achieve an optimized operation. In practical terms, both sides of health care delivery and management would need to be mindful and have mechanisms in place to ensure proper training and mentoring to gain the right context.

From a management and logistics perspective, hospitals are a marvel of administration. There are likely thousands of daily tasks (if not more in larger hospitals) when it comes to scheduling, staffing, sourcing of goods, facility maintenance, materials handling and operations, reporting, monitoring, and security, to name a few. Not many other operations are open 24/7/365 (all year long), while providing lifesaving or life-enhancing services with a certain portion of activities to be highly unpredictable. And yet, there is a need to be prepared for almost any scenario. Any mistakes could carry significant losses and liabilities in hospitals. I believe that onboarding new administration from either side is key. We should also give them the right tools. This brings us to our next building block on enablers.

- T (Technology): Many hospitals have seen an increased share of technology adoption over the past 30 years. Recent issues of this journal have covered certain topics, such as Artificial Intelligence and Robotics very well. Technology acquisition on the health care delivery side often draws on many skills and resources from the

administration to engage in planning, budgeting, procurement, training, and maintenance to ensure proper operation. However, with increased demand on hospitals and often with limited resources, technology can also come to the rescue on the administration side. Digitization of certain processes, records keeping, digital tools (e.g., analytics, cybersecurity, supply chain management, integrated building technologies, etc.) could all play a role to enhance cost and performance efficiencies.

For residents in the Toronto area (Canada), they often hear about the fairly new Humber River Hospital as the first fully digital hospital in North America ([www.hrh.ca](http://www.hrh.ca)). A quick search on the internet would bring up many articles or videos for interested readers to check and learn about the many digital innovations, which are integrated into this facility. Beside all robots and automated systems in the delivery of health care, one could see humanoids to interact with patients and visitors, autonomous material handling to carry goods, and even smart windows that would tint automatically to control how much sun could enter the building (read as energy management for cooling/heating applications in a climate like Toronto that could range from +30°C in summer to -30°C in winter).

Why am I so excited about automated material handling in a hospital? Back in the days, I did my fair share of walking from our lab to the emergency room to pick up blood samples (and in some massive army hospitals, it was quite a journey). That time could have been better spent sitting behind my microscope! Now a robot could do that on own at a push of a button tirelessly with health care workers to do what they are best trained to do—serving patients. Such use of technology could also bring cost efficiencies to the administration. Technology adoption of this nature can be a good decision, when the facility size and information technology infrastructure would support such solutions. But how do we know that we are not spending money on fancy gadgets when the business case won't justify it? I hope the next building block of our hospital DNA to address this concern.

- G (Governance): Health care practitioners are professionally trained and are obligated to perform duties under an oath and abide by a professional code of conduct/ethics. When it comes to the administration side, it is usually the governance or oversight that aims to uphold accountability. After all, hospitals are social institutions engaged in serving people (with medical needs), which, in my opinion, would necessitate upholding operations to high standards. So, how do we ensure that the administration is engaged in doing the right thing? There are frameworks, models, and experts to consult on this and that is beyond the scope of this editorial.

At a minimum, I have found that those in the management or leadership positions could ask four value-rational questions as suggested by Bent Flyvbjerg (a Danish scholar). This practice would help them view social implications with more clarity:

- Where are we going with this decision? What do we want to achieve?
- Who gains, who loses, and by which mechanism of power (e.g., force *vs* consensus)?
- Is this desirable? Why?
- What needs to be done? How?

I believe we are at a point in time that societies will have greater social sensitivities to technology adoptions, infrastructure development priorities, and health care expenditures, to name a few. At the same time, I think there are blind spots and biases in management decisions made in both the public and private sectors. That is why better governance frameworks and asking deeper questions could result in better accountability and greater transparency in any leadership team. So, in light of the above considerations, can hospitals do and achieve everything on their own? This brings us to the next building block of a hospital DNA on working with others.

- C (Collaboration): Hospitals are large and complex social institutions. Not only it is a necessity for the health-care delivery and administration sides to collaborate internally, there is even a greater need for external collaboration. For example, many hospitals would engage with external stakeholders to raise funds for building new infrastructure and acquire more modern technology; to advance medical research in academia; to inspire and train future workforce; to source goods and services; to discover and develop better medications in clinical trials; and to learn/innovate continuously.

For management scholars, hospitals are a fertile ground to examine many of the management and organizational theories. While (public) hospitals often have close ties with the research community in health care, I'd wonder how often they look into other disciplines to learn transferable knowledge that would relate to their operation. Peter Drucker (an American management scholar) has been quoted to say that thinking is very hard work and management fashions are a wonderful substitute for thinking. As mentioned earlier, there are many assumptions, biases, and half-truths in the management, and being a social science won't help it much as experiments are hard to duplicate for greater validation. This should remind us the integrity and rigor of the management advice that

administration might receive from others. Many of us could relate to Drucker's quote for an advice we received from a mentor to find that it did not help much. The issue could either be differences in the context or the lack of evidence to prove that was true. Can management researchers observe operations, gather data, analyze, and share new insight with hospitals? I am confident that they can.

Health care administrators play a vital role in the effective and efficient delivery of services to patients. They are often a different kind of heroes in the background. It is only natural to assume that the two strings of health-care delivery and administration in the DNA of every hospital would need to bond to enable an optimized function (or failing that, to expect anomalies). After all, as the saying goes in different cultures, one hand does not clap or it takes two to tango!

**Hamid Shirazi Agha**  
B.Sc., IB, GDM, MBA (DBA)  
Athabasca University, Faculty of Graduate Studies (Canada)