A Preview of the Future: Medical Students on the Healthcare Landscape and What They Will Inherit

---

*Elorm Avakame, Ethan Balgley,
Arthur Bartolozzi, and Andreas Mitchell*

President Trump and his legislative allies are currently determining how to reshape American healthcare for current and future generations. Even in conservative circles, debates rage over which elements of the Affordable Care Act (ACA) are indispensable, if any. It seems the only uncontroversial statement regarding our healthcare system is that it must be improved.

Much attention has been given to the exorbitant costs of care and to resultant federal healthcare spending. Payment structures will likely change under the current administration, with all signs pointing to deep cuts in Medicaid expenditures via block grants to states.

Despite the turmoil over the cost of healthcare, the last decade has also seen improvement efforts that do not directly target rising costs or adjust payment models. Many health systems have striven to improve the quality of care through innovations including electronic health records, care coordinators, and mobile technologies for health coaching. However, these measures inadequately address one of the fundamental problems of the healthcare system: reliance on patients to navigate the system themselves, usually without sufficient resources or knowledge.

“Patients as care coordinators means key parts of the healthcare system relies on a labor force that is sick, stressed, unpaid, and untrained.”

Harvard Medical School, Boston, Massachusetts.

The authors contributed equally to this article and are listed alphabetically.

Address for correspondence: Arthur Bartolozzi Harvard Medical School, 25 Shattuck Street, Boston, MA 02445. E-mail: Arthur_Bartolozzi@hms.harvard.edu

© Elom Avakame et al. 2017; Published by Mary Ann Liebert, Inc. This Open Access article is distributed under the terms of the Creative Commons Attribution Noncommercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits any noncommercial use, distribution, and reproduction in any medium, provided the original author(s) and the source are credited.

Navigating the medical labyrinth from primary care to specialists is a challenge even for healthy, educated, and empowered consumers. For those with complex health challenges, less expertise, or fewer resources, the results are predictable and persistent—appointments are missed, resources are wasted, and health outcomes in the United States remain poor compared with other developed countries.¹ Not only are patients expected to navigate an opaque healthcare system independently, they are also often expected to coordinate their own social services, regardless of the barriers and illnesses they may face. Here too, the results are predictable; patients who struggle to secure social resources are less able to maintain their health.

Reliance on patients as care coordinators means consigning key parts of the work of the healthcare system to a labor force that is sick, stressed, unpaid, and untrained. A system less susceptible to human error can use resources more effectively and achieve a resultant improvement in outcomes. This principle is well understood in the context of adherence to medication. For example, long-acting reversible contraceptive methods, which are much less reliant on patient behavior than traditional oral contraceptive methods, are now a first-line recommendation, and the unintended pregnancy rate has fallen significantly.² However, embracing this principle in the context of care coordination will require a fundamental restructuring of the healthcare system in favor of a more streamlined delivery model.

The 21st-century health system must present patients with a coordinated array of services. This will be the expectation of consumers who are enjoying increased coordination in every other market from media to technology to travel. Interoperability must be a core feature of delivery systems. For those patients who require social supports for maintenance of good health outcomes, this principle must extend beyond the delivery of clinical care. Health systems must work creatively to coordinate integrated social services, including social work, addiction counseling, insurance coordination, and health coaching. Beyond providing higher-quality care at lower long-term cost, the health systems that are able to deliver this convenience will enjoy an outsized market share. In the face of turbulent political times, it remains a safe bet for healthcare systems to invest in the interoperable, coordinated care systems of the future.

Health Systems of the Future will include:

“Interoperability will be the hallmark of healthcare organizations that succeed with the emerging generation of healthcare consumers.”

► Interoperability

Interoperability will be the hallmark of healthcare organizations that succeed with the emerging generation of healthcare consumers. It will not

be enough to have access around the clock to images, documents, finances, and information. These services will be expected to integrate seamlessly across platforms, so that no effort is duplicated and results are immediate. Initially, companies such as EPIC led the push with complete suites of software that communicated across devices. However, there is now a demand for similar interoperability across different enterprises: scheduling systems need to communicate with insurance companies; medical records need to include documentation from providers outside the network. In short, all the components of healthcare delivery, including the educational, legal, and financial aspects, must be able to communicate.

Consider the case of a 62-year-old male factory manager with coronary artery disease and 30-pack-year smoking history presenting with months of worsening left knee pain. He is found to have severe osteoarthritis, and is scheduled for a total knee replacement. Before the operation, he undergoes a set of preoperative assessment protocols that require him to negotiate appointments, coordinate care, and obtain medical clearance and payment authorization. He may or may not learn about the indication for his surgery, the alternatives, and what to expect for recovery. Finally, a lack of cost transparency might cause him unexpected financial hardship.

We imagine a different situation for our patient. He is able to use the hospital's app to text questions to the nursing team, update his medical history, and submit a comprehensive review of systems specific to his health history—answering questions such as: Are you able to walk a mile without chest pain? How much have you been smoking recently? He can view videos tailored to his education and interest level regarding the procedure. He can sign consents after watching the videos on his own time. If he has questions, he can text an automated system or his surgeon. He can schedule and reschedule his preoperative appointment and his surgery based on availability and is notified of cancellations. His doctors and insurers outside the hospital's network are notified of his scheduled procedure and can approve it remotely. If additional tests or evaluations are needed, they are scheduled for his one preoperative visit or at a separate facility that will automatically communicate the results to the ordering center. During the preoperative visit, he sees his orthopedic surgeon or a mid-level provider to discuss details of the procedure and anesthesia, a smoking cessation counselor, an internist to discuss his heart condition, and a physical therapist who describes recovery. The patient's costs are clearly presented on his device. He can pay up front or establish a payment plan consistent with his credit history, which the app is able to generate.

From the perspective of system administrators, integrating these systems keeps patients in the hospital network or, at a minimum, comfortable interfacing with

“All the components of healthcare delivery including the educational, legal, and financial aspects must be able to communicate.”

“Providing a set of services outside the traditional scope of medical care may well reduce healthcare costs.”

their system for one-time services. This vision increases pressure on developers to innovate so their products can interface both with new and existing systems while fulfilling a unique need. Healthcare providers are also torn between choosing integrated platforms (the “Apple approach”) and aggregating “best-in-class” applications (the “Microsoft approach”). At large systems like KAISER PERMANENTE or PITTSBURGH, system-wide IT infrastructure is already in place to make the most of future changes in the delivery platform. However, not all systems are as large or as willing to appropriate the responsibilities of payer and provider. For these systems, small improvements in the service of integrating the patient experience are excellent steps in moving toward an eventual interoperable network.

► Social Services Integration

While our more affluent and tech-literate patients will be well served by increased technological interoperability, older and socioeconomically vulnerable people need a different sort of integration. There is substantial overlap between our sickest patients and the actual or potential beneficiaries of a wide range of social services.³ From community-based outreach and follow-up, to subsidies for housing and healthful food, to education and legal services, many services have the potential to improve patients’ health. Providing a set of services outside the traditional scope of medical care may well reduce healthcare costs.⁴ As payment models continue to shift toward capitation, healthcare delivery systems should consider both fiscal and organizational integration of such services.

Consider the case of a 59-year-old female Thai-speaking restaurant worker who is admitted with 3 months of worsening fatigue and nausea. She is found to have acute renal failure due to steroid-refractory lupus nephritis and requires dialysis. In a traditional model, she is discharged with several follow-up appointments and phone numbers to call if she has trouble. The numbers may or may not connect to staff with access to Thai translation services. Depending on where she lives and what information she was given, she may have access to a ride service to her clinic and dialysis appointments, though it is likely complicated and inflexible. She may or may not receive reminder calls for her follow-up visits. In this framework, it would be unsurprising for her to miss several appointments, to get sicker, and to end up back in the hospital. She may even lose her job or her home as a consequence of her illness and become an emergency department “frequent flier.” Traditional fee-for-service payments incentivize this adverse outcome. Systemic trends toward readmissions penalties and bundled payments will likely make prevention not only the right clinical and societal goal, but also a good business decision.

We imagine an alternative outcome for this patient as well. Before discharge, she is assigned to a team consisting of a nurse case manager, a social worker, and a Thai-speaking community health worker.⁵ The community health worker meets

her in the hospital and then visits her home within 48 hours of discharge, going over her new medication regimen and her appointment schedule. Her social worker arranges rides to her appointments, and helps her to apply for unemployment insurance when she loses her job after missing too many days of work. In addition to directing the activities of this new team, the nurse case manager communicates with the patient's primary care provider and her multiple specialists to ensure that all of her physicians are on the same page and aware of any new developments. As a result, she remains relatively well, in her home, and out of the hospital.

This high-touch experience is a far cry from that of the average complex patient in the United States. Nonetheless, aspects of it are being implemented by organizations as diverse as PARTNERS HEALTHCARE in Boston, CAMDEN COALITION OF HEALTHCARE PROVIDERS in Camden, NJ, and the LOS ANGELES COUNTY DEPARTMENT OF HEALTH SERVICES. As changes to payment structures continue apace, and especially in the direction of bundled payments, healthcare organizations that are well-positioned to provide this type of coordinated social and clinical support will find increasing success.

The author team: (left to right) Arthur Bartolozzi, Andreas Mitchell, Elorm Avakame, and Ethan Balgley.

► SUMMARY

In the face of a fluctuating health policy environment, focusing on coordinated care delivery is a sure way for hospitals to ensure they are prepared for whatever comes next. Regardless of the future of the ACA, hospitals will be well positioned to retain consumers and provide services efficiently if they invest in care coordination and interoperable systems. This step toward more patient-centered care will benefit hospitals, savvy patients, and patients with more challenging social environments.

Integrated, interoperable systems streamline care for patients. For many, this can be the factor that attracts them to, and keeps them in, a hospital network. Reducing the burden on patients to coordinate care—without excessive additional expense—improves patient satisfaction, cuts down on missed appointments, and improves health outcomes, even in some of the most underserved populations.^{6,7} This can lead patients, such as our gentleman with the knee replacement, to become lifelong supporters of a hospital. Similarly, it can help patients such as our lady with lupus feel welcomed, supported, and empowered to attain the healthy lives they deserve.

Integrated systems also offer a low-risk, high-reward opportunity for hospitals. Attracting more patients leads to higher revenues. Reducing missed appointments leads to higher productivity. Providers and technological systems that interface smoothly with each other reduce administrative overhead. In a way, this concept has already been proven through the success of behavioral health integration in primary care, which has yielded gains for patients and practices nationwide. It is time for forward-thinking systems to continue pushing the envelope.

Hospital executives may wonder how up-front costs may impede efforts toward integration and interoperability. While advancements in technological systems can be expensive, most of the reforms described here are more cultural than digital. As such, hospitals can choose their own level of investment—from promoting culture change from the top down, to rebuilding technological systems from the ground up. The key is to do something. This is what patients are coming to expect from their providers, and administrators have an opportunity to put their institution on the leading edge.

► References

1. Davis K, Stremikis K, Squires D, et al. Mirror, Mirror on the Wall, 2014 Update: How the U.S. Health Care System Compares Internationally. Commonwealth Fund, 2014.
2. Hubacher D, Spector H, Monteith C, et al. Long-acting reversible contraceptive acceptability and unintended pregnancy among women presenting for short-acting methods: a randomized patient preference trial. *American Journal of Obstetrics and Gynecology*. 2017. 216 (2): 101–109.
3. Pettigrew LM, De Maeseneer J, Anderson M-IP, et al. Primary health care and the Sustainable Development Goals. *The Lancet*. 2015. 386: 2119–2121.
4. Shommu NS, Ahmed S, Rumana N, et al. What is the scope of improving immigrant and ethnic minority healthcare using community navigators: A systematic scoping review. *International Journal for Equity in Health*. 2016. 15: 6.
5. Singh P, Chokshi DA. Community health workers—a local solution to a global problem. *New England Journal of Medicine*. 2013. 369: 894–896.
6. De Vet R, van Luijcklaar MJA, Brilleslijper-Kater SN, et al. Effectiveness of case management for homeless persons: a systematic review. *American Journal of Public Health*. 2013. 103: e13–e26.
7. Fryer A, Friedberg M, Thompson R, et al. Patient perceptions of integrated care and their relationship to utilization of emergency, inpatient and outpatient services. *Healthcare*. 2017 Jan 21 [Epub ahead of print]. DOI: 10.1016/j.hjdsi.2016.12.005.