Perspective: A Framework for Career Paths in Health Systems Improvement

D. Clay Ackerly, MD, MSc, Ami Parekh, MD, JD, and Daniel Stein, MD

Abstract

The difference between the U.S. health care system’s potential and the outcomes it delivers is vast and well documented. Fortunately, many medical trainees recognize this challenge and aspire to careers that will enable them to help close this gap by improving the systems of care around them. However, the career paths in health systems improvement are not well defined, and interested trainees are frequently left without clear direction. The circuitous and often serendipitous routes that many current leaders in health systems improvement—including medical researchers, health system managers, and policy experts—have navigated to reach their positions of influence do not provide consistent road maps for the trainees who wish to follow in their footsteps.

The authors of this Perspective propose a framework to guide career development in health systems improvement. The framework is designed to help medical trainees and their mentors critically analyze various career options in three core focus areas (research, policy, management) and the intersections where those areas overlap (policy advising, implementation science, policy translation). The authors provide examples of the types of work done in each focus area and each intersection to help trainees make explicit decisions concerning skill development and to select opportunities that best fit their interests and strengths. In all, the authors intend the framework to support the development of a generation of physician leaders equipped to drive the improvement that the U.S. health care system requires.

The flaws in the current systems of health care delivery in the United States have been well described in the literature.1 Landmark publications, such as the Institute of Medicine’s To Err Is Human,2 have highlighted the importance of high-performing systems of care—above and beyond the efforts of any individual—in improving patient outcomes. Fortunately, a generation of medical trainees is enthusiastic about taking on the challenge of transforming the existing systems.3–5

Medical education has not, however, kept up with the need to provide training in health systems improvement, defined here as the work devoted to designing, implementing, evaluating, managing, and regulating health systems. Less than half of the U.S. senior medical students who responded to the 2007 Medical Student Graduation Questionnaire reported feeling as if they had received adequate education on health care systems.6 Further, more than half of medical school administrators responding to a 2010 survey acknowledged that their programs provided “too little” health policy education.7 That said, innovative programs are emerging—such as the health policy curriculum at George Washington University8 and the quality improvement programs at Dartmouth Medical School.9 This trend is likely to continue given policy makers’ interest in making Medicare’s graduate medical education payments contingent on systems-improvement-related competencies such as “practice-based learning and improvement.”10

This combination of increasing interest in health systems improvement and emerging formal educational experiences offers exciting possibilities for expanding the ranks of future health care leaders. However, in our experience, medical trainees interested in pursuing careers in health systems improvement may become overwhelmed by the sheer number of, and lack of clarity among, possible career paths. They may also find it difficult to identify role models and mentors who can help them navigate their career options. Often—particularly in academic medical centers—potential mentors are health services researchers whose interests and career paths may not align with the trainee’s goals. Trainees may also encounter inspiring academic leaders who have forged interesting and effective careers in health systems improvement but who have done so by following circuitous and often serendipitous career paths that may yield little tangible guidance and may be difficult to replicate. Making thoughtful and proactive career decisions in the absence of appropriate mentors and career guidance may be challenging.11

Furthermore, medical trainees may find it “easier,” or at least less ambiguous, to accept academic specialty fellowships, pursue pure clinical work, or leave clinical medicine altogether than to attempt to carve out a career in health systems improvement. In the long run, the field will suffer from the resulting loss of talent. Many health care delivery organizations may continue to be staffed by “accidental leaders” promoted through traditional research career paths without the business and management training needed to excel in their increasingly important administrative duties.12

Working Toward a Solution

Through conversations with large and small groups of medical students and
residents about their career goals, we identified a pressing need for a road map to navigate—and a context in which to define and analyze—the various career paths in health systems improvement. To develop such a framework, we gleaned information from the literature and interviewed both experts and peers. We then refined the framework on the basis of feedback we solicited from trainees and health systems improvement leaders. In this article, we propose the resulting career framework, which is intended to provide a structure for considering the many opportunities and career paths in health systems improvement. This framework is not meant to be exhaustive but, rather, to serve as an accessible starting point for discussion.

Ultimately, a multifaceted approach will be required to overcome the challenges currently facing aspiring physician leaders interested in pursuing careers in health systems improvement. Supporting these individuals’ career development will require investment to create meaningful mentorship programs,\(^ {13}\) new promotion and career pathways within academic medical centers,\(^ {14}\) new grant programs to encourage early career exploration, and novel training programs to facilitate acquisition of specific research, management, and leadership skills.\(^ {15}\)

### The Health Systems Improvement Career Framework

The career paths included in this framework are intentionally distinct from career paths that focus on the direct provision of health care. Of note, we use the term *health* rather than *health care* in the framework title in order to include careers in public health. We chose the plural term *systems* to represent the full range of medical systems, including traditional health care systems (e.g., integrated delivery systems like Partners HealthCare), microsystems (e.g., a medicine reconciliation system within a physician practice), and macrosystems (e.g., Medicare provider reimbursement systems). Below, we describe each of the framework’s core areas and intersections, as illustrated in Figure 1.

It should be noted that this six-component framework is not intended to encompass all possible career paths. For example, it does not include a career path for education, which is a critical component of all aspects of health systems improvement. Further, it does not explicitly address other related career paths (e.g., entrepreneurship, journalism, finance) that some medical trainees may seriously consider.

### The core focus areas

The health systems improvement career framework is composed of three core focus areas: research, policy, and management (Figure 1; Table 1).

**Research.** This focus area applies to endeavors to identify, explore, and evaluate key health care policy and delivery system issues with the goal of informing other actors in how they should regulate, manage, or deliver care. Research efforts are not limited to academic health systems and universities; they may be undertaken at for-profit institutions or in government settings as well. A trainee who enjoys asking fundamental questions about systems, developing methods to rigorously study the impact of interventions, and then disseminating the results through the published literature could be well suited for a research career.

**Policy.** This focus area applies to efforts intended to directly influence the government’s course of action at the local, state, or federal level. It includes positions in the legislative, executive, and judicial branches of government as well as perigovernmental roles (e.g., advocacy, government relations). A trainee who enjoys asking fundamental questions about systems, developing methods to rigorously study the impact of interventions, and then disseminating the results through the published literature could be well suited for a research career.

**Management.** This focus area encompasses the leadership and
administration of health care delivery organizations across the full range of care delivery, from small physician practices and community health centers to large, multispecialty, integrated practices and academic health systems. Trainees who enjoy working within the system itself on process and organizational change and those who enjoy the business side of health care may be interested in careers in the management focus area.

**Working within the intersections**

Explicitly included in the framework are three intersections, where the three core focus areas overlap: policy advising, implementation science, and policy translation (Figure 1). Much health systems improvement work is done, and many careers evolve in these intersections (Table 1). The terms we suggest for the intersections are meant to be used broadly to describe the overall area. Many of the organizations that we include as examples may use alternative terms when describing their work. It should be noted that these examples are representative, not comprehensive.

**Policy advising.** Work in the policy–research intersection is intended to inform the full course of the public policy process; it includes idea generation, initial legislative deliberation, debate and passage of legislation, policy implementation, and public education. Potential employers include think tanks (e.g., Brookings Institution, RAND Corporation, Heritage Foundation) and private foundations (e.g., Commonwealth Fund, Kaiser Family Foundation, Robert Wood Johnson Foundation). There are also opportunities at research-based consultancies (e.g., Lewin Group), whose intended audience is often government officials and policy makers.

**Implementation science.** The work at the management–research intersection encompasses on-the-ground quality improvement; its goals are to meet quality and operational targets while providing replicable and generalizable insights that can help others improve their care systems. This intersection incorporates many academic disciplines and is notable for its rapid growth and widespread opportunities. There is even a journal dedicated to the field. Potential employers include medical provider organizations (e.g., academic medical centers), health consultancies (e.g., The Chartis Group, Institute for Healthcare Improvement), and quality collaboratives (e.g., Leapfrog Group).

**Policy translation.** Although often overlooked, the work that occurs at the policy–management intersection plays an essential role for the provider community. Those involved serve as translators, helping the provider community understand and react to the numerous legislative, administrative, and regulatory actions that come from federal and state agencies. Potential employers include strategic and policy consultancies (e.g., Advisory Board Company, Avalere Health) and organizations that work directly with provider groups to translate policies into care delivery (e.g., National Quality Forum, National Committee for Quality Assurance).

**Using the Health Systems Improvement Career Framework**

In addition to providing a structure for career paths, we designed the framework to be a tool that can help medical trainees identify their interests and structure conversations with their mentors and career advisors. Below, we describe ways to use this framework to support career development (Table 2).

### Table 1

The Components of the Health Systems Improvement Career Framework

<table>
<thead>
<tr>
<th>Component</th>
<th>Definition</th>
<th>Employer types</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>To identify, explore, and evaluate issues to inform the regulation, management or delivery of health care</td>
<td>Academic institutions, Private research organizations, Government research agencies</td>
<td>Johns Hopkins University School of Medicine, Kaiser Family Foundation, Agency for Healthcare Research and Quality</td>
</tr>
<tr>
<td>Policy</td>
<td>To directly influence or participate in local, state, and federal government action</td>
<td>Federal, state, or local governments, Advocacy organizations</td>
<td>U.S. Congress, Florida Department of Health, American Medical Association</td>
</tr>
<tr>
<td>Management</td>
<td>To lead, manage, and direct health care delivery organizations</td>
<td>Health provider groups, Health insurers, Management consultancies</td>
<td>Geisinger Health System, Blue Cross Blue Shield, McKinsey &amp; Company</td>
</tr>
</tbody>
</table>

---

---

---
Table 2

**Using the Health Systems Improvement Framework: Characteristics of Careers, Salary Sources, and Additional Training Options for the Core Focus Areas**

<table>
<thead>
<tr>
<th>Focus area</th>
<th>Characteristics of careers*</th>
<th>Source of salary</th>
<th>Additional training to consider</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ease of balancing clinical care</td>
<td>Instant gratification</td>
<td>Big-picture thinking</td>
</tr>
<tr>
<td>Research</td>
<td>Most</td>
<td>Least</td>
<td>Variable</td>
</tr>
<tr>
<td>Policy</td>
<td>Least</td>
<td>Variable</td>
<td>Most</td>
</tr>
<tr>
<td>Management</td>
<td>Variable</td>
<td>Most</td>
<td>Variable</td>
</tr>
</tbody>
</table>

*These characteristics of careers emerged as themes in the authors’ conversations with students, residents, and health systems improvement experts. Most, least, and variable designations reflect the authors’ opinion, based on these conversations and a review of the literature, on the degree to which each core focus area possesses these characteristics.

**Reflecting upon preferences**

It is important for a medical trainee considering a career in health systems improvement to reflect on his or her personal and work preferences. These preferences may lie along various spectrums and may not fit into neat categories; however, they can suggest potential career paths. For example, does the trainee feel more satisfied “studying” or “doing”? A trainee who prefers studying may favor a research career, whereas one who prefers doing may be better suited to a career in advocacy or management. Does he or she prefer to work “in the trenches” or at the “50,000-foot level”? A preference for the former may suggest a career in implementation science or hands-on management, whereas a preference for the latter may indicate that the trainee is better suited for policy jobs, health services research, or a leadership role in a large health system.

Another significant consideration is how important practicing clinical medicine is to the trainee’s career aspirations. The challenges of balancing clinical and health systems improvement work vary across the core focus areas. For example, research careers often offer physicians the flexibility to maintain active clinical practices. In managerial careers, administrative duties may not leave time for clinical practice, and it can be challenging to carve out protected clinical time. Many full-time policy positions may require physicians to give up clinical practice entirely because of the demands of the job or regulatory limitations (e.g., stringent conflict-of-interest rules). Trainees should also keep in mind that it can be challenging to return to clinical practice after leaving it.

**Sharpening focus**

Once the trainee has reflected on his or her personal and work preferences, the trainee should work with his or her mentor to identify one core focus area to prioritize and one to de-emphasize. Health systems improvement career paths often wind their way across the core focus areas. Most trainees, like their mentors, will not remain in a single position, much less a single focus area, over the course of their careers. However, it is important for the trainee to select one focus area as a “home base” from which first to establish him- or herself and then to pursue opportunities to explore different positions.

Selecting a core focus area as a home base is an important decision that requires careful analysis. Although the trainee should reflect on his or her preferences as a starting point, it is important that the trainee choose an area that truly fits his or her strengths and personality, not just one that feels the most comfortable or familiar. Meaningful mentorship should play an important role in helping the trainee make this selection. Once the trainee can identify his or her interests within the framework, the trainee’s mentor can help guide him or her to the most suitable role within the chosen focus area.

It is also important for the trainee to decide which of the three core focus areas to deprioritize. Trainees frequently make the mistake of believing that they can excel in all three simultaneously. However, each core area is sufficiently different from the others that attempting to succeed in all of them may prevent the trainee from gaining expertise in any one of them. Deprioritization can help provide needed focus. For example, opportunities that present themselves but fall within the deprioritized area are likely not a good use of the trainee’s time, even if they seem interesting at first. To emphasize the need to make explicit decisions about focus areas and opportunities, we left the framework blank in the center, where all three areas overlap (Figure 1).

**Other considerations**

Once the trainee has selected a core focus area for as a probable home base (and has deprioritized another), the trainee and his or her mentor should consider whether the trainee would benefit from additional formal training to serve in the roles he or she finds most appealing (Table 2). For example, medical trainees pursuing research-oriented positions could potentially benefit from the training that leads to a master’s degree in public health or a PhD, or from a research-based fellowship (e.g., general medicine fellowship, Robert Wood Johnson Foundation Clinical Scholars Program). Those entering management careers may wish to obtain a master’s in business or health administration or to complete a management fellowship. Trainees interested in policy-oriented career paths may find a master’s degree in public policy or a government policy fellowship to be valuable. There are also other focused skill sets that may be beneficial and valued by employers (e.g., Lean process improvement, clinical epidemiology), depending on the desired career path.

Another critical, but often overlooked, consideration is how the trainee’s initial salary and position will be supported.
Many mentors and trainees view the research track as a well-established pathway with multiple established funding mechanisms and entry-level positions, and trainees may find it difficult to choose alternative paths. The trainee interested in pursuing a nontraditional career path without grant support must consider who will hire him or her as well as ways to demonstrate value to an employer. For example, could the trainee’s position be partially supported by revenue generated by his or her clinical practice? Could the trainee’s managerial or policy-related skills and training allow him or her to make a contribution that would justify an administrative salary? These issues are particularly important when considering nontraditional careers within academic medical centers, which have historically emphasized research-focused career paths.

Although there are challenges associated with selecting a nontraditional career path, there are also many opportunities. Using the health systems improvement career framework as a guide, medical trainees can consider the breadth of options, begin to develop appropriate career development plans, and ultimately find the career in which they will be able to best serve patients by improving systems of care.

Next Steps

This framework has multiple limitations. Most important, it has not been validated. As a next step, we would propose a validation process in which both mentors and trainees assess the accuracy with which the framework captures health systems improvement career paths as well as its utility in advancing career development. We plan to collect additional qualitative data on how mentors and trainees actually use the framework. With that feedback, we plan to refine our recommendations concerning the ways in which the framework can be applied to support productive career development, and to add more examples of career options within the core focus areas and intersections.

In Conclusion

Many of today’s medical trainees are interested in taking on the challenge of improving U.S. health care delivery systems. Given the ongoing changes in health care financing (including the emergence of accountable care organizations and population health management), it is increasingly in the interest of health care institutions to help support this work. However, the lack of clear career paths makes it difficult for trainees to chart ways to make an impact. We believe that the health systems improvement career framework provides trainees and mentors with a starting point for identifying nontraditional opportunities and may help trainees translate their enthusiasm into rewarding careers and successful improvements to the nation’s systems of health and health care.

Acknowledgments: The authors would like to thank the many mentors, residents, and medical students who shared their experiences and whose input and feedback shaped the content of this framework. In particular, they would like to thank Carolyn Clancy, Thomas H. Lee, Timothy Ferris, Robert Kocher, Allen Smith, Scott Berkowitz, and Thomas Valuck for their input on many of the concepts included in this article.

Funding/Support: None.

Other disclosures: None.

Ethical approval: Not applicable.

Previous presentations: The authors previously presented some of the concepts included in this article at the Massachusetts Medical Society Research Poster Symposium on December 2, 2011, in Waltham, Massachusetts.

References