The Risks to Patient Safety From Health System Expansions

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The health care system in the United States is undergoing substantial consolidation through mechanisms ranging from mergers and acquisitions to institutional affiliations to single service agreements, often with expectations of improving the safety and quality of care. However, there has been little evaluation of the risks that system expansion has on patients.1 In a partnership between a medical liability insurer (CRICO/Risk Management Foundation) and a health systems research center (Ariadne Labs), we analyzed the patient safety risks for Harvard-affiliated institutions by interviewing clinicians and convening system leaders both locally and nationally. System expansions create 3 types of significant safety risks, often unrecognized and unaddressed, that are related to changes in patient populations, infrastructure, or clinician practice settings (Table).

New Patient Populations
Risk. After system expansion, health care institutions may experience significant changes in patient populations, including increases in general volume and in patients with demographic characteristics or conditions that are new to a facility.

Analysis. When institutions anticipate changes in patient population (eg, opening a substance use disorder service), they commonly make unit-level adjustments such as training support staff. However, staff who interact with these patients elsewhere in the hospital may also need new knowledge, skills, practice patterns, and support, such as having the ability to recognize and promptly treat withdrawal symptoms. Further, these changes are often not anticipated; an increase in referrals may bring an influx of non–English-speaking patients, for instance, who require more interpreters, institutional relationships with different community services, and increased awareness of economic and social challenges these patients face in following care guidelines. Lack of wider institutional attention to specialized needs can result in serious deficiencies in provision of safe, timely care.

System expansions can have substantial effects on clinical care and patient safety, particularly when clinicians encounter changes in practice setting, patient population, or infrastructure.

Unfamiliar Infrastructure
Risk. Achieving the financial benefit of system expansions often involves making substantial changes in supplies, equipment, formularies, protocols, and information systems.

Analysis. Changes in infrastructure create significant challenges for clinicians and are common in systems expansion. Without planning, such changes can cause significant patient risk. Even with training, a learning curve makes formerly routine tasks more time- and attention-intensive and error-prone; finding the correct form in an electronic health record for ordering a test, identifying the correct substitution medication and dose from a new formulary, or transferring a patient. The attention clinicians must now give to once “automatic” tasks also distracts from other aspects of patient care or slows throughput. Unless schedules and capacity are adjusted, such shifts in time and focus not only may result in dissatisfied patients but also in increased likelihood of major errors.

New Settings for Physicians
Risk. An industry survey of 82 health care institutions that have undergone expansions of their networks found that 87% require physicians to travel to new practice sites, the most common being specialists, including cardiologists, surgeons, oncologists, and obstetricians.²

Analysis. When clinicians travel, they often receive little systematic orientation to their new setting, leaving them to practice with infrastructure, processes, teams, and a clinical culture that can vary in significant and unexpected ways from those at their home institutions. In the absence of guidance, physicians indicated that they have adapted to these new circumstances through trial and error, which can put patients at risk. This includes determining which kinds of care can be provided in a given setting and during emergency situations, when clinicians can ill-afford to spend time trying to understand and manage the idiosyncrasies of an unfamiliar facility’s crash cart, electronic health record, or phone-number list. Physicians reported that although they know the right care to provide to patients, they commonly discovered situations in which they did not know how to deliver the care, and especially, how to do it quickly.

Mitigating Risks to Patients From System Expansion
Teams with little expertise in patient safety are typically responsible for implementing health care mergers, acquisitions, and affiliations. Their primary impetus is often financial rather than clinical, and when the impetus is clinical, the concerns usually involve patient access and services rather than the way care is practiced in the affected institutions. Goals and responsibility for safety and quality are frequently unclear. As a result, risks to patients arise at the “sharp end” of care, where...
clinicians are asked to practice in new settings, with new populations, or with new infrastructure, without sufficient planning.

To address these risks, a patient safety toolkit has been developed to support clinical planning between institutions prior to launch. The toolkit is freely available and provides guidance on topics to discuss in order to surface and resolve institutional differences that could result in patient safety risks. These topics include differences in infrastructure and resources for management of a range of emergencies and specific subjects pertinent to surgery, obstetrics, and emergency medicine. The toolkit also provides a checklist for establishing a joint clinical integration council. These tools have now entered local use, but whether they improve quality and reduce errors that would have occurred because of expansion is unknown. Research remains necessary to better predict safety risk and to determine whether these or other approaches increase the margin of safety.

Conclusions

System expansions can have substantial effects on clinical care and patient safety, particularly when clinicians encounter changes in their practice setting, patient population, or infrastructure. Institutions must actively plan for, monitor, and manage the resulting risks as part of a comprehensive strategy, including sharing data on quality and safety, and sharing oversight of care for the joint patient population.

Table. System Expansion Risks to Patient Safety

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<th>Change</th>
<th>Examples of Risk Mitigation Strategies</th>
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<tr>
<td>New Patient Population</td>
<td>Implement dosing protocols based on age, weight, pregnancy status</td>
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<td>Adding a new unit or procedure to an institution, such as a geriatrics unit, bariatric surgery, or a pediatric emergency department</td>
<td>Identify all hospital units that may care for new patient populations but are not in the direct care path (eg, emergency department, psychiatry, physical therapy), and determine how their knowledge may need to be increased or modified; implement a maximum number of patients a physician can admit or care for per hour, per shift, or in active labor; provide protocols for managing withdrawal from alcohol or opiates</td>
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<td>Significantly increasing the number of patients receiving care at an institution by consolidating a service line such as obstetric services, psychiatry services, or substance use disorder care</td>
<td>Identify components within the electronic medical record that are not interoperable; complete a failure modes and effects analysis on the process of instituting a procedure in a new setting</td>
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<td>Unfamiliar Infrastructure</td>
<td>Describe the process for integrating new technologies (eg, robotics or laser) into the workflow when used in units other than the operating room; describe the process of measuring competency of physicians, nurses, and technicians on new technologies</td>
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<tr>
<td>Standardizing and/or adopting a new documentation, reporting, or information flow procedure for items such as electronic medical records, a radiology or test result reporting system, the prescription refill process, or telemedicine</td>
<td>Describe the process for integrating new technologies (eg, robotics or laser) into the workflow when used in units other than the operating room; describe the process of measuring competency of physicians, nurses, and technicians on new technologies</td>
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<td>Standardizing and/or adopting new biomedical or reference equipment such as formulary, laboratory instruments with a change in units or normal range, defibrillators, or portable ultrasounds</td>
<td>Identify components within the electronic medical record that are not interoperable; complete a failure modes and effects analysis on the process of instituting a procedure in a new setting</td>
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<td>Traveling Clinicians</td>
<td>Provide hands-on orientation to new physicians about institution-specific emergency resources such as how to get help for airway emergencies during nights and weekends, how to initiate a code and the expected role in a code situation, how to transfer patients in or out of a unit when complexity no longer matches the unit’s ability to care for them; ensure that traveling clinicians attend team training and mock drills at a similar or enhanced rate as local clinicians</td>
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<td>Navigating unfamiliar emergency procedures such as roles and responsibilities in an emergency; availability of and methods for contacting backup clinical help</td>
<td>Create a readily accessible location of protocols for the following: availability, response time, and communication method for different service consults; night or weekend variation in the operating room or procedure availability (dialysis initiation, line placement); which patients cannot be admitted and must be referred from the emergency department</td>
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<td>Navigating unfamiliar resources and infrastructure, such as clinical pharmacist availability, specialty consult availability, resident availability, intensive care unit coverage—open or closed, and nursing experience, skills, and staffing levels</td>
<td>Include in onboarding the scope of practice and physician supervision rules for advanced practice clinicians; the system for ensuring residents and attending physicians have a common understanding of resident responsibility and supervision</td>
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<tr>
<td>Navigating unfamiliar roles and responsibilities such as placing orders and reviewing results, performing specific procedures, and supervision practices for advanced practice clinicians and residents in the operating room or procedure availability (dialysis initiation, line placement); which patients cannot be admitted and must be referred from the emergency department</td>
<td>Include in onboarding the scope of practice and physician supervision rules for advanced practice clinicians; the system for ensuring residents and attending physicians have a common understanding of resident responsibility and supervision</td>
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<td>Navigating routine care processes such as patient handoffs, patient transfers, and patient discharge</td>
<td>Provide hands-on review and practice on the following: procedure for handoff of information of discharged patients to the receiving outpatient physician; procedure for handoffs when the responsible clinician changes; process for closed-loop communication of laboratory and radiology; and results including postdischarge</td>
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<td>Navigating cultural differences such as assumptions regarding who makes decisions about patient care and according to what rules; disclosure of adverse events</td>
<td>Provide hands-on orientation to new physicians about institution-specific emergency resources such as how to get help for airway emergencies during nights and weekends, how to initiate a code and the expected role in a code situation, how to transfer patients in or out of a unit when complexity no longer matches the unit’s ability to care for them; ensure that traveling clinicians attend team training and mock drills at a similar or enhanced rate as local clinicians</td>
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REFERENCES