The AHRQ website defines the purpose of the initiative this way: patient safety learning laboratories (PSLLs) are places where related patient safety problems can be identified, multidisciplinary teams generate new ways of thinking about these problems, and conducive environments promote brainstorming and rapid prototyping techniques that lead to further design, development, testing, and integration of a working system of care for addressing the entrenched patient safety problems.

Inside Medical Liability thought it would be useful to find out more about this patient safety initiative from someone who developed it. We are grateful that AHRQ’s Dr. Kerm Henriksen was willing to oblige.

IML: How has the perception changed about how healthcare entities function?

Henriksen: Over the past 15 years, healthcare organizations have gained a better understanding and appreciation of the complexity of the healthcare system in which they function. I’m no longer asked “what is this systems stuff all about?” Healthcare providers at the point of patient care have been among the first to realize how the fragmented system in which they work fails them.

IML: How does the system fail them?

Henriksen: How well a hospital unit or medical office performs depends a lot on how well aligned or integrated the various components that make up the system are. There are technological factors, variable patient and provider factors, workload factors, organizational culture factors, the physical environment, and external factors such as changes in healthcare policy and shifting demographics. All of these factors interact in an intricate fashion—sometimes with unfortunate consequences. The needed alignment isn’t always there and providers find themselves initiating the same “workarounds” day after day since no one is solving the problem-behind-the-problems which require more of a systems solution.

IML: Would lack of interoperability be an alignment problem?

Henriksen: Yes indeed. You hit the jackpot! That’s a major problem. Despite healthcare becoming more technological and networked, physicians using electronic health records find them incompatible for communicating with other devices in their own work systems such as infusion pumps and ventilators, or for exchanging patient information with specialists across town using other computer systems. Technologies are dropped on clinicians without involving them in the early design phases. Usability, integration into existing workflows, and seamless communication suffer.

IML: So what can be done about it? Are learning laboratories supposed to help?

Henriksen: We have to do more than describe the problems or complain about them. In the broader sense, yes, learning laboratories can help, but don’t expect a magic wand producing immediate results. Compared to other high-risk
industries, healthcare is vastly under-engineered. That’s where we are starting from. Although we have a better understanding of systems, we haven’t begun to make a dent in coming up with systems engineering solutions for addressing the problems, despite consensus committees and study councils calling for engineering partnerships. That’s the bigger challenge, and why we started the patient safety learning labs.

**IML:** How do the learning laboratories differ from other safety improvement initiatives?

**Henriksen:** In several ways. Rather than addressing patient safety problems one at a time in singular studies—piling Band-Aid on top of Band-Aid, the idea is to focus on related patient safety harms, working on two to four projects at a time that can be integrated into a working system or subsystem to achieve a more synergistic impact.

The labs are places where comfort zones can be stretched, innovative designs are envisioned, and brainstorming and rapid prototyping techniques are part of the process. Promising design interventions can be refined by engaging in develop-test-revise iterations as occur in the design and systems engineering sectors of the economy. So it’s a different way of thinking about problems. You’re likely to have designers and engineers on your multidisciplinary teams that provide a different mindset.

**IML:** Have investigators bought into this new way of thinking?

**Henriksen:** I certainly hope so, but it is still a bit early to tell. For some, it may be like purchasing a new jacket. You’re not sure it’s right for you, but after wearing it, you find you’ve grown fond of it, not wanting to depart with it. Like many new things in patient safety, it takes time to gain acceptance and build momentum.

Finally, once we’re satisfied everything is working as an integrated system, evaluation needs to occur on the impact of the working system on patient and system outcomes.

**IML:** Will it be possible to make a business case for some of these systems engineering enhancements?

**Henriksen:** Lower cost is certainly one of the primary goals of healthcare reform and is an essential feasibility factor when considering implementation of major improvements in a practice setting. Keep in mind the learning labs are in the early stages of coming up with ideas and designs for the problems they have identified.

There is a lot of design, development, and evaluation work that needs to occur before one can gain a comprehensive understanding of the associated benefits and costs. If ultimately successful and carried forward to full development, it is reasonable to expect a business case could be made.

**IML:** Since you mentioned evaluation, how does evaluation occur?

**Henriksen:** It might be best to think of three levels of evaluation. First, there’s the continuous evaluation that occurs—these are the develop-test-revise iterations that occur repeatedly during the design and development phases. Once the major components are developed, they need to be evaluated in terms of how well they function together as an integrated system. Are there compatibility “glitches” that need to be addressed among the facility design features, equipment and technology, care requirements of patients and providers, tasks and workflow patterns performed, and organizational policy? Finally, once we’re satisfied everything is working as an integrated system, evaluation needs to occur on the impact of the working system on patient and system outcomes.

**IML:** Are you optimistic about further progress in patient safety?

**Henriksen:** By nature, I’m a very optimistic person, but I’ve been guilty of getting too far ahead of what may be realistic. A frequently shown slide at patient safety conferences depicts a 17-year interval from the time something is validated as beneficial to when it gets implemented in practice. If the projection is valid, it’s enough to stun the most bubbly of optimists.

The good news is that the bad things happening in hospitals—blood stream infections, adverse drug events, pressure ulcers and other acquired conditions—are starting to decline, resulting in lives saved, harms avoided, and billions in savings. No one knows exactly to what to attribute the results. In part, it may be that the cumulative effect of all the safety-improvement activity over the years, from all quarters and organizations, is starting to have impact.

**IML:** Do you think positive results from the learning labs could lead to fewer MPL claims?

**Henriksen:** They certainly could contribute to fewer claims if our vision extends beyond a singular strategy and solely the near term. Given the complexity of the healthcare system, any one particular approach may be singly insufficient in realizing effective change. Safety is not a static event; it’s an emerging property of a system that is continuously changing. I now regard myself as a cautious optimist, having learned to appreciate how sound strategies need to be combined with hard work, open-mindedness, perseverance, and supportive environments for gains to be realized.