

# Human Factors in Quality Improvement

**Michael P. Silver, MPH**  
**Vice President, Programs and Operations**  
***HealthInsight*, Salt Lake City, Utah**  
**[msilver@healthinsight.org](mailto:msilver@healthinsight.org)**  
**[www.healthinsight.org](http://www.healthinsight.org)**



Human Factors, Patient Safety, and Health Care Quality Improvement



# Why should I care?



So this is what I hear ...“why should I care?”...“what’s in it for me?”

“If this were so important, I would have heard about it before now, and from someone smarter than you!”

I’m going to assert that learning about human factors will help you to be more efficient, more effective at what you’re doing already

– you will have a better understanding of how clinical systems work and how they can break down

– (we have people with a wide range of backgrounds here) this holds even if, perhaps especially if, you have extensive clinical and/or quality management training and experience

-- this will complement your existing skills: I’m not going to begin from a position like “forget everything you think you know ...”

This is a direction our profession is moving toward!

-- there is a requirement for human factors capacity in our contract

-- the institute of medicine recently released a pre-publication report calling for greater application and integration of these principles in health care (Building a Better Delivery System: A New Engineering/Health Care Partnership)

Your customers and providers will value this type of technical support and training. We’ve been doing this formally for several years now and have had an overwhelmingly positive response in all settings.

Learning about this has made me a better statistician (and, perhaps a better father and person)

# The Design Challenge

*“Every system is perfectly designed to get the results it achieves”*

→ **Benefits and harm are designed into health care systems**

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Begin at what is, for many of you, a familiar place

“Every system is perfectly designed to get the results it achieves.” (1st law of improvement.)

Implications: The capacity of health care organizations and processes to provide benefit, healing, cure, and comfort to patients and their families is a product of design – a design that brings together:

- talented, exquisitely educated and trained professionals,
- materials (medicines) and technology,
- methods for coordinating efforts, for applying the technology, and using medications, to effect benefit for patients, while maintaining patient safety.

By the same token, if we accept the premise that “every system is perfectly designed to get the results it achieves”, we must recognize that when we have accidents and patients are harmed, that when we have widespread and persistent quality performance gaps -- that these things happen by design (and in spite of best intentions at every level). We have to admit that the capacity for harm is as much a property of the system as the capacity for benefit. The good news is that we can learn to become better designers, design a better, more reliable, health care system, prevent accidental patient injury, and ensure that patients get the right care, every time.

# Design of health care systems and processes

Elements configured by designers include:

- People – education, training, orientation, ...
- Materials – medications, supplies, ...
- Tools – medical equipment, information technology, forms, communication media, ...
- Methods – procedures, diagnostic and treatment processes, management practices, policies, communications practices, coordination of effort, ...

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It is somewhat unusual to apply the “design” label to health care procedures, processes, and systems ...

-- there’s certainly no big “drawing board” where everything was planned out  
-- the design process is endlessly adaptive and evolving (I suggest that this is a design process nevertheless)

-- the designers are distributed throughout the system – thinking about all of the elements of a system that are brought together to produce health care ...  
Who’s decisions influence their configurations? Who are the designers?

\* Our customers, the providers they work with, the leaders of those organizations, even regulators and accreditors:

When we look at this, I note two things:

1. These designers are often far removed in time and space from the technical work that directly impacts patients and from the consequences of their design decisions.
2. Many of the professionals called upon to design health care processes and systems have had limited (or no) training or education in design principles – especially in the design of work processes.

























