

## ASHE PDC: The Quality and Patient Safety Movement

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James C. Benneyan, PhD, didn't mince words during his Tuesday morning general session, "Looking Back and Ahead at the Quality and Patient Safety Movement: What Does it Mean for Patient Care and Hospital Facilities?" at the ASHE PDC Summit in Tampa, Florida.

Benneyan is director, professor of industrial engineering, Center for Health Organization Transformation, New England VA Engineering Resource Center in Boston. Taking a look at the current state of healthcare in the United States, his picture is bleak: "At the highest level, things are bad. And in some respects, things are getting even worse."

Our healthcare system is in a state of crisis, Benneyan says, ranking 37th out of 39 developed nations, according to the World Healthcare Organization. And, frankly, what blew me away even more was Benneyan's figure that healthcare waste alone totals \$2.3 trillion each year—17% of the nation's gross national product and the 10th largest sector of our economy.

To the end of making healthcare here safer, more efficient, timely, and equitable, Benneyan says oftentimes the best solution is the simplest one. We've all been exposed to the concept on a variety of fronts, whether you're looking at Lean, Six Sigma, the Toyota production system specifically, or some other incarnation. At the end of the day, Benneyan says 70% to 80% of all problems can be solved by a simple process change.

The solution could be as straightforward as figuring out a way to take out human error (like the car that won't let you lock the door if your keys are still in the ignition). Benneyan suggests that the process should drive outcomes, rather than the people (because, after all, we really are the ones who stand to screw it up).

However, for the remaining 30% of problems plaguing our healthcare system, Benneyan says it's imperative to use more complex solutions, and this is where systems engineering plays a massive role, from finding the optimal facility layout or facility location to the management of complex areas like operating rooms and emergency departments, and planning proper facility capacity. Computer simulation allows us to mimic a process before it's in use, to evaluate a design, and even to avoid over- or under-designing an area.

And while much of this is a process- and systems-oriented approach, Benneyan also stresses that physical design plays a significant role as well, and that healthcare and systems engineers may be more tightly related than we thought.