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Submitted Testimony of Thomas Nolan, Ph.D.
Senior Fellow on behalf of the
Institute for Healthcare Improvement
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Quality Management Hearing
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Thank you for extending me the privilege of testifying at this hearing on quality management on behalf of the Institute for Healthcare Improvement—also known as IHI. I am Tom Nolan, Senior Fellow at IHI. IHI is an independent not-for-profit organization helping to lead the improvement of health care throughout the world. Founded by a small group of health care leaders in 1991, IHI is based in Cambridge, Massachusetts. We work to accelerate improvement by building the will for change, cultivating promising ideas for improving patient care and safety, and helping health care systems put those ideas into action. IHI employs a core staff of approximately 100 people, along with hundreds of faculty members. We maintain worldwide action- and results-oriented partnerships with thousands of organizations, and tens of thousands of individuals, offering comprehensive programs and maintaining a large research agenda. Our aim is to improve the lives of patients, the health of communities, and the joy of the health care workforce. We believe that, in most settings, this could be accomplished while simultaneously reducing per capita cost.

Although modern approaches to quality management originated and evolved outside of health care, the application of these methods has gained significant traction within health care. Two landmark reports issued by the Institute of Medicine, *To Err Is Human* in 1999 and *Crossing the Quality Chasm* in 2001, highlighted the extent of defects in health care – and the opportunity for improvement. The “Chasm Report” declared that the performance of any health care system should be evaluated on six dimensions: safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity. The authors of the report recognized that these dimensions were an interacting set of qualities that must be pursued together and in balance.

One of the pioneers of quality management was W. Edwards Deming. Deming was one of the first theorists to recognize that most problems of quality and safety arise because of faults of the system rather than because of faults of individuals working in the system. A simple example illustrates this fundamental principle. Consider how an Automated Teller Machine, or ATM, operates. A customer inserts a bank card, enters the PIN, and then requests an amount of money to be dispensed. In one type of machine, the money comes out first; once the customer removes the money, the bank card comes out. In another type of machine, the bank card comes out first; once the customer removes the card, the money comes out—a simple reversal of steps in the process.

The choice between these two designs matters. The customer is far more likely to forget the bank card at the ATM machine if the money comes out first and then the bank card. The customer knows how to operate the machine—and suffers a loss if he forgets his bank card—but still

forgets the bank card if the money comes out first. A directive sent to customers to “please remember your card” will not produce a sustained reduction in cards left at the ATM.

Of course, health care is not banking, but our health care system has thousands of similar opportunities for well-meaning but fallible humans aiming to cure, comfort, or help patients to make mistakes that harm them. From the viewpoint of quality management, the job of health care executives is to ensure the design of systems that both prevent these errors and mitigate the harm when errors do occur.

By what method? Joseph Juran, another pioneer of modern quality management, outlined the three key elements of a quality management system: quality planning (system design), quality control in operations, and quality improvement.

Quality planning includes:

- Designing processes capable of being executed reliably to meet the needs of customers or produce the desired outcomes;
- Training and certifying people in the skills necessary to do the work. In health care, professional licensure and board certification are ways in which this happens; and
- Understanding the types of defect that are possible in the system and developing a means for the routine tracking of the occurrence of these defects.

Quality control includes:

- Tracking performance during routine operations of key factors in the process or elements of a clinical guideline;
- Identifying failures in operation and mitigating the harm caused to patients; and
- Monitoring defects and the trend in their frequency—for example, are drug overdoses going up, down, or staying the same?

Quality improvement includes:

- Setting priorities for defect reduction;
- Applying design concepts such as simplification, visual controls, and waste reduction; and
- Capturing the learning and spreading it to other locations.

How might this thinking apply to the problem that has recently surfaced in the VA of contamination in reprocessing of endoscopes? Few systems in the US could produce such thorough and insightful reports as the Inspector General’s report on the “Use and Reprocessing of Flexible Fiberoptic Endoscopes at VA Medical Facilities” and the “National Center for Patient Safety Review of Reprocessing Issues.” Among other things, the Inspector General’s report recommended instituting more reliable processes. The National Center for Patient Safety suggested areas of system redesign that would be needed to accomplish a more reliable overall system.

It is notable, however, that these two reports appeared after the fact. If instead they were an input to quality planning and system design, this would help accomplish one of the key goals of quality management: prevention of defects through design of reliable systems. This is the frontier of quality management in health care.

How would one know at a VHA facility if quality management —and the resulting high quality —were present? One could start by ascertaining how the executives and managers view their role in quality management:

- They know the trends in the performance of the system through measurement and audit. In a system such as the Veterans Health Care system, this would include knowing the variation in performance among different VHA sites.
- They invest in improvements to the system. These investments range from capital investments to install an electronic medical record, to the investment of clinicians' time to test and implement a protocol for treating heart attack victims effectively, safely, and efficiently.
- They provide an environment in which everyone in the system can improve the processes in which they work. This environment includes the freedom to surface problems in the system without fear of retribution.
- They promote cooperation between parts of the system—for example, between a hospital and a clinic, or between the Department of Defense health care system and the VHA.

The Veterans Health Administration has been a leader in applying quality control and quality improvement. We at IHI believe that the VHA could now lead the country into the realm of quality planning and design of a safe system, to prevent these problems from happening in the first place.