Statement of Dr. Philip S. Mehler
before the
Committee on Health, Education, Labor, & Pensions
United States Senate
May 5, 2011

I am honored to be here to testify and affirm Denver Health's commitment to patient safety and quality. Denver Health is an academic, integrated health care system and Colorado's principle safety net institution providing $ 382 million of care to people without insurance in 2010. We care for one in three people in Denver and 40% of Denver's children. Like most American health care systems, we strongly espouse quality and safety, but clearly understand that aspiration alone will not produce excellent patient safety or quality.

Denver Health's vertically integrated system, employed physician model and our robust information technology provided a foundation upon which to build. The employed-physician model promotes the alignment of goals across the enterprise and helps with the effectuation of patient quality and safety initiatives. Seven years ago we began a structured approach to safety and quality which included creating a comprehensive approach to patient care, appointing a person and a department with primary responsibility for quality and safety, creating new programs to manage high risk clinical situations and implementing systems to reduce variability in care. The adoption of Toyota Production Systems, or Lean, is an important piece of the comprehensive approach to care. Heretofore, Lean tools and the Lean concept of standard work had not been traditionally applied to the patient care arena. Denver Health recently opted to utilize Lean to address a common and potentially fatal hospital acquired condition, that of deep venous thrombosis and pulmonary embolism – clots in the leg which break loose and end up in the lungs. Because practice varied widely among different Denver Health provider specialty groups, and because one of the medicines used for preventing blood clots had become the most costly line item in the hospital pharmacy budget, and most importantly, because our rate of blood clots was higher than other academic hospitals, we needed a new approach to beget sustainable quality improvement. Our experience in this regard was published in March 2011, as the lead article in The Joint Commission Journal on Quality and Patient Safety. Using Lean we achieved one of the lower rates of this complication and reduced potential costs by millions of dollars, thus demonstrating the link between safer care and lower cost. Each blood clot prevented avoids $25,000-$40,000 in medical costs. We expect to apply Lean methodology to other clinical situations wherein there is costly and dangerous inconsistent implementation of validated clinical guidelines.

Safety includes freedom from harm and from the risk of harm. Therefore we developed approaches to other high risk - high opportunity clinical situations. "Failure to rescue" refers to a common and costly failure to identify hospitalized patients who are deteriorating and to intervene in a timely manner to prevent further deterioration. Differences in national mortality rates across hospitals have been shown to largely be due to "failure to rescue" issues. Denver Health opted to institute a unique rapid response system to identify such patients and intervene, which differed from the common rapid response team approaches being promoted by others. As a result, our mortality rates have been reduced as have our cardiopulmonary arrest rates.

Another Denver Health patient safety and quality initiative was related to infectious disease care. Overuse and underuse of antibiotics are important barriers to quality improvement. Almost 60 percent of Denver Health's inpatients were being treated with an antibiotic during their hospital stay. Therefore, a formal and robust antibiotic stewardship program was established to provide careful oversight and guidance to our clinical services. This approach spawned new programs, including mandatory infectious disease consultations for certain common and serious infections; concurrent and timely feedback to a prescribing team when multiple antibiotics were used for the same patient; new rules-driven guidelines embedded within our computerized physician order entry (CPOE) system for common inpatient infections such as pneumonia and cellulitis; and formal weekly infectious disease consultant rounds with intensive care unit teams. As a result, Denver Health's antibacterial drug use, in days of therapy per 1,000 patient days, was the lowest of thirty-five US academic health centers reporting through the University HealthSystem Consortium. Moreover, proper treatment has increased, and adverse consequences from illness have decreased, for the highly prevalent Staphylococcus aureus bacteremia.

The aforementioned interventions have all focused on hospitalized patients. Improving ambulatory care poses unique challenges. Despite the fact that there are currently 900 million outpatient visits annually in the United States, compared to 35 million hospital discharges, there has been less effort directed toward improving the quality of outpatient care. However, with the growing focus on medical homes and health reform's emphasis on accountable care organizations, it is crucial that high-quality care is also delivered to outpatients. Denver Health, with its multiple community clinic sites, has embarked on outpatient quality initiatives using its integrated health information technology system, along with a robust data warehouse and dynamic patient registries. These registries trigger improved quality by providing aggregated point-of care (care delivered during an office visit) performance data by specific clinic site and specific clinician to make the data available for audit and feedback. The cancer registries' patient-specific data serve as a visual prompt to the physician during a patient encounter, reminding the physician to encourage the patient to comply with recommended breast, cervical, and rectal cancer screening. These registries are also tools for proactive management and outreach to patients between visits. As a result of our hypertension and diabetes registries, 70 percent of patients with hypertension have their blood pressure controlled, and more than 50 percent of diabetic patients have their low-density lipoprotein cholesterol, or "bad" cholesterol, values at the target level. Both of these rates far exceed national averages.

Based on these structured approaches to quality and safety, Denver Health was ranked first of 112 academic medical centers, with the lowest (0.55) observed-to-expected mortality ratio - the ratio of actual deaths at Denver Health compared to national death trends – in the 2010 University HealthSystem Consortiums Quality and Accountability Aggregate Score.

These structured approaches have made Denver Health's care safer. The aforementioned low observed to expected mortality among 112 academic health centers translates into more than 200 people walking out of our hospital alive who would have been expected to die. While we are safer, we are not perfect. That is why Denver Health is committed to sustaining this effort and why I am standing here today.