

Joint Oversight Hearing on Advanced Technologies in Healthcare  
Joint Committee on Health Care Financing  
Joint Committee on Economic Development and Emerging Technologies

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Testimony of the Massachusetts Coalition for the Prevention of Medical Errors  
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The Massachusetts Coalition for the Prevention of Medical Errors welcomes this opportunity to provide comment on this critical issue in health care today, the potential to improve quality and safety and to reduce costs through the implementation of advanced technologies, especially information technologies. We commend the committees for creating this opportunity to show the growing consensus on this issue in our state.

At the same time that the health care system in Massachusetts and nationally is failing to meet our expectations for quality and safety, it is imposing the costs of poor quality both in lives and in dollars. The 1999 Institute of Medicine Report publicized the disturbing statistic that preventable medical errors result in the loss of 44,000 to 98,000 lives in US hospitals annually. The debate since then has articulated reasons that the actual number may be at least twice that high. At the same time, the dollar costs of poor quality impose a significant burden on our economy, an amount that has been estimated to be up to 30% of health care spending each year. These costs are borne by individuals who purchase health care and health insurance, by businesses paying higher costs for health insurance for workers, and by public sector health insurance programs.

There is a growing call for policies and legislative approaches to accelerate the adoption of the advanced technologies, already in existence, which can improve patient safety and quality and reduce health care costs. These technologies include, among others, bar coding for reducing errors in administering medications, decision support through computerized physician order entry systems (often called CPOE) for ordering medications as well as diagnostic tests, electronic prescribing –which can provide decision support to reduce errors in medication orders as well as reduce transaction costs in communicating with retail pharmacies, and electronic medical records in hospitals and physician offices.

The impact these technologies can have in reducing errors and improving efficiency has been obvious in a major initiative underway the past three years, in which the Massachusetts Coalition for the Prevention of Medical Errors has partnered with the Massachusetts Hospital Association, with funding from the Department of Public Health through a cooperative agreement with the federal Agency for Healthcare Research and Quality. The project involved a statewide initiative to help hospitals ensure that medication orders are complete and accurate on admission and that critical test results are communicated in a timely and reliable manner to physicians so that they can take action on the results. Our work has demonstrated the substantial gaps that exist in information systems that could help communicate medication lists from one setting to another so that medications are not missed or ordered with incorrect dosages or other errors when the

patient is admitted to the hospital, or discharged to home. Without these information systems, nurses, pharmacists, or physicians must conduct detailed interviews with the patient and the patient's family, make calls to the primary care physician's office or the patient's pharmacy to identify the medications the patient was taking prior to the hospital admission. This inefficient process could be streamlined substantially if our state had electronic medical records which communicated these medication lists from one site of care to another. The same substantial gaps in information systems may mean that a critical test result is not reliably communicated from the laboratory to the ordering physician, resulting in a missed or delayed diagnosis that may have serious consequences for the patient. At the minimum, these inadequate information systems often result in tests being repeated because the results are not available at a future visit to a different site. Our current system produces worse outcomes for patients at higher costs due to its inefficiency.

Evidence already exists of the improvements in safety and the reductions in cost that would be possible with the adoption of advanced technologies.

In one study conducted in an academic medical center in Colorado, implementation of bar coding for administering medications showed a 33% decrease in "wrong-drug" errors, a 52% decrease in "omitted dose" medication errors, and a 47% decrease in "order-entry" medication errors according to a report by the federal Agency for Healthcare Research and Quality.

A major study performed at the Brigham & Women's hospital demonstrated a 55% reduction in serious medication errors and a 17% reduction in adverse drug events, those errors which harmed patients, after implementation of its computerized prescriber order entry (CPOE) system. A study at the Latter Day Saints Hospital in Utah showed a 70% reduction in adverse drug events from improving the use of antibiotics through its CPOE system.

In 2004, 70% of Massachusetts hospitals did not have this error-reducing technology, computerized order entry systems. The Massachusetts Technology Collaborative and the New England Healthcare Institute, working with First Consulting Group and a group broadly representing the state's healthcare system, reviewed the data and concluded that full implementation of computerized prescriber order entry systems in all the state's acute care hospitals has the potential to produce a net cost savings in the state of \$275 million annually.

There is much more evidence available to demonstrate the safety improvements that could be achieved through adoption of advanced technologies, and more estimates showing the overwhelming cost-effectiveness of such adoption.

There are activities that are already underway to start to accelerate the adoption of advanced technologies in the Massachusetts health care system; these include Meds-Info and SHARE sponsored by the Massachusetts Health Data Consortium, the Massachusetts E-Health Collaborative, and MassPRO Doctors Office Quality – Information Technology program. But the current efforts could be expanded and accelerated by public policies and legislative initiatives which help overcome the current barriers to adoption, including the problem that the organization that must bear the costs of implementation often is not able to receive the full

financial rewards resulting from implementation; instead a substantial part of the return on the investment goes to other organizations.

We all would benefit from adopting these advanced technologies in our healthcare system. Our healthcare would be safer; our health insurance would be less expensive, and businesses and state government could shift money which had previously paid for our high healthcare costs to other uses.

We thank and commend the committees for providing the opportunity to highlight the critical need for action to accelerate adoption of these advanced technologies. On behalf of the Coalition, I will commit our efforts to work together toward this important aim.