

**Testimony Before Senators Richard P. Moore and John A. Hart, Jr. and
Representatives Daniel E. Bosley and Patricia A. Walrath**

*Thursday, May 5, 2005
Westborough, Massachusetts*

Good afternoon and thank you for your time today. My name is Keith MacDonald. I am a senior research manager at First Consulting Group's local office in Lexington, Massachusetts. FCG is a national leader in helping healthcare clients across the country understand and leverage information technology. FCG's applied research group – of which I am a member – specifically focuses on defining the benefits and challenges associated with emerging technologies.

Last year, FCG worked with the Massachusetts Technology Collaborative, the New England Healthcare Institute and a number of other healthcare stakeholders across the Commonwealth to quantify the costs and savings to Massachusetts of implementing one specific technology known to reduce medical errors. That technology is computerized physician order entry, or CPOE.

According to the 1998 Institute of Medicine report, *To Err Is Human*, between 44,000 and 98,000 deaths each year are attributable to medical errors. Studies in three states have demonstrated that drug complications constitute 19 percent of all adverse events that occur in hospitals, and that overall between 2.9 and 3.7 percent of all hospital admissions are complicated by adverse events – over half of which are the result of medical errors that could have been prevented.

CPOE systems have been shown to greatly improve the quality of clinical care and reduce the associated costs of that care by guiding physicians to make the right critical decisions when they order medications and diagnostic tests in the inpatient setting. These systems offer a range of tools to assure that clinical protocols known to benefit patients are consistently accessed and deployed. CPOE systems prevent harm that would otherwise be caused to patients by inappropriately or incorrectly ordered medications. CPOE systems can also help improve the turnaround time for medication orders, and can improve overall resource utilization while decreasing costs.

While most hospitals do employ some level of information technology, a majority of them do not currently have the advanced clinical capabilities required for CPOE. The Commonwealth of Massachusetts – which boasts some of the world's most renowned hospitals and academic medical centers – is no exception. Through our survey work last year, we estimated that only 10 percent of our acute care hospitals currently have CPOE systems installed and operational. Another 20 percent are in the process of implementing them. The remaining 70 percent – or 46 hospitals – that do not have CPOE systems represent our smaller, community-based institutions with typically fewer than 500 beds. These organizations have historically lacked the financial and human resources to implement these complicated systems.

Installing a CPOE system is a major undertaking. Purchase and implementation costs can be substantial – particularly for those institutions with limited ability to secure capital financing. Resistance to CPOE systems among clinical staff has also been an historical barrier to adoption since these systems result in major changes and disruption to the core clinical processes of a hospital's staff. Up to now, there have been no standard specifications for these systems, and the best practice guidelines for installing and using these systems have not been widely shared.

Here's the bottom line, however: Using research findings produced by leading organizations such as Brigham and Women's Hospital here in Boston and the Reigenstrief Institute in Indianapolis that quantify the benefits of electronic ordering systems, we estimate that if CPOE systems were operating in all of Massachusetts' acute care hospitals, the Commonwealth has the potential to reap \$275 million in net savings on an annual basis.

No state has yet had the vision and wherewithal that we've had here in Massachusetts to undertake such a significant statewide collaboration.

The time is right for us to completely and successfully implement CPOE. The benefits are now quantifiably clear and we know more than ever about what it takes to implement these systems successfully.

Thank you.