Healthcare Organization Commitment

Contact Details

**Name**
Nathaniel Sims

**Phone**
(617) 643-5809

**Email**
nsims@partners.org

**Position**
MD, Department of Anesthesia, Critical Care, and Pain Medicine, Massachusetts General Hospital

**Organization Name**
Massachusetts General Hospital

**Organization Address**
55 Fruit Street
GRB 4-444
Boston, MA 02114
US

Commitment Details

**Commitment Name**
Fully Integrated Clinical Systems to Minimize Medication Errors - "Closing the Loop" with Intravenous Drug Pumps

**Participants**
William Churchill
Jeffrey Rothschild

**What Patient Safety Challenge does your Commitment address?**
Challenge 3A - Medication errors

How Many Hospitals Will This Commitment Represent
1

Commitment Summary
In 2005, Partners Healthcare System (PHS) (Boston, MA) articulated (internally, and to the public) an overarching goal to minimize medication errors by implementation, by 2010, of multiple systems technologies, including computerized provider order entry with decision support, an electronic medication administration record (eMAR / BCMA) with bar coding of drugs, patients, and caregivers, and smart drug infusion pumps at every patient bedside of the ~9 hospitals comprising PHS. The full text of the "goal" is below a row of asterisks. The entire project was completed "on time, on budget" with the exception of the electronic links between the eMAR system and the drug pumps.

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By 2010, most Partners Hospitals will have fully integrated clinical systems to minimize medication errors. These integrated systems will allow physicians to order medications and tests electronically via a computerized order entry system. With "medication decision support" software integrated into Partners' computerized order entry systems, physicians will be able to reconcile medications and identify possible adverse drug interactions and patient allergies electronically - before an order is placed. These systems will also enable nurses to electronically record medications administered to patients and ensure that the right patient gets the right drug at the right dose at the right time. By scanning their own bar-coded staff identification, the patient's bar-coded identification and the patient’s unit-dose bar-coded medication into the electronic medication administration records (eMAR) system, nurses will verify the accuracy of the medication administered and document the transaction electronically. Similarly, if the medication is intravenous, "smart intravenous pumps" will document the administration of these drugs in the eMAR system.

Commitment Description & Detail
** to “finish the job” of achieving the full implementation of the 2005 PHS goal of technology to minimize medication errors
** to continue making progress at Partners Healthcare and elsewhere towards effective and scalable electronic integration of “intelligent infusion systems” with clinical information systems
** to continue to find, fund, and facilitate pilot projects (particularly in oncology, anesthesia, critical care, pain medicine) that permit rigorous testing, verification, validation, and user acceptance of instances of such integration, prioritized according to their impact on patient safety and capability of being scaled
of particular importance is to continue to refine the use of bar coding or other automatic identification technologies to assure “automatic drug identification” by drug infusion systems to assure that adequate online, highly-scalable training and education technologies are available to all caregivers as they learn to use these advanced technologies to assist engineers and inventors in academic or industry environments to reduce-to-practice novel inventions and innovation in support of these goals to work with standards bodies and other national initiatives, and with the US FDA in support of these objectives

**Action Plan**
**continue to work on this one remaining aspect of the 2005 Partners Healthcare Medication Safety goal until it is done** work with drug infusion pump and clinical information system vendors to engage with and stay abreast of innovations in this space support pilot implementations in specialty areas, such as anesthesia record-keeping, ambulatory oncology, etc keep aligned with and adapt to the constraints posed by the simultaneous implementation of EPIC at PHS by coordination with the Partners eCare Clinical Device Committee work across PHS to achieve standardization on devices, systems, clinical practice, and knowledge management, including "drug libraries", where possible

**Commitment Timeline**
2018