

Reconciling Medications

A Medication Safety Collaborative sponsored by the MA Coalition for the Prevention of Medical Errors

The Massachusetts Coalition for the Prevention of Medical Errors, together with the Massachusetts Hospital Association, are sponsoring a Collaborative to support Massachusetts hospitals in reducing medical errors through the adoption of proven safety practices for reconciling medications. These practices are designed to improve the coordination of medication orders at patient handoffs, with the Collaborative initially focusing on the hospital admission phase.

Definition: *Reconciling medications* is defined as a formal process of obtaining a complete and accurate list of each patient's current home medications and then comparing the physician's admission, transfer, and/or discharge orders to that list. Discrepancies are brought to the attention of the prescriber and, if appropriate, changes are made to the orders. Any resulting changes in orders are documented.

Need: Medication errors are one of the leading causes of injury to hospital patients, and chart reviews reveal that over half of all hospital medication errors occur at the interfaces of care [Rozich, Resar 2001]. Medication errors that can be prevented by adopting the reconciling process at admission include errors associated with failure to continue needed home medications while in the hospital, failure to discontinue contra-indicated home medications, failure to resolve discrepancies in dosages or route, and missed or duplicate doses resulting from inadequate records of frequency and last administration at transfer.

Discrepancies in patient medication orders have been documented by many hospitals. A multidisciplinary check of medication orders for pediatric cancer patients revealed that 42% of the orders being reviewed needed to be changed [Branowicki 2002]. Another study, also of pediatric cancer patients, revealed variances between medication orders and information from patient/guardian or prescription labels on the container 30% of the time. A home medication omitted from admission orders was the most common error and incorrect dosages ordered in admission orders also exceeded errors attributable to errors in information obtained from the patient/family [Billman 2002]. Inaccuracy of patient/family provided information on medications, however, has also been noted as an underlying cause of several recently-reported medication errors with serious adverse outcomes.

Potential for impact: The reconciling process has been demonstrated to be a powerful strategy to reduce these errors: *A series of interventions, introduced over a seven month*

period, successfully decreased the rate of medication errors by 70% and reduced adverse drug events by over 15% [Rozich, Resar 2004, 2001]. In another study, the utilization of pharmacy technicians to initiate the reconciling process by obtaining medication histories for the scheduled surgical population reduced potential adverse drug events by 80% within three months of implementation [Michels, Meisel 2003]. Several other case studies on the effectiveness of the reconciling process are also available. [see Pronovost 2003; Whittington J, Cohen H 2004]

A successful reconciling process also reduces work and re-work associated with the management of medication orders. After implementation, nursing time at admission was reduced by over 20 minutes per patient. Establishing a systematic approach to reconciling and then carrying it through the hospitalization also reduced pharmacist time at discharge by over 40 minutes [Rozich, Resar 2001].

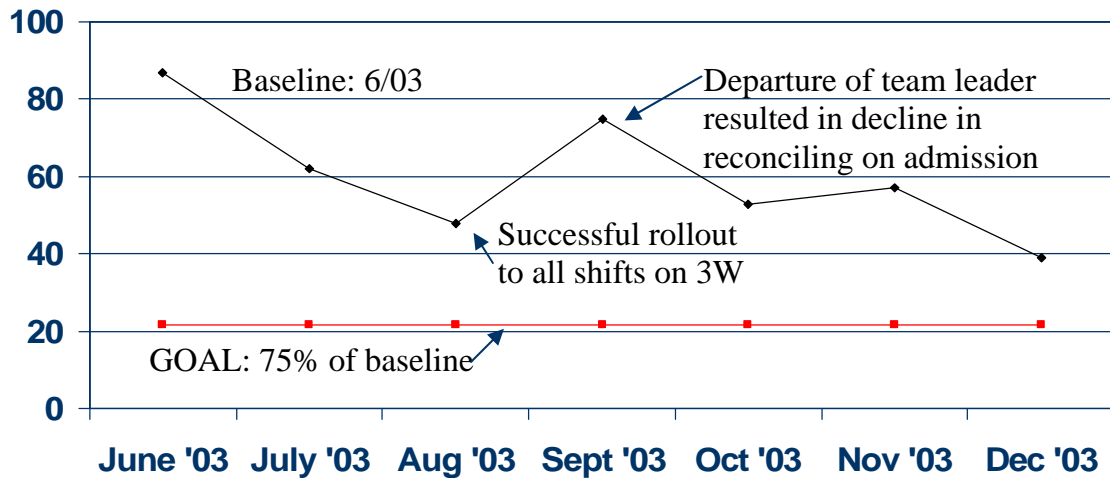
Safe Practice Recommendations: The Coalition convened a Consensus Group comprised of a cross-section of hospital representatives from all key disciplines and led by Clark Fenn, Vice President of Management Services at Holyoke Hospital and Frank Federico from the Risk Management Foundation. This group identified a set of safe practices associated with adopting reconciling procedures that have been shown to promote patient safety. The practices include adopting a standardized form for reconciling and placing that form in a consistent, highly visible location within the patient chart; assigning responsibility for resolving variances in medication orders to someone with sufficient expertise; identifying timeframes for completing the reconciling process; improving access to complete medication lists at admission; and other recommendations addressing supporting policies and infrastructure.

Collaborative Support: The Coalition and MHA have convened a learning collaborative to support hospitals in implementing the Safe Practices for reconciling medications. A toolkit containing sample forms, policies, staff education materials, examples of successful implementation strategies, implementation worksheets, guidelines for getting started, and reference lists is provided all organizations in the Collaborative. Opportunities to learn from others are also offered at Collaborative meetings and through listServ and other networking strategies. All participants will be using the same measurement paradigm to assess their progress (see sample chart below).

Contact: For more information, contact Gina Rogers, MA Coalition for the Prevention of Medical Errors (Phone: 781-431-7827; Email: gina-rogers@comcast.net)

Example of Run Chart for Key Assessment Measure

Percent Medications Unreconciled (Pilot Unit: 3W)



Reconciling Medications: Selected Reference Articles

(Complete reference list available on request)

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- Michels RD, Meisel S. *Program using pharmacy technicians to obtain medication histories*. Am J Health-Sys Pharm. October 1, 2003;60:1982-6. Early version appeared under title "Use of Pharmacy Technicians to Reconcile Patients' Home Medications" as Am J Health-Sys Pharm Best Practice Awards. 2002. www.ashpadvantage.com/bestpractices/2002_papers/michels.htm
- Pronovost P, et. al. *Medication reconciliation: a practical tool to reduce the risk of medication errors*. Journal of Critical Care. 2003 Dec;18(4):201-205.
- Rozich JD, Resar RK, et. al. *Standardization as a Mechanism to Improve Safety in Health Care: Impact of Sliding Scale Insulin Protocol and Reconciliation of Medications Initiatives*. Joint Commission Journal on Quality and Safety;30(1):January, 2004:5-14.
- Rozich JD, Resar RK. *Medication Safety: One Organization's Approach to the Challenge*. JCOM 2001; 8(10):27-34.
- Whittington J, Cohen H. *OSF Healthcare's Journey in Patient Safety*. Quality Management in Health Care. 2004 Jan-Mar;13(1):53-9.
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- Young D. *Massachusetts Moves Ahead with Patient Safety Initiatives*. American Journal of Health-System Pharmacy. March 1, 2004 (Vol. 61, No. 5), AJHP News. Provided on American Society of Health-System Pharmacists WEB site: www.ashp.org/news/ShowArticle.cfm?id=4233