



A Collaborative Program for Assessing Outpatient Medication Safety: The KP Mid-Atlantic Region's Experience

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Introduction

Through the concerted efforts of its Pharmacy Quality, Risk Management, and National Environmental, Health and Safety/Patient Safety Departments, the Kaiser Permanente (KP) Mid-Atlantic States Region developed and piloted a program for assessing safety of outpatient medications delivery systems. The program is unique to KP in that it addresses, on a national scale, issues of medication safety in the outpatient setting. To identify issues relating to medication use, the program uses a systematic approach and an implementation process that educates and trains staff, leverages known and observed practices across KP's outpatient medical centers, and provides a mechanism for periodically measuring improvement of processes and systems.

The assessment program was designed to achieve the following main goals:

- identify existing processes and systems susceptible to medication errors in the outpatient medical centers;
- increase the use of successful practices in KP's outpatient setting by compiling known and observed successful practices and then leveraging that information across the program;
- involve outpatient medical centers in the process both for their education and to involve them more fully (create a "sense of ownership") in patient and medication safety; and
- through development of self-assessment tools, enable KP Regions to periodically monitor processes and systems that will result in safer medication use practices.

Background and Approach

In early 2001, the KP Mid-Atlantic States Region's Pharmacy Quality Department, Risk Management Department, and Quality Department partnered with the National Environmental, Health and Safety/Patient Safety Department (NEH&S/PS) to develop and pilot a program whose purpose is clearly stated by the program's name: the Outpatient Medication Safety Assessment Program. Insight and assistance with developing the assessment program were provided by the KP California Division: Tools developed for conducting baseline safety assessment were adapted from inpatient medication safety assessments completed in California under the auspices of the Garfield Memorial Fund. These

tools also incorporated successful practices described in the health care literature¹⁻³ as well as information gathered from other KP programs and initiatives.

The assessment program is offered regionally and is voluntary. Through an on-the-job training process, participants gain familiarity with the assessment tools, share practices, and promote consistency across the assessment program. The host region invites a pharmacist/nurse team from the next scheduled region to observe, participate in, and learn the assessment process. These guests then partner with dedicated national environmental health and safety/patient safety professionals to conduct the assessment process at a select number of representative medical centers in their KP Region.

Within three weeks after the assessment is completed, the KP Region is provided a report to use for identifying high-priority opportunities and developing a plan to address those opportunities. Periodic status reports are provided to the KP Region's Quality Committee to demonstrate progress against open issues. After completion of all baseline assessments in participating KP Regions, observed successful practices—a compilation of successful practices, both from within and outside KP—as well as systems safety principles⁴ known to reduce risk will be consolidated and shared with these regions. Standardized self-assessment tools incorporating successful practices and systems safety principles—as well as training and educational materials—will also be provided to assist the regional outpatient centers with monitoring and maintaining the effectiveness of safe medication practices and systems.

Scope of Assessment Program

The assessment program includes five major components: baseline assessment; compilation of successful practices; enhanced development of self-assessment tools; dissemination of materials for education and training; and periodic follow-up assessment.

Baseline Assessment

Tools are developed and packaged for use in conducting baseline assessments of the components of outpatient medication safety at KP medical centers: prescribing, dispensing, preparation, storage, administration, monitoring, and documentation processes. Assessment at each medical center is generally conducted over a two-day period and includes review in the phar-

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macy, medical records area, ambulatory surgery clinic (if applicable), primary care and specialty unit examination rooms, medication storage areas, and medication preparation areas. Staff and management interviews are also conducted, and although the results of these interviews are shared with the medical centers, anonymity is maintained to assure open communication.

Baseline assessment uses six tools:

- **The Pharmacy Inspection Tool** is designed to identify current practices and systems relating to the pharmacy work environment (eg, medication preparation, handling, storage and dispensing practices) and to assess, via observation, interaction between pharmacists and patients in the pharmacy.
- **The Prescriber Practices Tool** is designed to address issues relating to written medication orders (eg, legibility); incomplete or missing information about dose and its frequency as well as route of administration; use of qualifying terms (eg, “as needed”); use of overly general terms (eg, “as directed”) instead of giving complete, specific instructions; use of Latin abbreviations instead of English (eg, using “QD” or “qd” instead of “daily”) to describe frequency of administration; and proper use of leading and trailing zeros.
- **The Nursing/Pharmacy Staff Questionnaire** solicits anonymous feedback about the staff’s perceptions of medication errors and medication safety practices within their work environment. Questions pertain to common types of medication errors; recent medication errors; acceptance of (or hesitation to accept) reporting errors; occurrence of errors with drugs frequently reported in medication errors; and what changes in workplace systems could reduce the number of medication errors.
- **The Management Staff Questionnaire** focuses on accountability for medication errors and reporting as well as accountability for system failures. Questions focus on implementation of systems for addressing reported errors or near misses; methods of responding to errors; current medication error data; regional performance goals or metrics; types of reported errors and near misses; patient involvement in medication safety processes and follow-up care.
- **The Unit Assessment and Specialty Area/Cart Assessment Tool** is designed to evaluate the clinical units’ equipment and medication storage areas for cleanliness, arrangement, organization, inventory, and environmental factors that may affect the

medication safety process. Through observation, interviews, and inventory analyses, this evaluation process considers availability of current drug reference material on the nursing units; status of medications (labeling, dated, expired, location); and use and maintenance of equipment used in preparing and administering medications.

- **The Medical Record Review Tool** is designed to evaluate the format, content, clarity, and legibility of medication orders written on a patient’s medical record. This evaluation considers accuracy of the medication order transcription process, quality of documentation regarding medications administered in the departments, and system components that may increase the risk of medication errors.

Compilation of Successful Practices

In addition to identified principles of systems safety, the program compiles relevant, achievable, successful practices that have been reported in the medical literature¹⁻³ and observed in KP’s outpatient medical centers. As the program evolves and matures, compilations of successful practices will continue to grow and be disseminated across KP Regions in alignment with KP’s Patient Safety Knowledge Management Strategy to continuously improve medication safety.

Enhanced Development of Self-Assessment Tools

After baseline assessment is completed, each outpatient medical center is given the opportunity to further use the knowledge gathered from the assessments (eg, identified successful practices and systems safety principles) via use of the self-assessment tools. These enhanced tools provide information to assist the outpatient centers to periodically monitor and measure their performance around safe medication practices. As later self-assessments are conducted, awareness of medication errors continually grows and enables measurement of improvement in both system and process safety.

Dissemination of Materials for Education and Training

The Outpatient Medication Safety Assessment Program both highlights and reinforces the training and educational materials created and used throughout KP—including the “Smart Medication Order” training conducted in the KP California Division—and shares these materials with the KP Regions.

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Periodic Follow-up Assessment

Periodically, NEH&S/PS visits KP Regions to help them assess and improve the medication safety processes and systems implemented after completion of baseline assessment. This follow-up process supports KP Regions by supplying resources to objectively assess medication practices and systems, share successful practices, and highlight innovations in medication safety.

Assessment Outcomes Deliverables Due in 2001

Short-term deliverables include development and packaging of baseline assessment tools and known successful practices that outpatient medical centers can implement to improve medication processes and systems. On-the-job training will be provided to a nurse manager and to a pharmacy manager. Each participating medical center will receive a written report of baseline assessment findings with recommendations for implementing relevant, achievable, successful practices and systems safety principles. The participating KP Region will receive a report of compiled recommendations and successful practices obtained from the baseline assessments. Training and education materials will be shared.

Deliverables Due in 2002

A compendium of observed successful practices, successful practices from the literature, and systems safety principles will be consolidated and shared after baseline assessments are completed in all participating KP Regions. Additional materials for training and education will be shared as they are identified. To periodically monitor implementation of safe medication practices and systems in all KP Regions, the standardized self-assessment tool will be delivered and made available. With regional interest and voluntary commitment to participate, a mechanism for centralized data collection could enable KP to gather national statistics on safe medication practices and to measure improvement in these practices and systems in the outpatient setting.

Deliverables Due in 2003 and Beyond

NEH&S/PS will be available to conduct periodic third-party assessment of medication safety and will provide continued information on successful prac-

tices and systems safety principles. Tailored training programs and system solutions will continue to be identified and developed by NEH&S/PS in partnership with pharmacy, quality, and risk management departments. As appropriate, NEH&S/PS will facilitate collection and tracking of national data on safe medication practices.

Conclusion

As this article went to press, two of four baseline assessment have been conducted in the KP Mid-Atlantic States Region, and the KP Mid-Atlantic States Regional Management, Medical Center Administrators, Department Managers, and staff have overwhelmingly embraced the program. After completion of baseline assessments at two additional centers in the KP Mid-Atlantic States Region, the program will be implemented in the KP Ohio and KP Georgia Regions. Our goal is to implement the program in five KP Regions outside California by the end of 2001. ❖

^a Identified methods to reduce or eliminate errors where adverse outcomes are possible but not documented.

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