Massachusetts Coalition for the Prevention of Medical Errors		MASSACHUSETTS MEDICAL SOCIETY *Every physician matters, each patient counts.*

Ambulatory Medication Safety

Background

The original Institute of Medicine (IoM) report, To Err is Human: Building a Safer Health System, identified the "decentralized and fragmented nature" of the US health care delivery system as a contributing factor to unsafe patient care. In particular, patient care rendered by multiple providers in different settings tends to impede timely access to complete patient information. The lack of clear lines of accountability fosters an environment in which it is easier for mistakes to occur. While most studies and emphasis to date have been on inpatient medication errors, the shift to prevent errors in the outpatient setting is underway. ***The IoM found that the greatest rise in prescription errors occurred outside of hospitals. The IoM argues that there had been a nearly 8-fold increase in the number of outpatient deaths from medication errors, compared with a 2.3-fold increase in hospital fatalities due to prescription mistakes. (To Err is Human, pg 33)***

In early studies, the rate of adverse drug events in outpatients ranged from 5% to 35%. A recent prospective study by Gandhi, et al demonstrated that 25% of outpatients experienced an adverse drug event, or 27.4 events per 100 patients. Of these, 39% were either preventable or ameliorable. The study by Gandhi also found that ameliorable adverse drug events were most commonly related to communication. Often this reflected the physician's failure to respond to symptoms reported by the patient, or the patient's failure to report symptoms to the physician.

Ambulatory care accounts for a significant and growing share of all healthcare services delivered in the United States. To ensure patient safety, strategies for reducing medical errors in diverse ambulatory settings must be tested and, when proven, widely adopted. The focus of this effort to improve medication safety in ambulatory settings provides important insights addressing the complex issues of communication and coordination of care that lie at the heart of generating sustainable improvement in office-based practice. Since medications are the most common intervention in health care, there is a greater opportunity for errors and potential harm. There are fewer support systems in place in the ambulatory setting and the patient is more responsible for taking medications appropriately than in the hospital setting. ***The July 2006 IoM Report on Preventing Medication Errors states, "The most powerful strategy for improving safety may be motivating providers and organizations to support the full engagement of patients and surrogates in improving the safety of medication use."***

Medication errors and adverse drug events that can be prevented by utilizing a medication list include those resulting from some of the following circumstances:

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- Failure to recognize drug-drug interactions because of multiple physicians or specialists prescribing numerous medications;
- Failure to clarify for patients/family the discontinuation of previous medications when a different medication with similar action has been prescribed;
- Failure to adequately educate patient about dosing schedules and dosing quantities during office visits;
- Failure to change drugs or doses when patient experiences reaction to medication; and
- Failure to change drugs or doses based on lab results.

Goals

The goals for this statewide effort included:

1) Improving communication in the ambulatory setting about medications through the design and testing of a medication form with prompts for key information and for the process of reconciling medications with patients and physicians in office practice settings.
2) Engaging the state's physician office practices as well as patients in the implementation and use of a medication list and the process of reconciling medications.

Approach

The Massachusetts Coalition for the Prevention of Medical Errors, in collaboration with the Massachusetts Medical Society and with support from the Commonwealth's Betsy Lehman Center initiated the work on this ambulatory effort. The use of a medication list and the process of providers reconciling medications are best practices that were tested in pilot physician offices. These best practices will help bridge gaps in the continuity of care in the ambulatory setting to improve safety. They provide opportunities to improve provider-to-patient communication about medications to help avoid side effect and reduce noncompliance and harm. The approach includes improving communication about medications through:

1) Use of a *Med List* by patients and providers
2) Review of this list when prescribing medications
3) Ensuring that medication monitoring occurs, and medication doses are modified if appropriate, through prompts for both prescribers and patients

Tool

The patient *Med List* is a document that can be used by multiple personnel to communicate important information in the outpatient setting. These key personnel may include primary care physicians, specialists, pharmacists and nurses. An updated copy of the medication list should be carried by the patient and discussed during health care visits/services to help reduce errors. The list should reflect the medications that the patient is actually taking to:

- Improve the patient's understanding and adherence, and improve the patient's ability to recognize and communicate about adverse events;
- Reduce drug-drug interactions, when physicians prescribe without complete information on current medications the patient is taking;
- Ensure appropriate monitoring of test results and medication reactions;

- Focus physician attention particularly on patients taking multiple medications as well as high-risk medications (for example, patients taking warfarin);
- Prevent continued therapy with unnecessary medication; and
- Prevent therapeutic duplication, (patient is not taking similar medications for same condition, e.g., two different brands of medication to lower cholesterol).

Results

This initiative included the:

a) Development and agreement on an approach to improve ambulatory medication safety through use of a medication list and the process of reconciling medications (provider-patient review of medications used);
b) Testing of the medication list at pilot physician practices (with patient and provider feedback obtained);
c) Development of instruction materials associated with use of a medication list in office practices;
d) Dissemination and promotion of a statewide medication list and the process of reconciling medications across healthcare settings to consumers, physicians, nurses, pharmacists, consumer advocate groups and government agencies; and
e) Outreach to Massachusetts pharmacies to help transition consumers to completing and carrying a medication list. Patients may obtain, from each pharmacy used; a medication profile which lists medications filled for the customer and can be used to complete the *Med List*.

A medication safety campaign commences October 2006 across Massachusetts to promote use of a medication list by patients and providers. The campaign will also promote the process of reconciling medications by providers to help increase patient understanding of their medications. Consumers, physicians, nurses, pharmacists, hospitals, associations, government agencies and insurers have committed to this statewide effort.

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