

# Medication Errors Cost Over \$3.5 Billion a Year

## Institute of Medicine committee set deadline of 2010 for physicians to switch to e-prescribing.

BY MARY ELLEN SCHNEIDER  
New York Bureau

Each year, patients in the United States experience at least 1.5 million preventable injuries because of medication errors, according to the findings of an Institute of Medicine analysis.

The report, released in July, estimated that these preventable adverse drug events would add up to about \$3.5 billion in additional hospitalization costs this year, excluding the economic burden of lost wages and productivity.

The expert panel convened by the Institute of Medicine (IOM) called on physicians to do their part in reducing medication errors by improving communication with patients about medication safety and adopting electronic prescribing technology.

“Our recommendations boil down to ensuring that consumers are fully informed about how to take medications safely and achieve the desired results, and that health care providers have the tools and data necessary to prescribe, dispense, and administer drugs as safely as possible and to monitor for problems,” J. Lyle Bootman, Ph.D., cochair of the IOM committee and dean of the college of pharmacy at the University of Arizona, Tucson, said in a statement.

The IOM committee set a 2010 deadline for physicians to implement e-prescribing for all prescriptions. Physicians and hospitals should have plans in place by 2008 to

implement the necessary technology, the IOM report said. The e-prescribing technology should also be able to provide physicians with real-time clinical decision support tools.

The report, which was written at the request of Congress, underscores for lawmakers the importance of electronic health records (EHRs) in improving safety, said Hedy Cohen, R.N., vice president of the Institute for Safe Medication Practices. There have already been discussions within Congress about how to support the adoption of this technology, she said, and over time, prices for the systems should decrease.

The American Medical Association pointed out that while there is great interest among physicians to adopt health IT, they face a dizzying array of choices, without much basis for objective comparison, and high adoption costs.

Just days before the release of the IOM report, the Certification Commission for Healthcare Information Technology (CCHIT) released the first list of ambulatory EHR products that had been certified as meeting baseline criteria for functionality, interoperability, and security.

“We’re encouraged by these first, solid steps to help physicians make purchasing

decisions, but there is much more work to be done before the majority of physicians have the capability to do e-prescribing in a comprehensive way that includes safety and security capabilities,” Dr. Cecil B. Wilson, AMA board chair, said in a statement.

And while health IT will help to eliminate some of the errors in prescribing, such as errors from handwriting, it will inevitably introduce new errors to the process, Frances Griffin, a director at the Institute for Healthcare Improvement, said in an interview.

**The AMA says although interest in adopting health IT is great among physicians, they face a dizzying array of choices and high adoption costs.**

The IOM committee also recommended that physicians do a better job of counseling patients about their medications. Physicians should educate patients and family members by providing information on side effects, contraindications, how to handle adverse reactions, and where to get good information.

And patients should be better informed about their medications at the point of prescribing, at hospital discharge, and at the pharmacy, the report said.

One of the factors that can lead to patients’ problems with self-management of medication is the use of free samples, the IOM report noted. Free drug samples can pose problems when a patient is switched to a medication based on the drug’s availability rather than on clinical appropriateness. Also, there is generally poor doc-

umentation in the medical record when samples are used and adverse events may not be reported, the IOM report noted. The committee recommended that the Agency for Healthcare Research and Quality fund studies evaluating the impact of free samples on overall patient safety as well as on prescribing practice and patient adherence.

Other recommendations from the report include the following suggestions:

► Patients or their caregivers should keep an active list of all prescription drugs, over-the-counter drugs, and dietary supplements that they take, why they are taking them, and any known allergies. Physicians should have access to this list.

► Government agencies should standardize pharmacy medication information, improve online medication resources, and establish a national drug information telephone help line.

► The Food and Drug Administration and the pharmaceutical industry should work together to develop common drug nomenclature with standard abbreviations, acronyms, and terms.

► States should attempt to remove barriers to e-prescribing and enact legislation that is consistent with the Medicare Modernization Act’s e-prescribing provisions. Under the act, drug plans that participate in the Medicare Part D program were required to support e-prescribing by January 2006. E-prescribing is optional for physicians and pharmacists under the final rule issued by CMS last year. ■

The IOM report is available online at [www.nap.edu](http://www.nap.edu).

## ‘Attribute-Based’ Medicine Better Than ‘Race-Based’ Medicine

BY JOYCE FRIEDEN  
Senior Editor

BALTIMORE — Targeting medicines at particular racial categories “is a misguided approach, and what we should be pursuing is attribute-based medicine,” Sharona Hoffman said at the annual meeting of the American Society of Law, Medicine, and Ethics.

One example of a medicine targeted at racial categories is BiDil (fixed-dose isosorbide dinitrate and hydralazine), an anti-hypertensive drug that was approved specifically for use in blacks. Some experts have concluded that a good response to BiDil has more to do with attributes and genes than it does with racial identity.

Patient attributes that might be considered relevant for assessing disease vulnerability or treatment responses include genetic variations or alleles that might be more common for people who are of one ancestral origin rather than others but could still cross population lines. “Then

there are other factors such as diet, exercise, stress level, and exposure to toxins” that play into treatment response, said Ms. Hoffman, a professor of law at Case Western Reserve University in Cleveland.

“The Human Genome Project showed us that race is not a biologically valid or genetically valid concept, and therefore the emergence of ‘race-based’ medicine is both perplexing and troubling,” she said at the meeting, which was cosponsored by the University of Maryland.

“Race doesn’t mean much of anything” from a genetic perspective because “99.9% of genes are identical for all humans,” and in the remaining 0.1%, 90%-95% of genetic variations are found at equal rates in every population, Ms. Hoffman said.

Society also has difficulty defining race, with legal definitions of race varying from one state to another, Ms. Hoffman noted. The race categories listed in the U.S. Census also change every decade. Almost 7 million people checked off more than

one race in the 2000 census, she said.

“If you ask people to self-identify, they may say they’re African American when they are really of mixed race. And visual observation is even more misleading.”

In addition to these problems, using “race-based” medicine may exacerbate health disparities, because “it’s possible doctors may try to specialize in treating blacks or whites,” said Ms. Hoffman. That may violate federal or state antidiscrimination laws.

Instead of pursuing race-based protocols, Ms. Hoffman recommended designing attribute-based trial protocols, and having institutional review boards and scientific review boards subject them to special scrutiny.

“Consider the genetic variations and the psychosocial, economic, cultural, environmental, and other factors, which you can measure or ask about—stress, diet, exercise, exposure to toxins, and cultural and religious barriers to treatment compliance,” she said.

“Maybe people aren’t doing

well because they are not following the protocol—because they either don’t understand it [due to] a language barrier, or they have religious beliefs that prevent them from doing some of the things you need them to do.

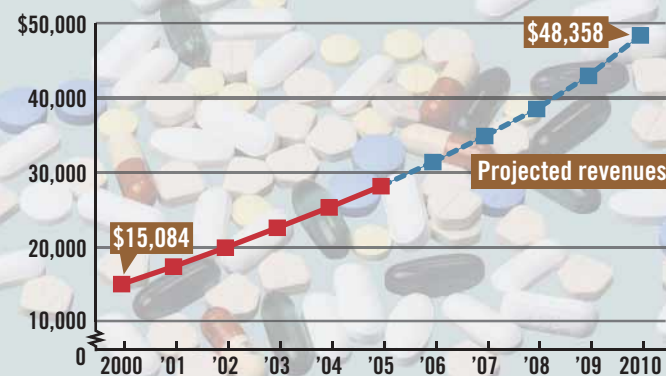
“Don’t use skin color as a proxy. What questions do you

need to ask? Do you need to do further genetic testing?” she said.

Also, be aware of the limits of self-identification or identification through visual observation. “It’s very hard to tell what ancestry people have if you don’t ask specific questions,” Ms. Hoffman noted. ■

### DATA WATCH

#### World Prescription Generic Drug Market Is Expected to Climb (revenues in millions)



Note: Based on U.S. manufacturers’ revenues in 2005 dollars.  
Source: Kalorama Information