

## Perioperative Drug Errors More Likely to Cause Harm

BY ELIZABETH MECHCATIE  
Senior Writer

ROCKVILLE, MD. — More than 11,000 perioperative medication errors were reported to a national database between 1998 and 2005. Of these, 5% resulted in harm, according to a report issued by the United States Pharmacopeia.

The database, known as MEDMARX, is operated by the USP and is the largest national database of hospital medication errors in the United States, receiving about 15,000 new reports every month.

The 11,239 perioperative medication errors reported by more than 500 hospitals in 7 years were divided into four settings: outpatient surgery (30% of the total reports), the preoperative holding area (7%), the operating room (34%), and the postanesthesia care unit (29%). The proportion reported in the preoperative holding area was lower because this category was added to the database in 2003.

The 5% rate of harmful errors is about threefold higher than the proportion of medication errors resulting in harm in all other areas of the hospital combined. Harmful errors occurred in all four perioperative areas but were most common in the operating room. The proportion of perioperative medication errors that resulted in harm was higher among patients under age 17 than it was among older patients.

Among the medication errors that resulted in harm, there were four deaths, including one pediatric patient, according to Diane D. Cousins, a registered pharmacist and vice president of the Center for the Advancement of Patient Safety at the USP.

A total of 739 drug products were involved in errors, the most common of which were the antibiotics cefazolin and vancomycin; the analgesics morphine, fentanyl, and meperidine; the sedative midazolam; and heparin, Ms. Cousins said. There were 165 drugs (22%) involved in harmful errors; most common among them were morphine, fentanyl, and cefazolin. Errors included administering the wrong medication or the wrong amount of medication,

administering medication at the wrong time, omitting a medication or a dose, or administering medication incorrectly.

In the operating room, omission and wrong drug administration were the most common mistakes, she said. For example, a surgeon called in an order for a dose of ampicillin to be given during surgery that was scheduled a week later, but the order was never recorded. As a result, the patient (a child) never received the drug.

In the postanesthesia care unit setting, the most typical errors involved prescribing and administering incorrect amounts of drugs, she said. After an elderly patient was discharged from the postanesthesia care unit to an inpatient unit, it was discovered that the patient was receiving an excessive amount of heparin because of a programming error made in the postanesthesia care unit.

The results were announced at a press briefing sponsored by the USP, which released the report in partnership with the Uniformed Services University of the Health Sciences (USUHS), the Association of Perioperative Registered Nurses (AORN), and the American Society of PeriAnesthesia Nurses (ASPAN).

Published by the USP Center for the Advancement of Patient Safety, the report is the largest known national analysis of medication errors related to surgery, Ms. Cousins said at the briefing.

The findings were also provided in a briefing to 11 national organizations and agencies, with the intention of calling them to action and to “mobilize not only the organizations but their membership to develop risk-prevention strategies that will make their patient care safer,” Ms. Cousins said.

The 47 recommendations issued in the report include implementing strategies that improve communication among all perioperative team members, designating a pharmacist to coordinate medication safety, and working to ensure that medications are administered on time. ■

The report is available (for purchase) at [www.usp.org/products/medMarx](http://www.usp.org/products/medMarx).

## Enrollment Expected to Rise 17% in U.S. Medical Schools

BY JANE ANDERSON  
Contributing Writer

First-year enrollment in U.S. medical schools is projected to increase 17% over the next 5 years to nearly 19,300 students, helping to ameliorate the real need for new physicians, according to an annual survey of medical-school expansion plans released by the Association of American Medical Colleges.

The estimated expansion would move U.S. medical schools past the halfway point of a 30% enrollment increase recommended by the AAMC in 2006.

The survey of 121 out of 125 U.S. medical-school deans took place last fall, and the information gathered was compared with that of the baseline academic year of 2002-2003, when first-year enrollment totaled 16,488 students.

Survey results indicated that total first-year enrollment in existing U.S. medical schools is projected to increase by 2,558 students (15.5%) by 2012.

Three-quarters of existing medical

schools anticipate an increase, compared with 2002 enrollment levels.

However, the report notes that many of these planned increases depend on state support or other outside funding sources. Projected enrollment for new medical schools accounts for an additional 1.5% of the total 17% expansion.

According to the survey, existing U.S. medical schools that are planning to expand will do so through a variety of mechanisms, including new clinical affiliations, expansion of existing campuses, and new regional or branch campuses.

Survey respondents also listed several barriers to enrollment increases, including the cost of such expansion, limited scholarship availability, tight classroom space, and too few ambulatory preceptors. A smaller number of schools reported a lack of basic science faculty, low numbers or variety of patients, problems with regulatory or accreditation requirements, and poor quality applicants as major barriers. ■

**Three-quarters of existing medical schools anticipate an increase in enrollment, compared with their 2002 enrollment levels.**

### Medical Schools' First-Year Enrollment Expected to Increase, By Geographic Region



Note: Based on a 2006 survey of 121 schools.  
Source: Association of American Medical Colleges

## P4P Hospital Demonstration Reports Nearly 12% Quality Gain

BY MARY ELLEN  
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Hospitals are reporting consistent quality improvements across five clinical areas as part of a Medicare pay-for-performance demonstration, officials at the Centers for Medicare and Medicaid Services have announced.

In the second year of the demonstration project, the average improvement across the more than 250 participating hospitals was 6.7%, according to the CMS. Agency officials also reported a total gain of 11.8% over

the 2-year period. “The results today provide more solid evidence that pay for performance is working to improve the quality of health care at our nation’s hospitals,” Herb Kuhn, CMS acting deputy administrator, said during a teleconference to announce the second-year results of the Premier Hospital Quality Improvement Demonstration.

The program was launched in October 2003 by the CMS and the Premier Inc. health care alliance to test whether providing incentives to hospitals would help to speed quality gains. Under the demonstration, the CMS provides

financial incentives to the top 20% of high-scoring hospitals in each of five clinical areas—acute myocardial infarction, heart failure, coronary artery bypass graft, pneumonia, and hip and knee replacement. Performance in the five clinical areas is measured by more than 30 nationally recognized quality standards.

Hospitals in the top 10% receive a 2% incentive payment, while hospitals in the next 10% receive a 1% payment. Any hospital that ranks in the top half in each clinical area is recognized on the CMS Web site. In the third year of the program—from Oc-

tober 2006 to September 2007—hospitals that fail to improve over baseline could face penalties.

In the second year, the CMS paid more than \$8.6 million to 115 high-performing hospitals. The highest incentive payment went to Hackensack (N.J.) University Medical Center, which received \$744,000 as a high-performer in all five clinical areas.

Data from the second year of the demonstration program showed significant improvements in all five clinical areas, according to the CMS. The average composite quality scores for more than 30 quality measures showed

that hospitals improved in acute myocardial infarction (87.5% to 94.4%); coronary artery bypass graft (84.8% to 93.8%); heart failure (64.5% to 82.4%); pneumonia (69.3% to 85.8%); and hip and knee replacement (84.6% to 93.4%). The lessons learned thus far in the demonstration will help CMS officials plan for the future. “This demonstration is really helping us to understand what’s needed to improve our health care system,” Mr. Kuhn said. ■

For more information on the demonstration program, visit [www.cms.hhs.gov/HospitalQualityInits](http://www.cms.hhs.gov/HospitalQualityInits).