

Low Literacy Hampers Drug Label Comprehension

BY ALICIA AULT

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WASHINGTON — Patients who read at or below the 6th-grade level had a low level of comprehension of instructions on the labels of five commonly-used medications, according to a study led by Terry Davis, Ph.D., of the Louisiana State University.

Even though labels seem short and to the point, “many patients need more specific, concrete information,” including instructions on exactly what time of day to take a medication, Ms. Davis said in presenting the findings at a conference on health literacy sponsored by the American College of Physicians.

Along with colleagues at Northwestern University, the University of North Carolina, Western Michigan Area Health Education Center, and Emory University, she queried 395 patients at three clinics that primarily serve the indigent about their understanding of labels for the following drugs: amoxicillin for pediatric use, trimethoprim, guaifenesin, felodipine, and furosemide.

The goal was to determine whether primary care patients could read and correctly state how to take medicines after reading

the labels on actual pill bottles, Ms. Davis said. The researchers hypothesized that patients with low literacy were more likely to misunderstand instructions. They also believed that the increasing number of medications taken by Americans is leading to growing confusion and medication errors.

Participants spoke English as a primary language and were not hearing or vision impaired. Half were African American and half were white. The mean age was 45 years, and 29% had a less than high school education. Literacy was assessed with the Rapid Estimate of Adult Literacy in Medicine (REALM) test. Of the 395 patients, 19% (75) were deemed to have low literacy, reading at or below a 6th-grade level, and 29% (114) had marginal literacy, reading at the 7th- to 8th-grade level.

All patients were asked how they would take the medicine. A “correct” answer was given if they included all aspects of the label instruction, including dosage, timing, and duration. Overall, 47% (185) of patients misunderstood at least one of the instructions. For marginal literacy patients, 51% (201) misunderstood one or more instructions, and for low literacy patients, 63% (249) misunderstood.

The majority—91%, or 359 patients—



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understood the felodipine instructions, which were, “Take one tablet by mouth once each day.” The lowest level of comprehension was for trimethoprim, which had a label instructing to “take one tablet by mouth twice daily for seven days.”

Higher literacy patients routinely understood instructions better than those with lower literacy, Ms. Davis said. The adjusted odds ratio of misunderstanding for low literacy was 2.32, and for marginal literacy, 1.94. Most misunderstandings had to do with dosage. For instance, patients often believed they should give children a tablespoon instead of a teaspoon of amoxicillin.

Patients who took more medications

were also more likely to misunderstand labels, with the adjusted relative risk rising from 2.29 for 1-2 medications to 2.98 for 5 or more medications.

In a substudy, patients were tested on their understanding of the instruction, “Take two tablets by mouth twice daily,” on a bottle of guaifenesin. Overall, 84% were able to correctly state the instruction, but fewer patients knew how many pills to take. Among those with adequate literacy, 80% counted out the correct number of pills. That ability decreased with declining literacy: 63% of marginal literacy patients and 35% of those with low literacy could correctly count. The researchers said that although this may have reflected patients’ numeracy skills more than reading skills, numeracy is an aspect of literacy.

Study limitations included the fact that the authors only examined understanding of the primary label. They did not assess patients’ actual compliance or drug-taking behavior, whether medication errors occurred, or if any of the patients had experience with any of the five medications.

The study was published in *Annals of Internal Medicine* (Ann. Intern. Med. 2006; 145: 887-94).



Report Urges Medicare to Help Reduce Health Care Disparities

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WASHINGTON — As one of the biggest and most influential payers in medicine, Medicare should use its clout to help reduce and eliminate the disparities in care for racial and ethnic minorities, according to a report from an independent panel of the National Academy of Social Insurance.

The report, along with an updated survey on health plans’ progress in identifying disparities, was released at a press briefing sponsored by the journal Health Affairs. NASI, a Washington-based nonprofit organization of experts in Social Security, Medicare and social insurance, made 17 recommendations on how Medicare can improve quality of, and access to care for minorities, educate health care providers in cultural competence, and hold them accountable for reducing disparities.

About 9 million of Medicare’s 42 million beneficiaries are minorities. Those minority beneficiaries generally are in poorer health, according to NASI. For example, more black Medicare beneficiaries than white beneficiaries have diabetes, 30% and 18%, respectively.

Medicare is uniquely positioned to influence practice patterns, and has a duty to ensure that its recipients get care on a fair and equitable basis, said Bruce C. Vladeck, Ph.D., chairman of the NASI panel and Interim President of the University of Medicine and Dentistry of New Jersey, Newark.

NASI’s report was funded by the Robert Wood Johnson Foundation, the California Endowment, and the Joint Center for Political and Economic Studies.

The panel recommended that the federal government start addressing gaps in care by creating incentives to improve quality. Incentives should be carefully structured to avoid exacerbating disparities, however, said Mr. Vladeck.

To increase access, Medicare should ensure that minorities are enrolled in Medicare supplemental insurance—or Medigap—plans, said the report. Health systems should increase the number of minority providers and staff, and enhance cultural competence training. Providers should collect data that will help identify minorities and assess their special needs, according to the panel.

Health plans already collect such data, according to Karen Ignani, president and CEO of America’s Health Insurance Plans. AHIP, with funding from the Robert Wood Johnson Foundation, queried 260 plans on how and why they collect data on minority enrollees. According to the responses—from 156 plans, covering 87 million people—there has been a 500% increase in data collection since a previous query in 2001, said Ms. Ignani.

Overall, 58.2 million of the 87 million enrollees are in plans that collect race and ethnicity data. Medicare and Medicaid plans were most likely to collect that data. Race and ethnicity data were collected on 94% of enrollees in Medicare and Medicaid plans, compared with 63% of enrollees in commercial plans.