

## Better instructions reduce complications among patients using common blood thinner

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Patients who report receiving written and verbal instructions on the proper way to take the blood thinner warfarin are significantly less likely to suffer the serious gastrointestinal and brain bleeding problems that are associated with misuse of the drug, according to new research from the University of Pennsylvania School of Medicine. The study, published in the October issue *Journal of General Internal Medicine*, also shows that patients who see only one physician and fill their prescription at a single pharmacy are less apt to experience serious bleeding events.

Lead author Joshua P. Metlay, MD, PhD, an Associate Professor in Penn's division of General Internal Medicine and a Senior Scholar in the Center for Clinical Epidemiology and Biostatistics, found that patients who reported receiving medication instructions from a physician and a nurse plus a pharmacy worker were 60 percent less likely to experience a serious bleeding problem over the following two years. Since the serious side effects of warfarin use are often linked to hospitalizations, the Penn researchers theorize that improved patient communication -- which can help clarify questions about dosing, other drugs to avoid while taking warfarin, and early symptoms of bleeding problems -- could prevent a substantial number of injuries and resulting hospitalizations.

"While we do not know the specific mechanism linking the medication instructions to reduce bleeding risk, it is likely that improved communication about medications leads to increased drug adherence and earlier recognition of medication side effects," Metlay says.



Metlay's team, in collaboration with the Pennsylvania Pharmaceutical Assistance Contract for the Elderly (PACE), studied 2,346 older adults taking warfarin for problems including heart rhythm abnormalities, deep vein thrombosis, stroke, heart valve replacements or pulmonary embolism. Using data provided by the Pennsylvania Healthcare Cost Containment Council, the researchers identified hospitalizations that were tied to warfarin-related bleeding events among the patients in the study.

The findings also indicate that the way patients receive instruction about their medicine matters. Compared to receiving no instructions beyond those printed on the prescription bottle, patients who said they had been given written information or written information plus verbal instructions were less apt to suffer bleeding events. Reports of verbal instruction alone, however, were not associated with a decreased risk of bleeding problems compared to patients who received no instructions. The Penn researchers say the findings underscore previous studies showing that thorough, honest communication between health care providers and patients is an important contributor to compliance with recommended therapies.

Since only 55 percent of participants in the study reported receiving any type of medication instructions from a doctor or nurse, Metlay and his colleagues say the impact on bleeding events among warfarin users could be slashed further if similar communication models were adopted more widely by physicians and pharmacists. New regulations requiring that all patients filling warfarin prescriptions receive a Medication Guide could help, and since pharmacists are now able to be reimbursed for time spent providing medication counseling to Medicare recipients, the authors are hopeful more patients will get helpful information about this drug.

The new research may also have implications for the broader health care community. While warfarin is one of the highest risk drugs routinely



used in ambulatory care, these findings point to ways to improve provider-patient communication in ways that would better drug adherence and patient safety for many other medications and chronic medical conditions.

"It is time that we recognize that patients and their caregivers bear a substantial burden in managing increasingly complex medical regimens and require more guidance in this area," Metlay says.

Source: University of Pennsylvania School of Medicine

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