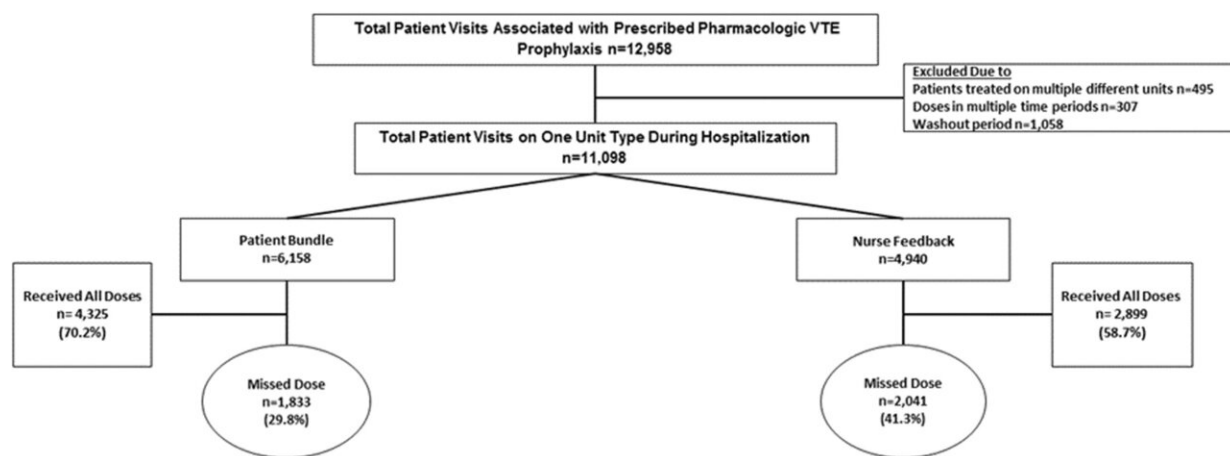


Patient education and feedback to nurses help improve administration of clot-busting drugs

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Consolidated Standards of Reporting Trials (CONSORT) flow diagram of hospital units receiving the patient-centered education bundle vs nurse feedback interventions. Patient visits reflect patients with prescribed pharmacologic venous thromboembolism (VTE) prophylaxis doses during 1 hospital encounter. In the patient-centered education bundle arm, a nonadministered prophylaxis dose triggers an alert leading to the delivery of the patient-centered education bundle intervention. The patient-centered education bundle is only delivered once to patients. Nurse leaders in the nurse feedback arm received monthly scorecards detailing VTE prophylaxis administration practices by individual nurse. Credit: *Journal of the American Heart Association* (2022). DOI: 10.1161/JAHA.122.027119

Venous thromboembolism (VTE) is a potentially deadly condition in which a blood clot (known as a deep vein thrombosis [DVT]) forms in the deep veins of the leg, groin or arm and may dislodge. If that happens, the clot can travel via the bloodstream to lodge in the lungs and cause tissue damage or death from reduced oxygen (a condition called pulmonary embolism [PE]).

Low doses of blood-thinning medications have been shown to reduce the risk of getting a blood clot by up to 60%.

For the people most vulnerable to VTE—[patients](#) who are or have recently been hospitalized, especially for surgery—missing or skipping prescribed prophylactic medications can be dangerous. This can happen due to many reasons, including patient misunderstanding of the medication's importance or miscommunication among patients and medical staff members about how and when it should be administered.

Based on the findings from a recent randomized trial of quality improvement interventions, Johns Hopkins Medicine researchers suggest that a program of patient education plus individualized nurse performance feedback and coaching can significantly reduce the amount of missed or refused doses of VTE-preventing drugs.

The study was published in the *Journal of the American Heart Association*.

"According to the U.S. Centers for Disease Control and Prevention, VTE kills some 100,000 people each year, with approximately half developing their VTE associated with hospitalization," says study lead author Elliott Haut, M.D., Ph.D., associate professor of surgery at the Johns Hopkins University School of Medicine. "We've shown that an effective intervention can help bring those numbers down for patients who are hospitalized."

In their study, the researchers randomly assigned one of two interventions to the 10 adult non-intensive care medical units and six surgical units at The Johns Hopkins Hospital. For the first intervention, nurses provided patients with an educational bundle—comprised of personalized discussion, an educational handout (available in several languages) and a 10-minute video—following an electronic alert that a dose of VTE prophylaxis had not been administered.

For the second intervention, the research team supplied a monthly performance scorecard describing VTE prophylaxis administration practices for each individual nurse in the hospital units studied. The unit nurse managers directed this feedback intervention, providing their staff with data on the numbers of doses prescribed, administered and refused during the previous month.

The study authors analyzed medication doses prescribed for 9,657 patients at The Johns Hopkins Hospital over the three-month intervention period. They looked at the proportion of VTE prophylaxis doses not administered for the two interventions, and the post-intervention data were compared to benchmark data collected a year earlier before the interventions occurred.

"With both interventions, we found that the percentage of refused or missed VTE prophylaxis doses dropped 36%," says study senior author Brandyn Lau, M.P.H., assistant professor of radiology and radiological science at the Johns Hopkins University School of Medicine. "On floors where the patient education bundle was used, missed doses for any reason dropped 44% and doses missed due to patient refusal decreased by 54%."

The nurse feedback intervention also was successful, Lau reports.

"Missed doses fell 28%, while patient-refused doses dropped 29%," he

says. "While the nurse feedback intervention had a more modest improvement, it required fewer information technology [IT] resources and less frequent nurse engagement."

"Our study provides clear evidence that supports the use of IT strategies [the alert-triggered [intervention](#)] with targeted patient-centered education to bolster best practices of VTE prophylactic medication administration," says Haut.

Lau adds that because the interventions provide measurable benefits while being relatively low in labor and resource requirements, they are applicable to all types of hospitals across the country.

More information: Elliott R. Haut et al, Alert-Triggered Patient Education Versus Nurse Feedback for Nonadministered Venous Thromboembolism Prophylaxis Doses: A Cluster-Randomized Controlled Trial, *Journal of the American Heart Association* (2022). [DOI: 10.1161/JAHA.122.027119](#)

Provided by Johns Hopkins University School of Medicine

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