

Researchers design re-engineered hospital discharge program to reduce rehospitalization

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Researchers from Boston Medical Center (BMC) and Boston University School of Medicine (BUSM) have designed a process to minimize discharge failures. The Re-Engineered Discharge (RED) program reduces hospital utilization within 30 days of discharge by over 30 percent, by redesigning the discharge workflow process. These findings appear in the February issue of the *Annals of Internal Medicine*.

One in five hospitalizations is complicated by a post-discharge adverse event. The lack of standards for hospital discharge often leads to increased patient morbidity, further hospital utilization and greater costs. Patients often are unprepared at discharge, do not understand their medications and/or cannot recall their diagnosis.

A randomized control trial was performed at BMC to evaluate the clinical impact of implementing RED among patients admitted to a general medical service. A randomized controlled trial was conducted that included 738 patients, 368 in the usual care group and 370 in the intervention group.

Study nurses called discharge advocates (DAs) performed all aspects of the in-hospital intervention. DAs were trained to deliver the RED intervention; their responsibilities include coordinating a discharge plan with the hospital team as well as to educate and prepare the patient for discharge. With information collected from the hospital team and the patient, the DA creates the After Hospital Care Plan (AHCP). The plan comprises a medical provider contact information sheet, dates for appointments and tests, an appointment calendar, a color-coded medication schedule, a list of tests with pending results at discharge, an illustrated description of the discharge diagnosis and information about what to

do if a problem arises. On the day of discharge, a copy of the AHCP is given to the patient and a discharge summary was faxed to the patient's primary care physician.

Patients were called by a clinical pharmacist two to four days after being discharged, to reinforce the discharge plan. Patients were asked to review and address any medication-related problems. The pharmacist then relayed these issues to the primary care physician and/or the DA.

In the intervention group, 94 percent were discharged with a primary care appointment, 83 percent left with an AHCP, and 91 percent had their discharge information sent to their primary care physician within 24 hours after discharge. In the usual care group, 35 percent were discharged with a primary care appointment, data regarding medication reconciliation and discharge summary transfer to the primary care physician was unavailable.

The difference between study groups in total cost (combining actual hospital utilization cost and estimated outpatient cost) for 738 subjects was \$149,995—or an average of \$412 per person who received the intervention. This represents a 33.9% lower observed cost for the intervention group.

"The RED intervention program decreased hospital utilization within 30 days of discharge by 30 percent among patients on a general medical service," explains principal investigator Brian Jack, MD, vice chair of family medicine at Boston Medical Center, and associate professor of family medicine at Boston University School of Medicine. "One emergency department visit or re-hospitalization was prevented for every seven patients receiving the intervention. Intervention patients reported seeing their primary care physician for follow-up

appointments within 30 days and reported higher levels of preparedness for discharge," said Jack.

Source: Boston University

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