

Improving Patients' Experiences with Pneumonia Care

Horowitz CR, Chassin MR. *Improving the quality of pneumonia care that patients experience. Am J Med* 2002;113:379–83.

Study Overview

Objective. To determine whether a multidisciplinary quality improvement (QI) initiative can improve patient's knowledge about pneumonia and their experiences with inpatient care for uncomplicated community-acquired pneumonia.

Design. Pre- and post-intervention trial.

Setting and participants. Study included patients discharged from a large urban major teaching hospital with a diagnosis of uncomplicated community-acquired pneumonia. 348 patients discharged between October 1996 and April 1997 formed the pre-intervention cohort. 201 patients discharged between October 1997 and April 1998 formed the post-intervention cohort.

Intervention. The intervention period lasted from July 1997 to November 1997. Patients admitted with a diagnosis of pneumonia during and after the intervention period were given an educational handout describing what to expect during their hospital stay and after discharge and how to watch out for signs of relapse. Nurses and social workers were instructed during the intervention period on how to educate patients about pneumonia and postdischarge care. Physicians and house staff also were educated during this period on evidence-based guidelines regarding when patients can be switched from intravenous to oral antibiotics and when they should be considered for discharge.

Main outcome measures. Patients in the pre-intervention and post-intervention cohorts were contacted 4 to 7 weeks after discharge for a telephone survey, during which they were asked to rate the adequacy of information, education, and emotional support they received during their hospital stay. Patients also were asked to name the symptoms that required them to seek medical help. Length of stay (LOS), patient demographics, and comorbidities were ascertained using chart review.

Main results. 64% of the eligible patients (163 pre-intervention versus 114 post-intervention) responded to the telephone survey. Patients discharged in the post-intervention period were less likely to report that "no one went out of the way to help

them" (37% pre-intervention versus 6% post-intervention; $P = 0.001$). They also were more likely to report that they received all the information they needed to recover (75% pre-intervention versus 94% post-intervention; $P = 0.02$) and more likely to report that they were told about danger signs of relapse (46% pre-intervention versus 60% post-intervention; $P = 0.03$). There also was a significant decrease in mean time on intravenous antibiotics (5.0 ± 3.7 days to 4.3 ± 3.3 days; $P = 0.04$) between the 2 groups. There was no significant change in LOS. Post-discharge mortality was similar in both groups (no statistics were offered).

Conclusion. A multidisciplinary QI intervention improved patients' knowledge and experiences with care as well as decreased their time on intravenous antibiotics.

Commentary

Many previous studies have shown that QI efforts, most of which involve the use of clinical pathways, can decrease overall utilization and LOS for patients admitted with common diagnoses, such as community-acquired pneumonia. Efforts at improving patient satisfaction regarding their hospital stay, however, are harder to evaluate and have not been widely documented. The current study set out to fill this gap in research.

The positive findings presented by this study are indeed encouraging. The intervention, which utilized resources available in most hospitals, appears to have a significant impact on both the utilization of intravenous antibiotics and patient satisfaction regarding their care experience. While these findings carry significant face validity, we need to interpret them in light of some of the study's limitations. The major weakness in the study lies in the absence of a control group, which leaves open the possibility that the improvements seen by the study investigators resulted from influences external to the intervention. This secular effect could have arisen from other ongoing QI measures at the hospital or pressures from third-party payers. While it may not be practical to randomize inpatients to a control and intervention group, the study investigators could have used another group of patients, such as those admitted for knee replacement surgery, as a convenience control group.

Second, chart reviewers were not blinded to whether a patient was admitted during the pre-intervention or

post-intervention period. Selection and ascertainment bias could have been introduced, as suggested by the significantly lower number of patients eligible for in the postintervention period. Third, no effort was made to adjust the principle findings for confounders, which is particularly worrisome given the difference in sex and comorbidity mix between the pre- and post-intervention cohorts. Finally, it is not clear whether the authors adequately accounted for patients who might have been admitted with pneumonia multiple times during the study period.

As pointed out by the Institute of Medicine, "patient-centeredness" represents 1 of the 6 major dimensions of quality in health care for the 21st century [1]. Given the dearth of research in improving patient satisfaction, the authors' contributions to the field of QI are significant. The

study's limitations serve as lessons for researchers who plan to design and evaluate QI initiatives in the future.

Application for Clinical Practice

A multidisciplinary QI initiative significantly improved patients' experience during their hospital stay and their knowledge of post-discharge care. Given the limitations of this study, however, more research is needed to validate the effectiveness of this initiative in other hospitals.

—Review by Eric G. Poon, MD

References

1. Committee on Quality Health Care in America, Institute of Medicine. Crossing the quality chasm: a new health system for the 21st century. Washington (DC): National Academies Press; 2001.