Evaluation of a Protocol to Optimize the Duration of Pneumonia Therapy at Hospital Discharge

Abstract

Pharmacists frequently perform medication reconciliation for patients being discharged from the hospital. Particularly, discharge pharmacists in many facilities take an active role in assisting patients in understanding additions, discontinuations, or changes in their long-term medication regimens that may be necessary after a hospital stay. While antimicrobials are often part of patients’ discharge medications, medication reconciliation efforts generally do not focus on the total duration of antimicrobial therapy that patients receive. Infectious Diseases Society of America (IDSA) guidelines discuss the benefits of limiting the duration of antimicrobial therapy for uncomplicated pneumonia including minimization of antimicrobial resistance, adverse medication events, and *Clostridium difficile* infection (CDI). However, studies indicate that the duration of antimicrobial therapy (DAT) prescribed frequently exceeds IDSA guideline recommendations for shorter courses of therapy. A recent Medication Utilization Evaluation at our facility indicated that the majority of uncomplicated pneumonia cases were often treated for longer than indicated with the majority of antimicrobial therapy prescribed upon discharge from the hospital. We propose to develop a pneumonia triage tool and a pharmacy-driven protocol designed to shorten the excessive DAT for pneumonia patients being discharged from the hospital. In Aim 1 a pneumonia triage tool will be developed to allow pharmacists to classify pneumonia complexity and identify an appropriate duration of total antimicrobial therapy. Considerations in development of the triage tool will include ease of use and practicality, specifically for discharge pharmacists. Development of the tool will utilize an evidence-based format and will include considerations for integrated healthcare risk factors, the availability of culture and susceptibility results, clinical response to therapy, and risk for complications. In Aim 2, a facility-level protocol will be implemented that instructs pharmacists to utilize the triage tool when performing discharge medication reconciliation for patients with pneumonia, and to contact providers to recommend a shortened course of therapy if prescribed DAT is excessive. In Aim 3, time-series analysis with segmented regression will be used to evaluate the impact of the pneumonia protocol on the endpoints of the total DAT prescribed as well as 30-day post-treatment readmission rates. The findings of the study may improve health-system care by decreasing unnecessary antimicrobial use, adverse medication events, CDI, and cost.