



A Pharmacist's Role in Transitions of Care for Pneumonia Patients

by Elizabeth Lass, PharmD, and Amy Hoang, PharmD

BACKGROUND

Due to an aging population and upward trending of antibiotic resistance, pneumonia continues to be a serious disease in the United States. More than 1 million hospital admissions and some 50,000 deaths are attributed to pneumonia annually. According to previous studies, nearly 20 percent of patients diagnosed with pneumonia are readmitted to the hospital within 30 days of discharge. Alarming, studies have found that approximately 12 percent of Medicare patients admitted for pneumonia died within 30 days of discharge. Pneumonia admissions can also be costly, with an estimated economic burden of at least \$7 billion attributed to pneumonia diagnoses for Medicare patients in the United States in 2010.

Fortunately, incidences of pneumonia admissions and readmissions have

been decreasing, which is likely attributable to the adoption of the Infectious Diseases Society of America (IDSA) clinical practice guidelines in 2005 (guidelines for treatment of hospital-acquired pneumonia) and 2007 (guidelines for treatment of community-acquired pneumonia). It is thought that this trend will continue with the enactment of the Affordable Care Act (ACA). Under the Hospital Readmission Reduction Program (HRRP) introduced by the ACA, hospitals with high readmission rates are now receiving decreased reimbursement from the Centers for Medicare & Medicaid Services (CMS) to reduce the number of preventable hospitalizations.

Interestingly, many readmissions after a pneumonia diagnosis are thought to be due to unrelated causes or patient comorbidities. One study discovered

that 29.1 percent of readmissions, the highest percentage, were related to pneumonia, while the next most common reasons for hospital readmission included heart failure (7.4 percent), COPD (6.1 percent), and septicemia (3.6 percent). The other, less frequently observed reasons for readmission included nutritional or gastrointestinal issues and urinary tract infections.

Though the readmission rate for pneumonia may continue to decrease, and though many readmissions are unrelated to pneumonia, there are still opportunities to improve the daunting number of readmissions and the associated cost to health systems. Community pharmacists can play a crucial role in modifying certain preventable factors to help avoid unnecessary readmissions. Medication adherence, therapy management, and patient education are fantastic opportunities to decrease readmissions.

A PHARMACIST'S ROLE IN PREVENTING HOSPITAL READMISSIONS

Hospital discharge can be a stressful and confusing process for any patient. New medications may be added and medications that the patient has been taking chronically may be discontinued, but the patient may not receive adequate education in the hospital regarding these adjustments. Inaccurate or incomplete medication reconciliation can also lead to therapeutic duplication and medication errors. Both of these circumstances are excellent opportunities for community pharmacists to use their expertise to improve patient outcomes. For the best possible results, inpatient and outpatient therapy needs to be synchronized. To accomplish this task, there needs to be an open line of communication between all health care providers, both during a patient's stay in the hospital and after discharge. Ideally, this happens through shared access to an electronic health record system, but it can be done via fax and

a dedicated point of contact that the pharmacy can easily reach who is accountable for the communication.

Not only should professional communication remain open among health care providers, but the patients should play an active role in their care as well. Ensuring that patients thoroughly understand their medications and how to use them is key, and this is another area where community pharmacists can help. Studies have shown that patient interaction with a pharmacist after discharge reduces readmissions, thus resulting in cost savings to the health system. One study noted that patients receiving a pharmacist-driven medication assessment and reconciliation within seven days post-discharge experienced decreased readmission rates compared to patients not receiving pharmacist follow-up.

What pharmacists should be focusing on for patients discharged after a pneumonia diagnosis is appropriate antibiotic usage. Whether it is the standard of care at the pharmacy or part of a collaborative transition of care program, initial counseling and a follow-up at about the 72-hour mark to screen for antibiotic adherence or adverse effects may help prevent readmission within 30 days. Patients should fully understand and be able to explain in their own words their therapy and recent illness. Thorough counseling ensures appropriate use of their prescribed antibiotics. For instance, counseling should stress how important it is to complete the full course of therapy, timing of doses, and drug-specific issues.

If there are any drug-drug or drug-food interactions that may affect the patient, pharmacists should use knowledge of the patient's diet, prescriptions medications, and OTC products to provide patient-centered recommendations for the best possible drug absorption. Finally, patients

should be fully aware of possible medication-specific side effects, and when to follow-up with the pharmacist or physician. Patients with a recent pneumonia diagnosis who are empowered with this knowledge are likely to achieve better health outcomes, resulting in decreased readmissions from preventable causes.

Additionally, pharmacists can play an important role in preventing pneumonia. Per the Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP) recommendations, all patients 65 and older should receive one dose of PCV13 (pneumococcal conjugate vaccine, available commercially as Prevnar 13), followed by one dose of PPSV23 (pneumococcal polysaccharide vaccine, available commercially as Pneumovax) at least 6-12 months later. For patients who have already received PPSV23, a dose of PCV13 should be administered at least one year later. Certain patients are indicated for PCV13 or PPSV23 prior to 65, including patients with immunocompromising conditions or anatomical/functional asplenia. These patients may require a second dose of PPSV23 at least five years after the first dose. An annual flu vaccination is also important to help prevent pneumonia in all patients. More information for community pharmacists regarding vaccination importance in preventing pneumonia infections can be found at the CDC flu.gov website and the Immunization Action Coalition immunize.org website.

CHANGES TO THE HOSPITAL READMISSION REDUCTION PROGRAM IN 2017

The HRRP up to this point has considered only primary, infectious pneumonia readmissions in determining reimbursement rates for

patients discharged after recent pneumonia infections. Beginning in 2017, patients admitted with aspiration pneumonia, sepsis and/or secondary diagnosis of pneumonia are also included in the pneumonia cohort to determine reimbursement. This change came about because new data showed an increase in sepsis and respiratory failure admissions shortly after pneumonia discharge. The modification is suggested to collect more accurate evidence on patients discharged after a pneumonia infection. As this is predicted to expand the number of patients sorted into the pneumonia cohort, it is of the utmost importance that community pharmacists play a role in decreasing pneumonia readmissions.

CONCLUSION

Community pharmacists are in a unique position where they can use their expertise in medication management and patient care to significantly help in reducing hospital readmissions for patients discharged with pneumonia. Pharmacists can specifically target patient adherence and patient education to assist health systems in meeting CMS measures specific to pneumonia infections. Pharmacist roles are essential in ensuring appropriate reimbursement rates for hospitals and better health outcomes for patients. Health systems and patients are depending on pharmacists, and the time to make changes in preventing pneumonia readmissions is now. ■

Elizabeth Lass, PharmD, is a 2016 graduate of Southern Illinois University Edwardsville and was a winter 2016 APPE Rotation Student at NCPA. Amy Hoang, PharmD, is a 2016 graduate of the Albany College of Pharmacy and Health Sciences and was a fall 2015 APPE rotation student at NCPA.

Editor's Note: For information on references used in this article, contact Chris Linville at chris.linville@ncpanet.org.