CE 1.0 ANCC Contact Hours

Professional Case Management
Vol. 24, No. 4, 194-200

Impact of Pharmacist-Driven Heart Failure in-Home Counseling on 30-Day Readmission Rates

Tova Berman, PharmD, Nicole Clark, PharmD, MHA, BCPS, FMSHP, and Amy A. Lemieux, PharmD, BS

ABSTRACT

Purpose/Objective: This study examines the impact of a pharmacist-driven intervention specific to heart failure patients with the goal of reducing readmission rates and improving quality of life in this population.

Findings/Conclusions: A total of 21 patients were included in the study. Twelve patients were female and 9 were male. The mean age was 76 years with a range of 65–93 years. Two of the 21 patients were readmitted within 30 days. One of the 2 readmitted patients died soon after admission was in the final stages of his or her disease and passed away soon after; it is unlikely for a home visit to have altered their path. This study did not meet the goal sample size due to some unforeseen limitations. However, the limited data that were obtained suggest a strong basis for further research.

Implications for Case Management Practice: During a patient's transition in care from hospital to home, he or she is most vulnerable for complications and readmission. Intervention during this time will not only improve patient care and quality of life but also contribute to a notable cost savings for each prevented readmission. Pharmacist intervention, as part of the health care team, during this tenuous time has shown to make a valuable impact.

Key words: *counsel, heart failure, readmission, transitions in care*

With the passing of the Affordable Care Act, reducing readmissions within 30 days of hospital discharge has become a focus of many health care systems. Heart failure (HF) is one of the main disease states in which patients are frequently discharged and subsequently readmitted to the hospital, with an exacerbation. These patients often make poor lifestyle choices that lead to a cycle of weight gain and medication noncompliance upon hospital discharge. This is often followed by an exacerbation and a subsequent readmission where they again receive diuresis and treatment prior to their discharge. Not only does continually being readmitted to the hospital lessen the quality of life for these chronic patients but it also contributes greatly to health care costs. The estimated annual cost of 30-day readmissions in the United States is $17 billion (Joynt, 2011). According to the Centers or Medicare & Medicaid Services (CMS) and the Affordable Care Act, hospitals will receive payment reductions based on a payment adjustable factor for 30-day readmissions in patients with a diagnosis of acute myocardial infarction, HF, pneumonia, chronic obstructive pulmonary disease, coronary artery bypass graft surgeries, and elective primary total hip and/or total knee arthroplasty (Centers for Medicare & Medicaid Services, 2018). These penalties can have a profound effect on a health care system. One of the goals of reducing readmissions is to reduce these undue costs.

The elderly patient population, defined as patients aged 65 years or older, accounts for up to 20% of emergency department (ED) visits, with a two- to five-fold increase on the likelihood of hospital admission in addition to a longer hospital stay that is up to 15% higher than the national average (DeFrances & Hall, 2005). In addition, this population is at an increased risk for hospital readmission for 90 days post hospital discharge (Aminzadeh & Dalziel, 2002). Risk factors for readmission include age more than 80 years, discharge within the previous 30 days, three or more comorbid conditions, use of five or more prescription medications, lack of discharge education, and difficulty with at least one

Address correspondence to Tova Berman, PharmD, Melrose-Wakefield Healthcare, 585 Lebanon St., Melrose, MA 02176 (TBerman@hallmarkhealth.org).

The authors report no conflicts of interest.

DOI: 10.1097/NCM.0000000000000332

activity of daily living (Marcantonio et al., 1999). These risk factors put the elderly population at a great risk for adverse drug events, frequent exacerbations of chronic diseases, functional decline, and repeated hospital admissions and readmissions (Coleman, Smith, Raha, & Min, 2005).

In a study by Koehler et al. (2009), the impact of a supplemental care bundle that targeted high-risk elderly inpatients was assessed. The use of a care bundle was compared with usual care on a composite outcome of an ED visit or hospital readmission at 30 and 60 days following discharge. Forty-one patients were randomized between the two groups. The supplemental care group included medication counseling and reconciliation by a pharmacist in addition to care coordination by a care coordinator. Intervention group ED visits and subsequent readmissions were reduced (10%) as compared with the control group (38.1%) at 30 days ($p = .04$). The difference at 60 days was not significant (Koehler et al., 2009).

In another article, Stewart, Pearson, and Horowitz (1998) analyzed the effect of a home-based intervention (HBI) on readmission and death among "high-risk" patients with HF discharged home from an acute care hospital. One hundred patients were divided between the control and intervention groups who received a joint home visit by a nurse and a pharmacist 1 week postdischarge. The intervention group was found to have 36 readmissions whereas the control group had 63 ($p = .03$) readmissions within 6 months (Stewart et al., 1998).

Another study, conducted in Australia, looked at the long-term effects of a multidisciplinary HBI in HF patients randomly assigned 149 patients to receive the intervention and 148 to receive the usual care. Overall, 78 fewer unplanned readmissions were found, per patient per month, in the HBI group (0.17) as compared with the usual care group (0.29; $p < .05$). In addition, fewer HBI patients died (56% vs. 65%; $p = .06$). The HBI group had a prolonged survival with a median of 40 months versus 22 months ($p < .05$). The study also noted that the median cost of the readmissions was significantly higher in the usual care patient group ($660 per month vs. $325 per month, values in Australian dollars; $p < .01$) (Stewart, 2002).

The emerging body of literature discussing the impact of pharmacist home visits is increasing, and this study aims to implement a pharmacist-driven intervention specific to HF patients with the goal of reducing readmission rates of this population.

These studies demonstrate the prevalence of hospital readmissions in this population in addition to the significant impact that an HBI can have. As discussed in the case management standards of practice, a multidisciplinary approach with collaboration among physicians, pharmacists, nurses, case managers, social workers, and allied health professionals is essential in the world of health care today. The emerging body of literature discussing the impact of pharmacist home visits is increasing, and this study aims to implement a pharmacist-driven intervention specific to HF patients with the goal of reducing readmission rates of this population. With a nearly 70% mortality rate and $17 billion in health care costs annually (Joynt, 2011), this study also aims to improve patients' quality of life while reducing health care cost.

Methods

This is a prospective cohort longitudinal study with a historical control group comparing the readmission rates between targeted HF patients who receive intensive HF counseling driven by an individualized action plan and checklist to that of patients who did not. The primary end point examined is the effect of specific HF counseling on 30-day readmission rates within a group of HF patients. The secondary end point assessed is the length of stay upon readmission in patients with multiple comorbidities. Currently at our institution, patients at high risk for readmission are identified by transition facilitators (TF) during their inpatient hospital stay. They are approached for interest in receiving a home visit by the TF and enrolled in the program. The TF will also let the patient know that a nurse practitioner and/or a pharmacist will be calling to schedule a home visit. Each visit is documented into the health care system's electronic medical record, accessible to both inpatient and outpatient providers. In addition, if a patient has visiting nurse associations services, we communicate with them to ensure streamlined and cohesive high-quality care. The TFs are employees of the local elder service agency. Accordingly, we liaison with them directly for all other patient needs such as durable medical equipment, person care assistant services, meals-on-wheels, financial assistance, and anything else needed to ensure that the patient is safe in the home. For the purposes of this study, patients who received a pharmacy home visit were followed for 30 days post discharge.

The cost of the pharmacist home visit is absorbed by the Physician Health Organization (PHO) that pays for 16 hours of pharmacist time per week. In turn, the pharmacist provides a variety of services to the PHO including but not limited to pharmacy home

The pharmacist first reviewed the patient's medications for accuracy and understanding of their use and proper administration. For patients who were unable to keep track of their medications, a pillbox was organized and filled for them. The pharmacist would then follow up with the patient to ensure that he or she was able to properly refill the box or have a family member do so. Some patients were also connected with local pharmacies that offered services such as medication delivery, pillbox filling, or medication blister packs. In addition, the pharmacist would work through any potential barriers to paying for and receiving medications.

visits. Pharmacists participating in the program are all staff pharmacists employed by the health care system and are covered accordingly for any liability issues that may arise. In addition, participating pharmacists undergo significant training and follow a nurse practitioner in the field for an extended period of time before conducting home visits independently. They are either residency trained or certified in medication therapy management. Since the early 1990s, pharmacy education has included focus in all aspects of disease state management as pharmacists are mandated to counsel their patients when dispensing prescriptions. This counseling includes all aspects of drug therapy including nonpharmacological recommendations. A pharmacist is held liable to counsel patients on nonpharmacological aspects of disease state management often working closely with a nurse practitioner. Home visits are frequently conducted jointly, and any intervention is discussed extensively. The team also works in close contact with the patient's primary care physician.

Intervention and Design

Prior to the beginning of the study, baseline data were collected to determine the possible impact of the project. The intervention began on November 13, 2017, and continued through April 30, 2018, with the goal of collecting 100 patients. Any patient with HF identified as high risk and eligible for in-home visits by pharmacy was included in the study, whereas end-of-life patients as well as patients discharged to a nursing home, long-term care facility, or against medical advice were excluded.

Patients received an individual targeted counseling session specifically dealing with their HF. The pharmacist used the counseling checklist, shown in Figure 1, as a template for the visit and as a point of reference for the patient. The checklist and counseling materials were reviewed by the performance oversight committee of the hospital, which consists of several members of both the hospital leadership and the PHO leadership.

The pharmacist first reviewed the patient's medications for accuracy, understanding of their use and proper administration. For patients who were unable to keep track of their medications, a pillbox was organized and filled with them. The pharmacist would then follow up with the patient to ensure that he or she was able to properly refill the box or have a family member do so. Some patients were also connected with local pharmacies that offered services such as medication delivery, pillbox filling, or medication blister packs. In addition, the pharmacist would work through any potential barriers to paying for and receiving medications.

Patients were then encouraged to discuss their daily lifestyle habits with the pharmacist including their diet, exercise, and recreation habits. The pharmacist then reviewed the importance of logging daily weights and monitoring for any significant weight gain. Patients were instructed to contact their primary care physician if more than 3 pounds were gained within 24 hr or 5 pounds within 1 week. They

My Daily HF Checklist

Do you have a scale in your home?	
Did you weigh yourself today?	
Did you log your weight today?	
My baseline weight is _____	
If your weight increases by _____ Call_____	
Did you eat a low salt diet today?	
Did you check your Red/Green/Yellow Sheet?	
My HF Medications are: Water Pill (diuretic): _____ Heart Rate (Beta-blocker): _____ Blood Pressure (ACE inhibitor/ARB): _____	
Did you take your medications as directed today?	
Are you running low on any of your medications?	
Did you pick up any refills for your medications?	

FIGURE 1
Heart failure checklist.

The pharmacist ensured that the patients understood the importance of addressing a medical concern before it necessitated an ED visit.

were counseled on the importance of consuming a low-salt diet and given practical meal ideas based on individual taste preferences and cost restrictions along with an education about nutrition labels. The pharmacist ensured that the patients understood the importance of addressing a medical concern before it necessitated an ED visit. Finally, it was ensured that the patient had a way to contact his or her provider should any of these concerns arise. The pharmacist spent time reviewing these latter issues in the context of the patient's medications and how the patient's lifestyle is interrelated with his or her medical management. The importance of discussing how a patient's diet is directly correlated to his or her diuretic dose, for example, is all too often overlooked and assumed to be obvious. Pharmacists, however, ensure that the patient receives a very comprehensive medication overview and include all factors relating to their overall medical management. Table 1 shows two examples of the intervention and its outcome.

After the visit, the pharmacist followed up on any issues discussed and alerted the patient's general practitioner to any urgent matters. Patients were monitored for 30 days after receiving the HF counseling to determine readmission status. Upon conclusion, the results were analyzed for readmission trends and important conclusions to be applied to future practice.

Results

When analyzing the baseline data, 100 patients were evaluated during a 2-year time period. As shown in Figure 2, during that time there were 454 hospital admissions; 54 of those were 30-day readmissions.

As listed in Table 2, a total of 21 patients were included in this study. Twelve patients were female and nine were male. The mean age was 76 years, with a range of 65–93 years. Two of the 21 patients were readmitted within 30 days. As discussed in Table 3, one patient was readmitted with a 5-day stay, whereas the other patient died after a 4-day stay; this should be considered when analyzing the results.

Discussion

With the passing of the Affordable Care Act, and the increasing focus on 30-day hospital readmission, health care providers are now more than ever strategizing different possibilities to prevent patient readmission. An increase in emphasis on proper patient counseling, medication reconciliation, and follow-up has unleashed a newfound focus in the transitions in care arena.

Peter et al. (2015) discussed an initiative implemented by nurses at a tertiary Magnet facility to improve the care transitions process in patients with HF, with the goal of reducing hospital readmissions. They chose this population to pilot the teach-back program due to their 30% risk of 30-day readmission in comparison with the national Medicare readmission rate of about 21%. A team of health care providers developed a method to assess patients' overall understanding and comprehension of their disease state and then provide discharge education based upon their

TABLE 1
Intervention and Outcome Examples

Intervention	Result
T.P. is an 87-year-old woman who is homebound due to her multiple comorbidities in addition to her HF. We met with T.P. in her home for three consecutive weeks and worked to help her understand her medications' indications and their proper administration. Upon entry into the home, we discovered that she was keeping her medications in many different types of jars and forgetting which ones she had already taken. In addition, when reviewing HF checklist, we learned that there were two medications that she was not taking because the pills were too large for her to swallow. Her PCP was subsequently contacted and within 2 days she received the liquid form of those medications.	Since our last visit, T.P. has not yet been readmitted to the hospital, has been setting up her own pillbox correctly, and has been able to maintain her weight without any adjustments to her diuretic dose. T.P. was very happy each time we visited and remarked that this was the first time a health care professional had ever spent dedicated time with her simply to review her medications.
F.R. is an 83-year-old man with multiple comorbidities in addition to his HF. We reviewed the HF-specific counseling points and focused on properly tracking his weight. We ensured that that he knew to call his PCP for any weight gain above 2 lb. We reviewed his medications to ensure the understanding of their indications and proper administration. During discussion about his diet, we learned that Chinese food is a favorite for him. We educated him about its high-salt concentration and the importance of consuming a low-salt diet. F.R. lives with family members who help cook for him; they were educated about a proper diet as well.	F.R. has not been readmitted to the hospital since our visit. His VNA reports that he has been compliant with his medications and has been maintaining a steady weight. At the end of our visit, F.R. remarked that our time spent reviewing his medications was helpful and that now that he knew what their use was, he would take them.

Note. HF = heart failure; PCP = primary care provider; VNA = visiting nurse association.

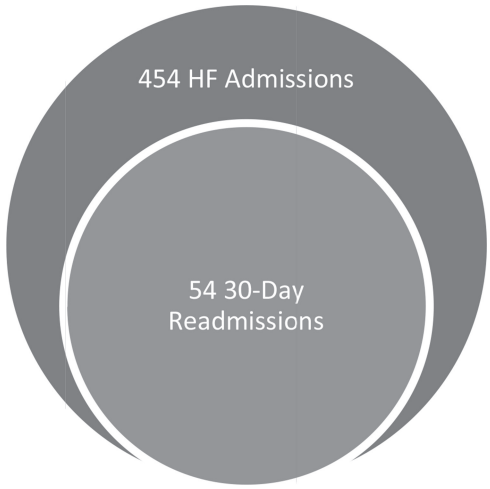

FIGURE 2
Admissions and readmissions within a 2-year time period. HF = heart failure.

level. Using the teach-back method, patients had the opportunity to teach the provider about their medications, proper administration, and dietary guidelines related to their disease state, along with other counseling discussed during the meeting. This ensured proper patient comprehension and led to a subsequent 12% reduction in readmission rates for HF patients who received teach-back (Peter et al., 2015).

Naylor et al. (2004), also citing that elderly patients with HF have the highest readmission rate of all adult patient groups, examined the effectiveness of a care transitions intervention delivered by an advanced practice nurse to elderly patients with HF. After an extensive training by physicians, pharmacists, a physical therapist, nutritionist, and social worker, trained nurses would closely follow patients for 3 months from the time of discharge. This close follow-up included arrangement of all discharge processes including education, transport, dietary issues, and any other home care needs. The nurse would conduct very frequent visits to the patient and had telephone availability after hours; this intervention did not extend beyond 3 months of discharge. The results showed that time to first readmission or death was longer in intervention patients ($p = .026$). At 1-year follow-up, the intervention group had fewer readmissions (104 vs. 162, $p = .047$) and lower mean total costs ($7,636 vs. $12,481, $p = .002$) (Naylor et al., 2004).

TABLE 2
Patient Data

	Intervention Group
Total number	21 patients
Gender	12 females 9 males
Mean age (years)	76 (range: 65–93)
Number readmitted within 30 days	Two patients—one of whom died soon after

Vinson, Rich, Sperry, Shah, and McNamara (1990), again citing HF as the most common diagnosis-associated hospital readmission, further confirmed our findings that patients with multiple prior hospitalizations or a previous history of HF are at an increased risk for early readmission. With a sample size of 161 patients, the study found that 53% of early readmissions were potentially preventable and related to medication and diet noncompliance, failure to seek medical attention with recurrence of symptoms, inadequate discharge planning and follow-up, and a poor social support system (Vinson et al., 1990).

These data suggest a strong area of opportunity in the care transitions process in the elderly HF population and indicate an important need for the intervention discussed in the present study. Our study had only one true 30-day readmission. The other patient with a 30-day readmission was in the final stages of his disease and passed away soon after; it is unlikely for a home visit to have altered his path. This study did not meet the goal sample size because of some unforeseen limitations. However, the data that were obtained, both from the study and earlier literature review, indicate a strong basis for further research.

One of the most notable aspects of this project was the patients' welcoming response to the HF counseling. Patients appreciated the time spent reviewing their medications, disease state, and answering their questions. Limitations placed on prescribers do not often allow time for an extensive counseling session on one disease state, especially when a patient is

Despite having HF for many years and many readmissions, some of the patients commented that much of this information was new to them. Pharmacists play an important role on the health care team both in the inpatient and outpatient settings. However, during a one-on-one home visit, the pharmacist is able to provide direct patient care that is targeted exactly to the patient's needs and level of understanding in a relaxed environment. This is an important and unique niche for a pharmacist, given our specialized training as medication educators and experts.

TABLE 3
Secondary End Point

30-Day Readmissions	Length of Stay	Reason
Patient G.I.	4 days	COPD exacerbation + Acute on chronic heart failure
G.I. is a patient with multiple comorbidities and frequent readmissions. G.I. lived alone in a damp basement apartment with poor ventilation; he refused lifestyle modifications such as smoking cessation and adopting a reduced salt diet. His living conditions and lifestyle choices likely contributed to his frequent readmissions. G.I. passed away on Day 4 of his hospital stay.		
Patient P.H.	5 days	COPD + HF exacerbation
P.H. complained of 2 days with a runny nose/cough/phlegm and subsequent SOB. She was initially treated with steroids, intravenous diuretics, and antibiotics. The duration of her hospitalization focused on improving her breathing status.		

Note. COPD = chronic obstructive pulmonary disease; HF = heart failure; SOB = shortness of breath.

presenting with multiple issues. Several patients remarked that they appreciated the extra time dedicated to reviewing their medications and disease state. Despite having HF for many years and many readmissions, some of the patients commented that much of this information was new to them. Pharmacists play an important role on the health care team both in the inpatient and outpatient settings. However, during a one-on-one home visit, the pharmacist is able to provide direct patient care that is targeted exactly to the patient's needs and level of understanding in a relaxed environment. This is an important and unique niche for a pharmacist, given our specialized training as medication educators and experts.

Limitations

The study had an unexpectedly small sample size due to some unforeseen circumstances. Program enrollment as well as hospital census was unexpectedly lower than the prior year. The hospital was consolidating resources during the intervention period and one of three target units was closed. Because of the rollout of the Accountable Care Organization, the way in which patients were evaluated and identified for pharmacy home visits was also altered, which subsequently impacted the number of patients referred to receive this intervention. The time frame of this study occurred during these changes and patient referrals were subsequently more difficult to obtain.

Conclusions

Overall, this study made a profound impact in a handful of patient's lives. It is unfortunate that the study was not statistically significant, given the small sample size. However, when taken in the context of the myriad of current transitions in care articles discussing the HF population, this study adds to the strong body of data suggesting that a pharmacist-driven intervention can have an impact on hospital readmissions. With the aging population, there is a significant surge in the need for ongoing long-term care of chronic disease, such as HF. An area for intervention in these patients is during their transition in care from hospital to home, when they are vulnerable for complications and readmission. Not only will an intervention during this time improve patients' care and quality of life but it will also contribute to notable cost savings for each prevented readmission.

As the need for intervention during this tenuous time becomes more apparent, along with the increasingly prominent role of the pharmacist as member of the patient care team, it is prudent to recognize the impact that a pharmacist can have during a patient's transition in care.

References

Aminzadeh, F., & Dalziel, W. B. (2002). Older adults in the emergency department: A systematic review of patterns of use, adverse outcomes, and effectiveness of interventions. *Annals of Emergency Medicine*, *39*(3), 238–247. doi:10.1067/mem.2002.121523

Centers for Medicare & Medicaid Services. (2018). Readmissions reduction program (HRRP). Retrieved from https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html

Coleman, E. A., Smith, J. D., Raha, D., & Min, S. (2005). Posthospital medication discrepancies. *Archives of Internal Medicine*, *165*(16), 1842. doi:10.1001/archinte.165.16.1842

Joynt, K. E. (2011). Thirty-day readmission rates for Medicare beneficiaries by race and site of care. *The Journal of the American Medical Association*, *305*(7), 675. doi:10.1001/jama.2011.123

Koehler, B. E., Richter, K. M., Youngblood, L., Cohen, B. A., Prengler, I. D., Cheng, D., & Masica, A. L. (2009). Reduction of 30-day postdischarge hospital readmission or emergency department (ED) visit rates in high-risk elderly medical patients through delivery of a targeted care bundle. *Journal of Hospital Medicine*, *4*(4), 211–218. doi:10.1002/jhm.427

Marcantonio, E. R., Mckean, S., Goldfinger, M., Kleefield, S., Yurkofsky, M., & Brennan, T. A. (1999). Factors associated with unplanned hospital readmission among patients 65 years of age and older in a Medicare

managed care plan. *The American Journal of Medicine*, *107*(1), 13–17. doi:10.1016/s0002-9343(99)00159-x

Naylor, M. D., Brooten, D. A., Campbell, R. L., Maislin, G., Mccauley, K. M., & Schwartz, J. S. (2004). Transitional care of older adults hospitalized with heart failure: A randomized, controlled trial. *Journal of the American Geriatrics Society*, *52*(5), 675–684. doi:10.1111/j.1532-5415.2004.52202.x

Peter, D., Robinson, P., Jordan, M., Lawrence, S., Casey, K., & Salas-Lopez, D. (2015). Reducing readmissions using teach-back. *The Journal of Nursing Administration*, *45*(1), 35–42. doi:10.1097/nna.0000000000000155

Stewart, S. (2002). Home-based intervention in congestive heart failure: Long-term implications on readmission and survival. *Circulation*, *105*(24), 2861–2866. doi:10.1161/01.cir.0000019067.99013.67

Stewart, S., Pearson, S., & Horowitz, J. D. (1998). Effects of a home-based intervention among patients with congestive heart failure discharged from acute hospital care. *Archives of Internal Medicine*, *158*(10), 1067. doi:10.1001/archinte.158.10.1067

Vinson, J. M., Rich, M. W., Sperry, J. C., Shah, A. S., & Mcnamara, T. (1990). Early readmission of elderly patients with congestive heart failure. *Journal of the American Geriatrics Society*, *38*(12), 1290–1295. doi:10.1111/j.1532-5415.1990.tb03450.x

Tova Berman, PharmD, is a pharmacist who recently completed her PGY-1 residency at Melrose Wakefield Healthcare, Medford, MA. In addition to continuing on part-time at Melrose Wakefield, she recently began working as a clinical pharmacist at Commonwealth Care Alliance focusing on transitions in care.

Nicole Clark, PharmD, MHA, BCPS, FMSHP, is a pharmacy clinical practice and education manager at Melrose Wakefield Healthcare. In this role, Dr. Clark directs development, implementation, and maintenance of clinical pharmacy services for the system. Dr. Clark is a residency program director for the PGY1/PGY2 Health System Administration Residency Program and oversees the pharmacy student program.

Amy A. Lemieux, PharmD, BS, is a pharmacist focusing on transitions in care at Melrose Wakefield Healthcare, Medford, MA. She is an adjunct faculty member of MCPHS University and WNEU College of Pharmacy. Amy was previously a clinical supervisor at Melrose Wakefield Healthcare and prior to that a clinical pharmacist at McLean Hospital.

Instructions:

- Read the article. The test for this CE activity can only be taken online at www.nursingcenter.com/ce/PCM. Tests can no longer be mailed or faxed.
- You will need to create (its free!) and login to your personal CE Planner account before taking online tests. Your planner will keep track of all your Lippincott Professional Development online CE activities for you.
- There is only one correct answer for each question. A passing score for this test is 13 correct answers. If you pass, you can print your certificate of earned contact hours and access the answer key. If you fail, you have the option of taking the test again at no additional cost.
- For questions, contact Lippincott Professional Development: 1-800-787-8985.

Continuing Education Information for Certified Case Managers:

This Continuing Education (CE) activity is provided by Lippincott Professional Development and has been preapproved by the Commission for Case Manager Certification (CCMC) for 1.0 contact hours. This CE is approved for meeting the requirements for certification renewal.

Registration Deadline: July 1, 2020

Continuing Education Information for Certified Professionals in Healthcare Quality (CPHQ):

This continuing education (CE) activity is provided by Lippincott Professional Development and has been approved by the National Association for Healthcare Quality (NAHQ) for 1.0 CE Hours. CPHQ CE Hours are based on a 60-minute hour. This CE is approved for meeting requirements for certification renewal.

This CPHQ CE activity expires on July 1, 2020.

Continuing Education Information for Nurses:

Lippincott Professional Development will award 1.0 contact hours for this continuing nursing education activity.

LPD is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

This activity is also provider approved by the California Board of Registered Nursing, Provider Number CEP 11749. LPD is also an approved provider by the District of Columbia, Georgia, and Florida CE Broker #50-1223.

The ANCC's accreditation status of Lippincott Professional Development refers only to its continuing nursing educational activities and does not imply Commission on Accreditation approval or endorsement of any commercial product.

Registration Deadline for Nurses: July 1, 2020

Disclosure Statement:

The authors and planners have disclosed that they have no financial relationship related to this article.

Payment and Discounts:

- The registration fee for this test is $12.95
- CMSA members can save 25% on all CE activities from *Professional Case Management*! Contact your CMSA representative to obtain the discount code to use when payment for the CE is requested.

DOI: 10.1097/NCM.0000000000000379