

# Advancing Complex Case Management Competencies in a Health Care System

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## ABSTRACT

**Purpose/Objectives:** The purpose of this literature review is to evaluate evidence to support advanced education for hospital-based nurse case managers to address the discharge needs of medically complex patients who have extended hospital stays.

**Primary Practice Setting:** Acute care hospital and hospital systems.

**Findings/Conclusion:** Studies on hospital length of stay are prevalent as are studies of effective case management and the importance of a comprehensive education program. Correlating effective case management to successful disposition of long-stay patients and efficacy of discharge planning education is the focus of this review of evidence. Creation of advanced case management competency education will benefit patients, staff, and the health care system by increasing the skill level to promote early recognition of discharge barriers in complex long-stay patients.

**Implications for Case Management Practice:** Continued focus on affordability in health care will keep management of hospital length of stay high on the priority list. Pressure to create efficient patient management strategies leading to timely discharge disposition of medically complex patients through barrier mitigation and intervention requires effective case management tools.

**Key words:** case management, competency, medically complex patients, discharge planning, length of stay, nurse education

Health care spending makes up nearly 18% of the United States' gross domestic product and is anticipated to continue to rise as the U.S. population ages (Centers for Medicare & Medicaid Service [CMS], n.d.). Acute care hospital costs are estimated to be 32% of all health care spending (CMS, n.d.). Efforts to address affordability and outcomes have reduced average length of stay (LOS) in hospitals since the CMS instituted the prospective payment reimbursement system (PPRS) in 1983 (CMS, n.d.). The PPRS led to diagnosis-related groups (DRGs), establishing fixed payment assignments based on diagnosis. Hospitals whose patients remain hospitalized past the DRG do not receive reimbursement for those hospital days, resulting in millions of dollars in lost revenue.

Despite the measures implemented by the CMS to reduce unnecessary hospital days, there is a segment of patients who have extremely long hospitalizations. Accounting for only 2% of total hospitalizations, this group utilizes approximately 14% of all hospital days and more than \$20 billion in annual cost (Doctoroff, Hsu, & Mukamal, 2016). Patients who have extended hospital stays are at risk of higher morbidity and mortality and contribute to the overall high cost of health care (CMS, n.d.).

Effective case management workflows and processes are key to organizational success when it comes to timely patient disposition. Overall, data analysis shows a downward trend in LOS for most hospitalized patients with straightforward disposition plans (CMS, n.d.). Patients who have complicated illness or injury often have extended hospitalizations with complex discharge planning requirements (Joo & Liu, 2016). Disposition for long-stay patients is frequently to a post-acute facility (i.e., skilled nursing, long-term care, or rehabilitation) (Doctoroff et al., 2016). Transfer from acute to post-acute care is often a more complex process subject to delays related to ineffective care coordination (Chow & Wong, 2014). Case management processes figure prominently in strategies for acute care hospitals for safe discharge planning as patients transition from the hospital to the community (Joo & Huber, 2018).

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The author reports no conflicts of interest.

DOI: 10.1097/NCM.0000000000000361

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Nurses are taught that discharge planning begins with hospital admission and should be a process that is person-centered, considering individual needs (Case Management Society of America [CMSA], n.d.). Competing priorities and shorter overall LOS have created challenges for today's case managers and hospital discharge planners (Nobusch, Weiss, & Bobay, 2010). These challenges are most evident in the population of long-stay patients (LOS >30 days; Chow & Wong, 2014). In addition to complex clinical needs, long-stay patients are often found to have complex psychosocial needs, resulting in a difficult discharge planning process and the need for proactive disposition identification (Carey, Sheth, & Braithwaite, 2005).

Discharge disposition barriers become more apparent the longer a patient remains hospitalized. Patients whose clinical trajectory is longer than expected present a challenging workload the case management team is ill-prepared to manage. Daily focus for the team is on the patients who are discharging "today or tomorrow." Discharge planning for the long-stay patient often gets deferred in favor of the more immediate need (Lim, Doshi, Castasus, Lim, & Manum, 2006). There is a gap between case management work for patients with LOS aligned with the DRG and patients with prolonged hospital stays. The gap can be filled by providing nurse case

managers with the tools and skills they need through advanced education. A mature and comprehensive case management department with a highly skilled team is critical to successful discharge planning in any hospital system (Nobusch et al., 2010).

Heightened focus on decreasing LOS has changed the way hospital discharge planners and case managers prioritize the work. Patients whose care is more complicated resulting in an extended stay will often not get the specialized level of case management needed to ensure they are able to discharge when stable (Joo & Liu, 2016). This poses a financial and operational risk for the facility as well as a risk for the patient. Extended hospital stays create opportunity for iatrogenic patient events and further complications and can result in higher mortality (Chiu & Newcomer, 2007). The complex, extended hospital stays are the focus of this literature review.

## SEARCH METHODOLOGY

The search strategy included the following databases: Cochrane, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and PubMed. The following search-limiting filters were applied: English language, date ranges 2000–2018, and adult population. Search key words used were as follows: *acute hospital, hospitalization, long stay, length of stay, case management, discharge planning, patient outcomes, cost, competencies, nurse education, hospital cost, and healthcare cost*. The evidence was reviewed utilizing the Johns Hopkins Research Evidence Appraisal Tool to critically appraise and screen selected articles of more than 500 articles that met the criteria. The articles were narrowed to nine peer-reviewed articles based on relevance and substance.

## EVIDENCE REVIEW

The evidence was evaluated in two parts: The first analysis considered studies on hospital LOS with a focus on extended hospitalization and positive correlation with case management intervention. The

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second analysis evaluated case management competencies and education for complex care coordination and discharge planning. The goal was to create a linkage between the two categories of evidence to support a future study of the influence that well-skilled case managers can have on the disposition of the most complex long-stay patients.

## LENGTH OF STAY AND CASE MANAGEMENT

The most compelling evidence to link long-stay patient disposition with case management skills was published by Carey et al. (2005) and Doctoroff et al. (2016). Although a great deal of evidence regarding LOS exists, specific studies identifying outlier cases and corresponding linkage to case management influence are less prevalent. Doctoroff et al. (2016) provided supporting evidence regarding the likelihood of long-stay patients to discharge to post-acute facilities supporting enhanced competencies as those dispositions have an additional level of complexity. Carey et al. (2005) concluded that discharge to a post-acute bed (i.e., skilled nursing facility or subacute facility) is more likely to result in delayed discharge and longer LOS, which could be influenced by earlier case management intervention.

Carey et al. (2005) conducted a prospective study of hospitalized patients conducted by 16 senior residents who completed chart reviews on adult patients admitted to the general medicine service of an academic medical center. The study was accomplished by utilizing a previously untested tool developed specifically for the study. The study spanned 2,831 patient-days. The focus of the study instrument was to first determine stability for transfer and then to determine whether there was a discharge delay. If the patient met discharge criteria, then the second phase of the tool would assess and catalogue the type of delay. The authors concluded discharge to a post-acute bed (i.e., skilled nursing facility or subacute facility) is more likely to result in delayed discharge and extended LOS.

The study demonstrated that 13.5% ( $n = 373$ ) of hospital-days captured were avoidable due to delays in service delivery. Of these delays, 63% were due to nonmedical services and most were attributed to post-acute placement barriers. Many of these barriers could have been avoided with case management interventions and earlier mitigation strategies (Carey et al., 2005). The study contributes to the body of knowledge supporting advanced competency education for nurse case managers and discharge planners.

In 2016, Doctoroff et al. conducted a longitudinal cohort study to examine adult patients with long hospital stays (defined as >21 days). The authors utilized the *National Inpatient Sample*, a large inpatient

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database sponsored by the Agency for Healthcare Research and Quality. The study was comprehensive, spanning 11 years' time including all discharge dispositions, outcomes, and hospital characteristics. The study identified that patients with long hospital stays are more likely to be discharged to a post-acute facility rather than discharged home. These findings can be correlated to the outcomes from Carey et al. (2005), who concluded that earlier discharge planning for patients with disposition to a skilled nursing facility would likely result in timelier patient discharge. Synthesizing the results of Carey et al. (2005) and Doctoroff et al. (2016), the studies highlight an opportunity to strengthen case management and discharge planning functions to be more inclusive of medically complex patients.

Although comprehensive, the study conducted by Doctoroff et al. (2016) did have limitations. The comprehensive nature of the study and the longitudinal span of data (2001–2012) are impactful and impressive. However, it is also important to recognize the significance of the 11-year period and the number of regulatory, operational, and cultural shifts in the health care environment occurring during the same period of time. The authors identified a shift in uninsured and underinsured patients as a potential causative factor for the increase in young (45–64 years old) long-stay patients (Doctoroff et al., 2016). As this age group was found to have an increased risk of extended hospital stay, the Medicare-aged population experienced a gradual decline in extended hospitalization. One explanation focused on the discharge disposition options for those patients with intact insurance coverage versus the younger medically complex patients who likely have no benefit for post-acute care. These patients require more innovative discharge planning and advanced competencies from the case management team than patients who have clear disposition and health plan coverage (Nobusch et al., 2010).

## CASE MANAGEMENT ADVANCED COMPETENCIES

There is an abundance of evidence to support nurse case manager education. The CMSA's website and journal *Professional Case Management* is a primary source of evidence endorsing standardized education for case managers. The CMSA has published and made publicly available many tools and reference materials to further the practice of case management. The American Case Management Association (ACMA) has long been invested in furthering the competency and skills of hospital-based nurse and social work case managers. The "Compass" program is an evidenced-based content library with modules and continuing education available to hospitals and health care systems that want to invest in a standardized educational platform (ACMA, 2018).

Current hospital case management onboarding and training are generally focused on discharge planning for patients whose hospital stay is aligned with the expected DRG. This is generally attributed to the heightened focus on efficient disposition and achieving the shortest hospital LOS. In many facilities, the role of nurse case manager has a high vacancy and position turnover rate that keeps education at more of an entry-level practice (Treiger & Fink-Samnick, 2013). The complex patient assessment, planning, and intervention skills essential for successful disposition require advanced competency education.

The best evidence to support competencies for complex patient identification, assessment, and intervention was found in six primary articles. The authors who provided the most in-depth support of the hypothesis are Kim and Soeken (2005), Chiu and Newcomer (2007), Joo and Liu (2016), Joo and Huber (2018), Chow and Wong (2014), and Nobusch et al. (2010).

Nobusch et al. (2010) performed an integrative literature review delving into the interventions performed by bedside nurses in support of case management and how the interrelated team effort improved patient transition to ensure effective discharge planning (Nobusch et al., 2010). They found that bedside nurses, who are most familiar with the patient and family, are the best sources of information regarding patient needs. This was particularly evident for long-stay patients who had been attended to by the same nurses for weeks or months (Nobusch et al., 2010). Working interdependently with the entire health care team is a competency expectation of the high-performing nurse case manager (McKay & Wieck, 2014).

In a retrospective nonrandomized study by McKay and Wieck (2014), the value of collaboration was described as benefitting patient outcomes and cost per case. The authors highlighted the risk of medical errors when a collaborative environment does not exist. The article describes and illustrates the "Donabedian model" for health care collaboration.

The model is a "structure, process, outcome model" that outlines the interdependent nature of care coordination (McKay & Wieck, 2014). The authors evaluated patient mortality, LOS, and cost outcomes for 1,192 cases utilizing the care management model. The results of the study show a strong correlation between case management interventions, improved patient outcomes, and cost of care.

Joo and Liu (2016) performed a systematic evidence review to evaluate effectiveness of case management interventions on hospital utilization and readmission. Ten articles met the inclusion criteria and were analyzed using the Cochrane processes guided by PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statements for reporting results. The findings support the positive impact that effective case management can have on patient outcomes. Three of the 10 studies included showed a definitive positive influence on LOS when effective case management was applied. The remaining results were less definitive but did show some positive correlation between outcomes and case management, particularly when the data were segregated by diagnosis or disease state. All 10 studies identified LOS as a key performance indicator. However, none of the articles specifically called out the long-stay or outlier patient, those patients whose LOS far exceeded the expected LOS (>30 days).

Chow and Wong (2014) addressed case management impact on adult patients with multiple comorbidities. In a randomized controlled trial, 281 elderly patients with two or more comorbidities who had hospital admissions were enrolled in the study. The study persisted over 23 months with a primary goal of analysis of readmission data. The nurse case manager performed a predischARGE assessment to identify interventions and care plan development. The results of the study prove out the value of case manager intervention on patient outcomes. Although LOS was not an independent outcome measure of the study, the focus on nurse case manager level of influence on patient outcomes makes the study relevant for this discussion.

Evaluations of nurse case manager interventions, pre- and postdischarge, influenced overall better perception of health by the participants. A predischARGE assessment was completed for the cohort incorporating the "Omaha system" comprising "problem classification

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scheme, intervention scheme, and problem rating scale for outcomes” (Chow & Wong, 2014). The study utilized standardized patient questionnaires at selected time intervals starting at 72 hr post-hospital discharge. Data collection occurred at the time of discharge (baseline), 4 weeks, and 12 weeks postdischarge. Study conclusions include a positive correlation between case manager intervention and the patient’s perception of wellness and overall health.

Similarly, Kim and Soeken (2005) performed a meta-analysis to evaluate the impact of case management interventions on hospital LOS and readmission rates. Twelve studies were included following an electronic database search. After thorough analysis, the authors identified an apparent lack of definitive available knowledge linking case management interventions with actual outcomes improvement. Although the authors acknowledge plenty of anecdotal evidence, a scarcity of definitive data was available, though the findings did support that case management interventions improved outcomes for patients with specific diagnosis (i.e., heart failure), improving both LOS and readmissions.

The age of the evidence retrieved in the Kim and Soeken (2005) study is a limitation as there are more recent samples now available. The rationale for including the study in this analysis relates to its thorough nature and the opportunity to follow the authors’ path with more current literature. The study design including LOS as a performance outcome is unique and valuable, although somewhat dated. Should the study be replicated now, the outcomes would likely be markedly different. The study identified the importance of early discharge planning to ensure effective disposition for stable patients. The study did not address patients who have extended LOSs and more complicated clinical trajectory but does provide foundational evidence promoting further study.

The positive impact of effective case management was a consistent theme in all the included studies. The evidence supports early intervention as an influence in the timely discharge disposition of medically complex patients who have the longest hospital stays. Patients who have straightforward dispositions and who meet the expected DRG LOS require less intervention as they are often discharged home with family or with

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limited home health support. Contrasted with the outlier population who are more likely to discharge to a post-acute facility with complex care coordination to support the disposition. Patients who have complex psychosocial, financial, and clinical discharge plans require a comprehensive skill set that is not, to date, represented in current case management education.

## CONCLUSION

Utilizing the *Johns Hopkins Nursing Evidence-Based Practice* model with its associated appraisal tools, the evidence was critically evaluated to determine strength and overall quality of the chosen articles (see the Appendix). The tools provide a clear path for analysis to incorporate research into nursing practice. The studies of focus were found to be at Level III with quality ratings of A or B, meaning they were of sufficient depth and strength to support both hypothesis and outcomes. The studies presented here reinforce the need for ongoing analysis of long hospital stays and the impact of effective case management processes. The evidence supports further exploration for large hospital systems to develop advanced competency education for nurse case managers to support the long-stay patient population (Doctoroff et al., 2016).

A lack of standardized competencies and education for nurse case managers and discharge planners creates risk for hospitals and health care systems. Inconsistent and incongruent workflows compromise efficient patient disposition (Joo & Liu, 2016). A gap exists between the task-focused daily work to discharge patients with the shortest LOS and the disposition coordination required for medically

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complex patients with long hospital stays. A focus on creating bed capacity has diminished the priority of longitudinal planning for patient discharge.

Expanded assessment skills for early identification of medically complex patients and interventional tools utilized by case managers will benefit hospital operations, nursing, and, most importantly, patients and families. By expanding the complex patient evaluation to include psychosocial, financial, and benefit evaluation, proactive disposition planning can commence earlier in the patient stay. Complex hospitalized patients require a higher level of intervention at the earliest possible point in their hospital admission. The longer a patient is hospitalized, the more likely the discharge disposition will be transfer to a post-acute facility (Carey et al., 2005). A post-acute discharge disposition requires a higher level of care coordination, which may contribute to delays and avoidable hospital days (Doctoroff et al., 2016). Prevention of avoidable days is a multidisciplinary function that is often “owned” by the case management team (Treiger & Fink-Samnack, 2013).

To ensure success, the case management team must operate with consistent and standardized practices to optimize timely disposition while keeping the patient at the center of their work. Expanded competencies including early recognition of medically complex patients and identification of barriers increase the skill, efficiency, and efficacy of the care team's workflows. Improved workflows can smooth the transition from hospital to the community, setting the complex patient up for a successful discharge and a return to wellness. Whether the disposition be home with home health, a skilled nursing, long-term acute, or rehabilitation facility, the hospitalized patient deserves a professional nurse case management team educated in evidence-based practice with proven competencies and skills.

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## Appendix Evidence Table

Author(s)	Design	Setting	Measurement	Appraisal (Johns Hopkins Tool)
Carey et al., 2005	Prospective cohort study	Acute care hospital	Retrospective chart review	III B
Chiu & Newcomer, 2007	Systematic review	Acute care hospital	Retrospective literature review	III B
Chow & Wong, 2014	Randomized controlled trial	Acute care hospital	Randomized into two study groups with one control group for analysis	III A
Doctoroff et al., 2016	Longitudinal cohort study	National inpatient sample	Logistic regression model	III A
Joo & Huber, 2018	Systematic review	Acute care hospital	Qualitative literature review	III A
Joo & Liu, 2016	Systematic review	Acute care hospital	Data abstraction	III B
Kim & Soeken, 2005	Meta-analysis	Hospital system	Qualitative literature review	III B
McKay & Wieck, 2014	Clinical effectiveness study	Acute care hospital	Retrospective comparison	III B
Nobusch et al., 2010	Integrative literature review	Academic	Qualitative research	III A
Treiger & Fink-Samnick, 2013	Practice proposal	Academic	Education proposition	NA

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DOI: 10.1097/NCM.0000000000000416