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Adopting Complex Case Management Competencies

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Table of Contents

Section I: Acknowledgement

What seemed a herculean task is now coming to a bittersweet end. I have so many mixed emotions as I complete this final paper. Already I am grieving the loss of connection to my cohort who have become close friends. I will forever be grateful for the gift of these amazing women who have inspired me to be my best self.

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Abstract

Improving disposition management of complex hospitalized patients is crucial to the success of acute care facilities. Most hospital patients discharge in less than 5 days, but there is a cohort of complex patients whose length of stay far-exceeds the norm (Centers for Medicare and Medicaid Service Website, n.d.). Today's case managers are focused on patients who are discharging today or tomorrow in order to keep hospital census cycling through. This phenomenon known as "throughput" drives daily operations and is a measure of success. When case managers are faced with complex patients whose length of stay measured in weeks, months, or even years they are not equipped with knowledge and skills to execute on the interventions required. The focus of this project was the identification, development, and application of advanced case management competencies to address the disposition needs of the complex patient.

Incorporating the competency map developed by the Case Management Society of America (CMSA) and corresponding case manager self-assessment in conjunction with additional resources, the project was implemented in a large integrated healthcare system in Northern California. The pre-work was well underway as the system had identified over 100 hospitalized patients spread across 21 medical centers with length of stay greater than 30 days. A small percentage (3%) of this group had a length of stay greater than one year. An analysis determined the patients could be categorized in one of 6 sub-categories: 1. acute/complex 2. psychosocial & financial concerns 3. legal issues 4. long stay by protocol (i.e. cancer treatment) 5. end of life seeking full treatment and 6. stable/no bed available. A team was created to address the unique disposition needs of this patient population. From this work, an analysis determined key competencies for complex patient disposition were missing in the routine work of the

organization's case managers. A resource playbook was assembled as the basis for advanced

competency education incorporating the Case Management Society of America (CMSA)

standard competency self-assessment.

An educational intervention was developed for a pilot in two of the system's acute care

facilities. The intervention included deployment of a four-hour curriculum delivered through an

interactive in-person learning environment collecting qualitative and quantitative data using

formative and summative evaluations. A total of 63 nurse case managers attended the courses

which were delivered in four 1-hour sessions. Of the nurses who participated in the pre and post-

formative surveys, 92% (n=58) strongly agree they gained confidence in their skills managing

complex patient discharges. The results of this evidence-based project demonstrate the

importance of advanced competency education for complex patient dispositions. Additional

outcomes demonstrate the value of a skilled case management workforce leading to successful

patient transitions.

Keywords: case management, hospital length of stay, disposition, acute care

hospitalization, education, competency.

Section II: Introduction

Problem Description

Healthcare spending makes up nearly 18% of the United States' (US) gross domestic product (GDP) and is anticipated to continue to rise as the US population ages (Centers for Medicare and Medicaid Service Website, n.d.). Acute care hospital costs are estimated to be 32% of all healthcare spend (Centers for Medicare and Medicaid Service Website, n.d.). The average length of stay (LOS) in acute hospitals has been decreasing since the Centers for Medicare and Medicaid Services (CMS) instituted the prospective payment reimbursement system (PPRS) in 1983 (Centers for Medicare and Medicaid Service Website, n.d.). The PPRS led to diagnosis-related groups (DRG's) establishing fixed payment assignments based on the diagnosis. Hospitals whose patients remain hospitalized past the DRG do not receive reimbursement for those hospital days resulting in millions of dollars lost revenue.

Despite measures implemented by CMS to reduce unnecessary hospital days, there is a segment of patients who have extremely long hospitalizations. Though a small population, estimated as 2%, this group utilizes approximately 14% of all hospital days and over $20 billion dollars 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 healthcare (Centers for Medicare and Medicaid Service Website, n.d.).

The average length of stay in acute care hospitals (ALOS) is often used as an indicator of efficiency. A shorter stay reduces cost per discharge and shifts care from acute in-patient beds to less expensive, less risky post-acute settings. The ALOS refers to the average number of days that patients spend hospitalized. It is generally measured by dividing the total number of in-patient days in the desired study period by all admissions or discharges in the same time period.

Same-day cases are excluded (i.e. surgery or procedural admissions). The indicator includes all admission for all acute-care cases (adults and maternal-child). Hospitals often further segment this measurement of line of business (adult, over 65, etc.).

Heightened focus on decreasing length of stay has changed the way hospital discharge planners and case managers prioritize their work. As the overall length of stay has decreased, tasks must be accomplished in an abbreviated timeframe with most attention given to patients expected to discharge "today or tomorrow." Patients whose care is more complex 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 is 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, further complications, and can result in higher mortality (Beauchet et al., 2013).

A mature and comprehensive case management department with a highly skilled team is critical to the success in any hospital system (McKay & Wieck, 2014). Joo and Huber (2018) identified five barriers to successful case management: "unclear scope of practice, diverse and complex case management activities, insufficient training, poor collaboration with other health-care providers, and client relationship challenges" (Joo & Huber, 2018). Identification, development, and application of advanced case management competencies to address the disposition needs of the complex patient was the focus of this project.

The case management team must be focused on maintaining successful and efficient hospital admission, and discharge practices commonly referred to as "throughput." Case management processes figure prominently in throughput strategies for acute care hospitals and safe discharge planning for patients as they transition from the hospital to the community (Joo &

Liu, 2016). Alignment of case management workflows with other healthcare disciplines is key

to success. Bedside rounding, complex care conferences, and patient/family meetings are

common practices to support the interdisciplinary case management model (Sminkey, 2016).

While this represents gained efficiencies, it also creates pressure to complete the work of case

management and discharge planning in a shorter timeframe and has pushed the job duties

towards an increasingly administrative task focus.

  Nurses are taught that discharge planning begins with hospital admission and should be a

person-centered process, considering individual needs (Treiger & Fink-Samnick, 2013). Shorter

hospital length of stay has created challenges for today's case managers (Nobusch, Weiss, &

Bobay, 2011). These challenges are most evident in the long-stay patient population. With a

higher illness burden and greater complexity of care comes a higher need for proactive discharge

planning interventions (Ahmed, 2016).

  For this project, complex long-stay adult patients are defined as those with LOS > 30

days (maternal/child excluded). Also measured were patients with lengths of stay from 10-20

days and 21-30 days. These lower census categories are leading indicators to predict the longest

stay patients. 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 a need for

proactive disposition identification (Salentiny Wrobleski et al. 2014). Current workflows

necessitate efficiency and have created a discharge planning vacuum for the long-stay patient.

Those patients whose acuity or complexity necessitates a longer hospitalization will often be

overlooked in daily discharge planning rounds when their disposition is anticipated to be days or

weeks in the future. When a workflow becomes compressed, there can be a lack of attention paid

to the patients who fall outside the usual length of stay pattern (Doctoroff, HSU, & Mukamal, 2016). The complex, outlier cases were the focus of this project.

PICO(T) Question

In an identified cohort of RN case managers (P), how will the provision of advanced case management competency education (I), compared to no education intervention (C) improve case management self-assessment scores in the CMSA competency tool (O) within three to six months of intervention implementation (T)?

Available Knowledge

Guided by the PICO(T) question, a systematic search strategy included the following electronic databases: Cochrane, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and PubMed. The following limiting filters were applied: English language, date ranges 2000-2018, and adult population. Search keywords used: *acute hospital, hospitalization, long-stay, length of stay, case management, discharge planning, patient outcomes, cost, competencies, nurse education, hospital cost, and healthcare cost.* Evidence was reviewed utilizing the Johns Hopkins *Research Evidence Appraisal Tool* to critically appraise and screen selected articles of the more than 500 articles meeting the criteria. The evaluation of the evidence revealed high quality and strength of available research. Full-text reviews were conducted of 54 articles. The evidence list was further limited to 21 peer-reviewed articles and substantive reference materials based on relevance to the PICO(T) question for inclusion in the final study.

Critical Appraisal Summary

Evidence was reviewed for two categories: the first category of analysis focused on the evaluation of long-stay hospitalized patients and the value of case management interventions. The second category of evidence considered case management competencies and advanced skills

for care coordination and discharge planning. The goal was to create a linkage between the two categories of evidence to support the project and development of a case management competency skill set focused on complex patients with long hospital stays.

The strongest evidence to link long-stay patients with case management interventions was published by Carey et al. (2004), Lim et al. (2006), and Doctoroff, Hsu, and Mukamal (2016). While a great deal of literature regarding length of stay exists, specific studies identifying long-stay outlier cases and corresponding linkage to case management influence were less prevalent. Simonet et al. (2008) and Volpato et al., (2014) 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. All the reviewed articles' authors agree the more complex disposition planning requires a higher skill-set and advanced education.

Carey et al. (2004) concluded that discharge to a post-acute bed, (i.e. skilled nursing facility or sub-acute facility), is more likely to result in delayed discharge and longer length of stay. Early identification of discharge barriers in complex patients will improve the likelihood of the patient discharging once the medical condition has been stabilized (Carey, Sheth, & Braithwaite, 2004). This idea is substantiated by Doctoroff, Hsu, and Mukamal (2016) in their longitudinal study providing one of the broadest studies of length of stay trends. Readiness for discharge and effective case management are determinants for timely disposition (Lim, Doshi, Castasus, Lim, & Manum, 2006).

Evidence to support the value of nurse case manager competency was easily found. However, drilling into specific competencies related to complex patients, length of stay, and discharge disposition required additional filters and study. The authors who provided the most

in-depth analysis were Chiu & Newcomer (2007), Henning & Cohen (2008), Joo & Liu (2016), Joo & Huber (20189), Ka & Kam (2013) and Nobusch, Weiss, & Bobay (2011). Additional literature was discovered to further support progressive competency development and the adoption of sustainable models for education. McKay and Wieck (2014) described the Clinical Integration Model (CIM), a collaborative design promoting a high level of interdisciplinary collaboration. The study identified standardized education and competencies as a vulnerability for high performing organizations.

Evidence supporting purposeful case management interventions and their value to healthcare organizations is a topic with increasing research. Focus on "wraparound" services, those services that can provide linkage in all venues of care, require specific knowledge about community resources and integrated services to ensure the level of care transitions are optimized (Zander, 2010). Zander goes on to describe 10 basic interventions to support patient transitions and to prevent hospital readmissions. These interventions require a skilled case management team with training and resources and are consistent with the CMSA competencies utilized for the project.

Rationale

Early in 2015, senior leaders in a Northern California integrated healthcare system recognized a growing census of patients with hospital stays over 30 days. The census numbered more than one hundred patients and was distributed across Northern California (Appendix A). Some of these patients had extremely long stays numbering in years rather than days. A focused assessment of the long-stay patient population was begun to better understand and explain the outliers. The assessment demonstrated patients with long hospital stays require a different case management focus inclusive of extensive proactive planning and mitigation of barriers to

successful transition. With long-stay patients distributed across Northern California, a need for

focused intervention was identified.

To meet the identified need, an "Extended Length of Stay" (ELOS) team was established

in the Fall of 2015. The initial goal of the regional team was to impact the disposition of patients

whose length of stay exceeded 30 days. During the first year, with the team's influence, the

number of long-stay patients was dramatically reduced by 40% (Appendix A). Subsequent years'

results are less dramatic but continue a downward trend. Over time, the team's workflow has

become more intent on complex patients regardless of the length of stay. This evolution has

identified the need for advanced competencies for front-line case managers who have the

primary responsibility for early disposition planning and identification of potentially complex

discharges. Complex dispositions requiring innovative interventions are best identified early in

the stay setting the patient up for successful discharge when clinically appropriate (Joo & Huber,

2018). Ostensibly, if all case managers have developed advanced competencies, all patient

throughput would benefit driving reduced hospital days due to disposition delays. This is a

collateral measure of success for the project.

Discharge disposition barriers become more apparent the longer a patient remains

hospitalized (Lim, Doshi, Castasus, Lim, & Manum, 2006). Expanding the competency for early

identification of complex patients will create a higher level of knowledge for the case

management team and improve patient outcomes by eliminating barriers to disposition as early

in the stay as possible. Reduction of extended hospital stays most benefit the patient who is

spared the risk of long hospital stay and the associated negative sequelae (Carey et al., 2004).

Rogers' conceptual framework to support the implementation of an advanced

competency education program had tremendous implications for nursing practice in the areas of

case management and discharge planning. Rogers' theory of diffusion of innovations provided a

framework for evidence review and project implementation while considering individual

characteristics of both staff and organizational units. The theory identifies five factors that

influence adoption: relative advantage, compatibility, complexity, "triability, and observability"

(Rogers, 2003). By integrating Rogers' "five adopter" characteristics into the project

deliverables, the framework helped anticipate and mitigate barriers and challenges that may have

been roadblocks to success.

Guided by Rogers' theory, each phase of the project was designed to consider all

audiences with tailored communication and training strategies incorporated into all phases of

adoption. Theoretical strategies for implementation of practice change for organizations were

applied to each project phase initiation. The framework assisted in identifying characteristics of

the organization and supported adoption of the evidence-based practice change. Rogers' theory

provided clear steps to operationalize innovation among a large cohort of case management staff

in a large hospital system.

Aim Statement

By December 2019, this project will improve the competency and skill set of an

identified cohort of case managers at two different acute care facilities in Northern California.

The specific knowledge improvements will be evident in the case manager's ability to identify

discharge disposition needs and barrier mitigation strategies for complex patients evidenced by

improved self-assessment scores. Key performance indicators are comparisons between pre and

post-education long-stay patient census in the two pilot hospitals.

Section III: Methods

Project Context

The scope of this evidenced-based project included cohorts of case managers from two Northern California hospitals belonging to a large integrated healthcare system. Facility 1 (FAC 1) is a level 2 trauma center located in Vacaville, California, with 140 licensed beds and an ADC of 85. Facility 2 (FAC 2), located in Redwood City, California, is a comprehensive stroke center with 130 licensed beds and an ADC of 80. Both facilities are recognized by The Joint Commission on Accreditation of Healthcare Organizations and have stroke center of excellence status. The chosen facilities were remarkable in that both case management teams were mature with stable leadership who had more than two years in their role. Turnover in the case management role was similar in both facilities (8% FAC 1, 9% FAC 2).

The care coordination departments of each facility have similar leadership structures. A nursing director has primary oversight of the case management team supported by a manager and shift supervisors. The departments ultimately report to the Chief Operating Officer at each facility. Education, on-boarding, and orientation are coordinated from a centralized regional team in collaboration with local preceptor oversight. The regional team approved this evidence-based project for advanced competency education and the project statement of determination (Appendix P). The project plan was also shared with the facility care coordination directors prior to implementation. Following stakeholder approval, the project followed the timeline as described in the Gannt chart (Appendix D).

Scheduling of four one hour in-person teaching sessions presented some challenges and opportunities for flexibility. After collaborative dialogues, the decision was made to incorporate the advanced competency education program into the existing staff meeting structure. This

coordination allowed for maximal efficiency and least disruption into daily department operations.

Intervention

An analysis of the project's strengths, weaknesses, opportunities, and threats (SWOT) was completed (Appendix C). The goal of the SWOT analysis was to identify strengths and weaknesses internal and external to the organization. The internal variables required a focus and awareness of what levers could be used for mitigation. The external factors required awareness but offered little to no intervention opportunity. The strength of the project was found within the integrated delivery system. Weakness was also attributed to the system due to the complexity and size which can become a barrier to success.

A gap analysis (Appendix B) identified the difference between current practice and proposed ideal state. This gap informed the project plan and areas requiring focus. The project goal was to take best practice information from the ELOS Playbook combined with the Case Management Society of America (CMSA) recommendations for case management competence and create an advanced competency education program focused on the identification of complex patients and the unique case management and discharge planning interventions required. Incorporating evidence-based practice guides established a broader foundational baseline for case management education (Joo & Huber, 2018). Case managers with proper training and competencies are positioned to identify barriers and opportunities early in a patient's hospitalization allowing for intervention to ensure proper and timely patient disposition. Effective and efficient patient-centered discharge planning can facilitate successful transition from hospital to the post-acute environment (Nobusch et al., 2011).

CMSA has established 7 essential domains of the case management process described in the CMSA knowledge framework (Appendix G). Seven domains are further broken down into sub-domains and are captured in the essential competencies required for the hospital case manager ("Case Management Society of America," 2010). Incorporating the ELOS Playbook with CMSA tools is the basis for advanced competency development. The educational curriculum reflected the competencies in modules for study categorized under the domain and sub-domain structure (Appendix G).

Following recommendations from Martinelli and Milosevic (2016), the GANTT chart (Appendix D) and work breakdown structure (WBS) (Appendix E) provided a high-level road map to project completion defining milestones while breaking the project into achievable objectives. The tools describe responsibility and communication needs as well as key stakeholder identification. The Gantt chart is divided into 3 phases of project oversight: assessment, implementation, and evaluation. Each phase was assigned a timeline for completion which was adjusted for scheduling variation with just in time changes. The timelines were shared with the steering committee and allowed for celebration as milestones and deliverables were achieved.

Study of the Intervention

An extended length of stay (ELOS) playbook was developed by this author and the regional complex patient placement team to spread best practices and share successful workflows. The playbook will continue to evolve with lessons learned and found opportunities with resources updated quarterly. At the core of daily work, it is an important tool and key deliverable for the healthcare system. It is an educational resource supporting the project and provided to all case manager participants as a reference guide.

Each participant in the education intervention also received the CMSA "Standards of

Practice for Case Management" (CMSA, 2016). The standards tool was utilized as both

reference and practice guidebook. Establishing the standards as the baseline for the practice of

professional nursing case management set a level playing field and allowed for clear

expectations and standard work. During the introductory class, an informal poll discovered none

of the participants had ever reviewed the standards. This became a focused discussion and was

brought forward in each class as both foundation and a guideline for practice.

Incorporating the Case Management Society of America (CMSA) self-assessment tool,

the cohort of case managers evaluated their skills by performing a pre-test. After scoring, the

nurses participated in an advanced competency education curriculum that satisfied competency

development recommendations from CMSA. Integrating the case management competency grid

and the ELOS Playbook, the educational modules were presented during in-person training. A

post-test was administered following the instruction, and analysis was performed to determine

efficacy of training.

Using the CMSA established competency grid and self-assessment tool as the foundation

for complex skill assessment and gap analysis, the curriculum established a sustainable advanced

competency program. As a supplement to the existing regional case management onboarding,

orientation, and educational structure, the education will be incorporated at the local hospital

level. Education for case managers must be an iterative process and requires a dynamic oversight

process (Smith & Larew, 2013).

The curriculum was presented as four education sessions for acute case managers within

care coordination departments in two hospitals. The program was developed after careful review

of the available evidence, and permissions were obtained from CMSA to include the competency

self-assessment, case management lexicon, and core competency set. The ELOS Playbook

reference topics were synthesized into key objectives and were supported by the didactic

materials provided to the attendees.

The education was constructed with four primary topic agendas: an introduction to the

idea of complex patient disposition, legal/ethical concerns, psychosocial/benefit issues, and

wrap-up session. Each session consisted of a didactic power-point with key learning objectives

followed by a question and answer period. All questions were catalogued and reviewed with the

attendees. Action items were identified for follow-up.

The introductory class established a foundational understanding of the project purpose

and asked the attendees to complete the CMSA competency self-assessment. The assessments

were collected at the end of the session, and all answers were tabulated for comparison with the

post-assessment scores. An electronic demographic survey was also assigned at the initial class.

The survey consisted of questions regarding years of nursing experience, case management

experience, categories of challenging dispositions, and other demographic data elements.

Measures: Resource Requirements and Budget

The primary resources required for the project were clerical support, instructor

preparation time, and class facilitator hours. Clerical functions were primarily data management

and administrative support duties. Instructor and facilitator hours supported the program

implementation. Initial budget and resource approval were received from health system

leadership and included time for the pre and post-test as well as participation in a 4-hour class

(Appendix H). For future implementation, these hours will be folded into existing education

hours for the case management team. The competency program will ultimately become part of

the required education for all case management staff. For the project purpose and as introduction,

the health system leadership approved integration of the advanced competency set into the

quarterly oversight group meetings and in focused educational offerings.

Supporting an education program involves the use of non-productive staffing time and

the ability to flex schedules to allow staff to attend educational presentations. This can be a

challenging proposition where education hours are jealously guarded for all organizational

initiatives. Negotiating the use of education time to accomplish the required learning is one

strategy, as well as incorporating education into existing staff meetings and in-services.

Return on investment (ROI) for the project was based on cost avoidance. Reducing the

length of stay for complex patients can save the organization millions of dollars per year. For the

purpose of this analysis, the complex patient population is defined as those with a length of stay

greater than 10 days, further categorized in 10-19 day, 20-30 day, and 31+ day LOS categories.

Baseline measures for the pilot facilities were collected to determine the opportunity. The

average hospital cost per day was used to determine the cost avoidance opportunity based on an

estimated savings of 0.5 day LOS in each census category for each of the chosen facilities. The

cumulative LOS savings is 2.0 days. Annualizing this savings per year equates to a cost

avoidance of $2.5 million for the two study facilities (Appendix J).

Analysis

Baseline case management competency assessment scores were obtained prior to the

educational intervention. The scores were compared with the post-education scores to determine

the degree of knowledge improvement. The pre and post-assessment surveys were accomplished

utilizing the Survey Monkey online survey tool incorporating the established case management

competency scoring system adopted from the CMSA evidence-based case management tool-kit.

The four-point scoring system was embedded into the online survey to yield measurable results.

The difference between the pre and post-test scoring determined the degree to which the case managers were able to assimilate the education to advance their competency.

A program evaluation was delivered via survey monkey to gain feedback on the effectiveness of the educational program delivery. Feedback was considered and informed edits needed prior to system-wide spread. The questionnaire was developed with objective and subjective questions as well as free text "other" categories. Verbatim comments were catalogued for future study and program inclusion. Following evaluations for both efficacy of education and appropriateness of program delivery, additional education sessions will be scheduled with a timeframe for organizational spread over 6 months' time.

Utilizing the data evaluation table (Appendix K) and course evaluation tool (Appendix L), the analysis was completed of the pre and post-education self-assessment to determine change in scoring as the primary evaluation for educational outcomes. In addition to the education completion data, demographic information was also collected and analyzed to forecast potential future education needs as well as establish a baseline database of case management experience and knowledge level. Verbatim comments regarding the efficacy of the education were also collected in course evaluation surveys at the end of each training event. The course evaluations inform the style of teaching methods desired and determine if any edits are necessary prior to full implementation. The ultimate outcome will be realized over time as the case managers incorporate the advanced competencies in identifying and managing complex hospitalized patients.

Outcome Measures

Key performance indicators (KPI's) for the project were the gained improvements on scores obtained from the pre and post-skills self-assessment and the scoring on the post-

education evaluation. These KPI's are the concrete outcome measures for reporting and determining project efficacy prior to spread to the remainder of the organization's facilities.

Scoring utilizing a *Likert Scale* to collate and analyze the data determining statistically significant responses based on the measure of improvement pre and post-education delivery. Additional measurable outcomes will be realized over time as the educational program for case management spreads. A more skilled workforce with corresponding increased job satisfaction will be realized over time and well-past the completion of the project.

Improved complex patient discharge disposition and hospital throughput is the ultimate outcome measure for the project and will be tracked over time. Project data demonstrates the comparative length of stay improvements for complex patient populations from the two pilot hospitals. Complex long-stay adult patients are defined as those with LOS > 30 days (non-maternal/child). Also measured were patients with lengths of stay from 10-20 days and 21-30 days. Data were collected pre and post-intervention A causal result post project was evaluated and found to require more study with promising preliminary results.

Ethical Considerations

Ethical standards are woven through the tenets of all professional nursing organizations. The American Nurses Association (ANA) describes the nurse's ethical responsibility in its 2015 *Code of Ethics for Nurses.* Incorporating 9 provisions of nursing ethics, the code explicitly states that the nurse "advances the profession through research and scholarly inquiry…" (American Nurses Association, 2015, p. 27). In 2010, the American Organization of Nurse Executives (AONE) also emphasizes this standard by stating that "nurses lead in providing clarity to patients in a complex healthcare setting" (American Organization of Nurse Executives, 2010, p. 1). Both

standards are key statements supporting the work of developing, researching and using evidenced-based practice in nursing.

The Case Management Society of America recognizes the ethical considerations inherent in care coordination and transitions of care. A key competency for nurse case managers is the ability to recognize unethical practices and know where and how to report them (Case Management Society of America, N.D.). Regulatory compliance and ethical practice are a cornerstone of care coordination and case management. Keeping these tenets at the center of patient care coordination and advanced competency education is a priority for the advanced competency education program.

The inclusion of ethical considerations in the advanced competency education is consistent with the University of San Francisco Jesuit values embracing person-centered care (University of San Francisco Core Values, 2015). For nurse case managers and discharge planners, a patient-centered approach is essential. Providing education in an environment promoting optimal learning and ensuring the needs of the participants are met with support and assurance is consistent with the instructional paradigm of the University of San Francisco.

Ethical issues to be considered in a competency assessment, education, and implementation model relate to the accountability for organizational and department training. Onboarding and ongoing competency updates are critical to sustainability of any change expected to result from education. Ethical considerations related to case management requirements to assess code status and determinations of durable power of attorney, advanced healthcare directives, and goals of care conversations will be addressed in the education domains' curriculum development. No other ethical considerations have been identified.

A "Statement of Non-Research Determination" (Appendix O) was submitted and approved, confirming the project was an evidence-based change is practice and not considered research. Therefore, the project did not require submission to the "Institutional Review Board" (IRB).

Section IV: Results

Successful learnings from the educational intervention resulted in improved confidence/competency for all the case managers who participated in the training, completed the self-assessment and course evaluations. The percentage of improvement for self-assessment scores was 8% for both hospital cohorts (Appendix K). The most improved scores were evident in the domain of psychosocial aspects of care. Reflecting on the open discussion during the classes, issues around mental health and psychosocial issues were most prevalent and seen as most problematic for complex patients. Adding additional resources and case studies to the training will support this finding. Additional opportunities for further education in the domains of healthcare management and systems delivery is another area for teaching expansion as evidenced by the data collected (Appendix L).

Collateral benefit and additional success measures were evident in the overall length of stay for complex long-stay patients in the two pilot medical centers. Improvements were evident in all categories of LOS (10-20, 21-30, and 31+). Facility one saw an overall reduction in all length of stay categories studied. Facility two also saw a progressive downward trend in ADC of long-stay patients.

Section V: Discussion

Summary

Sustainability of an education program in a healthcare system will require commitment from senior leaders as well as middle managers who are tasked with the logistical challenges of ensuring all case management staff are properly trained. The work breakdown structure (Appendix E) and the responsibility matrix (Appendix F) identify key stakeholders with whom periodic communication and status reports were expected. Accountability for frequent leader updates supported the schedule to ensure the project followed the projected timeline (Appendix D). A feedback system was also established to gauge the degree to which the knowledge translated to practice effectively and is retained. Hardwiring an audit process that was "baked-in" to the routine workflow was an important measure in sustainability. The long-stay patient population was a leading indicator of case management success and efficacy.

Interpretation

The development of an advanced case management curriculum incorporating best practice competencies to further the knowledge base for case managers is essential to the success of acute care facilities. Patient throughput and timely disposition are mission critical for acute care facilities. The skill with which hospital case managers accomplish their work requires attention and purposeful education for the team. Acute care hospitals continue to have an increased focus on length of stay as a measure of success. Length of stay is directly related to the case management department whose level of functioning determines success (Zander, 2010). This project established evidentiary support for moving advanced competency training into the educational requirements for the case management team.

Limitations

Project limitations can be attributed to the structure, culture, and matrixed design of the healthcare system. At the micro level, the project was limited by the relatively small size of the cohort and that no control study was run in parallel. This limits knowledge of the statistical significance of the practice change. However, it should be assumed that any positive change in n length of stay for complex patients or improved case management knowledge has organizational value. Further study as the program is spread comparing results of those facilities who have yet to deploy the training with those who have fully implemented would prove the efficacy of the program.

Deployment of a comprehensive, advanced competency education program in a large healthcare system is a daunting task. The complex nature of the organization is compounded by existing variances in practice, leadership, and support systems. Additionally, the turnover and vacancy rates of case managers would indicate a need to offer frequent training, which could create a challenge for sustainability. Rapidly evolving priorities and initiatives create an environment where many groups are competing for education time with the case managers. One mitigation strategy would be to explore electronic tools and web-based training platforms to make training more readily available for orientation and remediation.

Another mitigation strategy to ensure a sustainable program is to provide adequate resource manuals at all medical centers. Frequent check-ins by the regional ELOS team would support ongoing competency development and provide a point of care support. A leading indicator pointing to slippage or a need to provide re-training would be the average daily census of long-stay patients by medical center. The ELOS census is reported each day and is tracked in

monthly and quarterly reporting. Using this information as a guide, baseline data would be

established and serve as a benchmark to gauge success and guide further mitigation strategies.

Conclusion

The key to achieving and sustaining competencies will be actualized by continued

support and education for the case management team, promoting adherence to the expected

standards of practice and skill set. Expected spread to other Northern California system medical

centers will result in a more competent and prepared case management workforce, including a

collateral benefit of cost avoidance on a large scale. Ultimately the beneficiaries of improved

case management competencies are patients, and the communities served.

There is clear evidence to support the need for advanced competency education for case

managers and discharge planners in acute care hospitals. Inefficient and incongruent workflows,

coupled with non-standardized competencies create risk for the organization and compromise

patient throughput (Joo & Liu, 2016). This project addressed development and implementation

of a standardized advanced competency. With an initial cohort of case managers to validate the

training methodology and delivery, the program was evaluated with feedback from the attendees

as well as senior leaders. The program will now be considered for spread to all system NCAL

case management staff with follow up monitoring and adjustment.

The opportunity to expand the skill set of the case management team with evidence-based

advanced competencies creates a platform to affect both patient care and patient experience.

Purposeful planning with a sustainable education program to assess competency and address

gaps can improve care delivery to ensure complex patients are successfully transitioned upon

stability for transfer. This project endeavored to incorporate evidence-based competency

utilizing the CMSA case management competency grid and self-assessment as well as the

standards of practice tool. As a basis for the professional practice of case management, it is

crucial the case manager is aware, informed, and empowered to fulfill their accountability to the

organization, patients, peers, and themselves.

Data demonstrates the length of stay in US hospitals to be at a historical low and trending

downward (Centers for Medicare and Medicaid Service Website, n.d.). The heightened focus on

affordability keeps LOS top of mind for hospital leaders. As regulatory agencies link

performance to payments with increasing rigor, proper patient transitions become more

important to ensure organizational viability. Standard case management and discharge planning

interventions meet the needs of most patients whose clinical needs can be met within the

assigned diagnosis-related groups (DRG's). Patients with high illness burden whose hospital stay

fall outside the DRG are more likely to transfer to a post-acute facility and require a higher level

of case management (Lim et al., 2006). A high turnover of case managers combined with high

vacancy rate creates an environment in need of a structured, sustainable education program. This

project created such a program demonstrating an improvement in the competence and

confidence of the professional nurse case manager whose work touches the lives of many

patients every day. Optimizing their skill set with advanced competencies for complex patient

identification empowers the team to deliver their best care every day.

References

Ahmed, O.I. (2016, May-Jun). Disease management, case management, care management, and

    care coordination: a framework and a brief manual for care programs and staff.

    Professional case management, 21(3), 137-146.

    https://doi:10.1097/NCM00000000000000147

References

American Nurses Association. (2015). Nursing informatics: Scope and standards of practice.

      Retrieved from https://www.nursingworld.org/nurses-books/nursing-informatics-scope-

      and-standards-of-practice-2nd-ed/

Beauchet, O., Launay, C., De Decker, L., Fantino, B., Kabeshova, A., & Annweiler, C. (2013).

      Who is at risk of long hospital stay among patients admitted to geriatric acute care unit?

      Results from a prospective cohort study, *17*(), 695-699. Retrieved from 0-

      web.a.ebscohost.com.ignacio.usfca.edu/ehost

Carey, M. R., Sheth, H., & Braithwaite, R. S. (2004, February 1). A prospective study of reasons

      for prolonged hospitalizations on a general medicine teaching service. *Journal of General*

      Internal Medicine, 108-115. https://doi.org/10.1111/j.1525-1497.2005.40269.x

Centers for Medicare and Medicaid Service Website. (n.d.). www.cms.gov

Chiu, W. K., & Newcomer, R. (2007, November-December). A systematic review of nurse-

      assisted case management to improve hospital discharge transition outcomes for the

      elderly. *Professional Case Management*, 12(6), 330-336.

      https://doi.org/10.1097/01.PCAMA.0000300406.15572.e2

Doctoroff, L., Hsu, D. J., & Mukamal, K. J. (2016). Trends in prolonged hospitalizations in the

      United States from 2001 to 2012: a longitudinal cohort study. *The American Journal of*

      Medicine, *130*(), 483.e1-483.e6. Retrieved from https://0-www-sciencedirect-

      com.ignacio.usfca.edu/

Henning, S. E., & Cohen, E. L. (2008,). The competency continuum expanding the case

      manager's skill sets and capabilities. *Professional Case Management*, *13*(3), 127-148.

      https://doi.org/10.1097/01.PCAMA.0000319966.30864.bf

Holland, D. E., Brandt, C., Targonski, P. V., & Bowles, K. H. (2017, Sep/Oct). Validating

performance of a hospital discharge planning decision tool in community hospitals. ,

22(5), 204-213. https://doi.org/DOI:10.1097/NCM.0000000000000233

Institute for Healthcare Improvement website. (n.d.). www.ihi.org

Joo, J. Y., & Liu, M. F. (2016, June). Case management effectiveness in reducing hospital use: a

systematic review. *International Nursing Review*, *64*(2), 296-308.

https://doi.org/http://dx.doi.org/10.1111/inr.12335

Kaiser Permanente workforce report. (2017). Retrieved from kp.org/hr/workforce.dashboard

Lendburg, C. B. (2005). The competency outcomes and performance assessment model applied

to nursing case management systems. In *Nursing case management: From essentials to

advanced applications* (pp. 263-276). St. Louis, MO: Elsevier Mosby.

Lim, S., Doshi, V., Castasus, B., Lim, J., & Manum, K. (2006, January). Factors causing delay in

discharge of elderly patients in an acute care hospital. *Annals Academy of Medicine*, *35*(),

27-32. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/16470271

Martinelli, R. J., & Milosevic, D. Z. (2016). *Project management toolbox* (2nd ed.). Hoboken,

New Jersey: John Wiley & Sons, Inc.

Nobusch, J. M., Weiss, M. E., & Bobay, K. L. (2010, March). An integrated review of the

literature on challenges confronting the acute care staff nurse in discharge planning.

Journal of Clinical Nursing, 20(5), 754-774. https://doi.org/10.1111/j.1365-

2702.2010.0357.x.

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York, NY: Simon and Schuster.

Salentiny Wrobleski, D. M., Joswiak, M. E., Dunn, D. F., Maxson, P. M., & Holland, D. E.

(2014, March-April). Discharge planning rounds to the bedside: A patient and family

centered approach. *MEDSURG Nursing*, *23*(2), 111-116. Retrieved from

   http://web.b.ebscohost.com/ehost/detail/detail?vid=6&sid=679fb893-5c00-4db6-aaaf-

   63922a724ac2%40sessionmgr103&bdata=JkF1dGhUeXBlPXNzbyZzaXRlPWVob3N0L

Simonet, M. L., Kossovsky, M. P., Chopard, P., Sigaud, P., Perneger, T. V., & Gaspoz, J. (2008,

   July 22). A predictive score to identify hospitalized patients' risk of discharge to a post-

   acute care facility. *BMC Health Services Research*, 1-9. Retrieved from https://0-www-

   sciencedirect-com.ignacio.usfca.edu/

Sminkey, P. V. (2016, July/August). The case manager's "touchstone": The code of professional

   conduct. *Professional Case Management*, *21*(4), 207-208.

   https://doi.org/10.1097/NCM.00000000000170

Smith, A. C., & Larew, C. (2013, July/August). Strengthening role clarity in acute care nurse

   case managers. *Professional Case Management*, *18*(4), 190-198. https://doi.org/doi:

   10.1097/NCM.0b013e3182901f5d

Standards of practice for case management. (2010). Retrieved from

   http:www.cmsa.org/portals/0/pdf/memberonly/StandardsOfPractice.pdf

Standards of practice for case management (4th ed.). (2016). Little Rock, AR: Case

   Management Society of America.

Treiger, T. M., & Fink-Samnick, E. (2013). Collaborate: A universal competency-based

   paradigm for professional case management, part 1: Introduction, historical validation,

   and competency presentation. *Professional Case Management*, *18*(3), 122-135.

   https://doi.org/10.1097/NCM.0b013e31828562c0

Volpato, S., Bazzano, S., Fontana, A., Ferrucci, L., & Pilotto, A. (2014, September 9).

   Multidimensional prognostic index predicts mortality and length of stay during

hospitalization in the older patients: a multi-center prospective study. *Journal of*

Gerontology: MEDICAL SCIENCES, 325-331. https://doi.org/10.1093/gerona/glu167

Zander, K. (2010,). July/August. *Professional Case Management*, *15*(4), 188-199.

https://doi.org/http://dx.doi.org/10.1097/NCM.0b013e3181e26a80

Appendix A: NCAL Regional Long-Stay Trend

- Improved discharge disposition with expanded case management focus and competencies
- Established work shows improvement over time with assistance from regional team
- Basis for the project to create sustainable front line education

Extended Length of Stay (ELOS) Reduction

Placement of Complex/ELOS Patients
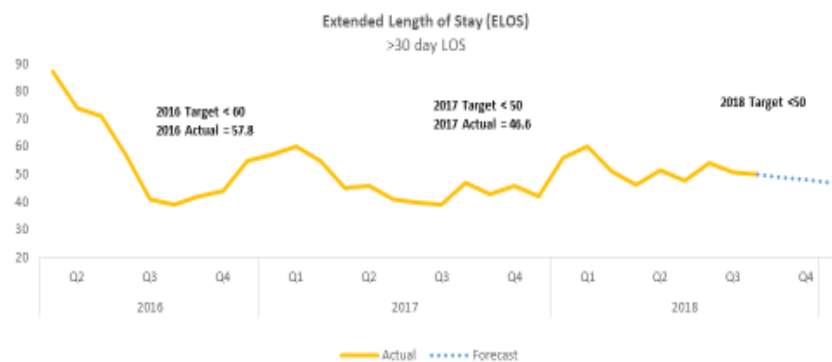
ELOS Key Actions:

1. Placement Team focus on complex cases and ELOS
2. Expanded Placement Team to provide Medical Center Team support.
3. Placement Team engaged with SNF Partners to facilitate throughput of all patients (members and non-members)

Appendix B: Gap Analysis

Case Management Ideal Workflow and Competency	Current Practice
• Identification of patients at risk for complex disposition through the intake and assessment process.	• Insufficient knowledge to identify risks to disposition in current practice
• Case management staff inform multi-disciplinary rounds with pertinent patient info	• Case managers often unable to inform on complex patients
• Patients who have been identified as complex receive more intense focused interventions	• Complex patients not recognized early in the hospital stay
• Need for post-acute referral is accomplished in a timely and efficient manner	• Referral to post-acute facility often delayed
• Determines patient's status and benefit level anticipating the need for exploration of additional benefits as needed	• No standardized understanding or education regarding benefits
• Targeted multidisciplinary and nursing interventions to improve the likelihood of patients discharging on the day of stability	• Inconsistent interventions and actions supporting post-acute needs
• Facilitates coordination, communication and collaboration to achieve patient treatment plan goals to promote successful disposition.	• Patient care plans often not in sync with clinical picture with inaccurate information regarding discharge disposition.

Appendix C: SWOT Analysis

Strengths Internal	Strengths External	Weakness Internal	Weakness External
• Availability of subject matter experts • Senior leader support • Availability of resources	• National case management organization supports expansion of education • Focus on length of stay and readmissions support CM education and role expansion	• Case manager turnover avg 8% • Vacancy rate 10% • Competing priorities • Decentralized model • Variance in hospital workflows	• Changing healthcare environment creating competing priorities for hospital systems • Availability of post-acute disposition opportunities at risk
Opportunities (Int)	Opportunities (Ext)	Threats (Int)	Threats (Ext)
• Large integrated healthcare system with significant resources	• Align with best practice nationally	• CMs newly union represented • Expansion of roles may require bargaining with union?	• Diminishing reimbursement creating pressure to accelerate • Underinsured/uninsured patient numbers likely to increase • Large integrated healthcare system can create communication barriers due to the highly matrixed structure

Appendix D: Gantt Chart and Timeline

Project Timeline

Task(s)

Start Date	End Date	Description
10/1/2018	10/15/2018	Prospectus Due to advisor
10/16/2018	10/31/2018	Manuscript Due to publisher
11/1/2018	12/15/2018	Prospectus Approval with edits as needed
11/16/2018	11/30/2018	Pre-assessment validation with Regional Complex Team
12/1/2018	12/15/2018	Establish baseline competency tool kit
1/1/2019	1/30/2019	Identify PCC cohort for pre-assessment
2/1/2019	2/9/2019	Develop PCC curriculum and share with stakeholders
2/10/2019	2/20/2019	Administer pre-education self-assessment to PCC cohort
2/21/2019	2/28/2019	Compile initial survey results
3/1/2019	4/30/2019	Provide complex patient competency education to PCC cohort
5/1/2019	5/31/2019	Administer post education self-assessment
6/1/2019	6/30/2019	Compile data and perform analysis
7/1/2019	7/31/2019	Socialize results, provide additional education as supported by the results
8/1/2019	9/30/2019	Solidify competency tool kit and long-stay patient playbook as on-going PCC education materials

PROJECT TIMELINE: ADVANCED CASE MANAGEMENT COMPETENCY INTEGRATION
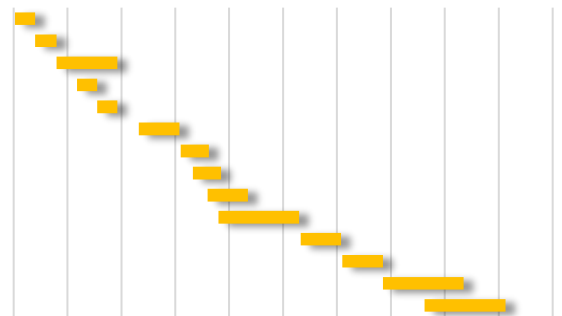
Appendix E: Work Breakdown Structure

Complex Case Management Competency Education

Project Process

- Hypothesis Development
- Evidence Search
- Tool Identification
- Cohort Identification
- Testing data retrieved

Leadership Support

- KP Executive Sponsorship
- KP Regional Stakeholder Engagement

Project Development

- Self-Assessment Tool Selection
- Identification of SME's
- RN CM Pre-Assessment

Project Toolbox

- Selection of Tools
- Operational Workflow Development

Project Implementation

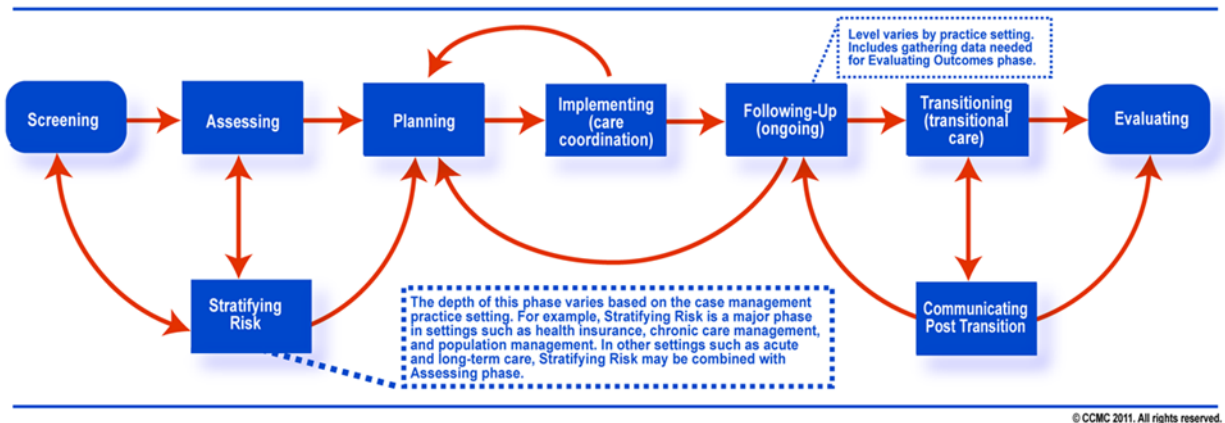- Rogers theory
- Follow Project Management Timeline

Appendix F: Responsibility/Communication Matrix

Roles	Responsibilities
Resource Management Vice President	• Understand and support advanced competency set for case managers
Resource Management Director	• Support case management advanced education and assist with coordinated plan to disseminate • Act as liaison to the service area leadership
Regional Director	• Lead the advanced education competency team with strategic leadership • Provide key communications and updates to stakeholders
Regional Complex Care Coordinators	• Serve as subject matter experts • Provide educational sessions • Assist with data compilation
Case Managers	• Participate in education offerings • Complete pre and post-test • Complete post education survey
Utilization Management Local Area Leaders	• Support education advancement for competency development for case management staff
Care Coordination Leaders	• Support education advancement for competency development for case management staff
Regional Education Department	• Approve new advanced case management education platform • Provide on-going support for the program

Appendix G:

Case Management Society of America (CMSA): Basis for Competency Assessment

CASE MANAGEMENT PROCESS
High Level

Screening → Assessing → Planning → Implementing (care coordination) → Following-Up (ongoing) → Transitioning (transitional care) → Evaluating

Stratifying Risk

Communicating Post Transition

Level varies by practice setting. Includes gathering data needed for Evaluating Outcomes phase.

The depth of this phase varies based on the case management practice setting. For example, Stratifying Risk is a major phase in settings such as health insurance, chronic care management, and population management. In other settings such as acute and long-term care, Stratifying Risk may be combined with Assessing phase.

Case Management Knowledge Domains

- Case Management Concepts
- Principles of Practice
- Healthcare Management & Delivery
- Healthcare Reimbursement
- Psychosocial Aspects of Care
- Rehabilitation
- Professional Development & Advancement

Case Management Process

Value of Case Management

Appendix H: Project Budget

Advanced Competency Education for Patient Care Coordinator

Assumptions: Initial case management cohort will consist of 63 RN Patient Care Coordinators

Criteria:

- Successfully completed the core case management orientation
- Achieved a score of satisfactory on self-assessment tool

Training Strategy:

- Utilize paid education time
- Train the trainer utilizing Subject Matter Experts (SME's) for sustainability
- Electronic recording for reference and remediation
- Care coordination peer group meeting kick-off to department directors

Time Commitment:

- Pre-assessment: 1 hour
- Education Session: 4 hours
- Post-assessment: 1 hour
- Total time commitment: 6 hours

Labor Costs	$29,257.20
Administrative Costs	$210.00
Materials Costs	$350.00
Total Estimated Cost	$29,817.20

Patient Care Coordinator Case Manager (PCCCM) Labor Costs:

RN CM Average Salary (productive time only): $161,000 ($77.40/hr)

- 6 hours training/assessment time X $77.40=$464.40/CM RN

- Initial cohort of 63 PCC's = $29,257.20 (estimated labor cost)

Administrative labor and material costs:

- Operation's Specialist Salary: $80,825 ($35/hr)

- Estimated hours commitment: 6 X $35= $210.00

- Print Materials: Complex Patient Resource and Playbook

- 140 copies at $2.50/each = $350.00

Appendix I: Finance Analysis

Cost Per Day by Level of Care

Description	2018	2019[1]	2020[1]	2021[1]
Key	*A*	*B = A x 1.033*	*C = B x 1.033*	*D = C x 1.033*
Hospital Cost per Day				
MED/SURG	$2,822	$2,915	$3,011	$3,110
ICU	$4,914	$5,076	$5,244	$5,417
Blended	$3,140	$3,243	$3,350	$3,461
Blended Ex.PICU	$3,348	$3,458	$3,572	$3,690

- Inflated by 3.3% YOY (3.3% inflation aligns with Medicare guidelines)

Appendix J: Return on Investment & Cost Avoidance

Medical Center LOS	Cost Avoidance Analysis
Costs	Average cost per in-patient day • $3458 (2019 blended rate)
Hospital Average Daily Census (ADC)	FAC 1: 97 (2019 YTD) FAC 2: 92 (2019 YTD)
ADC LOS 10-19	FAC1: 5.7 FAC 2: 7.0
ADC LOS 20-30	FAC1: 1.6 FAC 2: 2.3

Proposed ROI in Cost Avoidance:

- Reduction of LOS in complex patient categories 10-19 and 20-30 days

  o Assume .5 day reduction in each LOS of stay category in each medical center

ADC Reduced	**2 (.5 x 2 x 2)**
Days Saved	**730 (365 x 2)**
Hospital Cost Saved	**$2.5M/ yr 1**

Appendix K: Participant Self-Assessment Evaluation Table

Facility Designation	Class Participation #	Completion %	Pre- Test Score	Post- Test Score	% Changed
Redwood City Facility 1	34	27/34=79%	Avg 31	Avg 39	Increased 8%
Vacaville Facility 2	29	24/29=83%	Avg 32	Avg 38	Increased 8%

*Scores tabulated and recorded only where both the pre and post-intervention assessment were completed

Appendix L: Course Evaluation Survey Results

Years with the organization (N=48)
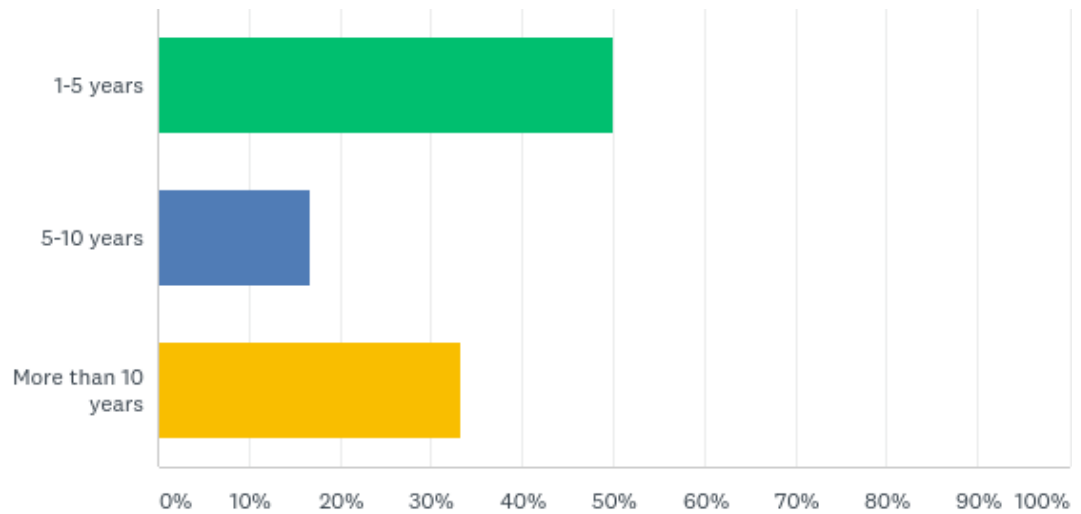
Years in the Case Management Role (N=48)
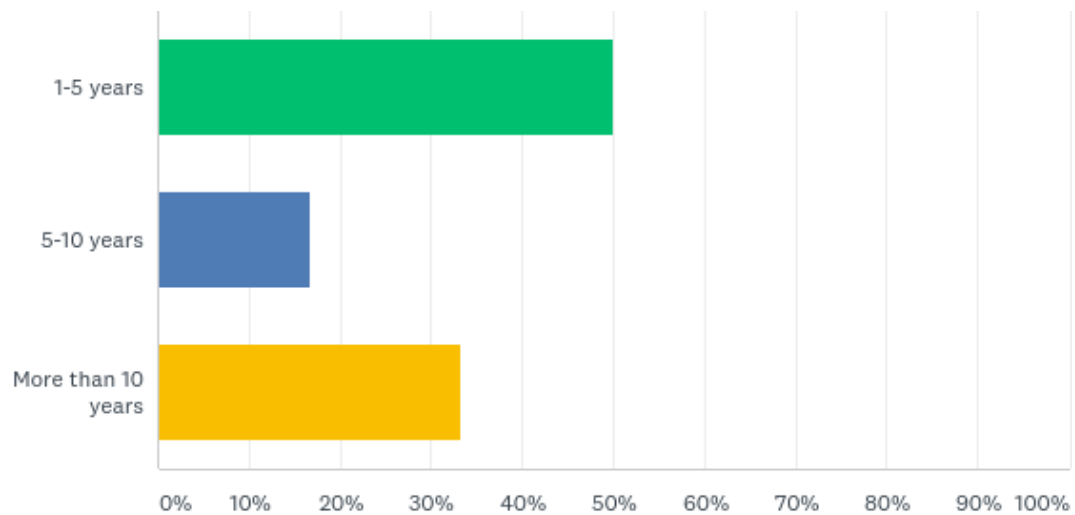
Verbatim Comments (N=48)

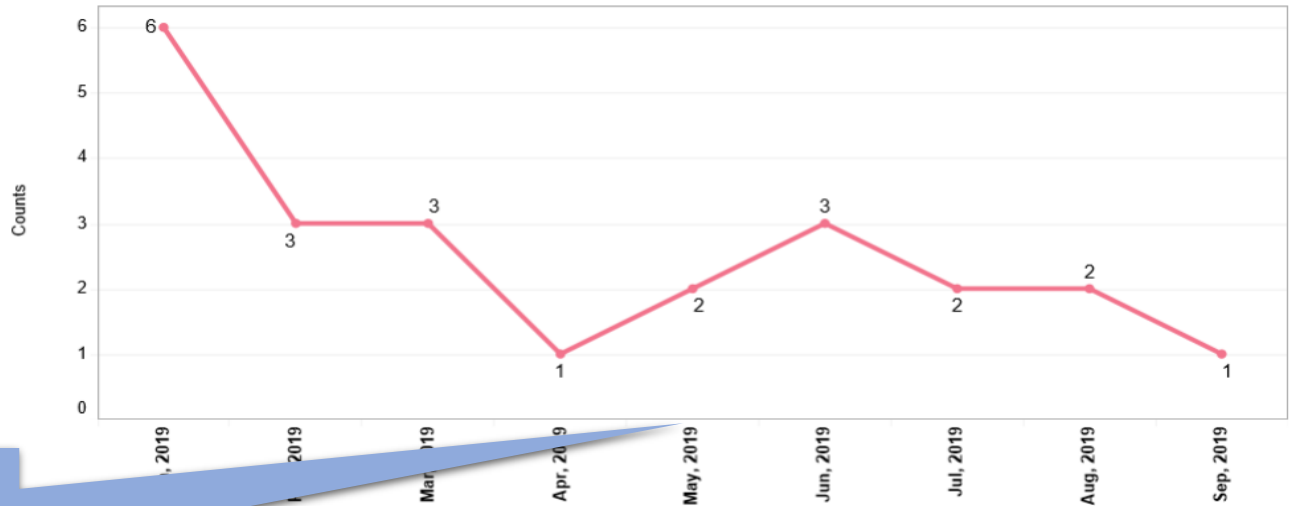## Q10: What are the challenges in your day to day work related to case management. (select all that apply)

Answered: 48   Skipped: 0
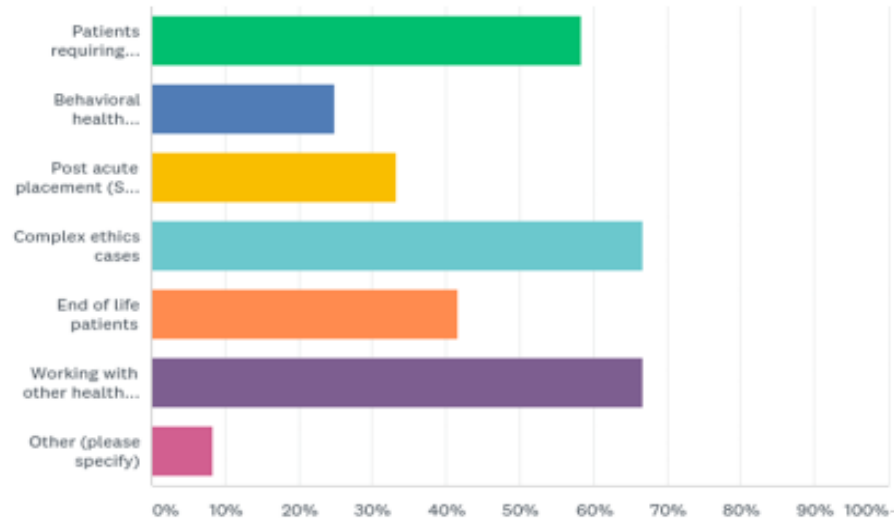
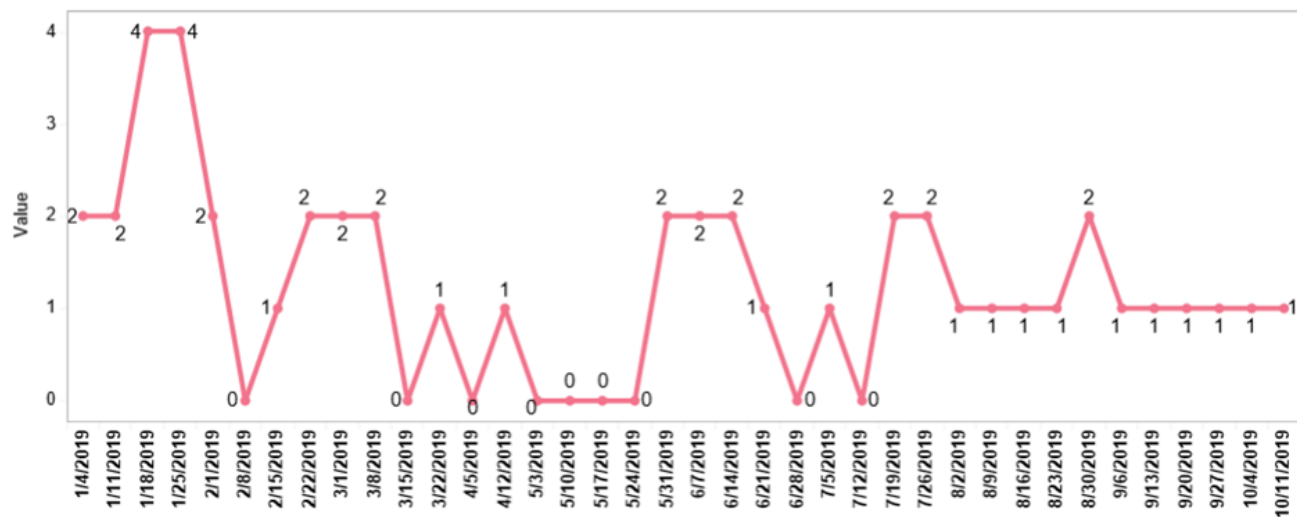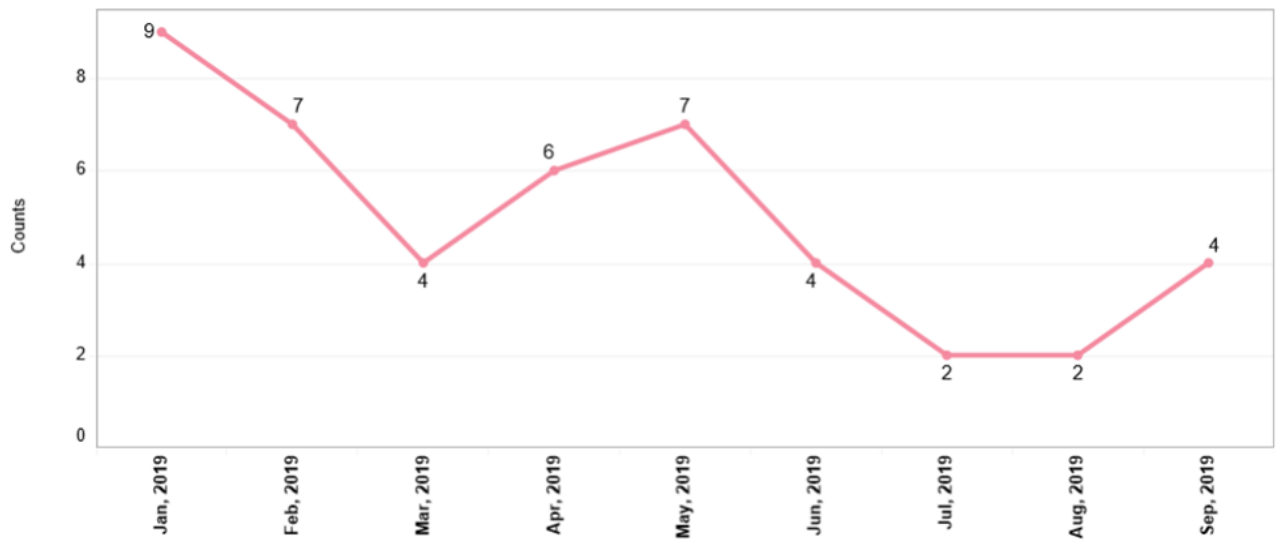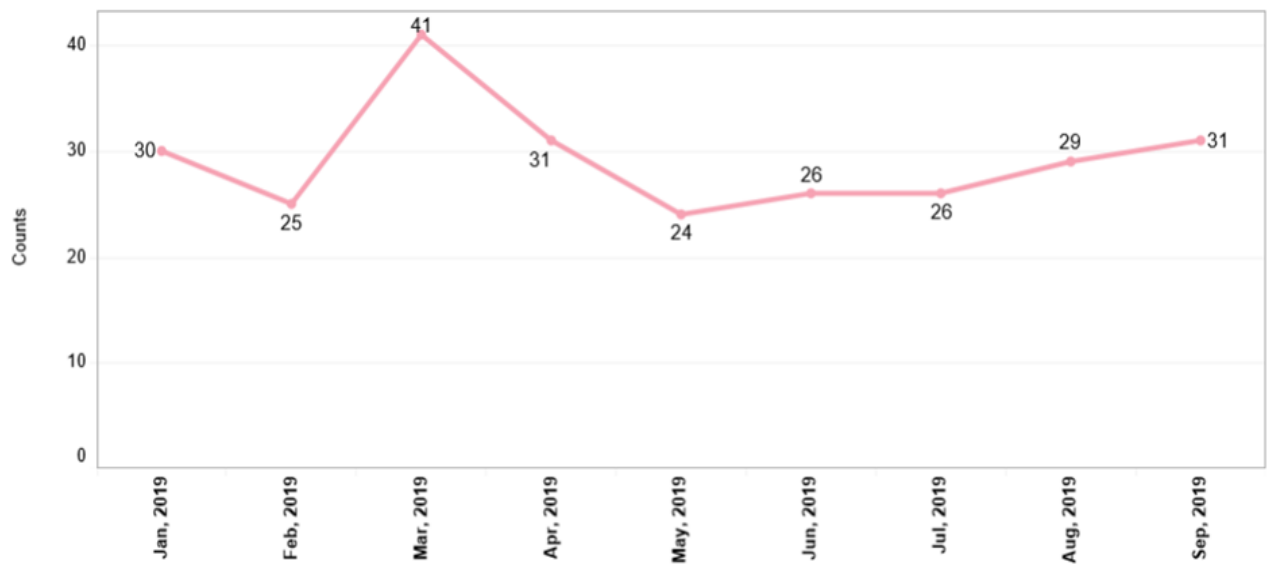**Appendix M: Participating Facility Length of Stay Data**

Facility 1

Facility 1

Monthly Trend for ELOS: 21-30 for Facility: RWC

Monthly Trend for ELOS: 11-20 for Facility: RWC

Facility 2
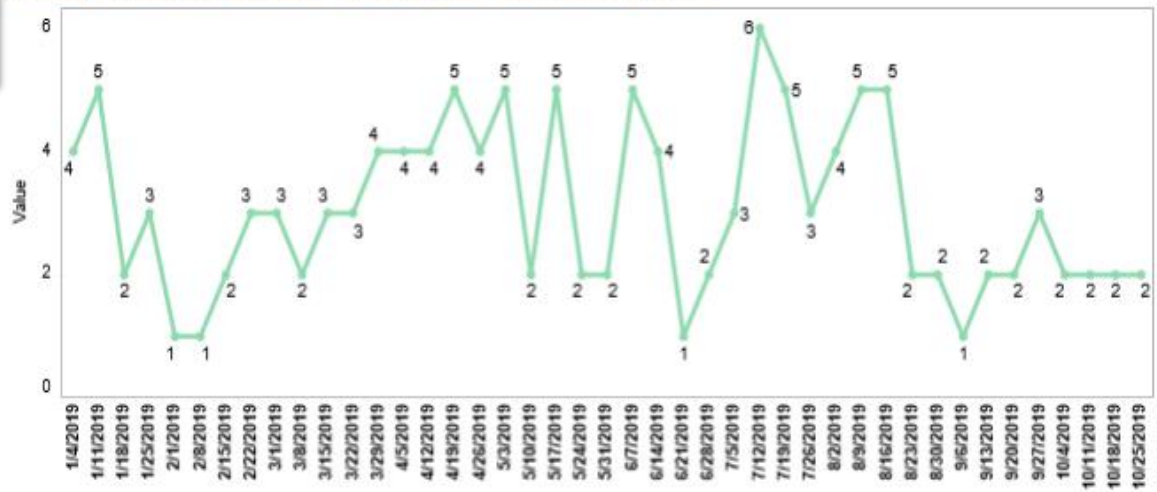

Case Management Education

Facility 2

Monthly Trend for ELOS: 21-30 for Facility: VAC
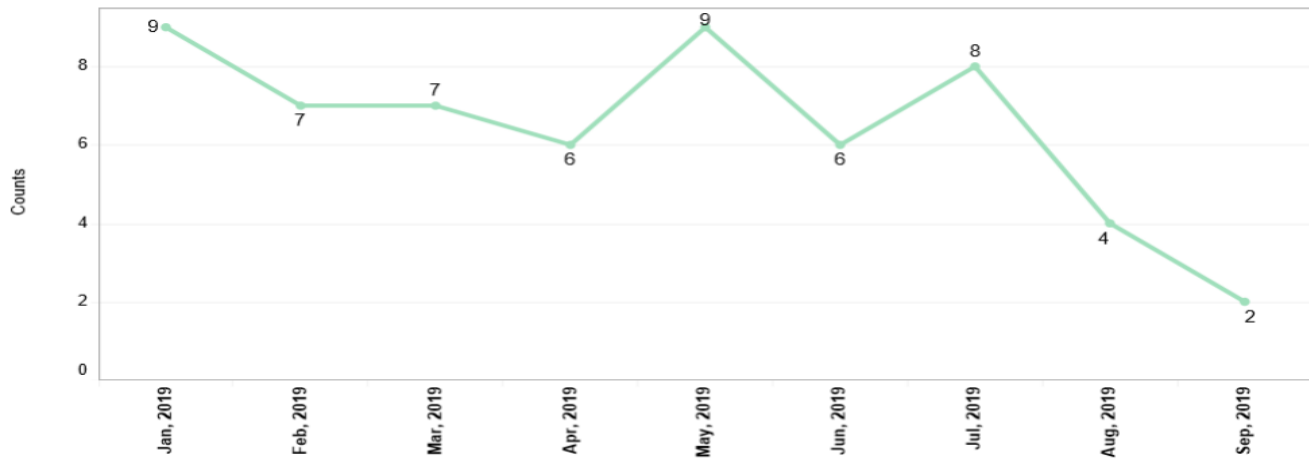
Monthly Trend for ELOS: 11-20 for Facility: VAC
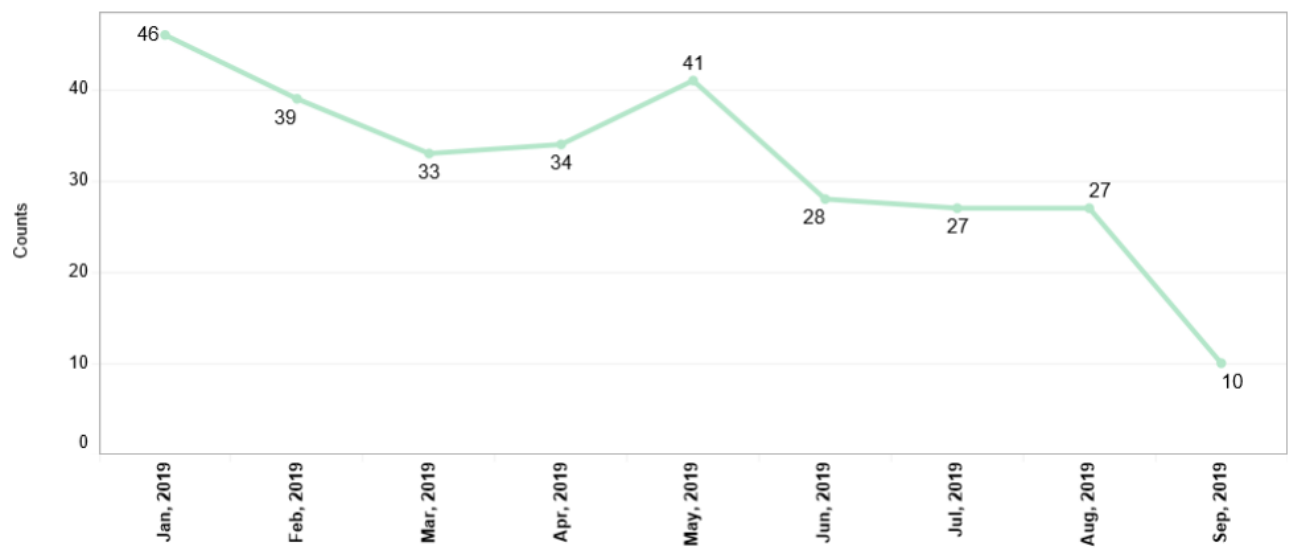
Appendix N: Evidence Table

Evidence Table

Authors	Design	Setting	Measurement	Appraisal (Johns' Hopkins Tool)
Beauchet, et al (2013)	Prospective cohort study	Acute care hospital	Application of evidence-based tool	III B
Carey, et al (2004)	Prospective cohort study	Acute care hospital	Retrospective chart review	III B
Chiu & Newcome (2007)	Systematic review	Acute care hospital	Retrospective literature review	III B
Doctoroff, et al (2016)	Longitudinal cohort study	National in-patient sample	Logistic regression model	III A
Henning & Cohen (2008)	Prospective study	Multi-hospital system	Case management competency assessment	III B
Holland, et al (2017)	Tool performance analysis	Acute care hospital	Program assessment with results analysis	NA (Substantive reference)
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
Ka & Kam, (2014)	Randomized control trial	Acute care hospital	Randomized into two study groups with one control group for analysis	III A
Lendburg, (2005)	Competency program assessment	Academic	Program assessment with results analysis	NA (Substantive reference)
Lim, et al (2006)	Prospective cohort study	Acute care hospital	Retrospective chart review	III A
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

Ahmed, O.I. (2016)	Case management framework	Health care system	Disease management framework	NA (Substantive reference)
Salentiny, et al (2014)	Prospective cohort study	Acute care hospital	Retrospective chart review	III B
Simonet, et al (2008)	Prospective study	Acute care hospital	Regression model	III A
Sminkey, (2016)	Professional commentary	Academic	Standard of practice evaluation	NA (Substantive reference)
Smith & Larew, (2013)	Qualitative improvement study	Acute care hospital	Education intervention review	NA (Substantive reference)
Treiger & Fink-Samnick, (2013)	Case management competency proposal	Academic	Competency Proposal	NA (Substantive reference)
Volpato, et al (2014)	Prospective study	Acute care hospital	Regression model	III B
Zander, (2010)	Professional commentary	Acute care hospital	Standard of practice evaluation	NA (Substantive reference)

Appendix: O

DNP Statement of Non-Research Determination Form

Student Name: Phyllis Stark

Title of Project: Integration of Complex Case Management Competencies for Patient Care Coordinators in a Large Integrated Healthcare System

Brief Description of Project: Case management processes figure prominently in throughput strategies for acute care hospitals. Discharge disposition barriers become more apparent the longer a patient remains hospitalized. Carey et al, 2004 concluded that discharge to a post-acute bed, (i.e. skilled nursing facility or sub-acute facility), is more likely to result in delayed discharge and longer length of stay (Carey et al., 2004).

The focus of this project is the identification, development, and application of advanced case management competencies to identify and address the disposition needs of the complex patient. The advancement of case management skills in the healthcare organization will better prepare this important group to recognize complex patient disposition needs and barriers facilitating timely disposition upon determination of stability.

The project plan is to develop, implement, and evaluate a standardized advanced case management set of competencies to better prepare case managers for interventions required by long-stay adult patients hospitalized in the healthcare organization. The competencies will be incorporated into case management education programs via the education program. The educational offerings will be presented through peer group meetings and WebEx conferences.

Project methodology is through gap analysis via initial self-assessment and subsequent provision of complex case management education followed by re-assessment to measure integration of learning.

Provision of education, resources, and tools will provide the practicing patient care coordinator insight and opportunity to assess and intervene for complex long-stay patients in disposition determination.

A) Aim Statement: Adopt best practice advanced case management competencies for integration into patient care coordinators educational offerings promoting professional growth and improved identification of complex patient discharge needs by September 2019.

B) Description of Intervention: Utilizing the Case Management Society of America

(CSMA) assessment tools and best practice recommendations, an assessment of existing knowledge for a defined cohort of Patient Care Coordinators will initiate the project. By reflecting industry standards and incorporating the case management scope of practice, code of ethics and standard of care, the project will tie closely to foundational case management knowledge domains (Sminkey, 2016). An application of focused learning tools in educational modules presented to the case management pilot cohort with pre and post testing to validate increased knowledge and confidence in complex case management for long-stay patients will establish baseline improvement and opportunity to refine for spread to all case managers.

Integration of complex patient case management competencies is aligned with the organization mission and vision of being patient centered and focused on optimal outcomes. The self-assessments will be completed pre-& post education intervention to assess for advanced learning. Demographic elements: age, sex, years as a registered nurse, and years in current role will be collected as well.

C) How will this intervention change practice? The intent of the intervention is to identify and teach advanced care management competencies required to intervene and provide discharge planning to mitigate disposition barriers for complex hospitalized patients with extended length of stay (Henning & Cohen, 2008). Enhanced skills to recognize clinical, psycho-social, and financial barriers to disposition will promote improved throughput and patient outcomes (Nobusch et al., 2011). Provision of education, resources, and tools will provide the practicing patient care coordinator insight and opportunity to intervene to enhance discharge disposition efficiency.

D) Outcome measurements:

- RN case manager knowledge and understanding will be measured and reported as aggregated data reflecting the level of change in the self-assessment and confidence level related to advanced care competencies from the pre and post education intervention results.

- Course evaluation questions will be developed to evaluate transfer of knowledge to practice.

- Throughput of long-stay patient census at pilot facility who have demonstrated stability and who have discharge orders to be evaluated pre and post intervention to determine effectiveness of training.

References:

Carey, M. R., Sheth, H., & Braithwaite, R. S. (2004, February 1). A prospective study of reasons for prolonged hospitalizations on a general medicine teaching service.

Journal of General Internal Medicine, 108-115. https://doi.org/10.1111/j.1525-1497.2005.40269.x

Henning, S. E., & Cohen, E. L. (2008,). The competency continuum expanding the case manager's skill sets and capabilities. *Professional Case Management*, *13*(3), 127-148. https://doi.org/10.1097/01.PCAMA.0000319966.30864.bf

Nobusch, J. M., Weiss, M. E., & Bobay, K. L. (2011, March). An integrated review of the literature on challenges confronting the acute care staff nurse in discharge planning. *Journal of Clinical Nursing*, *20*(5), 754-774. https://doi.org/10.1111/j.1365-2702.2010.0357.x.

Sminkey, P. V. (2016, July/August). The case manager's "touchstone": The code of professional conduct. *Professional Case Management*, *21*(4), 207-208. https://doi.org/10.1097/NCM.00000000000170

To qualify as an Evidence-based Change in Practice Project, rather than a Research Project, the criteria outlined in federal guidelines will be used: (http://answers.hhs.gov/ohrp/categories/1569)

☐ This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). Student may proceed with implementation.

☐ This project involves research with human subjects and must be submitted for IRB approval before project activity can commence.

Comments:

EVIDENCE-BASED CHANGE OF PRACTICE PROJECT CHECKLIST *

Instructions: Answer YES or NO to each of the following statements:

Project Title: Integration of Advanced Case Management Competencies for Patient Care Coordinators in a Large Integrated Healthcare System	YES	NO
The aim of the project is to improve the process or delivery of care with established/ accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.	X	
The specific aim is to improve performance on a specific service or program and **is a part of usual care**. ALL participants will receive standard of care.	X	
The project is **NOT** designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does **NOT** follow a protocol that overrides clinical decision-making.	X	
The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does **NOT** develop paradigms or untested methods or new untested standards.	X	
The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does **NOT** seek to test an intervention that is beyond current science and experience.	X	
The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.	X	
The project has **NO** funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.	X	
The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., **not** a personal research project that is dependent upon the voluntary participation of colleagues, students and/ or patients.	X	
If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: *"This project was undertaken as an Evidence-based change of practice project at X hospital or agency and as such was not formally supervised by the Institutional Review Board."*	X	

ANSWER KEY: If the answer to **ALL** these items is yes, the project can be considered an Evidence-based activity that does NOT meet the definition of research. **IRB review is not required. Keep a copy of this checklist in your files.** If the answer to ANY of these questions is **NO**, you must submit for IRB approval.

*Adapted with permission of Elizabeth L. Hohmann, MD, Director and Chair, Partners Human Research Committee, Partners Health System, Boston, MA.

STUDENT NAME (Please print):

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Signature of Student: Phyllis Stark   **DATE** September 24, 2018

SUPERVISING FACULTY MEMBER (CHAIR) NAME (Please print): __

Signature of Supervising Faculty Member (Chair): Dr. Mary Bittner

Appendix P: Letter of Organizational Support

University of San Francisco
School of Nursing and Health Professions
2130 Fulton Street
San Francisco, CA 94117

October 8, 2018

To Whom It May Concern:

I am writing to acknowledge support for Phyllis Stark in completion of her evidence-based quality improvement DNP project, Adopting Complex Case Management Competencies for a Healthcare System, in partial fulfillment of her Doctor of Nursing Practice degree in the Executive Leadership program at the University of San Francisco (USF). As the Vice President of the Continuum of Care for Kaiser Permanente, I will have an opportunity to review any manuscripts that identify Kaiser Permanente submitted for publication prior to submission.

This letter also verifies that Kaiser Permanente has a memorandum of understanding with the School of Nursing and Health Professions at USF for student clinical course work that is supervised by USF faculty.

Sincerely,

Marty Ardron

Vice President, Continuum of Care

1950 Franklin St, 19th Floor

Oakland, CA 94612

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