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Developing the Value Proposition For the Role of the Registered Nurse In Care Coordination and Transition Management in Ambulatory Care Settings

EXECUTIVE SUMMARY

- ▶ The Patient Protection and Affordable Care Act (2010) established clear provisions for Patient-Centered Medical Homes and Accountable Care Organizations.
- ▶ In both, care coordination and transition management are methods to provide safe, high-quality care to at-risk populations such as patients with multiple chronic conditions.
- ▶ The emphasis on care coordination and transition management offers opportunities for nurses to work at their full potential as an integral part of the interprofessional team.
- ▶ Development of a model for the registered nurse in care coordination and transition management provides nurses the opportunity to develop the knowledge, skills, and attitudes to be a resource to the team and to patients, and to contribute to high-quality patient and organization outcomes.

THE PATIENT PROTECTION and Affordable Care Act (ACA, 2010) established clear provisions for Patient-Centered Medical Homes (PCMHs) and Accountable Care Organizations (ACOs). In both these models, care coordination and transition management are methods to be used to provide safe, high-quality care to at-risk populations such as patients with multiple chronic conditions.

The ACOs and PCMHs provide care through interprofessional teams of providers including physicians, advanced practice nurses, pharmacists, social workers, and registered nurses. These teams will use evidence-based interventions and work collaboratively to provide patient-centered primary care to all patients with a focus on wellness, prevention, and early detection of illness.

Many of the ACA provisions are built on the foundation of findings and recommendations from

the Institute of Medicine (IOM) regarding the need to decrease medical error and costs of care, by increasing interprofessional collaboration and teamwork and having professionals work to the highest level of education and licensure (IOM, 2013; 2011). The goal is that with enhanced access to primary care through insurance reform in the ACA and use of evidence-based practice, collaboration and teamwork, prevention and wellness promotion, costs will decrease as will use of the emergency department, there will be fewer re-admissions to hospitals, and ultimately a higher quality of life for patients and families.

The ACA provisions are a change from the prior U.S. focus on acute care, especially hospitalization, reliance on specialty providers coupled with little routine wellness, and health promotion and prevention of illness. Consequently, there are needs for design of new systems to provide primary

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care, coordination of care for patients who are seen for monitoring in primary care but may need specialist consultation, physical therapy, nutrition counseling and education, medication reconciliation with pharmacists, as well as assistance with socioeconomic issues that impinge on patients' abilities to care for themselves in the community. Education and re-education of health care providers is recommended by the IOM (2011). Nongovernment organizations such as the Lucian Leape Institute (2010) recommend refinement of education of professionals especially physicians in the areas of quality and safety. The U.S. Department of Health and Human Services has requested proposals for interprofessional education and practice initiatives and awarded grant funding for programs that focus on preparing the health care interprofessional teams of the future needed for new delivery systems.

One area of needed redesign is the development of an evidence-based model for registered nurses in care coordination and transition management (CCTM) to work with complex chronically ill patients in ambulatory care settings. A second area in need of development is measurement metrics to track the impact of the registered nurse (RN) in the CCTM role in ambulatory care. The Centers for Medicare & Medicaid (American Nurses Association [ANA], 2012) have stated a willingness to reimburse nurses for care coordination. However, CMS will need to know what comprises care coordination and transition management; that RN providers have the knowledge, skills, and attitudes needed to do care coordination and transition management; and measures for the impact of care coordination on patient outcomes. Provision of care coordination is not limited to RNs; other members of the care team such as physicians, advanced practice nurses, physician assistants, social workers, and pharmacists, to name a few, can

also perform care coordination in PCMHs and other outpatient settings. This begs the question, what is the value proposition and/or the contribution of the RN in CCTM practicing as part of an interprofessional team in an ambulatory care setting? The purpose of this article is to demonstrate how one method, the Logic Model, can be developed to specify the dimensions, activities, and short, medium, and long-term outcomes of care coordination and transition management and be used to specify measures and delineate the value proposition and/or the contribution of the RN in CCTM as part of an interprofessional team in an ambulatory care setting.

Development of the CCTM Model for RNs

Recognizing that enrollment of more than 40 million Americans who previously had little or no insurance and limited access to care, especially primary care, and recognizing many of these new enrollees would have one or more preexisting conditions, leadership of the American Academy of Ambulatory Care Nursing (AAACN) decided to explore possibilities for an ambulatory care registered nurse role. In this position, RNs would be members of the PCMH interprofessional teams in clinics, as well as teams in traditional and nontraditional outpatient settings where patients have multiple chronic conditions and co-morbidities. This translational research project involved AAACN volunteer member expert panels and facilitators who used focus group methods through an on-line format. The first expert panel completed a comprehensive interdisciplinary literature analysis. The second panel identified nine evidence-based dimensions and associated activities of care coordination and transition management and competencies required for each dimension. The third expert panel, guided by Wagner's (1998) Chronic Care Model, used the

dimensions to build a CCTM Model for RNs and defined methods for interprofessional collaboration and teamwork in outpatient care (Haas, Swan, & Haynes, 2013). A fourth expert panel is writing the *Care Coordination and Transition Management Core Curriculum*, which will be the foundation for preparing RNs to provide care coordination and transition management for complex chronically ill patients as members of interprofessional teams in PCMHs and outpatient settings.

The Value Proposition Question for the RN in CCTM as Part of an Interprofessional Team

In designing and developing the evidence-based CCTM Model for RNs, the value proposition question was raised. Value is often seen as an outcome of nursing process (Edelbauer, Vlasses, & Rogers, 2013). Porter and Kramer (2011) discuss the principle of "shared value:"

...which involves creating economic value in a way that also creates value for society by addressing its needs and challenges. Businesses must reconnect company success with social progress... The concept of shared value... recognizes that societal needs not just conventional economic needs define markets. It also recognizes that social harms or weaknesses frequently create internal costs...addressing societal harms and constraints does not necessarily raise costs for firms because they can innovate" (pp. 64-65).

This principle also addresses one of the challenges inherent in trying to capture the value of contributions of individual providers in different professions when they are a part of an interprofessional team, especially in the realm of care for the complex chronically ill. Often, challenges faced when

providing health care for this population are as much socioeconomic (lack of food, shelter, family or community support, transportation, health care literacy, mental health care, etc.) as providing best evidence-based treatment modalities for chronic health problems. Porter (2010) also specified the value proposition as, “the health outcomes achieved per dollar spent” (p. 2477).

Program Evaluation: CCTM Logic Model for RNs

Methods for development of logic models are clearly depicted in the W.K. Kellogg Foundation (2006) Logic Model Development Guide. Logic models have been used in program planning, evaluation, and econometric modeling to (a) delineate vision/purpose for a project; (b) surface assumptions, contextual/environmental issues, and needed knowledge, skills, and attitudes; (c) specify relationships among program goals, objectives, activities, outputs, and outcomes; (d) clearly indicate the theoretical connections among program components, activities involved, who carries out the activities, and specification of short, medium, and long-term outcomes; and (e) set up evaluation by assisting with development of the measures that will be used to determine if activities were carried out as planned (process and output measures), and if the program’s objectives have been met (outcome measures) (Bureau of Justice Assistance Center for Program Evaluation, 2013). The CCTM Logic Model for RNs was used to identify not only activities, but also processes and outcomes involved in each of the nine care coordination and transition management dimensions. Analysis of other extant care coordination and transition models yielded a variety of outcomes, but often there was no distinction as to whether they were processes or early or late outcomes.

An abbreviated form of the CCTM Logic Model for RNs is shown in Figure 1. The full Logic Model had all activities for each dimension listed, as well as all outcomes specified, but it is too large for this article. The Logic Model allows for the contributions of RNs in CCTM to be recognized and provides an estimate of value of the RN in CCTM to processes and outcomes of care coordination and transition management with complex chronically ill patients in a PCMH or other outpatient setting. This Logic Model exemplifies an innovative approach to address the value challenge when delivering patient-centric care in the context of collaborative interprofessional care teams.

Assumptions specified for the CCTM Logic Model for RNs in Figure 1 include (a) patients will seek care in primary care and outpatient settings; (b) patients will access CCTM providers who are RNs; (c) patients will choose to be engaged in care processes; (d) providers will collaborate, work in interprofessional teams, develop and use individualized patient-centered care plans; (e) organizations will have an electronic health record (EHR) that operates across settings or a process to track longitudinal care plans; and (f) outcomes are often not discipline specific, but shared by the interprofessional team.

External factors influencing the CCTM Logic Model for RNs in Figure 1 include (a) slow development of interprofessional team education and practice; (b) changes in reimbursement and penalties for never events; (c) decreasing revenue, but incentives for exemplary performance; (d) slow implementation of EHRs that are operable across settings; and (e) slow development of a model for patient-centered care plans that move between multiple providers and settings over time.

Prior Research on Care Coordination and Care Coordination Models

Nurses have performed care coordination activities in ambulatory settings for more than 20 years, but their work in this area was invisible until a national study was done on the professional nurse role in ambulatory care (Hackbarth, Haas, Kavanagh, & Vlasses, 1995; Haas, Hackbarth, Kavanagh & Vlasses, 1995; Haas & Hackbarth, 1995). The invisible nature of ambulatory nurses’ work was a result of insufficient care documentation provided in primary care settings. The study revealed care coordination is a major factor in the work of ambulatory nurses, and that marker activities include long-term supportive relationship, act as a resource person, coordinate client care, assess needs and initiate referrals, find resources in the community, and instruct on health promotion (Haas et al., 1995). Nurses are providers of care in other recent care coordination and transition management models (Boult, Karm, & Groves, 2008; Coleman & Boult, 2003; Naylor, 2000; Naylor & Sochalski, 2010).

The ANA called attention to what were deemed nurse-sensitive indicators. Their initial work was in acute care settings and is represented by the National Database of Nursing Quality Indicators (NDNQI®), a repository for nursing-sensitive indicators. In such settings, nurses were usually the providers of care and it was possible to identify dimensions of care such as pain control, falls, and pressure ulcers, where RNs had an impact on assessments, processes, and outcomes.

As financial incentives are established for ambulatory care quality indicators, most of the national quality standardized performance measure sets are at the practice level or health plan level, not at the individual provider level (ANA, 2014; National Quality

Table 1.
Summary Timeline of National Quality Initiatives in Ambulatory Care

Year	Organization	Ambulatory Care Quality Measures
1997-1999	American Nurses Association	At the conceptual level, identified ten nursing-sensitive ambulatory care quality indicators.
2004	National Quality Forum	Phase 1 established 10 priority areas: heart disease, diabetes, hypertension, obesity, asthma, prevention, depression, medication management, patient experience with care, coordination of care.
2005	National Quality Forum	Phase 2 began following requests from CMS, National Committee for Quality Assurance, and American Medical Association's (AMA) Physician Consortium for Performance Improvement, an expedited review of a set of 42 "physician focused" measures from CMS representing seven priority areas was completed.
2007	Centers for Medicare & Medicaid Services (CMS) Physician Quality Reporting Initiative (PQRI)	Established a financial incentive for eligible professionals to participate in a voluntary quality reporting program. Evolved to the PQRS that combines incentive payments and payment adjustments.
2008	National Quality Forum	Phase 3, Cycle 1 and Cycle 2 concluded by producing and endorsing a broad set of 86 performance measures in many priority areas. In addition, some measures not recommended in Phase 2 were re-reviewed. A framework for measuring care coordination was endorsed. Cycle 3 focused on voluntary consensus standards for specialty clinician performance in ambulatory care.
2010	National Quality Forum	Published preferred practices and performance measures for care coordination.
2012	National Quality Forum	Endorses 12 measures to assess coordination of care.
2015	CMS Physician Quality Reporting System (PQRS)	CMS will apply a value modifier to payments.

Forum [NQF], 2006a). When the individual provider is used, the physician is the unit of analysis. Gaps exist in quantifying and linking ambulatory care quality indicators to care provided by nurses in ambulatory care (Griffin & Swan, 2006; Swan, Phillips, & Griffin, 2006). Similar to hospital care, a team of providers is involved, with nurses providing a large proportion of direct and supportive patient care. For ambulatory care nursing, nursing-sensitive indicators of quality are underdeveloped and minimally standardized (Swan, 2008). Ambulatory care nurses must organize their efforts and explore collaboration with the NDNQI to develop and include ambulatory care nursing

metrics in their database. This would provide a vehicle for collecting uniform information that is standardized, identifiable, and measurable across ambulatory care practice settings. To begin this dialogue, the ANA convened a summit in January 2014 focused on identifying five to seven ambulatory care measures sensitive to care by registered nurses.

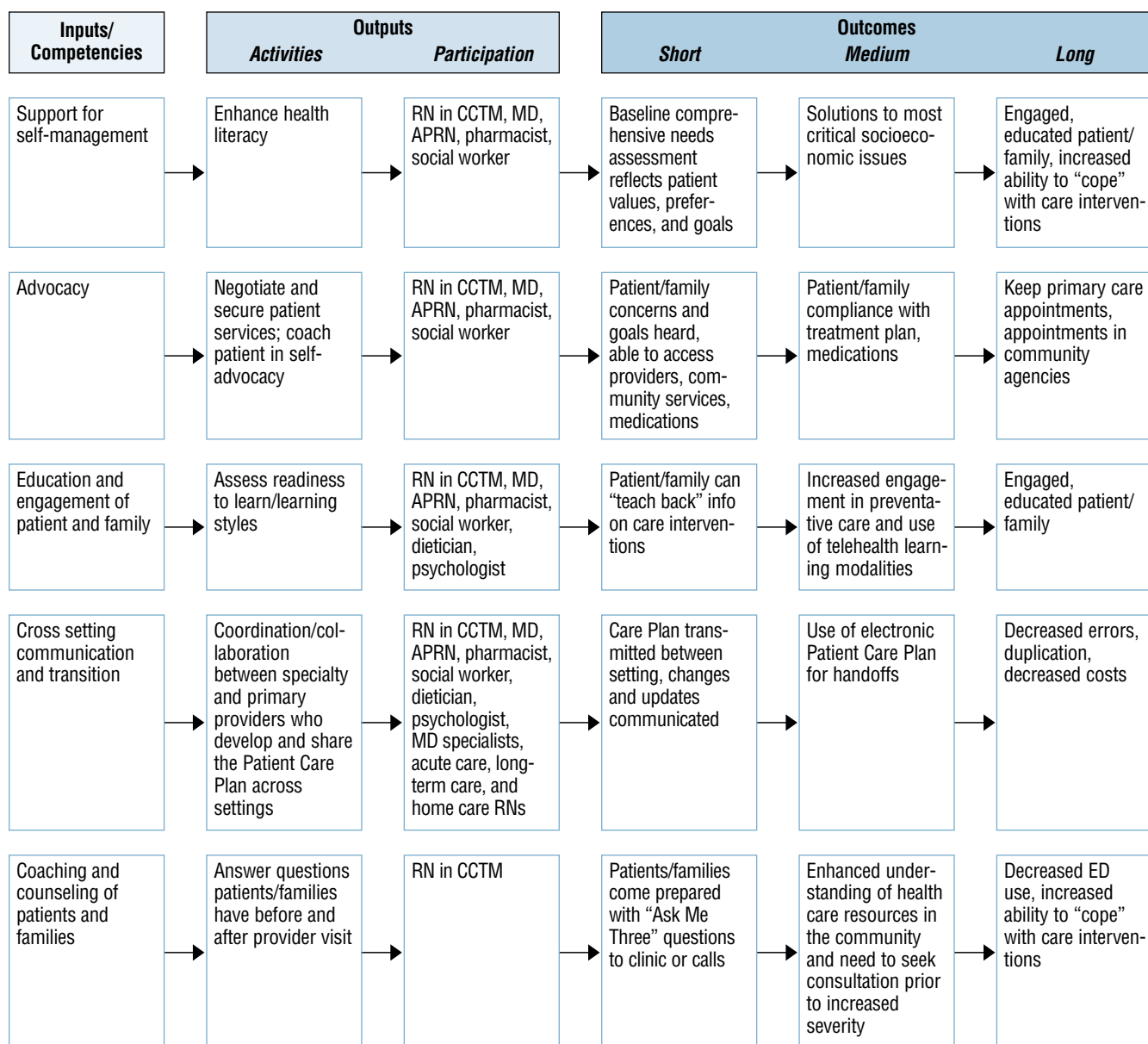
Four national quality initiatives (ANA, NQF, CMS PQRI, CMS PQRS) described in Table 1 provide a historical context for clarifying and further developing quality indicator metrics for nurses and their contributions to patient care in ambulatory care settings (Swan, 2008). Between 1997 and 1999, the ANA Congress of

Nursing Practice convened an advisory committee to "identify indicators sensitive to the impact of nursing practice in community-based non-acute settings" (p. viii) (ANA, 2000). The community-based non-acute settings addressed by this panel were long-term care, home health, school health, and ambulatory care (ANA, 2000; Sawyer et al., 2002). The NQF's Voluntary Consensus Standards for Ambulatory Care Initiative was designed to produce a physician-focused performance measure set for ambulatory care for the purpose of public reporting and accountability (NQF, 2006b).

In December 2006, a physician quality reporting system by the CMS Physician Quality Re-

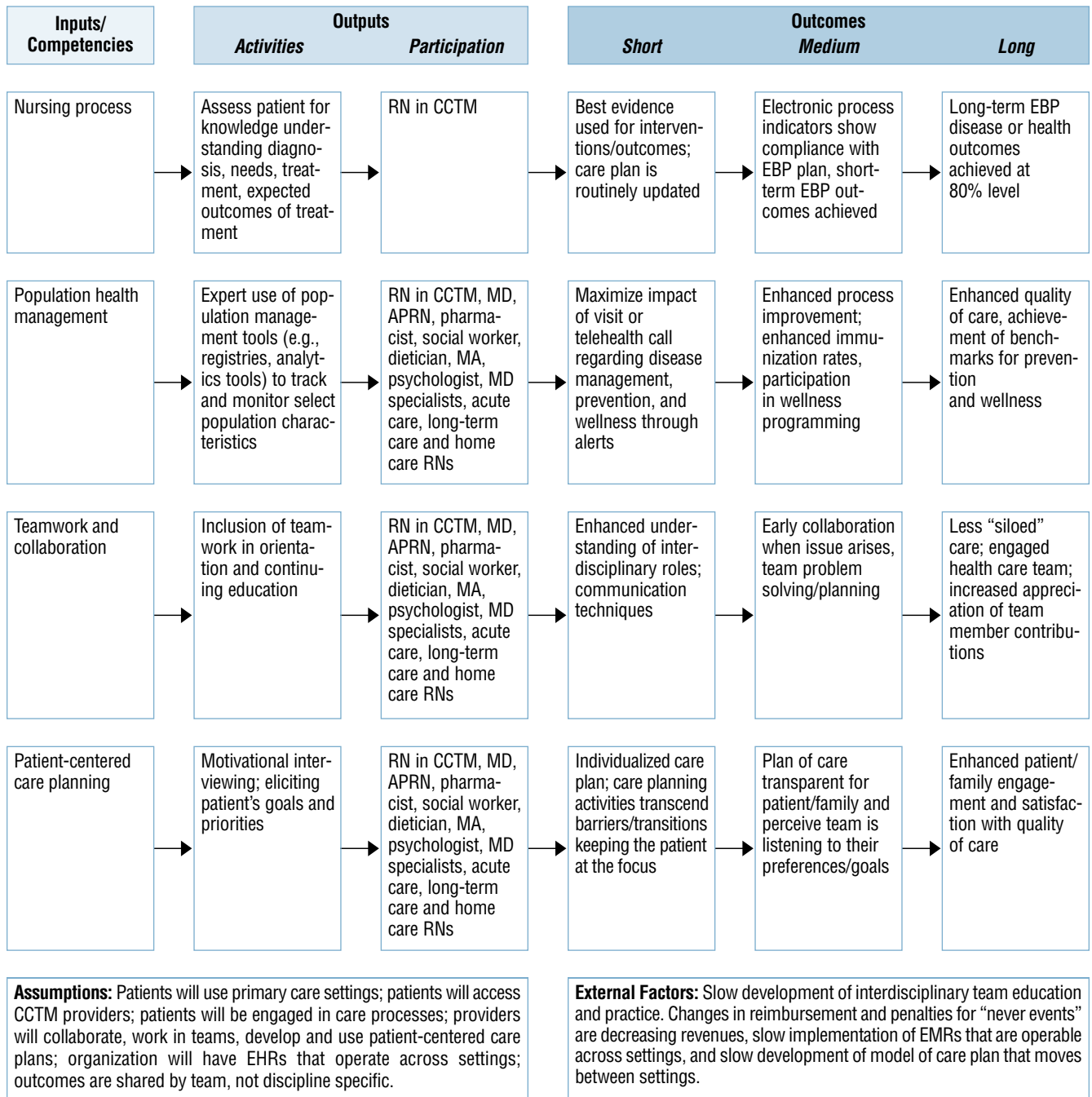
Figure 1.
Program: CCTM Depicted within a Logic Model

Situation: The Care Coordination and Transition Management (CCTM) Model evolved to standardize work of ambulatory care nurses using evidence from interdisciplinary literature on care coordination and transition management. The vision is the CCTM Model would specify dimensions of CCTM and competencies needed to perform CCTM and make possible development of knowledge, skills, and attitudes needed for each competency so the registered nurse (RN) will meet needs of patients with complex chronic illnesses (and their families) being cared for in Patient-Centered Medical Homes (PCMH), as well as traditional and nontraditional outpatient settings, and their preparation and work as an RN in CCTM would be recognized and reimbursed by the Centers for Medicare & Medicaid Services.



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Figure 1. (continued)
Program: CCTM Depicted within a Logic Model



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porting Initiative (PQRI) was established for 2007 and extended in 2008 (CMS, 2007; 2014a; 2014b). PQRI measures were required by statute to be endorsed by a consensus organization, such as the National Quality Forum (NQF) or the Ambulatory Care Quality Alliance (AQA), and to have been developed using a consensus-based process. This Initiative evolved into the Physician Quality Reporting System (PQRS) and is a reporting program that uses a combination of incentive payments and payment adjustments to promote reporting of quality information. Practices report data on quality measures for covered Physician Fee Schedule services furnished to Medicare Part B Fee-for-Service.

In addition, beginning January 2015, Medicare will apply a value modifier to physician or group of physicians' payments. One of the provisions of the ACA, the value modifier provides differential payment based on quality of care provided compared to cost during a defined performance period (CMS, 2013). Another physician-focused quality initiative supported by CMS is the DOQ-IT. The goals of this initiative were to focus on outpatient prevention and management of chronic diseases, and the implementation of electronic health records in physicians' outpatient practices (QualityNet, n.d.). Initially, there were 38 measures in the following five disease categories: coronary artery disease, diabetes mellitus, heart failure, hypertension, and preventive care. Selected DOQ-IT indicators intersected with the recommended ANA community-based non-acute nursing-sensitive quality indicators (Swan, 2008).

Intersection of National Ambulatory Care Quality Indicators: Consumers and Providers

The four national quality initiatives described previously provide a foundation for clarifying and

further developing quality indicator metrics for nurses and their contributions to patient care in ambulatory care settings. It is also important to understand the context of an ambulatory care visit. Ambulatory care is more logistically complex and challenging than acute care, since infrastructures frequently provide less optimal support for managing care than in hospitals (National Technical Information Services, 2001). For consumers and their families, an encounter in ambulatory care often requires contacts with multiple providers, in various locations, necessitating communication, coordination, and "handoffs and transitions" among several different sites. Unlike transport services in hospitals, during these ambulatory encounters, the consumer, alone or with a family member, is the transporter/navigator.

For nurses, an encounter in providing ambulatory care often requires contacts with multiple members of the health care team and parallels a similar path as the consumer, necessitating communication, coordination, and "handoffs and transitions" among several different providers across a variety of care settings. Therefore, when exploring the value proposition for RNs in ambulatory care, it is critical to explore the intersection of consumers with the many providers and sites of health care delivery, the length and longitudinal nature of the relationship, as well as the integration of existing quality indicators with the health care provider team.

Another national effort to address the concern over identifying collective and individual contributions and value of RNs in ambulatory care on patient outcomes was the convening of a state of the science invitational conference focused on measuring quality at the RN provider level in ambulatory care. Funded by the Agency for Healthcare Research and Quality, the conference, titled *Ambulatory Care Registered Nurse*

Performance Measurement, was devoted to ambulatory care RN performance measurement and quality of health care. A specific emphasis was placed on formulating a research agenda and developing a strategy to study the testable components of the RN role related to care coordination and transition management correlated to improving patient outcomes, decreasing health care costs, and promoting sustainable system change (Swan, Haas, & Chow, 2010). By necessity, crucial elements of the strategy dialogue focused on issues and implications for nursing and interprofessional practice, quality, and pay for performance. Strategic priorities were purposely categorized according to common themes, rather than practice, research, and policy, to emphasize the importance of integration and collaboration among stakeholders in the quality agenda (see Table 2).

The ANA has responded to challenges discussed here by created a Care Coordination Quality Measurement Panel Steering Committee (ANA, 2013), comprising national experts in this area and representing major specialty nursing organizations. In addition, ANA convened an Ambulatory Measurement Summit in 2014 to identify, through review of existing ambulatory care measures, the next generation of measures reflecting nursing care.

Methods to Parse Out Nursing Contributions to Care as Members Of the Interprofessional Team in The PCMH

In the PCMH, where patients are driving their health goals, the patient or a family member, friend, or neighbor may be the primary caregiver, and when the PCMH interprofessional team in the provider care, it is more challenging to parse out "nurse-sensitive" indicators. Using the CCTM Logic Model for RNs in Figure 1, the first column on the left specifies the dimension, the second column

**Table 2.
Strategic Priorities and Themes**

Strategic Priorities	Activities
Context for RNs' contributions to ambulatory care quality and in the context of national policies	<p>Recognize that a substantial portion of ambulatory care depends on an interprofessional team that significantly influences outcomes of care, and RNs being integral team members.</p> <p>Build on current assets in the areas of measure endorsement, public reporting, and performance-based payment programs and seek opportunities to "join up" with other professional organizations.</p> <p>Describe ambulatory care RNs contribution to "value driven health care."</p> <p>Examine new opportunities within the Patient Protection and Affordable Care Act related to the medical home and improving patient outcomes, decreasing health care costs, and promoting sustainable system change.</p> <p>Explore a set of care coordination and care transition measures written in to CMS rulemaking.</p>
Methodological and technical aspects of measure development and testing	<p>Explore care coordination and care transition measure that demonstrates nurses' cognitive work and accountability in National Quality Forum's (NQF) Episode of Care Model, not necessarily nursing centric/specific.</p> <p>Consider harmonization of existing provider measures, as well as site of care measures.</p>
Advancing a research agenda	<p>Conduct a survey of RNs in ambulatory care guided by NQF's portfolio of care coordination of preferred practices and performance measures. Pilot survey with American Academy of Ambulatory Care Nursing members and then survey American Nurses Association members.</p> <p>Discuss with CMS' Center for Medical Operations the possibility of mining data from CMS demonstration projects in ambulatory care that include RN data.</p> <p>Conduct a study examining "variability" of RNs' work, structure, process, and outcome demonstrating the contributions of RNs. Is there location and/or geographic variability or the potential to diminish variability across locations and/or geography.</p> <p>Conduct a prospective research demonstration project comparing usual care versus RN care manager of multiple chronic disease management.</p>
Development of health information technology	<p>Consider "meaningful use" when collecting measures electronically.</p> <p>Consider the role of personal health records as a tool for data collection.</p>
Strategic collaborations	<p>Explore opportunity to collaborate with the American Medical Association related to Physician Quality Reporting Initiative efforts and NQF's National Priorities Partnership (NPP) work group on care coordination.</p> <p>Explore opportunity to collaborate with the American Hospital Association related to NQF's NPP work group on care coordination.</p> <p>Work with Nursing Alliance for Quality Care related to the policy agenda and implications for measuring quality at the RN provider level in ambulatory care.</p>

specifies activities/interventions included in the dimension, the third column specifies who does the activities, while the last three columns to the right specify short, medium, and long-term outcomes. Please note short-term outcomes can also be considered processes as can medium outcomes specified in the model.

Documentation is the key to tracking processes and outcomes achieved via the interprofessional team working in a PCMH. It is

imperative nurses work with administration and vendors to develop documentation screens in the electronic health record that reflect the activities, processes/outputs, and outcomes that RNs in CCTMs accomplish with patients in ambulatory settings. Mining data generated from such documentation in the electronic record will ultimately demonstrate the value of nurses as part of the interprofessional team. This is not as big an issue in acute care where

nurses routinely document all care provided and outcomes achieved. Data mining in EHRs that use a platform such as EPIC, where each provider has a professional designation that is grounded in scope of practice of the provider documenting in the EHR, has the potential to allow mined data to show which providers are doing what processes, and the outcomes achieved. Ultimately such data will demonstrate percent of time spent by nurses (as well as

other providers) on specific activities with the outcomes achieved. This can contribute to understanding of the contribution, and ultimately value, of the RN in CCTM. Such estimates from documentation data also have implications for staffing models with different patient populations cared for in the PCMH.

There is need to first develop reliable process and outcome measures that reflect nurses' contributions to the interprofessional team in the PCMH, working within the dimensions of care coordination and transition management. Given the ACA has set provisions that plans of care in the PCMH will be evidence based, evidence-based guidelines provide opportunities to develop assessment, intervention, and outcome indicators. These indicators, once identified, must be coded using standardized numeric codes such as those provided by the Systematized Nomenclature of Medicine-Clinical Terms or the International Classification for Nursing Practice and embedded in routine documentation screens used by the interprofessional team in the PCMH. Standardized coding allows for queries of the documentation in the EHR, determination that evidence-based assessments are completed and acted upon, interventions are carried out, and outcomes achieved. Such queries can yield data to determine compliance with evidence-based practices, compare PCMH sites, observe who is doing activities/processes, and note outcomes achieved. Since some activities specified in the Logic Model in Figure 1 can be performed by several providers, it also has the potential to not only answer the value proposition for the RN in CCTM, but also the social worker, advanced practice nurse, pharmacist, and other health care professionals.

There is a need to move beyond use of easily accessed outcomes such as re-admission to hospital in less than 30 days and emergency department visits to

more discrete outcome measures that are linked to intervention processes, so evidence-based processes can be defined and promulgated as we work to enhance quality and safety outcomes from use of care coordination and transition management.

Given the diversity in approaches being developed in ACOs and PCMHs, there are opportunities for many care coordination and transition management models to be developed, tested and modified to meet the unique needs of patient populations served. When electronic patient records are fully operationalized across the care continuum and all members of the interprofessional team are documenting in them, we will have a rich repository of real-time data that will further inform development of delivery models that enhance safety, quality and cost-effective care for patients. (Haas & Swan, 2014, p. 147)

Conclusion

The ACA provision that specifies development of the PCMH with interprofessional teams offers opportunities for patients to access and receive high-quality safe care and it offers opportunities for nurses to work at their full potential as an integral part of the interprofessional team. Development of the RN in CCTM model and role for ambulatory care nurses provides the opportunity for nurses to develop the knowledge, skills, and attitudes to be a resource to the team and to patients, and to contribute to high-quality patient and organization outcomes. The CCTM Model for RNs provides a means to fulfill the recommendations of the IOM Report: *The Future of Nursing: Leading Change Advancing Health* (2011). The CCTM Model for RNs:

1. Supports RNs practicing to the full extent of their education and training.

2. Promotes RNs achieving higher levels of education and training through an improved education system that promotes seamless academic progression.
3. Advocates that RNs are full partners, with physicians and other health care professionals, in redesigning health care in the United States.
4. Highlights that effective workforce planning and policy-making require better data collection and an improved information infrastructure.

The development and use of a CCTM Logic Model for RNs provides for delineation of activities, processes, and outcomes for each of the nine evidence-based dimensions in the RN-CCTM (see Figure 1). It sets the stage for development of assessment, process, and outcome metrics that can assist with understanding the RN's contribution to care coordination and transition management of complex chronically ill in ambulatory care settings. It also provides data for calculating the value proposition for care provided by registered nurses in the CCTM role working with complex chronically ill patients in ambulatory care settings. \$

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