The United States health care system is challenged in its efforts to manage people with complex health care needs effectively, from an access, quality, and cost perspective (Agency for Healthcare Research and Quality, 2012; Grundy, Hagan, Hansen, & Grumbach, 2010). To enhance access and quality, the Affordable Care Act (ACA) promotes the use of the Patient-Centered Medical Home (PCMH) and the Accountable Care Organization (ACO), with the PCMH serving as the community site for primary care and critical access point for the ACO. The need for care coordination and management of transitions between PCMH providers, outpatient and community settings, including the ACO, is often overlooked, episodic, and accountability for coordinating care and managing transitions between providers and services is lacking. With over one billion visits annually, outpatient care is the least studied and poorly understood. In addition, care for the chronically ill is exorbitantly expensive. The ACA describes the interprofessional health care team of the PCMH in which the registered nurse (RN) is integral and strongly advocates for care coordination. In hospitals, much research has tested models focused on improving the transition from hospital to home, examining discharge planning and home visits by advanced practice nurses (Bixby & Naylor, 2010; Coleman, Parry, Chalmers, Chugh, & Mahoney, 2007; Naylor, Aiken, Kurtzman, Olds, & Hirschman, 2011). In primary care settings, research has focused on testing models of care coordination by RNs in individuals 65 years and older with multiple co-morbidities and on older adults with depression and multiple chronic diseases (Boult et al., 2008; Coburn, 2010). However, no reported studies or models have addressed RN-based care coordination and transition management in younger persons, 18 through 64 years, with complex biopsychosocial health care needs or serving vulnerable outpatient populations including the uninsured, those on Medicaid, and the geographically and economically disadvantaged.

Marcantonio, Lazansky, Keller, & Davis, 2012; Unützer, Powers, Katon, & Langston, 2005). However, no reported studies or models have addressed RN-based care coordination and transition management in younger persons, 18 through 64 years, with complex biopsychosocial health care needs or serving vulnerable outpatient populations including the uninsured, those on Medicaid, and the geographically and economically disadvantaged.

NOTE: The authors are members of the Expert Panels of the American Academy of Ambulatory Nursing.

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EXECUTIVE SUMMARY

- The need for care coordination and management of transitions between Patient-Centered Medical Home providers, outpatient and community settings, including the Accountable Care Organization is often overlooked, episodic, and accountability for coordinating care and managing transitions between providers and services is lacking.
- Recognizing the potential of the RN to contribute to enhanced quality, cost effectiveness, and access to care in ambulatory settings, the Board of Directors of the American Academy of Ambulatory Care Nursing (AAACN) created a care coordination competencies action plan with three phases to delineate RN competencies and develop an education program for care coordination and transition management in ambulatory care.
- The first Expert Panel completed a comprehensive, interdisciplinary literature review and analysis focused on care coordination and transition management.
- The second Expert Panel — representing nursing, medicine, and pharmacy — defined the dimensions, identified core competencies, and described the activities linked with each competency for care coordination and transition management in ambulatory settings.
- The third Expert Panel reviewed, confirmed, and created a table of dimensions, activities, and competencies (including knowledge, skills, attitudes) for ambulatory care RN care coordination and transition management.

Sheila Hass
Beth Ann Swan
Traci Haynes

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National reports have called for patient centric care models as one strategy to improve quality care (Institute of Medicine [IOM], 2001). A 2010 IOM report, The Future of Nursing, again called for care that is patient centric and identified the need to reconsider the roles of health professionals, including RNs, and transform practices related to care coordination and transition management (IOM, 2010). Coordinating care and managing transitions across multiple providers and settings requires patient-centered interprofessional collaborative practice teams and RNs are ideally positioned to serve in the care coordinator/transition manager role (American Nurses Association, 2012).

Recognizing the potential of the RN to contribute to enhanced quality, cost effectiveness, and access to care in ambulatory settings, the Board of Directors of the American Academy of Ambulatory Care Nursing (AAACN) created a care coordination competencies action plan with three phases to delineate RN competencies and develop an education program for care coordination and transition management in ambulatory care. The deliverable for Action Phase I was to create a table of evidence; Action Phase II was to develop core competencies for care coordination and transition management dimensions; and Action Phase III was to review the care coordination and transition management dimensions and competencies within each and begin to design a care coordination and transition management role for RNs working with ambulatory care patients with complex chronic illnesses. To carry out the three action plans, AAACN convened three national expert panels with representatives from practice and education and facilitated by Dr. Sheila Haas, Dr. Beth Ann Swan, and Ms. Traci Haynes. In addition, the Academy of Medical-Surgical Nurses’ leadership was invited to participate in Action Phases II and III. Phase I was initiated in December 2011 and concluded in February 2012; Phase II occurred between March 2012 and May 2012; and Phase III occurred between June 2012 and September 2012.

Methods

AAACN put out a call for volunteer members for each expert panel. The response from members was awesome. The facilitators were able to select from highly qualified experts and achieve panels that represented ambulatory care settings geographically, as well as by populations served and by types of delivery systems. The AAACN staff set up a dedicated web site and the board liaison facilitator worked with AAACN staff to keep materials on the site up to date and accessible to panel members. All articles, papers, and materials for review were posted on this site. Each panel was convened online and facilitators explained the work to be done, expected deliverables, and fielded questions from participants. Online meetings occurred bi-weekly and productivity of panelists was astounding. The second and third online meetings were used to discuss issues and challenges and make sure all panelists understood methods and deliverables. Focus group methods were used successfully throughout, and in Panel II and III there were lively discussions about inclusion of activities in dimensions and development of competencies. In Panel III, GoToMeeting™ was used to assist with discussions on melding the dimensions into the RN Care Coordination and Transition Management (RN-CCTM) model. The third Expert Panel worked through the need for a new dimension of population health management and the realization that health care informatics and telehealth practice were methods with requisite competencies that support all RN-CCTM model dimensions.

The first Expert Panel was convened online and completed a comprehensive, interdisciplinary literature review and analysis focused on care coordination and transition management. Following a search in MEDLINE, CINAHL Plus, and PsychINFO, the 26-member team worked in dyads, reviewed 82 journal articles, and abstracted data to a table of evidence. The members represented practice and education; public, private, military, and veterans organizations; and 15 states in east, west, north, south, and central
United States plus the District of Columbia. Each expert panel member was assigned to a dyad based on geographic location and time zone. Each dyad reviewed four to five articles and abstracted the information on to the template table of evidence that was provided. Each dyad needed to reach consensus when entering information on the table of evidence. In the event a dyad could not reach consensus, Sheila Haas or Beth Ann Swan reviewed the article.

The table of evidence template was developed to assist in the next step of synthesizing the evidence, including developing discrete care coordination and transitions management conceptual dimensions and competencies. When one reads about care coordination, often there are activities listed that are part of care coordination such as developing a plan of care or monitoring progress on established goals. Many activities such as these fit together within a broader construct or dimension such as planning. When developing a role that reflects all of the major dimensions or constructs that make up the role, use of dimensions allows for addition of relevant activities under each dimension as the role evolves. Use of dimensions also allows for development of competencies requisite to each dimension and helps specify education and evaluation needed for successful practice within the role. In this project, the Quality and Safety in Education in Nursing (QSEN) format was used for each care coordination and transition management dimension identified (Cronenwett et al., 2007). Reviewers were also asked to identify the knowledge, skills, an attitudes identified in the literature and if absent to use expert opinion to specify each.

The table of evidence template included:
- Authors of Study Column: Use APA format.
- Study Title Column: Use APA format.
- Research Questions Column: All questions listed for the study, and reviewers were asked not to confuse questions with study purpose or aims.
- Research Design Type Column: Specify the design as stated in the study. If a reviewer did not recognize the design name, they were asked to look up the correct design given the description of methods for the study.
- Setting and Sample, Inclusion/Exclusion Criteria Column
- Methods, Intervention and/or Instruments: Include the validity and reliability of each instrument as presented by the author(s).
- Analyses Column: Brief summary type of statistical analyses done for data collected for each study research question, as well as, any reliability and validity testing and analysis of instruments used in the study.
- Key Findings Column: List findings identified by the authors.
- Recommendations Column: List recommendations identified by the authors.

- List of Dimensions of Care Coordination: Briefly list the dimension or dimensions identified in the article with activity or activities that are supporting and/or contributing to care coordination (and transition management if applicable) dimension(s).

In March 2012, the second Expert Panel was convened with 16 nursing members. This phase involved defining the dimensions, identifying core competencies, and describing the activities linked with each competency for care coordination and transition management in ambulatory settings. Using focus group methods online, the expert panel identified nine patient-centered care dimensions and associated activities of care coordination and transition management. The nine dimensions were:
1. Support for self-management
2. Education and engagement of patient and family
3. Cross setting communication and transition
4. Coaching and counseling of patients and families
5. Nursing process including assessment, plan, implementation/intervention, and evaluation; a proxy for monitoring and intervening
6. Teamwork and collaboration
7. Patient-centered care planning
8. Decision support and information systems
9. Advocacy

This panel also identified competencies needed for each dimension including knowledge, skills, and attitudes. The evidence-based dimensions and activities were validated using informal focus groups at the AACN National Conference in May 2012. A table was created that listed the nine dimensions with the associated evidence-based and practice-based activities. One excerpt is displayed in Table 1.

In August 2012, using focus group methods online, the third Expert Panel reviewed, confirmed, and created a table of dimensions, activities, and competencies (including knowledge, skills, attitudes) for ambulatory care RN care coordination and transition management (see Table 2). After much discussion, the third Expert Panel determined the original 8th dimension of decision support and information systems, as well as telehealth practice, were technologies that support all dimensions. Population health management became the new 8th dimension given the prominence it is assuming in outpatient care even though there was little discussion of it in the literature reviewed. This Expert Panel also determined methods to be used to enhance teamwork and interprofessional collaboration in outpatient settings. Nationally recognized core competencies for interprofessional collaborative practice (AACN, 2011), quality and safety in nursing education (QSEN) competencies (Cronenwett et al., 2007),
### Table 1.
Dimensions and Activities of Care Coordination and Transition Management

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Self-management (diabetes) patient folders with self-management tools: pamphlets, medication sheets, medication adherence; top 10 reason list; access to primary RN; literacy screening; goal setting, no more than two per visit.</td>
<td>Establish relationship with patient and family by explanations of care coordination, and collaborative care to meet patient needs.</td>
<td>Task of facilitating transition from one facility to another (&quot;warm hand off&quot;)</td>
<td>Developing the long-term relationship with patients and families</td>
<td>Use open-ended questions to assess knowledge, give examples to assess critical thinking</td>
<td>Health coach/provider huddle</td>
<td>Some element of face-to-face</td>
<td>New onset use of insulin (pediatrics and adults)</td>
</tr>
<tr>
<td>Evidence-based activity</td>
<td>Evidence-based activity</td>
<td>Evidence-based activity</td>
<td>Evidence-based activity</td>
<td>Practice-based activity</td>
<td>Evidence-based activity</td>
<td>Practice-based activity</td>
<td>Evidence-based activity</td>
</tr>
</tbody>
</table>

**Lessons Learned**

It has been a privilege to serve as facilitators in this initiative. We have worked with truly expert ambulatory care nurses who are committed to their patient populations and practicing at the cutting edge of ambulatory care nursing. Their productivity was phenomenal, they consistently delivered an excellent product on time, and raised salient issues and challenges that needed to be addressed. We found that it is feasible to use focus group techniques online, even with only telephone connectivity. We successfully used webcasting technology on an as-needed basis and archived the virtual meeting. We saved lots of trees and postage with use of the AAACN web site to deliver and share materials.

**Next Steps**

The AAACN Board of Directors has developed a charter. Now that there is a draft of the RN-CCTM model with dimensions and competencies specified, AAACN is ready to develop education modules for each of the dimensions and also create an RN-CCTM model that will be available to ambulatory nurses aspiring to this role. The successful completion of the education package will also be a way to obtain recognition or certification for successful completion.

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*Public health nursing competencies (Quad Council of the Public Health Nursing Organizations, 2011)*
Table 2.
Dimensions, Activities, and Competencies for Care Coordination and Transition Management

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Activity(ies)</th>
<th>Competency(ies):</th>
<th>Evidence</th>
</tr>
</thead>
</table>
| Education and Engagement of Patient and Family | Assessment of readiness to learn  
Development and use of content that is age, education level, and culturally appropriate  
Evaluation of learner understanding of content taught  
Performance of eight clinical processes: “assessing the patient and primary caregiver at home, creating an evidence-based care plan, promoting patient self-management, monitoring the patient’s conditions monthly, coaching the patient to practice healthy behaviors, coordinating the patient’s transitions between sites and providers of care, educating and supporting the caregiver, and facilitating access to community resources” (Boult et al., 2008, pp. 321-322). | Knowledge: Knows questions to ask and cues to look for regarding physical, psychological, and social readiness to learn.  
Skills: Uses techniques that invite/engage patient and significant others in learning. Uses techniques to assess learning such as “teach back.”  
Attitude: Demonstrates creativity in planning appropriate learning experiences for patients and significant others.  
Knowledge: Identifies questions to ask to holistically design an integrated care plan that encompasses a variety of care methods to provide patients with complex care needs with the resources needed to maintain the highest level of function.  
Has awareness of known risk factors that place a patient at risk for re-hospitalization or exacerbation and utilizes knowledge and critical thinking to identify actions to mitigate risk.  
Skills: Identifies full range of medical, functional, social, and emotional problems that increase patient’s risk of adverse health events.  
Addresses identified needs through education, self-care, optimization of medical treatment, and integration of care fragmented by care setting and provider.  
Monitors patients for progress and early signs of problems.  
Utilizes data collection and analysis to design interventions to improve patient outcomes.  
Attitude: Values the services available to patients by delivering services that facilitate beneficial, efficient, safe, and high-quality patient experiences and improve patient health care outcomes. | Boult et al. (2008). Early effects of “guided care” on the quality of health care for multimorbid older person: A cluster-randomized controlled trial.  
Coleman et al. (2007). Effectiveness of team managed home-based primary care. |
Table 3.
Crosswalk of Dimensions for Care Coordination and Transition Management with Core Competencies

<table>
<thead>
<tr>
<th>Dimension RN Care Coordinator and Transition Manager (RN-CCTM)</th>
<th>Quality and Safety Education for Nurses (QSEN) Core Competencies (Cronenwett et al., 2007)</th>
<th>Interprofessional Education Collaborative Core Competencies (AACN, 2011)</th>
<th>Public Health Nursing Competencies (Quad Council, 2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support Self-Management</td>
<td>Patient-Centered Care</td>
<td>Interprofessional Communication</td>
<td>Domain #3: Communication Skills</td>
</tr>
<tr>
<td>Education and Engagement of Patient and Family</td>
<td>Patient-Centered Care</td>
<td></td>
<td>Domain #4: Cultural Competency Skills</td>
</tr>
<tr>
<td>Cross Setting Communication and Transition</td>
<td>Patient-Centered Care</td>
<td>Interprofessional Communication</td>
<td>Domain #1: Analytic Assessment Skills</td>
</tr>
<tr>
<td>Coaching and Counseling of Patients and Families</td>
<td>Patient-Centered Care</td>
<td></td>
<td>Domain #6: Leadership and System Thinking Skills</td>
</tr>
<tr>
<td>Nursing Process: Assessment, Plan, Intervention, Evaluation</td>
<td>Evidence-Based Practice Quality Improvement</td>
<td>Roles and Responsibilities</td>
<td>Domain #1: Analytic Assessment Skills</td>
</tr>
<tr>
<td>Teamwork and Collaboration</td>
<td>Teamwork and Collaboration</td>
<td>Teams and Teamwork</td>
<td>Domain #8: Leadership and System Thinking Skills</td>
</tr>
<tr>
<td>Patient-Centered Planning</td>
<td>Patient-Centered Care</td>
<td>Values/Ethics for Interprofessional Practice</td>
<td>Domain #1: Analytic Assessment Skills</td>
</tr>
<tr>
<td>Population Health Management</td>
<td>Quality Improvement Informatics</td>
<td></td>
<td>Domain #5: Community Dimensions of Practice Skills</td>
</tr>
<tr>
<td>Advocacy</td>
<td>Patient-Centered Care</td>
<td></td>
<td>Domain #6: Basic Public Health Sciences Skills</td>
</tr>
</tbody>
</table>

REFERENCES


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