

Enhancing Value-based Care Coordination and Transition Management Through Health Care IT Data and Informatics Quality Measures

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Objectives:

- At the conclusion of this presentation, attendees will be able to:
 1. Discuss Care Coordination and Transition Management (CCTM) RN role dimensions and competencies
 2. Delineate extant quality outcome measures for RN CCTM nursing care
 3. Discuss challenges and progress being made on development of coding for CCTM interventions to enhance explanatory power of quality outcome measures and tracking via EHR documentation

Commonwealth Fund Mirror Mirror on the Wall Report (2014): Rankings of Healthcare In Major Industrialized Countries

EXHIBIT ES-1. OVERALL RANKING

	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWZ	UK	US
OVERALL RANKING (2014)	1	2	3	4	5	6	7	8	9	10	11
Quality Care	1	2	3	4	5	6	7	8	9	10	11
Access	1	2	3	4	5	6	7	8	9	10	11
Efficiency	1	2	3	4	5	6	7	8	9	10	11
Equity	1	2	3	4	5	6	7	8	9	10	11
Health Care Outcomes	1	2	3	4	5	6	7	8	9	10	11
Health Care Costs	1	2	3	4	5	6	7	8	9	10	11

Health Care Spending, Total, 2012**

Country	Spending (\$/capita)
AUS	\$3,899
CAN	\$4,522
FRA	\$4,128
GER	\$4,495
NETH	\$5,099
NZ	\$3,882
NOR	\$5,689
SWE	\$3,525
SWZ	\$5,643
UK	\$3,495
US	\$8,388

Summary of U.S. Healthcare Failures versus other industrialized countries

- Failures of U.S. Health Care System:
 - Cost of Care
 - Access to Care
 - Quality of Care
 - Efficiency
 - Equity
 - Healthy Lives
- Commonwealth Fund (2014)

EXHIBIT 2
Health Care System Performance Rankings (2017)

	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWZ	UK	US
OVERALL RANKING	2	9	10	8	3	4	4	6	6	1	11
Care Process	2	6	9	8	4	3	10	11	7	1	5
Access	4	10	9	2	1	7	5	6	8	3	11
Administrative Efficiency	1	6	11	6	9	2	4	5	8	3	10
Equity	7	9	10	6	2	8	5	3	4	1	11
Health Care Outcomes	1	9	5	8	6	7	3	2	4	10	11

Source: Commonwealth Fund analysis.

Failures in the U.S. Health Care System (2017)

- Cost of Care
- Care process
- Access to care
- Health care outcomes
- Efficiency
- Equity
- Overall ranking

Rankings of GDP

Cost of Care	16%
Care process	5
Access to care	11
Health care outcomes	11
Efficiency	10
Equity	11
Overall ranking	11

(Commonwealth Fund, 2017)

Statistics underlying need for changes in health care delivery i.e., movement to primary care

- Six in ten adults in the United States (U.S.) have a chronic illness
- Four in ten adults have two or more chronic illnesses
- Chronic diseases are the leading causes of death and disability and leading drivers of the nation's \$3.3 trillion in annual healthcare costs. (National Center for Chronic Disease Prevention and Health Promotion, 2019)
- Concurrently, the incidence and prevalence of chronic health conditions has increased, with conditions such as:
 - diabetes,
 - heart disease,
 - cancer, hypertension,
 - stroke,
 - arthritis,
 - obesity,
 - renal disease, and
 - respiratory
- These diseases are the most common causes of illness, long-term disability, reduced quality of life and death. (National Center for Chronic Disease Prevention and Health Promotion 2019; Raghupathi & Raghupathi, 2018)

Initial Chronic Diseases Give Rise in Patients to Other Chronic Disease Sequela → Multiple Chronic Conditions (MCC)

- In the United States (U.S.), individuals with multiple chronic conditions often require care from numerous health care providers located in a variety of settings.
- Chronic diseases are responsible for 7 of 10 deaths each year
- Treating people with chronic diseases accounts for 86% of our nation's health care costs (Centers for Disease Control and Prevention, n.d.)
- Eighty-eight percent of U.S. health care dollars are spent on medical care that only accounts for approximately 10% of a person's health.
- Other determinants of health are: lifestyle and behavior choices, genetics, human biology, social determinants, and environmental determinants accounting for approximately 90% of their health outcomes (Lobelo, Trotter, & Heather, 2016).
- Many individuals struggle with multiple illnesses combined with social complexities such as, mental health and substance abuse, extreme medical frailty, and a host of social needs such as social isolation and homelessness (Humowiecki et al., 2018).
- Delivery of health care services continues to employ outmoded "siloed" approaches that focus on individual chronic diseases (Parekh, Goodman, Gordon, Koh & The HHS Interagency Workgroup on Multiple Chronic Conditions, 2011).

Initial Chronic Diseases Give Rise to Other Chronic Disease Conditions as Sequela → Multiple Chronic Conditions (MCC)

- Effective care coordination and transition communication is an expectation of quality patient care.
- Individuals with multiple chronic conditions present to the health care system with unique needs, functional limitations, and/or disabilities.
- The evidence on how to best support self-management efforts in those with MCC is in early stages of development (Grady & Gough, 2014).
- Frail elderly make up only 4% of population have difficulty with MCC, social issues and transitions among providers and settings, thus account for 43.9% of preventable spending (Donelan et al., 2019).
- As persons with MCC transition between health care providers and settings, many gaps and errors that can and do occur -
 - Incomplete transfer of information is a major factor in such gaps and errors.

Background and Significance

- Health care delivery is shifting from inpatient to outpatient and community settings.
- Need for care coordination and management of transitions between types of care, providers and settings is often overlooked, episodic, follows specialty rather than primary care.
- Care coordination and care transitions occur with no one accountable for coordinating care or managing transitions.
- Lack of IT interoperability makes transfer of information challenging



Development of RN Care Coordination and Transition Management Dimensions and Competencies

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11

Vision for CCTM RN Model and Role for Registered Nurses


Consistent with recommendations of IOM (2011) Report - *Future of Nursing: Leading Change Advancing Health*

- 1) Nurses should practice to the full extent of their education and training.
- 2) Nurses should achieve higher levels of education and training through an improved education system that promotes seamless academic progression.
- 3) Nurses should be full partners, with physicians and other health care professionals, in redesigning health care in the United States.
- 4) Effective workforce planning and policy making require better data collection and an improved information infrastructure.




Methods: Development of CCTM Dimensions and Competencies

- Develop evidence-based dimensions and competencies for Care Coordination and Transition Management (CCTM) practice by Registered Nurses
- Tap into expertise of ambulatory and acute care nurse experts organized into 4 expert panels
- Use translational research design to discover CCTM dimensions and competencies guided by Wagner Chronic Care Model (1998)
- Use focus group methods on-line as a cost effective, expeditious way to bring nurse experts together
- Provide opportunity for dialogue and build on each panel member's knowledge, skills and attitudes
- Use Quality and Safety Education in Nursing (QSEN) format to summarize and present CCTM competencies (Cronewett et al., 2007)




Translational Research Methods

- Search and appraise interprofessional evidence for best practices on care coordination and transition management
- Use theory to guide development of dimensions, implementation, adoption, sustainability and dissemination of Care Coordination and Transition Management (CCTM)
- Use Quality and Safety in Education in Nursing (QSEN) format to specify competencies
- Use Logic Modeling to clarify assumptions and relationships between major constructs
- Use project management techniques to keep project on target and on time
- Communicate with major stakeholders at frequent intervals

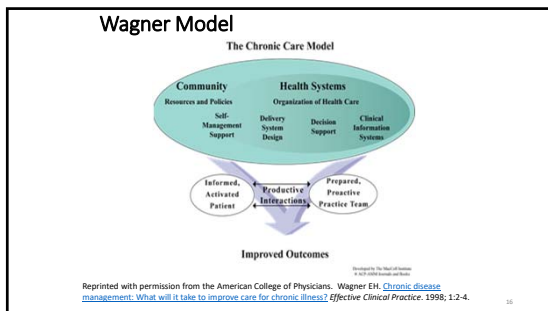


Methods (continued)

- The search for Dimensions of Care Coordination and Transition Management:
- What are Dimensions?
 - In the literature on care coordination, often nursing interventions are portrayed as long lists of activities comprising care coordination such as: Developing a plan of care or Monitoring progression on established goals.
 - Activities such as these actually fit together within a broader construct or dimension such as person-centered 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 or subtraction of relevant activities under each dimension as the role evolves
 - Development of competencies requisite to each dimension
 - Helps specify education and evaluation needed for competencies and successful practice within each dimension of the role




15




Care Coordination

Definition "Care coordination is the deliberate organization of patient care activities between two or more participants (including the patient) involved in a patient's care to facilitate the appropriate delivery of health care services. Organizing care involves the marshaling of personnel and other resources needed to carry out all required patient care activities and is often managed by the exchange of information among participants responsible for different aspects of care."

(McDonald et al., 2007 in AHRQ Care Coordination Measures Atlas, 2010, p. 4)



Transition Management



- **Definition:**
 - "the ongoing support of patients and their families over time as they navigate care and relationships among more than one provider and/or more than one health care setting and/or more than one health care service. The need for transition management is not determined by age, time, place, or health care condition, but rather by patients' and/or families' need for support for ongoing, longitudinal individualized plans of care and follow-up plans of care within the context of health care delivery." (Haas, Swan, & Haynes, 2014, p. 3)

Definitions of CCTM RN Dimensions (Haas, Swan & Haynes, 2019)

• Nursing Process

- **Nursing Process Definition:** The nursing process is a person-centric, systematic, non-linear, scientific method for utilizing theoretical and scientific knowledge and nursing skills in determining health care needs; and implementing and evaluating personalized nursing interventions for individuals, families, and communities (Toney-Butler & Thayer, 2019).

• Teamwork and Collaboration

- **Competency Definition:** In the Quality and Safety Education for Nurses (QSEN) project, the teamwork and collaboration competency is defined as functioning "effectively within nursing and interprofessional teams, fostering open communication, mutual respect, and shared decision-making to achieve quality patient care" (American Association of Colleges of Nursing [AACN] QSEN, 2012, p. 4).

Definitions of CCTM RN Dimensions (Haas, Swan & Haynes, 2019)

• Cross Setting Communications and Care Transitions

- **Competency Definition:** Effective utilization of communication skills to gain and transmit information, encourage team participation, leverage electronic medical record and other standard communication tools, and design and implement processes to provide sufficient, timely, and useful information necessary to achieve successful patient care transitions (Cronenwett et al., 2007).

• Population Health Management

- **Competency Definition:** The American Organization of Nurse Executives (AONE) population health competencies for nurse executives are organized within a framework that identifies strategies and interventions for nurses and health systems. The goal of population health management programs is "to improve the health outcomes of entire populations through the effective utilization of patient data and analyzing that data into actionable efforts that lead to improved clinical and financial outcomes" (AONE, 2015, p. 3). The competencies required to achieve this framework include:
 - Identify high-risk populations and apply systems thinking to provision of care.
 - Recognize and impact social determinants of health and work with other members of the health care team (e.g., social work) to address these social determinants.
 - Use technology, including registries and claims data, to identify and close gaps in care.
 - Interpret and utilize evidence-based practice research and guidelines to establish effective population health programs, practices, and implement population health models of care.

Advantages of Use of the of CCTM RN Dimensions

- Dimensions provide evidence-based assessments, interventions and expected outcomes
- Population Health Management focuses attention on need to address best evidence-based practice for defined populations, prior to individualizing care
- Suggest use of standardized communication tools to enhance transition management between providers and settings
- Use of extant evidence-based algorithm for assessment, planning interventions for complex chronic illnesses
- Structures a layout for EHR documentation screens that can provide data for:
 - Decision support tool development
 - Evidence of contribution to outcomes by distinct members of the interprofessional team
 - Provide data to assist with staffing models
 - Provide evidence of nurse contribution to outcomes of care



Vision

- The Electronic Health Record can be a **data collection tool**, a **data warehouse** and a **data resource**
 - Documentation needs to be streamlined (nurses spend too much time documenting and clicking to find content in EHR), focus should be on creation of summative indicators, where possible, that demonstrate assessment, interventions and outcomes - **data collection tool**
 - Summative indicators should be coded in standardized language such as SNOMED CT, so documentation data can be queried and compared across units and settings - **data warehouse**
 - Systematically collecting data on assessments, interventions and outcomes can be analyzed and lead to decision support tools, data for making a business case, and required reporting - **data resource**



Impact of Information and Communication Technologies (ICTs) on Nursing Care: results of an Overview of Systematic Reviews (Rouleau et al. 2017)

- Overview of systematic reviews (22 published between 2002 and 2015); conducted to determine dimensions and indicators of nursing care that could have been influenced by ICTs
- Quantitative, mixed-method and qualitative reviews were analyzed
- Impact of ICTs on four domains (management, computerized decision support, communication and information systems) was assessed
- Nursing Care Performance Framework (NCPF) was used as an extraction grid and analytical tool

Impact of Information and Communication Technologies (ICTs) on Nursing Care: results of an Overview of Systematic Reviews (Rouleau et al. 2017)

- Use of the NCPF facilitated finding that ICTs impacted 3 subsystems:
 - Nursing resources
 - Nursing services or processes
 - Nursing sensitive outcomes or patient outcomes
- Five dimensions were:
 - Nursing practice environment
 - Nursing processes
 - Patient experiences
 - Professional satisfaction
 - Nursing-sensitive outcomes

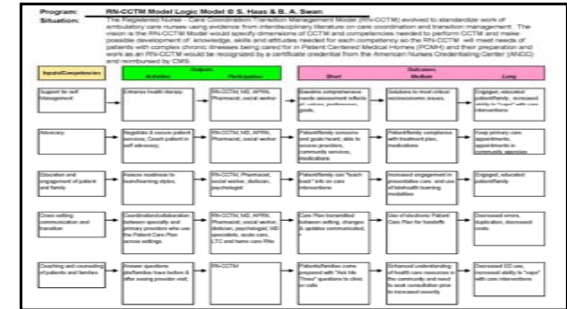
19 themes/indicators influenced by use of ICTs

(Rouleau et al. 2017)

- Time management
- Time spent on patient care
- Documentation time
- Information quality and access
- Quality of documentation
- Knowledge updating and utilization
- Nurse autonomy
- Intra and interprofessional collaboration
- Nurses' competencies and skills
- Nurse-patient relationship
- Assessment, care planning and evaluation
- Teaching of patients and families
- Communication and care coordination
- Perspectives of care provided
- Nurses and patients' satisfaction and dissatisfaction with ICTs
- Patient quality of life related to care
- Empowerment
- Functional status

Demise of Nursing Documentation (Harrington, 2019, Future Model for Nursing Documentation: Extinction, *Nurse Leader*; 17(2) pp. 114-115)

- Health care is in the digital age > having well educated health care professional manually entering data in EHR is not sustainable
- Need to realize that EHR is a database not a documentation system
 - Data are "gold of the digital age, but data must be accurate, relevant and timely"
- Data being captured must be transformed into actionable information and delivered to the right person anytime and anywhere to support optimal decisions and effectively change clinical and financial outcomes
- Need to:
 1. Eliminate nonvalue data/data that is not used (descriptive data e.g., colors of mucous)
 2. Simplify data (translate data into standardized definitions and terminologies that promote data exchange)
 3. Integrate data (same data should not be documented in silos throughout the EHR)
 4. Automate data (approaches include: medical device integration, wearables, Wireless sensors and devices and biosensors)



Value Proposition for RN-CCTM Role



- Definitions:
 - Value is an outcome of nursing practice (Edelbauer, Vlases, & Rogers, 2013)
 - Value = Outcomes Achieved Per Dollar Spent (Porter, 2010)
- Proposed method of developing an estimate of value for RN CCTM contributions:
 - Using the RN-CCTM Logic Model,
 - The first column on the left specifies the dimension
 - Second column specifies activities/interventions included in the dimension
 - The participation column specifies who does the activities
 - While the last three columns to the right specify short, medium and long term outcomes
 - Short term outcomes can also be considered assessment and intervention processes as can medium outcomes (Haas & Swan, 2014)
 - Summative SNOMED CT coded indicators would be developed for short, medium and long term outcomes outcomes (Haas & Swan, 2014)

Challenges with Use of CCTM with Complex Chronically Ill Patients

- Developing and using position descriptions that incorporate CCTM competencies
- Developing education and evaluation methods that foster CCTM Competencies involving CGEN KSAs within and across professions
- Developing staffing models to support/resource the interprofessional team
- Building human resources/team configuration to support RN CCTM
- Creating an environment (physical and cultural) to support RN CCTM
- Choosing and using a tool to stratify Complex Chronically Ill patients that incorporates social determinants
- Developing/standardizing communication methods for communication across settings and between interprofessional team members
- Developing, testing and using process and outcome indicators to track impact and value of RN CCTM practice



Challenges – Areas where Knowledge and Skills need to be Developed and Implemented

- EHRs must meet national and international technology standards, but often built on proprietary architecture by multiple vendors:
 - Interoperability between and among systems rarely exists without the design and building of interfaces (Frink, 2012)
- Developing/standardizing communication methods for use by interprofessional team members and between providers and setting:
 - An example: use of BOOST® communication tools such as Gap Assessment
- Developing, testing and using participant coding (RN, NP, MD), as well as, process and outcome indicators to track the impact and value
- Securing an adequate number of nurse informaticians per setting to effectively do EHR screen development
- Getting EHR screens with process and outcome indicators coded in standardized terminology such as SNOMED CT® expeditiously developed and active in the EHR



Challenges with developing nursing process indicators

- Nursing process indicators provide the linkage between what intervention/processes were done and the outcome achieved
- Despite Nursing Indicator Classification (NIC) there are still difficulties with consistent naming of processes and definitions for processes.
- Often there are multiple processes involved in nursing care that leads to a specific outcome, at the least, assessment and intervention
- Norma Lang: "If you cannot name it, you cannot teach it, research it, practice it, finance it or put it into public policy define it and you cannot measure it."
- Research needs to be done to name and define processes that have an evidence base and are best practice.
- Need more nurse informaticians who

Westra et al. (2018) Validation and Refinement of a Pain Information Model from EHR Flowsheet Data. *Applied Clinical Informatics*. 9(1) p. 186

- Widespread implementation of electronic health records (EHRs) provides health care organizations the opportunity to:
 - Capture, use, and share data for evaluation, benchmarking, quality improvement, and
 - Research to improve the effectiveness, efficiency, and outcomes of patient care.
- Secondary use and sharing requires data to be represented using recognized terminologies and descriptors that are consistent, understood, and effectively formatted for comparison.
- Concepts must be standardized, formally modeled, and mapped into the EHR for optimal use.
- An "information model" (IM) is an organized structure to represent knowledge about a clinical condition or concept including data elements, their relationships, and the data standards that are independent of implementation in EHRs. (Goossen, Goossen-Baremans, van der Zel (2016).
- IMs can be mapped to EHR data to identify semantic similarities and enable researchers to understand and normalize differences when they occur to improve data sharing.

Westra et al. (2018) Validation and Refinement of a Pain Information Model from EHR Flowsheet Data. *Applied Clinical Informatics*. 9(1) p. 185

- Secondary use of electronic health record
- EHR data must be consistent within and across organizations.
- Flowsheet data provide a rich source of interprofessional data and represent high volume of documentation
- Content is not usually standardized.
 - Health care organizations design and implement customized content for different care areas creating duplicative data that is noncomparable.
- In a prior study, 10 information models (IMs) were derived from an EHR that included 2.4 million patients
- Need to evaluate the generalizability of the models across organizations. Pain IM was selected for evaluation and refinement
- Pain is a problem associated with high costs

SNOMED CT

The global language of healthcare

There are many benefits of using SNOMED CT in Electronic Health Records including:

1. Health information can be shared consistently within and across healthcare settings.
2. Data can be organized, queried, and analyzed for the benefit of the individual and institution.
3. The risk of different interpretations of the record between different healthcare settings can be reduced.
4. Can remove language barriers as it enables multilingual use.
5. Updated twice a year to help users keep pace with the advances of healthcare terminology and add to the scope of coverage.

<https://www.nlm.nih.gov/healthit/snomedct/snomedoverview.html>

National Efforts to Develop Measures for Care Coordination

(Austin et al. [2019] Informatics competencies to support nursing practice. In *Care coordination and transition management core curriculum* (2nd Ed.)

- Nurses have a leadership role in health care to contribute to the triple aim of improving the individual care experience, improving the health of populations, and reducing the cost of health care (Berwick et al., 2008; Institute for Healthcare Improvement, 2018).
- Informatics competencies can be leveraged as powerful tools supporting the ability to gather the evidence to understand intervention effectiveness to improve health outcomes.
- Data has become increasingly accessible as more organizations implement electronic health records and link these electronic systems across care settings.
 - Creates the opportunity to understand care delivery for entire populations
 - Provides opportunity for nurses to demonstrate the value their interventions bring in health care delivery systems.
 - This information is also vital for consumers and payers of health care.

National Efforts to Develop Measures for Care Coordination

(Austin et al. [2019] Informatics competencies to support nursing practice. In *Care coordination and transition management core curriculum* (2nd Ed.)

1. Spring 2013, ANA appointed a group of 14 experts to serve on the Care Coordination Quality Measures Panel and an Advisory Group to develop a framework for measuring nurses' contribution to care coordination.
 - Panel identified Guiding Principles and a Glossary
 - An extensive literature analysis
 - The final report of the Panel went to the ANA Board
2. Also, given the expressed need of health care systems seeking Magnet accreditation, an AACN expert panel was invited to work with NDNQI to develop ambulatory indicators that could be part of NDNQI's measurement set.
3. January 2014, continuing work by ANA on Care Coordination culminated in an invitational Care Coordination Summit in Washington, DC

National Efforts to Develop Measures for Care Coordination

(Austin et al. [2019] Informatics competencies to support nursing practice. In *Care coordination and transition management core curriculum* (2nd Ed.)

4. Assessment, process, and outcome indicators need to be developed and embedded in nursing documentation screens, coded in standardized terminology (ICN or Systematized Nomenclature of Medicine – Clinical Terms [SNOMED – CT[®]]), so CCTM RN interventions can be tracked and contributions to outcome can be understood.
5. A task force to identify and define nurse sensitive indicators (NSI) specific to the ambulatory care setting. The development of the NSI's are in collaboration with the AANA.
 - Collaborative Alliance for Nursing Outcomes (CALNOC), and National Database Nursing Quality Indicators (NDNQI). This collaboration created the *Ambulatory Care Nurse-Sensitive Indicator Industry Report: Meaningful Measurement of Nursing in the Ambulatory Patient Care Environment*.
 - NSIs help facilitate and articulate value of nursing practice in the ambulatory care setting that are specific to individual outcomes.
6. The ANA announced continued support for use of standardized nursing terminologies to promote and facilitate data exchange. When exchanging data with another setting for problems and care plans, SNOMED – CT and Logical Observation Identifiers Names and Codes (LOINC[®]) should be used for exchange (ANA, 2018).

National Efforts to Develop Measures for Care Coordination

(Austin et al. [2019] Informatics competencies to support nursing practice. In *Care coordination and transition management core curriculum* (2nd Ed.)

7. As a result of these efforts, ambulatory care nurse-sensitive measures have been developed that address the structure, process, and outcomes of interventions sensitive to nursing practice (Mastal et al., 2016; Matlock et al., 2016; Start, Matlock, Brown, Aronow, & Soban, 2018)
 - a. Technical expert panels composed of nurses from organizations across the country convened to provide voice and direction to the development of measures that were feasible to capture in our EHRs and meaningful to practice.
 - b. In 2016, measure sets were defined for ambulatory care surgery centers and procedure centers that included the structure of staffing and the outcomes of care (Brown & Aronow, 2016).
 - c. In 2017, measures were expanded to primary and specialty care settings for measure sets that evaluated the process of assessment and follow up planning for pain management, hypertension, community fall risk, depression, and body mass index.
 - The next generation of measures address the more complex work of care coordination, transition management, and virtual care through telehealth.

National Efforts to Develop Measures for Care Coordination

(Austin et al. [2019] Informatics competencies to support nursing practice. In *Care coordination and transition management core curriculum* (2nd Ed.)

- The use of HIT is essential for performance improvement, safety, and quality outcomes.
- Care can be better coordinated, is safer, more efficient, and of higher quality, when data necessary for quality measurement are captured as a byproduct of care delivery (Kennedy, Murphy, & Roberts, 2013).
- HIT plays an essential role to enable person-centered data capture that is shareable and comparable across care settings to facilitate effective and efficient individual and population level positive health outcomes (Knight & Shea, 2014).
- In addition, MyHealthEData initiative was launched to strengthen interoperability or the sharing of health care data between providers and to easier access for consumers (CMS, 2018).
 - MyHealthEData aims to allow patients to receive copies of their entire EHRs, share their personal health data with anyone they choose, and put themselves at the center of the healthcare system.
 - With full access to their own EHRs, patients can find providers and healthcare services that best meet their needs, improve their understanding of their overall health, and make more informed decisions about their personal care.

CMS's Meaningful Measures
(https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityInitiativesGenInfo/Downloads/CMS-Meaningful-Measures-Overview-Fact-Sheet_508_2018-02-28.pdf)

- Launched in 2017, CMS's new comprehensive "Meaningful Measures" initiative identifies high priority areas for quality measurement
- Principles for Identifying Meaningful Measures
 - Meaningful Measures will move payment toward value by:
 - Focusing everyone's efforts on the same quality areas
 - Advancing specificity by identifying measures that:
 - Are patient-centered and meaningful to patients, clinicians, and providers
 - Address high-impact measure areas that safeguard public health
 - Are outcome-based where possible
 - Minimize level of burden for providers
 - Create significant opportunity for improvement
 - Address measure needs for population-based payment through alternative payment models
 - Align across programs

CMS's Meaningful Measures Framework
(https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityInitiativesGenInfo/Downloads/CMS-Meaningful-Measures-Overview-Fact-Sheet_508_2018-02-28.pdf)

- Promote effective communication & coordination of care:
 - Medication management
 - Admissions and readmissions
 - Transfer of health information and interoperability
- Promote effective prevention & treatment of chronic disease:
 - Prevention, treatment and management of mental health
 - Prevention and treatment of opioid and substance abuse disorders
 - Risk-adjusted mortality
- Work with Communities to promote best practices of healthy living:
 - Equity of Care
 - Community engagement

CMS's Meaningful Measures Framework
(https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityInitiativesGenInfo/Downloads/CMS-Meaningful-Measures-Overview-Fact-Sheet_508_2018-02-28.pdf)

- Make care affordable:
 - Appropriate use of healthcare
 - Patient-focused Episode of Care
 - Risk-Adjusted total cost of care
- Make care safer by reducing harm caused in delivery of care:
 - Healthcare associated Infections (HAI)
 - Preventable health care harm
- Strengthen person & family engagement as partners in care:
 - Care is personalized and aligned with a patient's preferences
 - End of life care according to preferences
 - Patient's experience of care
 - Patient reported functional status

Risk Adjusted Mortality

(<https://www.ncbi.nlm.nih.gov/pmc/article/PMC3312252/>)

- Risk of death in a hospitalized patient—and therefore the number of deaths expected in a hospital—is usually calculated using demographic and coded diagnostic and procedural information.
- A variety of private companies, trade organizations, and government agencies have developed mathematical models for calculating expected mortality; most of them employ roughly the same data set and use similar techniques of logistic regression
- The ratio between actual and expected deaths is widely considered to reflect quality of care, and as hospital performance data circulate ever more widely on the internet, this ratio has become a metric of increasing prominence

Equity

(<https://news.ama-assn.org/practice-management/health-equity-matters-health-care-transformation/>)

- Equity** is the absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically.
 - <https://www.who.int/healthsystems/topics/equity/en/>
- Health equity means giving patients the care they need when they need it.
- Or, as the Institute of Medicine (IOM) report put it, health equity means “providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status.”

Promoting Effective Communication in Primary Care Practice

(Austin et al. [2019] Informatics competencies to support nursing practice. In *Care coordination and transition management core curriculum* (2nd Ed.)


- Promoting effective communication and coordination of care is one of the Meaningful Measures Framework pillars.
 - Both effective communication and coordination of care are dependent on the HIT to facilitate communication and the transfer of information
 - Transfer of information should be done in a way that measurable outcomes and impact can be tracked.
- In primary care, there are six principle tasks for effective communication in care coordination.
 1. Maintaining individual continuity with a primary care interprofessional team.
 - Need standardized stratification tools (BOOST)
 - Need standardized verbal and written transmission tools (BOOST)
 2. Documenting and compiling individual information generated within and outside the primary care office.
 3. Using information to manage and coordinate care delivered in primary care practice.
 - a. Access and assess individual data.
 - b. Manage and coordinate care.
 - c. Population-based tracking for individual panel.
 - d. Identify means to include patient generated health data (PGHD).

Promoting Effective Communication

(Austin et al. [2019] Informatics competencies to support nursing practice. In *Care coordination and transition management core curriculum* (2nd Ed.)

- 3. Using information to manage and coordinate care delivered in primary care practice.
 - a. Access and assess individual data.
 - b. Manage and coordinate care.
 - c. Population-based tracking for individual panels.
 - d. Identify means to include patient generated health data (PGHD).
- 4. Referring and consulting (initiation, communication, and ongoing tracking).
- 5. Sharing care with clinicians across practices and settings.
- 6. Providing care and/or exchanging information for transitions and emergency care.
- Data elements required for primary care and population health management include, but are not limited to:
 1. Assessment.
 2. Planning.
 3. Intervention.
 4. Evaluation of care outcomes.

Project BOOST®



- Improve flow of information between hospital and physicians and providers across the continuum
- Improve communication between providers and patients
- Optimize discharge processes and transitions
[http://www.hospitalmedicine.org/Web/Quality Innovation/Mentored Implementation/Project_BOOST/About_BOOST.aspx](http://www.hospitalmedicine.org/Web/Quality%20Innovation/Mentored%20Implementation/Project_BOOST/About_BOOST.aspx)
- In acute care RNs use SBAR, with MCC patients in any care setting more comprehensive standardized communication tools are needed, hence BOOST 8 Ps

Risk Assessment (8 P's)	Risk Specific Intervention	Signature of individual responsible for creating intervention administered
Problematization Identify the patient's problem, what is the patient's problem, what is the patient's problem, what is the patient's problem?	<ul style="list-style-type: none"> 1. Mediation specific education and Train them provided to patient and caregiver 2. Monitoring the developed and communicated to patient and caregiver, when relevant to verify, document and track 3. Follow-up plan of 24 hours to assess adherence and coordination 	
Psychological Assess the patient's psychological status, what is the patient's psychological status, what is the patient's psychological status?	<ul style="list-style-type: none"> 1. Assessment of need for psychological intervention if any 2. Communication with relevant providers, highlighting the issue of care 3. Documentation of support services needed 	
Physical Review of medical discharge problem, when available	<ul style="list-style-type: none"> 1. Review specific education using Teach Back provided to patient and caregiver 2. Review after reviewed with patient/caregiver regarding what to do and why to contact in the event of worsening or for symptoms 3. Discuss goals of care and discuss when should discuss with patient/caregiver 	
Performance Identify the patient's performance, what is the patient's performance, what is the patient's performance?	<ul style="list-style-type: none"> 1. Identification of medication including to improve adherence 2. Follow-up plan of 24 hours to assess adherence and coordination 	
Four health history Identify the patient's health history, what is the patient's health history, what is the patient's health history?	<ul style="list-style-type: none"> 1. Coordinate caregiver involved in planning administration of general and risk specific interventions 2. Follow-up plan education using Teach Back provided to patient and caregiver 3. Link to community resources for additional patient/caregiver support 	
Patient support Identify the patient's support, what is the patient's support, what is the patient's support?	<ul style="list-style-type: none"> 1. Follow-up plan of 24 hours to assess adherence, education and coordination 2. Identification of medication including to improve adherence 3. Identification of support services needed with their communication of discharge plan/healthcare 	
Prior hospitalization Identify the patient's prior hospitalization, what is the patient's prior hospitalization, what is the patient's prior hospitalization?	<ul style="list-style-type: none"> 1. Review history for any hospitalization in context of prior hospitalizations 2. Follow-up plan of 24 hours to assess adherence, education and coordination 3. Follow-up plan of 24 hours to assess adherence and coordination 	
Palliative care Identify the patient's palliative care, what is the patient's palliative care, what is the patient's palliative care?	<ul style="list-style-type: none"> 1. Identify goals of care and discharge system 2. Coordinate program with patient/family/caregiver 3. Identify when or how to be available to patients based on advanced disease status 4. Discuss with patient/family/caregiver in role of palliative care services and benefits and costs 	

Adapted with permission from Society of Hospital Medicine (SHM); ©2014. All rights reserved. [http://www.hospitalmedicine.org/Web/Quality Innovation/Implementation_Toolkit/BOOSTOverview.aspx](http://www.hospitalmedicine.org/Web/Quality%20Innovation/Implementation_Toolkit/BOOSTOverview.aspx)

Appendix A: TARGET Assessment Tool - The 8 Ps

CCTM Dimensions	Measure Sets
Support for Self-Management	1. Pain
Education and Engagement of Individual and Family	2. Hypertension
Cross Setting Communication and Transition	3. BMI
Coaching and Counseling of Individual and Family	4. Depression
Nursing Process: Assessment, Plan, Intervention, Evaluation	5. Community Falls
Teamwork and Collaboration	6. DM HbA1C Monitoring
Person Centered Planning	7. Advanced Care Planning
Population Health Management	8. Opioid Misuse
Advocacy	9. Emergency Throughput
	10. Staffing
	11. Volumes
	12. Staff Demographics
	Structure:
	• Staffing
	• Volume
	• Role Demographics
	Process:
	• Risk Assessment and Follow Up Plans
	• Assessment
	Outcomes:
	• Admission
	• Readmission
	• DMHbA1C Control

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©Brown, D. and Start, R.

Linkages between CCTM Dimensions and Quality Outcome Measures (Swan & Haas, 2019)

• A number of currently tested quality measures/indicators linked with care coordination dimensions are available.

• Examples:

- **Support for self-management** dimension is linked with measure set for pain, hypertension, diabetes monitoring;
- **Cross setting communication and transition** is linked with measure set for admission and readmission;
- **Person-centered care planning** is linked with risk assessment and follow-up plans;
- **Advocacy** is linked with advanced care planning; and
- **Teamwork and collaboration** is linked with staffing, volume, and role demographics.

Vision



- When evidence-based practice (EBP) and translational research projects are used to solve practice problems, the EBP protocol should include assessment, intervention and outcome summative indicators
- Part of every EBP project is development of a test documentation screen that at the end of the project testing the documentation screen can be incorporated into the EHR
- Logic modeling can be used to delineate actions that require assessments, interventions and outcomes and summative indicators
- Logic modeling can also assist with development of decision support data and systems
- Given the frequency of documentation on indicators by nurses, there is potential for very robust data sets that contain reliable data, since EHR is a legal document
- EBP when implemented with IRB approval and use of indicators with standardized terminology fosters comparison and dissemination of best practices across settings



Evolving IT Methods to Enhance Patient Engagement and Decrease Transition Communication Failures

(https://www.ahrq.gov/sites/default/files/assets/professionals/quality-patient-safety/basis/tools/ambulatory-surgery/safetransitions/safetrans_toolkit.pdf)

- The Agency for Healthcare Research and Quality (AHRQ) created a toolkit specifically for the ambulatory care setting.
 - Several evidence-based resources were adapted to develop the ambulatory care individual and clinician tools in this toolkit.
 - The toolkit contains a detailed implementation guide, pre-intervention assessment, follow-up appointment aide, clinician checklist, and educational video
- Portions of this toolkit may be implemented within the EHR, which provides easier access within daily workflows.
- Additional work is needed to understand how this toolkit impacts safe transitions of care by examining individual outcomes and additional process improvements (Davis et al., 2017).

Evolving IT Methods to Enhance Patient Engagement and Decrease Transition Communication Failures

(Austin et al. [2019] Informatics competencies to support nursing practice. In *Care coordination and transition management core curriculum* (2nd Ed.)

- A most promising technology solution for CCTM focuses on the adoption of Health Information Exchanges (HIEs) by providers.
 - HIEs consolidate existing individual records from multiple providers into an integrated view for streamlined access by clinicians, independent of care setting.
 - Availability of the record itself as the main benefit is augmented with avoidance of duplicate testing and improved coordination of care.
 - Recent integration of patient portals within HIEs provides the added value of the individual patient having access to clinical, insurance, and outcome information from every health care provider/location they visit (Abdelhamid, 2018).

Evolving IT Methods to Enhance Patient Engagement and Decrease Transition Communication Failures

(Abdelhamid (2018). *Greater patient health information control to improve the sustainability of health information exchanges*; *Journal of Biomedical Informatics* 83 (1), 139-158.)

- Most HIEs configured the patient healthcare consent process to give all providers who sign up with the HIE access to PHI for all consenting patients, leaving no control to patients in what information to share and with who.
- Abdelhamid's (2018) research investigates the impact of granting greater control to patients in sharing their personal health information on consent rates and making them active participants in the HIE system.
- This research utilizes a randomized experimental survey design study.
- The study uses responses from 388 participants and structural equation modeling to test the conceptual model.
- The main findings of this research include:
 - Patients' consent rate increases significantly when greater control in sharing PHI is offered to the patient.
 - Greater control reduces the negative impact of privacy concern on the intention to consent.
 - Trust in healthcare professionals leads to higher consent when greater control is offered to the patient.

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