

Transforming Nursing Documentation

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Abstract

Graduate nursing education is positioned to transform nursing documentation so that it more fully describes nursing assessments, diagnoses, interventions, and outcomes to measure improvements in care. Learning to document with structured nursing terminology is an integral part of "Information Technology for Evidence-Based Practice", a required online course taken by all students in the Rutgers Doctor of Nursing Practice program. Beginning with SOAP and terminology required for billing, students create a clinical note adding elements of the Nursing Minimum Data Set, using Clinical Care Classification terms. Next, students are asked to select a nursing-related clinical practice guideline, electronic clinical quality improvement measure, and a screening tool that applies to their encounter note. Then, they identify Patient Reported Outcome Measures as well as improvement activities in the CMS Quality Payment Program. The course is well-received; many graduate students now face changes in documentation and electronic tools and can predict future evolution.

Keywords:

Terminology, Reference Standards, Nursing Informatics, Graduate Nursing Education

Introduction

Clinical documentation by Advanced Practice Nurses is useful to measure and improve the quality of care. Graduate nursing education is positioned to transform nursing documentation so that it more fully describes nursing assessments, diagnoses, interventions, and outcomes. As electronic health records evolve, optimizing clinical documentation will demand linking clinical notes to structured terminologies to power essential utilities such as clinical decision support, reports for value-based payment, and efficient information exchange with consumers and other providers. This paper presents a method of teaching documentation using structured nursing terminology, blending it with medical documentation required for billing, and connecting it with clinical guidelines, quality measures, patient-reported outcomes, and population health. Examples of students' exercises are included.

Learning to document with structured nursing terminology is an integral part of "Information Technology (IT) for Evidence-Based Practice", a required online course taken by all students in the Rutgers Doctor of Nursing Practice (DNP)

program. The course is designed to meet one of the American Association of Colleges of Nursing's DNP Essentials: IT competencies for the improvement and transformation of health care [1] and the American Organization of Nurse Executives' recommended information management and technology competencies for nurse leaders [2]. It illustrates the use of 3 of the 4 nursing care elements in the Nursing Minimum Data Set: Nursing Diagnosis, Nursing Intervention, and Nursing Outcome [3].

Furthermore, it promotes the goals of the Nursing Informatics Working Group of the International Medical Informatics Association [4] to:

- Educate/inform nurses regarding electronic health record standards
- Promulgate standards that enable representation of nursing-related measurements
- Educate/inform nurses regarding nursing-related measurement standards

Many advanced practice nursing curricula continue to teach the Problem-Oriented Medical Record and Subjective, Objective, Assessment/Diagnosis, and Plan (SOAP) format developed by Weed [5,6]. However, in early publications, Weed wrote, "...all narrative data presently in the medical record can be structured, and in the future all narrative data may be entered through series of displays, guaranteeing a thoroughness, retrievability, efficiency, and economy important to the scientific analysis of a type of datum that has hitherto been handled in a very unrigorous manner" [5, p.599].

For many years, SOAP notes documenting history, examination, and medical decision making have provided the foundation for billing using Evaluation and Management (E & M) codes developed by the Center for Medicare and Medicaid Services (CMS), appropriate to the level of care provided in a patient encounter [7]. While CMS has recently proposed consolidating encounter payment levels, the SOAP format will very likely continue to be standard practice [8]. Most SOAP components can be captured with SNOMED-CT (Systemized Nomenclature of Medicine – Clinical Terms), a reference terminology recognized by the American Nurses Association [9]; many nursing terminologies are also mapped to SNOMED-CT [10].

Structured Terminology: CCC

Beginning with SOAP and terminology required for billing (history, examination, International Classification of Diseases, Tenth Revision (ICD-10) coded diagnoses [11], Current Procedural Terminology (CPT) coded medical interventions [12], and E & M codes [7]), DNP students in the Rutgers IT course are asked to create a clinical note that adds elements of the Nursing Minimum Data Set, as captured by Clinical Care Classification (CCC) terms [13]. CCC coded nursing terminology has a four-level framework that consists of 21 care components within 4 healthcare patterns (Health Behavioral, Psychological, Functional, Physiological), 176 nursing diagnoses, 804 nursing interventions with 4 action types, and 3 potential outcomes (Improved, Stabilized, Deteriorated) for each nursing diagnosis.

Each student's note should include expected outcomes as well as a plan with five categories of interventions, as indicated for each diagnosis: Medications, Procedure/Lab/Radiology orders, Care coordination/Referrals, Patient Education and Patient self-management assignment, and Follow up/next visit. CCC nursing terminology is ideal for the documentation of expected outcomes and Care coordination/Referrals, Patient Education and Patient self-management assignment, and Follow up. Within the electronic health record, CCC captures nursing's contribution to care by mapping nursing interventions to patient outcomes.

A brief example of a student's note follows:

S. "Though I have not fallen for years, I feel unsteady at times." Meds: Carvedilol, 40 mg extended release PO qd. History of myocardial infarction 5 years ago. No surgeries. Last eye exam 2 months ago. Lives alone in a small house with stairs.

O. Vital signs: BP: 110/80, HR: 70, RR: 16, T: 98.6. Thin white woman, age 81. Alert and cooperative. Wearing flat shoes with good tread. Labwork WNL. Cardiac and Neuro exams WNL. Gait WNL. Fall risk score = 14

A. Hypertension (ICD 10: I11.0), Safety-Fall Risk (CCC: N33.6.1)

Goal: Improve Fall Risk

P. Refill medication (RxNorm: 860524) [14], Teach Environmental Safety (CCC: N42.1), Monitor/Follow up 2 weeks (CCC: N42.0)

Outcome: Fall Risk Improved

Clinical Guidelines, Quality Measures, Screening Tools

Next, students are asked to select a nursing-related clinical practice guideline that pertains to the documented scenario. Students are instructed to find a relevant guideline from their own practice or from a search of the literature or from ECRI Guidelines Trust [15]. An appropriate guideline for this patient encounter is from the American Geriatrics Society [16, 17].

After this step, students are asked to identify nursing-related electronic Clinical Quality Improvement (eCQI) measures from CMS that are related to the encounter. Advanced practice nurses are eligible clinicians for eCQI. They should revise their encounter note if necessary to include key data

elements for the measure chosen. CMS Measure CMS139v7 is appropriate for this encounter [18]. It is the "percentage of patients 65 years of age and older who were screened for future fall risk during the measurement period." It matches National Quality Forum (NQF) measure number 0101.

Students are encouraged to search for a reliable screening tool related to the guideline, and appropriate for electronic documentation. In this example, one appropriate Fall Risk Screening algorithm is STEADI, that combines subjective and objective information [19]. Other appropriate screening tools include the Morse Fall Risk Scale [20] and the Get Up and Go Test [21,22]. The students have the opportunity to revise their encounter note to include data elements required for screening.

PROMIS/HCAHPS/ Health Status Indicators/MIPS

Students are asked to describe two or three Patient Reported Outcome Measures (PROMIS) that relate to the encounter and to explain why they picked these PROMIS measures [23]. In this example related to falls, a possible PROMIS measure might be a Mobility or Physical Function measure from PROMIS Item Bank v2.0. There are several brief checklists, available in both English and Spanish, that may be incorporated into electronic documentation. Students are asked to describe implications and opportunities that use of PROMIS brings to their practice. Ideally, the tool would be used during the patient assessment, with a follow up test to assess outcome after nursing intervention.

PROMIS individual patient measures are then compared with the institution-level Medicare Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) measures with which students working as RNs may be more familiar [24].

To address population health, and demonstrate the type of data freely available online, Students are asked to go to the County Health Rankings and Roadmaps website [25], select a state and a county, then compare two or three of its health status indicators with CDC-defined peer counties. Then each student describes the most likely improvement activity that nurses may perform to address the chosen indicators. Students are taught to explore the improvement activities in the CMS Quality Payment Program to find a related activity, if possible [26]. If not, students describe an alternative and feasible nursing intervention on the Merit-based Incentive Payment System (MIPS) list.

Conclusion

Overall, the student response to these assignments has been very positive, and many of their comments highlight the learning that has taken place. Some examples follow:

- The material is very different than the research & clinical courses we usually take, so it's refreshing.
- I did not care for health information technology prior to taking this course, and after taking it, I have discovered there are infinite resources and systems aimed to improve quality of healthcare; it was quite fascinating actually.

- This course has made me want to branch out and incorporate informatics into my career.
- I am so interested in IT changes happening in my workplace now, and while reading the textbook would jot down notes to discuss with my committee and hopefully we can do a hospital wide study about something related to nurse/provider perception of the new EMR, and patient engagement in the e-portal.
- Taking a course that gave insight as to how health data is entered, processed, managed, and accessed is essential to professional practice. It has helped me rethink EHRs and how something as simple as entering vital signs can later be accessed to analyze treatment protocols.

Evidence is emerging that standardized structured nursing documentation supports accurate and complete information in practice, data reuse and sharing, and improved efficiency, business analytics, and care quality [27]. It is imperative to provide a strong background in clinical informatics to graduate nursing students who will become leaders as expert clinicians and administrators. This course shows clearly how standardized nursing terminology is applied to determine the contribution of nurses in important measures related to patient outcomes.

Future plans for the course are to continually update it with clinically-relevant readings and assignments, and to incorporate evolving standards, such as the National Library of Medicine Value Set Authority [28] and assessment tools linked to Logical Observation Identifiers Names and Codes (LOINC) coding [29]. The goal is to transform documentation of nurses' work so that it will be recognized in measures related to quality of care and payment.

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