1. **Introduction:**
The DNP capstone project should demonstrate a process of rigorous systematic inquiry to programmatic or practice issues in a manner that is consistent with the principles of DNP scholarship as put forth by the American Association of Colleges of Nursing. Project outcomes should inform collaborative work that may lead to systems improvement that promote quality care within practice settings.

2. **DNP Scholarship**

The program prepares students to engage in the scholarship of practice as defined by the American Association of Colleges of Nursing (AACN).


**Definition of Nursing Scholarship:**
Scholarship in nursing can be defined as those activities that systematically advance the teaching, research, and practice of nursing through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods. This definition is applied in the following standards that describe scholarship in nursing:

**Description of the Scholarship of Practice:**
The focus is on the scholarship generated through practice. Practice is conducted through the application of nursing and related knowledge to the assessment and validation of patient/health care outcomes, the measurement of quality of life indicators, the development and refinement of practice protocols/strategies, the evaluation of systems of care, and the development and analysis of innovative health care delivery models.

3. **Purpose and Aims of the Capstone Project:**

The Rutgers School of Nursing-Camden supports and approves capstone projects that seek to measure outcomes of practice improvement initiatives or projects. Consistent with the evidence on significant and sustained practice improvement, the project should involve interventions that could lead to systems level improvement within a particular practice setting.

4. **Structure of the Capstone Project:**
The student is expected to follow a structured process in developing, implementing and disseminating the findings from the capstone project. The student is expected to collaborate with their capstone committee members in a continuous manner throughout the project. The quality of the work will be evaluated based on the criteria outlined in table 1.
Table I SQUIRE Guidelines (Standards for QUality Improvement Reporting Excellence) with numbered items and description of each item in the checklist. *Qual Saf Health Care* 2008;17(Suppl I):i13–i32. doi:10.1136/qshc.2008.029058

<table>
<thead>
<tr>
<th>Title and abstract</th>
<th>Did you provide clear and accurate information for finding, indexing, and scanning your paper?</th>
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</thead>
<tbody>
<tr>
<td>1 Title</td>
<td>(a) Indicates the article concerns the improvement of quality (broadly defined to include the safety, effectiveness, patient-centredness, timeliness, efficiency and equity of care) (b) States the specific aim of the intervention (c) Specifies the study method used (for example, “A qualitative study,” or “A randomized cluster trial”) (d)</td>
</tr>
<tr>
<td>2 Abstract</td>
<td>Summarizes precisely all key information from various sections of the text using the abstract format of the intended publication</td>
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<table>
<thead>
<tr>
<th>Introduction</th>
<th>Why did you start?</th>
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<tbody>
<tr>
<td>3 Background knowledge</td>
<td>Provides a brief, non-selective summary of current knowledge of the care problem being addressed, and characteristics of organisations in which it occurs</td>
</tr>
<tr>
<td>4 Local problem</td>
<td>Describes the nature and severity of the specific local problem or system dysfunction that was addressed</td>
</tr>
<tr>
<td>5 Intended improvement</td>
<td>(a) Describes the specific aim (changes/improvements in care processes and patient outcomes) of the proposed intervention (b) Specifies who (champions, supporters) and what (events, observations) triggered the decision to make changes, and why now (timing)</td>
</tr>
<tr>
<td>6 Study question</td>
<td>States precisely the primary improvement-related question and any secondary questions that the study of the intervention was designed to answer</td>
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<table>
<thead>
<tr>
<th>Methods</th>
<th>What did you do?</th>
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<tbody>
<tr>
<td>7 Ethical issues</td>
<td>Describes ethical aspects of implementing and studying the improvement, such as privacy concerns, protection of participants’ physical wellbeing and potential author conflicts of interest, and how ethical concerns were addressed</td>
</tr>
<tr>
<td>8 Setting</td>
<td>Specifies how elements of the local care environment considered most likely to influence change/improvement in the involved site or sites were identified and characterized</td>
</tr>
<tr>
<td>9 Planning the intervention</td>
<td>(a) Describes the intervention and its component parts in sufficient detail that others could reproduce it (b) Indicates main factors that contributed to choice of the specific intervention (for example, analysis of causes of dysfunction; matching relevant improvement experience of others with the local situation) (c) Outlines initial plans for how the intervention was to be implemented—for example, what was to be done (initial steps; functions to be accomplished by those steps; how tests of change would be used to modify intervention) and by whom (intended roles, qualifications, and training of staff)</td>
</tr>
<tr>
<td>10 Planning the intervention</td>
<td>(a) Outlines plans for assessing how well the intervention was implemented (dose or intensity of exposure) (b) Describes mechanisms by which intervention components were expected to cause changes, and plans for testing whether those mechanisms were effective (c) Identifies the study design (for example, observational, quasi-experimental, experimental) chosen for measuring impact of the intervention on primary and secondary outcomes, if applicable (d) Explains plans for implementing essential aspects of the chosen study design, as described in publication guidelines for specific designs, if applicable (see, for example, <a href="http://www.equator-network.org">www.equator-network.org</a>) (e) Describes aspects of the study design that specifically concerned internal validity (integrity of the data) and external validity (generalizability)</td>
</tr>
<tr>
<td>11 Methods of evaluation</td>
<td>(a) Describes instruments and procedures (qualitative, quantitative or mixed) used to assess (a) the effectiveness of implementation, (b) the contributions of intervention components and context factors to effectiveness of the intervention and (c) primary and secondary outcomes (b) Reports efforts to validate and test reliability of assessment instruments (c) Explains methods used to assure data quality and adequacy (for example, blinding; repeating measurements and data extraction; training in data collection; collection of sufficient baseline measurements)</td>
</tr>
<tr>
<td>12 Analysis</td>
<td>(a) Provides details of qualitative and quantitative (statistical) methods used to draw inferences from the data (b) Aligns unit of analysis with level at which the intervention was implemented, if applicable (c) Specifies degree of variability expected in implementation, change expected in primary outcome (effect size) and ability of study design (including size) to detect such effects (d) Describes analytical methods used to demonstrate effects of time as a variable (for example, statistical process control)</td>
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<tr>
<th>Results</th>
<th>What did you find?</th>
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<tbody>
<tr>
<td>13 Outcomes</td>
<td>(a) Nature of setting and improvement intervention (i)Characterizes relevant elements of setting or settings (for example, geography, physical resources, organizational culture, history of change efforts) and structures and patterns of care (for example, staffing, leadership) that provided context for the intervention (ii) Explains the actual course of the intervention (for example, sequence of steps, events or phases; type and number of participants at key points), preferably using a time-line diagram or flow chart (iii) Documents degree of success in implementing intervention components (iv) Describes how and why the initial plan evolved, and the most important lessons learned from that evolution, particularly the effects of internal feedback from tests of change (reflexiveness) (b) Changes in processes of care and patient outcomes associated with the intervention (i) Presents data on changes observed in the care delivery process (ii) Presents data on changes observed in measures of patient outcome (for example, morbidity, mortality, function, patient/staff satisfaction, service utilization, cost, care disparities) (iii) Considers benefits, harms, unexpected results, problems, failures (iv) Presents evidence regarding the strength of association between observed changes/improvements and intervention components/ context factors</td>
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13 Outcomes
(a) Nature of setting and improvement intervention
(i) Characterizes relevant elements of setting or settings (for example, geography, physical resources, organizational culture, history of change efforts) and structures and patterns of care (for example, staffing, leadership) that provided context for the intervention
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(i) Presents data on changes observed in the care delivery process
(ii) Presents data on changes observed in measures of patient outcome (for example, morbidity, mortality, function, patient/staff satisfaction, service utilization, cost, care disparities)
(iii) Considers benefits, harms, unexpected results, problems, failures
(iv) Presents evidence regarding the strength of association between observed changes/improvements and intervention components/ context factors
(v) Includes summary of missing data for intervention and outcomes

Discussion

What do the findings mean?

14 Summary

(a) Summarizes the most important successes and difficulties in implementing intervention components, and main changes observed in care delivery and clinical outcomes

(b) Highlights the study’s particular strengths

15 Relation to other evidence

Compares and contrasts study results with relevant findings of others, drawing on broad review of the literature; use of a summary table may be helpful in building on existing evidence

16 Limitations

(a) Considers possible sources of confounding, bias or imprecision in design, measurement, and analysis that might have affected study outcomes (internal validity)

(b) Explores factors that could affect generalizability (external validity)—for example, representativeness of participants; effectiveness of implementation; dose-response effects; features of local care setting

(c) Addresses likelihood that observed gains may weaken over time, and describes plans, if any, for monitoring and maintaining improvement; explicitly states if such planning was not done

(d) Reviews efforts made to minimize and adjust for study limitations

(e) Assesses the effect of study limitations on interpretation and application of results

17 Interpretation

(a) Explores possible reasons for differences between observed and expected outcomes

(b) Draws inferences consistent with the strength of the data about causal mechanisms and size of observed changes, paying particular attention to components of the intervention and context factors that helped determine the intervention’s effectiveness (or lack thereof) and types of settings in which this intervention is most likely to be effective

(c) Suggests steps that might be modified to improve future performance

(d) Reviews issues of opportunity cost and actual financial cost of the intervention

18 Conclusions

(a) Considers overall practical usefulness of the intervention

(b) Suggests implications of this report for further studies of improvement interventions

Other information

Were there other factors relevant to the conduct and interpretation of the study?

19 Funding

Describes funding sources, if any, and role of funding organization in design, implementation, interpretation and publication of study

5. Timeline and Process for the Capstone Project

Time to Completion: All degree requirements for the Post-Baccalaureate and Post-RN DNP must be completed and the degree awarded within 5 years of initial enrollment; for the Post-Master’s DNP all degree requirements must be completed and the degree awarded within 4 years of initial enrollment. The DNP student will identify a plan of study at the beginning of the program. If the student chooses to alter to plan of study they must gain approval from the program.

Capstone Committee: The capstone committee is responsible for supporting, overseeing and approving your capstone work. Early in the program you will need to consult with the DNP Program Director or the Graduate Program Director in identifying a committee chair.

Capstone Chair and Second Committee Member

The capstone committee chair will be a standing member of the faculty at the Rutgers School of Nursing-Camden and will have an earned doctorate. This person has the ultimate responsibility in supporting, overseeing and approving your capstone work. You should consult with your capstone chair regarding the inclusion of a second faculty member to serve on the committee. Your capstone chair should have a team meeting soon after the formation of the committee to discuss roles and responsibilities of the team.

Since you will need excellent writing skills, you may be advised to get additional support in developing these skills. This is at the discretion of your capstone chair.

Outside consultant
All projects must have an outside consultant. This individual should have legitimate standing within the practice setting in which the project is conducted. They should be able to adequately support the project within the capstone project practice setting. The consultant will not be a formal member of the committee.

6. Developing your project

Guidelines for Planning Your Project: Important Questions to Ask

i. How have you identified a specific need for practice improvement?
ii. How might your project/findings improve practice at the systems level?
iii. What are your interventions?
iv. How will you measure the outcomes?
v. How might the organization/practice setting continue and/or build upon your work in order to achieve sustained practice improvement?
vi. Who needs to approve your project?
   1. Project site stakeholders
   2. IRB
      a. Are the participants vulnerable in any way?
         i. Threat to privacy
         ii. Protected Health Information/HIPPA
         iii. Threat to job security/promotion
vii. Who will be involved in your project?
   1. Project champions or supporters
   2. Participants
viii. What resources will you need to complete the project?
   1. Direct funding (i.e. equipment, supplies, travel to conferences, any financial incentives for participants (gift cards, etc.)
   2. Other resources (your time, time of chair and consultants).
ix. How much time will your project take?
x. What is the timeline on the project?
xii. What target audience will be interested in your work? (This pertains to targeted audiences for peer reviewed journals and conference presentations).

7. Issues Related to Capstone Clinical Hours

Work within and outside of program courses: Doctoral work should proceed in a highly autonomous manner. Much of your work will occur outside of the classroom. The class should support you in developing particular skills. However, much of your project-specific work will need to be done in a highly self-directed manner in collaboration with your committee and your outside consultant. The time that you spend outside the classroom should be tracked carefully as clinical hours. Time spent on class-related assignments not directly related to the capstone may not be counted as clinical hours. It is important that you track project-specific work in the Typhon system to ensure that you meet clinical hour requirements of the program.
Capstone clinical hours: Your capstone work will require a total of 440 clinical hours. 360 of these hours are done in conjunction with the three seminar courses (120 hours of clinical hours for each. This does not include direct course related work). 40 clinical hours relate to the course “National & Global Health Policy” and 40 clinical hours are related to the course “Leading Interprofessional Collaborative Teams in Healthcare Organizations”. You should consult with your capstone committee chair to ensure that these clinical hours logically support the development of knowledge and skills related to your project.

8. Suggested Sequential Plan for the Development of the Capstone Project
   b. Evidence based practice course
      i. Preliminary exploration of a practice improvement question
      ii. Begin background reading in your substantive area
      iii. Begin to identify gaps in the external evidence
      iv. Summarize your findings and analyze how they might apply to a potential capstone project
   c. Outside work with your capstone chair
      i. Begin work with your capstone chair to shape your question and explore possible designs for a practice improvement project in preparation for Seminar 1. Continue exploration of external evidence in support of your project (gaps/need or potentially useful intervention in you chosen practice site)
   d. Seminar 1
      i. Clarify the practice improvement question
      ii. Work on a design for the practice project
         1. Clarify question
         2. Finish the review of the external evidence
         3. Develop a project proposal
         4. Work with your practice site to gain approval for your project (this must be done at a level of detail sufficient to write a final IRB proposal)
      iii. Develop the IRB proposal
   e. Outside work with your capstone chair
      i. Obtain IRB approval
      ii. Present the project proposal as approved by the IRB to stakeholders at the project site
      iii. Negotiate particulars of the project with the stakeholders within the constraints and parameters put forth in the approved IRB proposal
   f. Seminar 2
      i. Implement project
      ii. Analyze outcomes
   g. Seminar 3
      i. Synthesize findings
      ii. Prepare for oral and written report on the project (capstone document)
      iii. Write an article on the capstone work and submit this article for publication in a peer reviewed journal
   a. Apply for graduation

improvement reporting: explanation and elaboration. *Qual Saf Health Care, 17 Suppl 1*, i13-32. doi: 10.1136/qshc.2008.02

Approved: 2/6/15