CROSSING THE CHASM: ENGAGING NURSES IN QUALITY IMPROVEMENT AND EVIDENCE BASED PRACTICE

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Objectives

- Discuss similarities and differences between EBP, research, and quality improvement (QI)
- Identify actionable QI targets in your setting
- Apply the Plan-Do-Study-Act model to a clinical issue in your setting
Improving Care

Improving care requires a systematic process of defining problems in order to identify potential causes with the goal of developing strategies to improve care.

This process requires being able to measure care.
<table>
<thead>
<tr>
<th>Purpose</th>
<th>Quality Improvement</th>
<th>Evidence Based Practice</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Improve patient care</td>
<td>• Change practice/implement best practice</td>
<td>• Generate new knowledge</td>
</tr>
<tr>
<td>Methods</td>
<td>• PDCA, FADE, Six Sigma</td>
<td>• Numerous models • Levels of evidence</td>
<td>• Qualitative • Quantitative • Mixed methods</td>
</tr>
<tr>
<td>Level</td>
<td>• Unit • Institution</td>
<td>• Individual practitioner • Institution • Population</td>
<td>• Representative sample</td>
</tr>
<tr>
<td>Change of:</td>
<td>• Process</td>
<td>• Practice</td>
<td>• Understanding</td>
</tr>
<tr>
<td>Participant consent</td>
<td>• Not usually needed</td>
<td>• Sometimes</td>
<td>• Yes</td>
</tr>
<tr>
<td>Dissemination</td>
<td>• Usually internal (unit, agency) • May be published</td>
<td>• May be internal (unit agency) or external (publication or presentation) • Often incorporated into clinical guidelines</td>
<td>• Usually external (publications or research presentations)</td>
</tr>
</tbody>
</table>
Quality Improvement (Shirley et al 2011)

- QI improves internal processes and practices with a specific patient group or organization
- QI protocols are less formal and rigorous and may change
- QI data collection is usually rapid cycle
  - uses minimal to moderate time and resources
Quality Improvement Tools

There are numerous tools to examine care processes. These tools guide the collection of data in order to identify possible problems. Tools provide a way to display data.
Cause-and-Effect / Fishbone Diagram

A cause-and-effect or fishbone diagram helps to organize a lot of information that may relate to a problem.

A benefit of this diagram is that different levels of “cause” can be identified. There generally are categories of “cause” such as people, processes, management, equipment, and environment.
People

Processes

Equipment

Regulation

Management

Environment
People

- Insufficient staffing in facilities
- Current facilities are inadequate to meet demand
- Poor role definition among health care workers

Equipment/Supplies

- Insufficient medicines

Process/Policy

- Lack of coordination between levels of health facilities
- Overcrowding in emergency departments
- Limited opportunities for education

Environment

- Too few facilities available

Poor quality of care

Inadequate education, knowledge, and skills among facility-based health workers
Control Charts

Control charts are useful to show the variation that occurs with a particular quality measure of interest. Control charts show how the subject of interest changes over time and whether a process is stable and “in control.”

A control chart has an upper limit of control, a lower limit, and a line that represents an average. Data are plotted in real time and a nurse can tell if the number of events is heading toward or exceeding either the upper or the lower control line in order to make adjustments in care.
Nurse to Patient Ratios

Average Daily Imperfections
Sample Mean
Lower Control Limit
Upper Control Limit
**Histograms**

A histogram provides a function similar to the control chart in displaying the frequency of events.
PC-NCT Multi-Site Aggregate Report

Spiritual Concerns

Number of Consults over Time by Health Factor Type

- 7/1/2013 to 7/31/2013
- 8/1/2013 to 8/31/2013
- 9/1/2013 to 9/30/2013
- 10/1/2013 to 10/31/2013

Number of Consults:
- PALLI CONSULT SPIRITUAL CONCERNS
  - YES
Multi-Site Report

Symptoms Domain Assessed Using PC-NCT in 2012

- **Dyspnea**
  - None
  - Mild
  - Moderate
  - Severe

- **Pain**
  - None
  - Mild
  - Moderate
  - Severe

Number of Visits
Characteristics of Measures

- Clinically relevant
- Actionable

http://as800.chcr.brown.edu/pcoc/

http://prc.coh.org/res_inst.asp
Types of Measures

- Process measure -- what you do to the patient--
  - e.g..., Did the nurse ask about whether you have pain?

- Outcome measure -- benefit to the patient
  - Did the care you received from the palliative care team improve your pain?

http://as800.chcr.brown.edu/pcoc/
<table>
<thead>
<tr>
<th>Purpose</th>
<th>Measurement for Research</th>
<th>Measurement for Learning and Process Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>To discover new knowledge</td>
<td>To bring new knowledge into daily practice</td>
</tr>
<tr>
<td>Tests</td>
<td>One large &quot;blind&quot; test</td>
<td>Many sequential, observable tests</td>
</tr>
<tr>
<td>Biases</td>
<td>Control for as many biases as possible</td>
<td>Stabilize the biases from test to test</td>
</tr>
<tr>
<td>Data</td>
<td>Gather as much data as possible, &quot;just in case&quot;</td>
<td>Gather &quot;just enough&quot; data to learn and complete another cycle</td>
</tr>
<tr>
<td>Duration</td>
<td>Can take long periods of time to obtain results</td>
<td>&quot;Small tests of significant changes&quot; accelerates the rate of improvement</td>
</tr>
</tbody>
</table>
Institutional Review Board

- Will your project require IRB review?
  - Is it “research”?
  - Does it involve “human subjects”?

- Federal Common Rule
  - “Research” is defined as "a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge."
## Research Requiring IRB Review

<table>
<thead>
<tr>
<th>Probably requires review</th>
<th>Probably does not require review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designed to contribute to generalized knowledge</td>
<td>Designed to gain knowledge to improve care in a particular setting</td>
</tr>
<tr>
<td><em>Plan to disseminate beyond the agency</em></td>
<td><em>Plan to disseminate within the agency</em></td>
</tr>
<tr>
<td><em>Conditions are other than standard care</em></td>
<td><em>Conditions are based on standard care with an improvement</em></td>
</tr>
<tr>
<td>Risks of participation exceed those of usual care</td>
<td>Risks of participation are the same as usual care</td>
</tr>
<tr>
<td>Information collected goes beyond routine care</td>
<td>Information collected is part of routine care</td>
</tr>
</tbody>
</table>
How to get started?

“We can’t solve problems by using the same kind of thinking we used when we created them.”

- Albert Einstein

- http://www.youtube.com/watch?v=fW8amMCVAJQ
“THE CHASM”

- Innovators "Techies"
- Early Adopters "Visionaries"
- Early Majority "Pragmatists"
- Late Majority "Conservatives"
- Laggards "Skeptics"
PDSA – The three questions

The three questions:

- What are we trying to accomplish?
  - The aims statement
- How will we know if the change is an improvement?
- What changes can we make that will result in improvement?
Plan-Do-Study-Act (PDSA)

- **Plan** - the change to be tested or implemented
- **Do** - carry out the test or change
- **Study** - data before and after the change and reflect on what was learned
- **Act** - plan the next change cycle or full implementation

### Act
- What changes are to be made?
- Next cycle?

### Plan
- Objective
- Predictions
- Plan to carry out the cycle (who, what, where, when)
- Plan for data collection

### Study
- Analyse data
- Compare results to predictions
- Summarise what was learned

### Do
- Carry out the plan
- Document observations
- Record data
PLAN

- Determine the clinical issue
- Search for best practice
  - Accepted clinical guidelines
  - Systematic reviews
  - Other research evidence
- Develop project proposal
  - Plan location, time, who will be involved, how the change will take place, what data needs to be collected
Plan for whom?

- **Who are you planning for?**
  - Yourself, Programmatic, Leadership, Query or mandate

- **What is [stakeholder] most concerned about?**
  - Costs, costs, costs? Quality, query or mandate, throughput / access?

- **Do you need to make a business case?**
  - Use stakeholder to define other parameters (e.g., time and ROI)
Identify the problem?

- Is data available?
  - Medical charts, administrative (drugs and procedures), facility surveys

- What data collection is feasible?
  - Hard and often unrealistic step

- Can others’ experience inform how to characterize the problem?
  - Talk to patients / families / clinical teams, look at what is published, especially quality measures (process and outcome)
DO

- Engage implementation team
- Collect baseline data
- Begin practice change
- Document outcomes
- Record responses to change
Recruiting an implementation team

- **Who**
  - Representation of all parties who will be impacted
    - Nurses
      - RN, On-call, LPN/LVN, CNA
    - Social workers
    - Counselors
    - Medical directors
    - Pharmacy
    - Volunteers
    - Patient/family

- **When**
  - Team should be formed during the PLAN stage so they fully understand the implementation plan

- **How**
  - Clinical release time
  - Rewards for participation
Tailoring change to organization resources

- Leadership support
- Multidisciplinary cooperation
- Decision-making style
- Organization size and divisions
- Location
- Competition
- Documentation system
- Technology
Do find out who needs to approve the project

- Administration
- Unit managers
- Practice council
- Institutional review board
DOs and DON’Ts of implementation

- **DO** pilot the change with one team, group, unit, etc.
  - Gives you the chance to
    - Tailor the change to your organization
    - Discover implementation issues
    - Determine if the change is beneficial in your setting

- **DON’T** try to change too much at the same time
  - Too many processes
  - Too much of the organization
Steps for DO

- Determine implementation team
  - Who will you ask for which role?
- Begin communication of change
  - Awareness campaign
  - Staff education (who, what, when, where)
- Tailor to organizational resources
- Get all appropriate approvals
- Begin practice change
STUDY

- Examine the measures, did they measure what we wanted?
- Compare outcomes after practice change to previous outcomes
- Determine costs of the change
ACT

- Decide if outcomes are worth the cost of change
- What action are you going to take as a result of this cycle (adopt, adapt, abandon)?
- Describe what modifications to the plan will be made for the next cycle from what you learned.
ACT

- Make any necessary changes in plan
- Re-pilot, if necessary
- Begin cycle again to implement on a wider basis
- Are we ready to implement the change?
Quality Improvement Resource Center (GLA VA)

- Development of EHR tools to standardize and improve palliative care
- EHR tools allows the collection of data to examine for processes over time
- EHR tools provides an opportunity for QI on patient level, facility level, VISN level or national level
PC-NCT Multi-Site Aggregate Report

Moderate & Severe Pain

Number of Consults over Time by Health Factor Type

<table>
<thead>
<tr>
<th>Health Factor Type</th>
<th>Number of Consults</th>
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<tbody>
<tr>
<td>10/1/2012 to 12/31/2012</td>
<td>25</td>
</tr>
<tr>
<td>1/1/2013 to 3/31/2013</td>
<td>20</td>
</tr>
<tr>
<td>4/1/2013 to 6/30/2013</td>
<td>35</td>
</tr>
<tr>
<td>7/1/2013 to 9/30/2013</td>
<td>20</td>
</tr>
</tbody>
</table>

PALL CONSULT PAIN MODERATE
PALL CONSULT PAIN SEVERE
Is the surrogate information documented in an advance directive or power of attorney? Has the person authorized under VA policy to make decisions for the incapacitated patient been identified?
PLAN

• Discuss potential targets for QI in your respective settings
• Identify the potential merits/barriers
• Identify stakeholders, people with an interest
• What/how will you measure
PLAN

ACT

STUDY

DO
DO

- Anticipate the implement plan
- To what extent are we following the plan
- Are we capturing the data as we go
- Document unexpected findings
- Begin data analysis
PLAN

ACT

DO

STUDY
STUDY

- Complete the analysis
  - How will you display the results
- What does the data from our trial implementation tell us?
- Summarize what was learned
ACT

PLAN

DO

STUDY
ACT

- What documentation is required to capture the memory
- Policy
- Process flowcharts
- Supporting documents
- Who needs to be mentored, trained and coached
- Establish future plan (what should we be improving next)
Conclusions

- QI is an integral part of state of the science patient care
- QI poses challenges and opportunities for clinicians
- QI is..................