QSEN Teaching Quality Improvement Using Team Based-Learning

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At the end of this presentation the learner will:

1. Demonstrate understanding of how to apply principles of continuous quality improvement to a practice setting/patient population using a methodology such as plan do study act (PDSA)
2. Teach students how to develop a planned, systematic, collaborative approach to designing, measuring, assessing and improving performance using a team-based learning approach
3. Using team building exercises, facilitate student learning and planning for quality improvement
To be effective TBL groups should be:

- Diverse as formed by the instructor
- Students must be made accountable-- (assign a pre-class preparation that they do individually)
- Assignments should use course concepts to make complex decisions

The learner is actively involved and the "team" approach is greater than the sum of the individuals.

To provide the student with an understanding of the quality improvement process and how to apply it using a population health approach
At the end of this presentation the learner will...

1. Identify population health disparities, using epidemiological and demographic measures

2. Demonstrate understanding of how to apply principles of continuous quality improvement to a practice setting/patient population using a methodology such as plan do study act (PDSA)

3. Monitor quality improvement for clinical care using demographic and epidemiologic methods to improve population health care and reduce health disparities
Content Outline

- Epidemiology and Biostatistics
- Principles of continuous quality improvement
- Model for Improvement
- Plan-Do-Study-Act Cycle
- Population data bases and Meaningful Use Measures:
Why Focus on Quality Improvement?

In 2011 the U.S. ranked 34th in life expectancy:

Healthcare Costs: Increasing
Access: Decreasing
Quality: ??

We must:
• Eliminate Health Disparities
• Improve Access to Care
• Improve Care for All!

Identify population health disparities, using epidemiological and demographic measures.

The learner will explain and analyze their results of their community data on CVD when they meet in their small groups.

Figure 1. Age-Adjusted Mortality Rates Stratified by Gender and Race

Heart Disease (2001-2005)

<table>
<thead>
<tr>
<th></th>
<th>Deaths per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Males</td>
<td></td>
</tr>
<tr>
<td>White Females</td>
<td></td>
</tr>
<tr>
<td>Minority Males</td>
<td></td>
</tr>
<tr>
<td>Minority Females</td>
<td></td>
</tr>
</tbody>
</table>

- White Males: 287.5, 276.5
- White Females: 168.2, 174.4
- Minority Males: 395.4, 323.7
- Minority Females: 195.7, 215.0

Legend:
- Red: Person
- Blue: North Carolina
Using methodology: Plan-do-study-act (PDSA), understand and apply principles of continuous quality improvement (CQI) to a practice setting/patient population.

Continuous Quality Improvement (CQI)

Goal is to develop a planned, systematic, collaborative organization-wide approach to designing, measuring, assessing and improving performance.
Principles of Continuous Quality Improvement (CQI)

- Collaborative team approach
- Data should be **objective** and speak for itself.
- (Must be **measurable** to show improvement.)
- **Opportunities** for improvement
- Continuous process; Model for improvement PDSA (Plan, Do, Study, Act)
Principles of Continuous Quality Improvement (CQI) cont.

- Criteria useful for setting priorities: **High volume, high risk and problem prone**
- **Care criteria**: Effective care, appropriate, accessible, continuity, efficiency, efficacy, safety, timeliness, caring and respectful
- Focus on the performance of **organization** vs. individual
- Design relates to: **Mission statement**, needs and expectations of client/population, up-to-date guidelines and standards of care (evidenced based), policies and procedures
What is the PDSA Cycle?

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

**Plan**
- Objective
- Questions and predictions (why)
- Plan to carry out the cycle (who, what, where, when)

**Study**
- Complete the analysis of the data
- Compare data to predictions
- Summarize what was learned

**Do**
- Carry out the plan
- Document problems and unexpected observations
- Begin analysis of the data

Rapid Cycle and Continuous
The Care Model
Chronic Care Model

- Identifies 6 major categories that must be addressed to achieve substantial change
  - The health care organization
  - Community resources and policies
  - Self-management support
  - Decision support
  - Delivery system design
  - Clinical information systems

- These components interact with each other as depicted in the model to have a productive quality team and empower patients for self-management.
What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?
Examples of CQI focused on Hypertension Management and Community MRSA
Mastery Psychomotor Domain

At the beginning of class in groups of two the RN graduate students will *demonstrate and explain* the correct method for taking a blood in the seated position comparing this to the procedure in the physical assessment guide and achieve a successful BP reading within 20mmHG of accuracy.
Blood Pressure Meaningful Use Measurements baseline and post

Blood Pressure Control
- % of hypertensive patients ages 18-85 whose blood pressure is controlled (<140/90 in past year)
- HEDIS Goal: > 65%

Baseline 17/36 = 47%
- March = 70% improved with focused PDSA
BP baseline chart audits were 17/36 with dx. HTN whose blood pressure < 140/90 = 47%

PDSA Strategized for improvement:
- **Suggestions for improvement included:** Examine and improve our method for taking BP for accuracy. Suggested having the patient at rest in triage for at least 5 minutes, if automatic BP is > 140/90, recheck with manual cuff that is appropriate for patient’s arm size.

- Also have patient handouts on BP control, diet, exercise and resources in our community to exercise. If patient is a smoker, advice cessation and give NC Tobacco Use Quit line cards (1-800-Quit Now) 1-800-784-8669 for assistance and counseling.

Follow up of Plan-Do-Study-Act
February and March = 70% Improved!
Example:
NP collaborative Community Acquired MRSA ...

Emerging infectious disease

http://www.unc.edu/depts/spice/CA-MRSA.html
MRSA (methicillin-resistant Staphylococcus aureus) in recent years has started emerging in the community. Aggressive community acquired MRSA skin and soft tissue infections inappropriately treated can progress to serious and even fatal necrotizing conditions. PCP should consider CA-MRSA when treating skin and soft tissue infections.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Discussion</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.Key subjective history points to consider when a patient presents with a skin infection</td>
<td>Risk factors include: low socioeconomic status, crowded living conditions, hx of similar lesions in other family members or sexual partners, participation in team sports or daycare. hx of recurrent skin infections, antibiotic use, immunocompromised diseases, diabetes, and hepatitis</td>
<td>• Key history taking is vital to good assessment. Document findings in subjective progress note.</td>
</tr>
<tr>
<td>1.Objective findings</td>
<td>Often present with boils or pruritic papules that may be mistaken for insect or spider bites. Most common presentation is erythematous abscess, cellulitis and furunculosis. Progressive infections include necrotizing and scalded skin syndrome along with systemic sx.</td>
<td>• Document appearance and pattern of all skin lesions and any associated findings in physical exam progress note.</td>
</tr>
<tr>
<td>1.Assessment</td>
<td>When ever possible lesions should be expressed for fluids or be I and D as needed. The fluid should be sent for gram stain and culture and sensitivity.</td>
<td>• Documentation of all skin culture and sensitivity labs sent on progress note; • a copy of all C&amp;S results should be kept in folder for review.</td>
</tr>
<tr>
<td>1.Treatment</td>
<td>I &amp; D as needed. Oral antibiotics for tx of CA-MRSA as indicated by C&amp;S First line agents suggested tx include: Trimethoprim-sulfamethoxazole Tetracyclines Clindamycin Quinolones with rifampin due to resistance Second line agent: Linezolid</td>
<td>• Document tx and response • Document and follow up on referrals • Periodic chart reviews on dx of abscesses with I&amp;D procedures done at PFMC evaluating SOAP documentation, C&amp;S skin labs sent, treatment and follow up.</td>
</tr>
</tbody>
</table>

Notes:__________________________________________________________________________________________________________________
PDSA Worksheet

Let’s collaborate!
Experiential Learning

- **Role playing** in the classroom setting in groups of 4-6, students will role play as a **multidiscipline team**
  - Nurse Practitioner (NP),
  - Medical director (MD),
  - Nurse (RN or LPN),
  - Front Desk/IT data entry
  - and Patient

- Using population data from a CVD registry in a primary care practice setting with meaningful use measures and a blank PDSA handout to plan an intervention for improved care.
Role playing

NP is the facilitator and wants to make multiple changes to the way the practice runs. MD views QI as “bean counting for feds”.

The RN will take the role of a barrier to change, as the center is understaffed and she cannot add “anymore work to her load”!

The patient is a representative of the community health center, he is 58 years old, AA male with uncontrolled HTN, recently lost his job due to layoffs and has no health insurance.

The front desk staff is overwhelmed as she is in charge of collecting co-pays, calling back patients when they no-show, and ordering medications via the patient assistant program for qualified patients. With recent layoffs in the community her work load has increased.
## Six Month Baseline Meaningful Use CVD Measures

<table>
<thead>
<tr>
<th>Patients seen</th>
<th>With ICD Dx. 401 Essential HTN</th>
<th>Six months Baseline %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages 18-75 years old</td>
<td>N = 1210</td>
<td></td>
</tr>
<tr>
<td>Last Entry Blood Pressure (BP) mmHg systolic and diastolic</td>
<td>BP &lt; 130/80</td>
<td>29%</td>
</tr>
<tr>
<td></td>
<td>BP &lt; 140/90</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>BP &lt; 160/100</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>BP &gt; 159/99</td>
<td>2</td>
</tr>
<tr>
<td>Calculated LDL mg/dL</td>
<td>N = 1051</td>
<td></td>
</tr>
<tr>
<td>LDL-C Low density lipoprotein cholesterol</td>
<td>LDL &lt; 100</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>LDL &lt; 130</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>LDL &gt; 129</td>
<td>14</td>
</tr>
<tr>
<td>BMI Kg/m²</td>
<td>N = 1096</td>
<td></td>
</tr>
<tr>
<td>Under wt.</td>
<td>&lt; 18.5</td>
<td>1</td>
</tr>
<tr>
<td>Normal</td>
<td>&lt; 25</td>
<td>11</td>
</tr>
<tr>
<td>Over wt.</td>
<td>&gt; 24.9 &lt; 30</td>
<td>24</td>
</tr>
<tr>
<td>Obese</td>
<td>&gt; 29.9</td>
<td>65</td>
</tr>
<tr>
<td>Documented Smoking</td>
<td>Smoking not blank N = 1186</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes smokes</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Current yes N = 310</td>
<td></td>
</tr>
</tbody>
</table>
QI Planning

- As a team, using data from the CVD registry, they will come up with details of planning one intervention, specifics with:
  - *What* change are we testing?
  - *Who* testing the change?
  - *When* are we testing?
  - *Where* are we testing?

- **Prediction:**
  - *What* do we expect to happen?

- **Data collection:** *What* data do we need to collect?
  - *Who, When Where and How?*
After the team develops their plan of the PDSA, they will verbalize feelings of playing the roles and discussion of barriers, facilitators and collaboration involved.
Evaluation: Formative, Content and Summative...

Act | Plan
---|---
Study | Do