Using Quality Improvement Methods to Improve Depression Care on College Campuses

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Learning Objectives

1. Describe how the Model for Improvement facilitates the consistent delivery of evidence-based depression care for college students

2. Explain key concepts of using data to drive improvements in depression care
42 Partnering Institutions since 2006

- Baruch College
- Boston University
- Bowling Green State University
- Case Western Reserve University
- Colorado State University
- Columbia University
- Cornell University
- Evergreen State College
- Finger Lakes Community College
- Hunter College/CUNY
- Lewis-Clark State College
- Louisiana State University
- McMaster University
- Michigan State University
- Montana State University
- The New School
- Northeastern University
- New York University
- Penn State – Altoona
- Princeton University
- Rensselaer Polytechnic Institute
- Rio Hondo College
- Rutgers University
- Sarah Lawrence College
- School of the Art Institute of Chicago
- St. Lawrence University
- Skidmore College
- Texas A&M University
- Texas Christian University
- Tufts University
- University of Arizona
- University of California, Los Angeles
- University of Central Florida
- University of Louisville
- University of Maryland
- University of Missouri - Columbia
- University of Nevada, Las Vegas
- University of Pennsylvania
- University of Vermont
- University of Wisconsin - Madison
- Wagner College
- West Valley College
Why QI?
Good work, but I think we need just a little more detail right here!
## Reactive Change vs. Fundamental Change

<table>
<thead>
<tr>
<th><strong>Reactive Change</strong></th>
<th><strong>Fundamental Change</strong></th>
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<tbody>
<tr>
<td>Changes required to maintain the system at its highest level of performance previously achieved</td>
<td>Changes made to exceed the highest level of performance previously achieved</td>
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<td>Made routinely to solve immediate problems or react to a special circumstance</td>
<td>Fundamentally alter how the system works and what people do</td>
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<tr>
<td>Typically take the form of a trade-off among competing interests or characteristics</td>
<td>Often result in improvement of several measures simultaneously</td>
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<tr>
<td>Impact is usually felt quickly</td>
<td>Impact is felt into the future</td>
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</table>
Moving from QA.....

Before

Bell Curve: Patient Population

Tail

worse Quality better

Quality Assurance

worse Quality better

After
....To a QI Approach

Bell Curve: Patient Population

Before

Quality Assurance

Quality Improvement

worse | Quality | better

After

worse | Quality | better

Tail

Δ better
The Model for Improvement

Model for Improvement
What are we trying to accomplish?
How will we know that a change is an improvement?
What changes can we make that will result in improvement?

ACT
PLAN
STUDY
DO

Source: Deming, Shewhart, Langley, Provost et al.
Improvement Journey

**STEP 1** Identify a Problem or Opportunity for Improvement
- Concern about a potential issue
- Data collection & assessment

**STEP 2** Form Your Team
- Actual Problem?
  - Yes
  - No
- Priority?
  - Yes
  - No

**STEP 3** Model for Improvement
- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What changes can we make that will result in improvement?

**STEP 4** Understand the Problem

**STEP 5** Plan

**STEP 6** Do

**STEP 7** Test a Change

**STEP 8** Implement a Change

**STEP 9** Spread a Change

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Step 1: Identify a Problem or Opportunity for Improvement

- Actual Problem?
  - Yes
  - No
- Priority?
  - Yes
  - No

Data collection & assessment
Concern about a potential issue

Identify a Problem or Opportunity for Improvement

STEP 1

Form Your Team

STEP 2

Model for Improvement
- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What changes can we make that will result in improvement?

STEP 3

STEP 4

STEP 5

STEP 6

STEP 7

STEP 8

STEP 9

Act
Plan
Study
Do
Step 1: Identify a Problem or Opportunity for Improvement

- Concern about a potential issue
- Data collection & assessment
- Actual Problem?
  - Yes
  - No
- Priority?
  - Yes
  - No
- Yes
**Problem and Opportunity**

**PROBLEM:**

“Minimally adequate depression care” (Wang et al, 2005 Arch Gen Psych): 8+ psychotherapy visits, or 2+ months of antidepressant use with 4+ discussions with provider

—Only **20% of students** with past-year depression

**OPPORTUNITY:**

80% of students report visiting a health professional at least once in the past year
Step 1: Identify a Problem or Opportunity for Improvement

- What is the problem or opportunity for improvement?
- How do you know that it is a problem? What data/analysis supports this?
- Why is this issue important?
Step 2: Establish a Team

- Subject Matter Expertise
- People involved in the work
- Student(s) / Family
- QI Support
- Project Champion
- Sponsor / Senior Leader

People involved in the work

Student(s) / Family

QI Support

Project Champion

Sponsor / Senior Leader

Subject Matter Expertise
Step 2: Establish a Team

- Who is your project sponsor?
- Who is the project champion?
- List potential members of your improvement team
Step 3: Set an Aim

**Identify a Problem or Opportunity for Improvement**

**STEP 1**

- Actual Problem?
- Data collection & assessment
- Concern about a potential issue

**STEP 2**

- Priority?
- Yes
- No

**STEP 3**

- Form Your Team
- What are we trying to accomplish?

**STEP 4**

- Understand the Problem
- How will we know that a change is an improvement?

**STEP 5**

- Model for Improvement
- What changes can we make that will result in improvement?

**STEP 6**

- Act
- Plan
- Study
- Do

**STEP 7**

- Test a Change

**STEP 8**

- Implement a change

**STEP 9**

- Spread a Change

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Question 1: What Are We Trying to Accomplish?

The most critical part of the quality improvement process is establishing the aim, or purpose of your quality improvement initiative.
“Some is not a number; soon is not a time.”
– Don Berwick
How an Aim might look....

Setting the “Aim Statement”
What is your Aim? “What are we trying to accomplish?”

The essential components of a solid Aim Statement:

– What will improvement will happen?
– For whom (or what system)?
– How good?
– By when?

We will increase the proportion of all SHC medical visits in which a PHQ-2 is administered from 15% to 80% by May 2018.
What to Avoid In Aim Statement

End world hunger

Improve depression care
Aim Statements

Not Good
Improve depression care

Good
By May 2018, increase from 20% to 40% of students diagnosed with depression who score $\leq 10$ on the PHQ-9 by 12 weeks of onset of new depressive episode
Step 3: Set an Aim

Write Your Aim Statement

- The essential components of a solid Aim Statement:
  - Population
  - Unit of Measure
  - Goal
  - Time Expectation
Step 4: Understand the Problem

STEP 1
Identify a Problem or Opportunity for Improvement

STEP 2
Form Your Team

STEP 3
Model for Improvement
What are we trying to accomplish?
How will we know that a change is an improvement?
What changes can we make that will result in improvement?

STEP 4
Understand the Problem

STEP 5
STEP 6

STEP 7
Test a Change

STEP 8
Implement a change

STEP 9
Spread a Change
“Every system is perfectly designed to achieve exactly the results it gets”
Deming’s Profound Knowledge
Understanding the Current State

- What are we doing now?
- How do we do it? What are the major steps in the process?
- Who is involved or affected?
- Where does the problem occur?
- When does the problem occur?
- What happens when the problem occurs?
- Why does the problem occur?
Observe/diagram the process (direct observation, flow diagram)
Step 5: Establish Measures

STEP 1: Identify a Problem or Opportunity for Improvement
- Actual Problem?
  - Yes → Priority?
    - Yes → Form Your Team
    - No → No
  - No → Data collection & assessment
- Concern about a potential issue

STEP 2: Form Your Team

STEP 3: Model for Improvement
- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What changes can we make that will result in improvement?

STEP 4: Understand the Problem

STEP 5: Act

STEP 6: Plan

STEP 7: Study

STEP 8: Do

STEP 9: Spread a Change

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LEARN. NETWORK. IMPROVE. LEAD.
5. Establish Measures

We work as a team to establish a set of 6-8 measures, including outcome, process, and balancing measures.
What are we trying to accomplish?

How will we know that a change is an improvement?

What changes can we make that will result in improvement?

Model for Improvement

Act

Plan

Study

Do
GET ALL THE INFORMATION YOU CAN, WE'LL THINK OF A USE FOR IT LATER.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Judgement</th>
<th>Research</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aim</td>
<td>Achievement of target</td>
<td>New knowledge</td>
<td>Improvement of service</td>
</tr>
<tr>
<td>Testing strategy</td>
<td>No tests</td>
<td>One large, blind test</td>
<td>Sequential, observable tests</td>
</tr>
<tr>
<td>Sample size</td>
<td>Obtain 100% of available, relevant data</td>
<td>‘Just in case’ data</td>
<td>‘Just enough’ data small, sequential samples</td>
</tr>
<tr>
<td>Hypothesis</td>
<td>No hypothesis</td>
<td>Fixed hypothesis</td>
<td>Hypothesis flexible; changes as learning takes place</td>
</tr>
<tr>
<td>Variation</td>
<td>Adjust measures to reduce variation</td>
<td>Design to eliminate unwanted variation</td>
<td>Accept consistent variation</td>
</tr>
<tr>
<td>Determining if change is an improvement</td>
<td>No change focus</td>
<td>Statistical tests (t-test, F-test, chi-square, p-values)</td>
<td>Run chart or statistical process control (SPC) charts</td>
</tr>
</tbody>
</table>

Depression Measures

- **Process Measures**
  - Primary Care *Screening*
  - Treatment *Initiation* by 4 weeks
  - Initial repeated *Follow-up* assessment by 4 weeks
  - *Self-Management* Documentation by 8 weeks

- **Outcome Measures**
  - Early *Treatment Response* by 8 weeks
  - *Partial Remission* by 12 weeks
  - *Functional Improvement* by 12 weeks
Family of Measures

% of students who are screened for depression

% of students diagnosed with depression who have NOT achieved at least a 5 pt reduction in PHQ-9 score within 12 weeks of positive screen or identification of new episode

% of students that had a follow-up using a standardized assessment instrument (e.g., PHQ-9) within 4 weeks of positive screen or identification of new episode

Goal
Analyzing and Understanding Your Data
Missed Opportunities for Depression Screening

Results for Units 1, 2 and 3
Minimum Standard: Annotated Run Chart

GOAL

Secure Messaging

Champion leaves

Creation of paper tracking form

January  February  March  April  May  June  July  August  September  October  November  December
Tips for Effective Measurement

1. Plot data over time
2. Seek usefulness, not perfection
3. Track a family of measures
4. Use sampling
5. Integrate measurement into the daily routine
6. Use qualitative and quantitative data
Step 5: Establish Measures

What is your “family of measures”? Include process, outcome, and balancing measures.
Step 6: Develop Ideas for Change

STEP 1
Identify a Problem or Opportunity for Improvement

STEP 2
Form Your Team

STEP 3
Model for Improvement

Step 4
Understand the Problem

STEP 5

STEP 6
What changes can we make that will result in improvement?

STEP 7
Test a Change

STEP 8
Implement a change

STEP 9
Spread a Change
Approaches for Developing Fundamental Changes

1. Logical thinking about the current system
2. Benchmarking and learning from others
3. Using technology
4. Creative thinking
5. Using change concepts

San Francisco, California, USA: Jossey-Bass Publishers; 2009
Change Concept

An opportunity to create a new connection

Thought process

Specific idea A

Specific idea B
Select Change Concept Examples (there are 72 total)

• Eliminate multiple entry
• Reduce classifications
• Remove intermediaries
• Schedule into multiple processes
• Find and remove bottlenecks
• Do task in parallel

• Focus on core process and purpose
• Develop alliances and cooperative relationships
• Use reminders
• Change the order of process steps
• Manage uncertainty, not tasks

The Improvement Guide: A Practical Approach to Enhancing Organizational Performance (2nd Edition)
San Francisco, California, USA: Jossey-Bass Publishers; 2009
Examples of NCDP Change Concepts

- Screen students for depression using a standardized instrument during visits for other purposes
- Use a validated standardized instrument for assessing symptoms and response to treatment
- Use a registry to proactively review care and plan visits
- Use collaborative goal setting, action planning, and follow-up of personalized goals with depressed students
- Document self management goal(s), action plan, and follow-up of personalized goal(s) in the clinical record
Change Concept

An opportunity to create a new connection

- Thought process
- Specific idea A: Create depression self-management template in EHR
- Specific idea B: Set clinician reminder prompts at each visit
- Improve self-management
  - Documentation of personalized goal, frequency, duration, confidence rating, reassessment of goal by 8 weeks
Aim

Support the Development of Informed, Empowered Students

Establish a Prepared, Proactive Practice Team

Primary drivers

Secondary drivers

Specific Change Ideas

Change Concepts

Increase % of students with a PHQ-9 score of <=9 AND improved function by 12 weeks to 40%

Self Management

Community Resources & Policies

Organization of Care

Delivery System Design

Decision Support

Clinical Information Systems

Educate about evidence-based treatment options, elicit feedback, encourage behavioral activation

Use collaborative goal setting, action planning, and follow-up of personalized goals with depressed students

Document self management goal(s), action plan, and follow-up of personalized goal(s) in the clinical record

Strengthen collaborative relationships to enhance continuity of care

Track and verify students have engaged with referrals off-campus

Establish linkages with academic support & student life offices

Work within the community to lower stigma for seeking services

Organizational priority

Use incremental, rapid cycle changes to drive improvement

"Train the trainer" approaches

Culture, organization, and mechanisms that promote quality

Senior leader support / involvement

Screen using a standardized instrument in all visit types

Use standardized instrument for assessing symptoms & response

Assign roles, duties, and tasks for planned visits to a multidisciplinary care team

Make designated staff responsible for ACTIVE follow-up using various methods

Shared care approach

Senior leader support / involvement

Develop systems so that evidence based guidelines & protocols are accessible, tailored to the setting, & adhered to

Use a standardized instrument to inform treatment planning & decisions

Involve whole care team in developing decision support tools

Provide skill-oriented interactive continuing education activities

Establish a registry

Develop processes for use of the registry, including designating personnel to enter data, assure data integrity, and maintain the registry

Generate reminders & care-planning tools for individual patients

Track quality improvement over time using graphical charting

Provide performance data to care team & leaders
Model for Improvement: Question Three

What change(s) can we make that will result in improvement?

Brainstorm ideas for change or the strategies will you use to develop ideas for change.
Step 7: Test Changes

Step 1: Identify a Problem or Opportunity for Improvement
- Concern about a potential issue
- Data collection & assessment

Step 2: Form Your Team
- Actual Problem?
  - Yes
  - No
- Priority?
  - Yes
  - No

Step 3: Understand the Problem
- Model for Improvement
  - What are we trying to accomplish?
  - How will we know that a change is an improvement?
  - What changes can we make that will result in improvement?

Step 4: Act
Step 5: Plan
Step 6: Study
Step 7: Do
Step 8: Implement a change
Step 9: Spread a Change

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Effective System Change is INCREMENTAL

Led by a senior leader

Review results promptly

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
• Analysis of the data
• Compare data to predictions
• Summarize what was learned

Do
• Carry out the plan
• Document problems and unexpected observations
PDSA Worksheet for Testing Change
COMPLETE FOR EACH PDSA PD SA CYCLE

Date: 

Objective for this PDSA Cycle:

Is this cycle used to develop (or modify), test, implement, or spread a change?

What question(s) do we want to answer on this PDSA cycle (what do we want to learn from this PDSA cycle)?

Plan:
List the tasks needed to set up this test of change: Who, What, When, Where

Predict what will happen when the test is carried out (for questions above based on plan):

Plan for collection of data. What measures will be used to determine if prediction succeeds

Do: Describe what actually happened when you ran the test

Study: Describe the measured results and how they compared to the predictions

Act: Describe what modifications to the plan will be made for the next cycle from what you learned

Available at: https://collegehealthqi.nyu.edu/resource-library/pdsa-worksheet/
PDSA Cycle

• **Objective for this PDSA Cycle:**
  Test whether visual prompts will serve as an effective reminder for providers to complete the PHQ-9 survey, in PNC; therefore, decreasing the number of missed opportunities to engage students in mental health treatment.

• **Is this cycle used to develop, test, or implement a change?**
  Develop

• **What question(s) do we want to answer on this PDSA cycle?**
  Will a visual prompt increase the likelihood that the provider will complete the PHQ-9 survey, in PNC, during the session with the patient?
PDSA Cycle

Plan

Plan to answer questions: Who, What, When, Where

- PDSA #2 will run on 7/5/2016 through 7/15/2016. The MA/RN (Ann, Jorge, Emily) will place a post-it note on the computer keyboard, located in the examination room, for the providers they're assigned to each day given the providers are part of Primary Care Team 2. The post-it will be placed only if there is a positive PHQ-2, to serve as a reminder for the provider to complete the PHQ-9 survey in PNC.
- Providers will be instructed to do care as usual regardless of whether there is a prompt (since not all MAs are involved).

Plan for collection of data: Who, What, When, Where

- The MA/RN will write the provider name and appointment time on the post-it note.
- Once the provider arrives, if they see a post-it note, they will fill out a separate simple questionnaire

Predictions (for questions above based on plan):

- MAs will appropriately place prompts 90% of the time.
- When prompts were placed, PHQ-9 survey will be completed in PNC 75% of the time compared with 40% of the time when there is no prompt.
**PDSA Cycle**

**Do**

<table>
<thead>
<tr>
<th>Patient</th>
<th>Appointment Time</th>
<th>Did You Place a Post-It Note? (y/n)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<table>
<thead>
<tr>
<th>Appointment Time</th>
<th>Provider Name</th>
<th>Did You Place a Post-It Note? (y/n)</th>
<th>If there was a Positive PHQ-2 and you did not place a Post-It Note on the keyboard, why?</th>
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## PDSA Cycle Study

<table>
<thead>
<tr>
<th></th>
<th>Prediction</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAs appropriately place prompts</td>
<td>90%</td>
<td>95%</td>
</tr>
<tr>
<td>With prompts: PHQ-9 administered</td>
<td>75%</td>
<td>45%</td>
</tr>
<tr>
<td>Without prompts: PHQ-9 administered</td>
<td>40%</td>
<td>42%</td>
</tr>
</tbody>
</table>
PDSA Study

• Visual prompts did not have much impact on whether or not the PHQ-9 survey was completed and entered in PNC.

• The team identified the following barriers as key reasons the PHQ-9 is not completed:
  – Ample time to meet with the patient to complete the survey.
  – Cumbersome process and would sometimes forget to enter the score (esp if negative).
  – Student already “engaged” in CAPS.
PDSA Cycle
Act

The team discussed:

• Allow the patient to complete the PHQ-2 survey during check-in using a tablet or kiosk. If the patient's score on the PHQ-2 is positive, the patient will be prompted, on the system, to complete the PHQ-9 survey.

• Following the completion of the PHQ-9 survey, the patient's score will be tallied and the information will be populated into a system visible to the provider. The provider will then have enough time to address all the patients' needs and make the necessary referrals to Mental Health Services if the need exists.
Key features of PDSA cycle method

- Iterative cycles
- Prediction-based test of change
- Small-scale testing
- Use of data over time
- Documentation

Focusing on just the results is the old American “Management by Objective”.

Process Measures focus improvement on processes that directly impact results (outcome indicator).

Focusing on the processes during improvement will likely lead to the desired ... result.
Do → Study

• Reasons for failed tests
  1. Change not executed well
  2. Support processes inadequate
  3. Hypothesis/hunch wrong:
     - Change executed but did not result in local improvement
     - Local improvement did not impact access or efficiency

• Collect data during the Do Phase of the Cycle to help differentiate these situations.
“Negative results on the fish...Let’s try rubbing two sticks together.”
Driver diagram informs testing, testing refines theory
Successful Cycles to Test Changes (under the radar approach)

- Plan multiple cycles for a test of a change
- Think a couple of cycles ahead
- Scale down size of test (# of patients, location)
- Test with volunteers
- Do not try to get buy-in, consensus, etc.
- Be innovative to make test feasible
- Collect useful data during each test
- Test over a wide range of conditions
Accelerating Learning and Improvement

What cycle can we complete by next Tuesday?

Willing to compromise on scope, size, rigor, and sophistication, but the cycle must be completed by next Tuesday.
Step 8: Implement Changes

Step 1: Identify a Problem or Opportunity for Improvement
- Data collection & assessment
- Concern about a potential issue
- Actual Problem?
  - Yes
  - No
- Priority?
  - Yes
  - No

Step 2: Form Your Team

Step 3: Understand the Problem
- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What changes can we make that will result in improvement?

Step 4: Model for Improvement

Step 5: Act
Step 6: Do
Step 7: Study
Step 8: Implement a change
Step 9: Spread the Change

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Step 8: Implement Changes

- The aim of this narrow scope of implementation is to:
  make sure the infrastructure is in place to make the change long-lasting and successful.

- Includes issues such as:
  - Training
  - Documentation
  - Standardization
  - Adequate resources
  - Social considerations
# Testing and Implementing a Change Idea

<table>
<thead>
<tr>
<th>BELIEF</th>
<th>COST OF FAILURE</th>
<th>Current commitment within organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No commitment</td>
</tr>
<tr>
<td><strong>Low degree of belief</strong></td>
<td>Cost of failure large</td>
<td>Very small scale test</td>
</tr>
<tr>
<td></td>
<td>Cost of failure small</td>
<td>Very small scale test</td>
</tr>
<tr>
<td><strong>High degree of belief</strong></td>
<td>Cost of failure large</td>
<td>Very small scale test</td>
</tr>
<tr>
<td></td>
<td>Cost of failure small</td>
<td>Small scale test</td>
</tr>
<tr>
<td>Pilot Phase</td>
<td>Implementation Phase</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------</td>
<td></td>
</tr>
<tr>
<td>PEOPLE: FEW</td>
<td>PEOPLE: MANY</td>
<td></td>
</tr>
<tr>
<td>The number of people affected by a pilot test is relatively small. Thus, the resistance to the change is often relatively low.</td>
<td>The number of people affected during implementation is relatively large. There may be stronger resistance to the change that improvement teams must overcome.</td>
<td></td>
</tr>
<tr>
<td>SUPPORT NEEDED: LOW</td>
<td>SUPPORT NEEDED: HIGH</td>
<td></td>
</tr>
<tr>
<td>Testers do not yet intend changes to be permanent and therefore do not need processes to maintain changes beyond the test period.</td>
<td>Testers expect the change to become part of the routine operations of the system; supporting processes to maintain the change — feedback and measurement systems, job descriptions, training, etc. — must be in place.</td>
<td></td>
</tr>
<tr>
<td>TIME: SHORTER</td>
<td>TIME: LONGER</td>
<td></td>
</tr>
<tr>
<td>Cycles for testing changes can be rapid.</td>
<td>Test cycles, which are larger in scale and more diverse in scope, generally require more time than in the pilot.</td>
<td></td>
</tr>
<tr>
<td><strong>F</strong></td>
<td><strong>B+</strong></td>
<td></td>
</tr>
<tr>
<td>TOLERANCE FOR FAILURE: HIGH</td>
<td>TOLERANCE FOR FAILURE: LOW</td>
<td></td>
</tr>
<tr>
<td>It’s OK (in fact, it’s encouraged!) for testers to learn from mistakes. Between 25–50 percent of tests may not produce the desired results; these “failures” are important opportunities to learn.</td>
<td>Due to all of the above (i.e., the people, resources, and time involved) the tolerance for failure is relatively low during implementation. Testers should have a high degree of confidence that the changes they’re implementing will result in improvement.</td>
<td></td>
</tr>
</tbody>
</table>
Implementation Strategies to Hold the Gains

- Make changes to job descriptions
- Use measurement and audits
- Pay attention to orientation and training
- Assign ownership
- Address the social aspects of change
Step 9: Spread Improvements

Form Your Team

STEP 2

Model for Improvement

STEP 3

What are we trying to accomplish?

STEP 5

How will we know that a change is an improvement?

STEP 6

What changes can we make that will result in improvement?

Act

Study

Plan

Do

STEP 7

Test a Change

STEP 8

Implement a Change

STEP 9

Spread a Change
Step 9: Spread Improvements

“The tipping point is that magic moment when an idea, trend, or social behavior crosses a threshold, tips, and spreads like wildfire.”
73,009 unique students screened

Source: NCDP 2013-2015

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## Treatment Outcomes based on Meeting Key Process Measures

<table>
<thead>
<tr>
<th></th>
<th>Met Benchmark</th>
<th>Did not Meet Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PHQ-9 Follow up re-assessment by 4 weeks</strong></td>
<td>(n=9)</td>
<td>(n=11)</td>
</tr>
<tr>
<td>% of registry students with PHQ-9 &lt;10 @ 12 weeks</td>
<td>53.6%*</td>
<td>35.9%</td>
</tr>
<tr>
<td>% of registry students with functional improvement (PHQ Functional score &lt;=1) @ 12 weeks</td>
<td>60.8%*</td>
<td>46.7%</td>
</tr>
</tbody>
</table>

* p < 0.05

Source: NCDP 2008-2009
Follow Up PHQ-9s and Remission (n=441)

Source: NCDP 2013-2015
Performance on Process Measures by Length of Partner Participation

Source: NCDP-CAN 2010-2011
Achievement of PHQ-9 score of $\leq 9$ by 12 weeks (n=441)

<table>
<thead>
<tr>
<th></th>
<th>Met Process Measure</th>
<th>Did NOT Meet Process Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCDP registry patients having at least one follow up PHQ-9 reassessment by 4 weeks of positive identification</td>
<td>48.8%</td>
<td>17.7%</td>
</tr>
<tr>
<td>NCDP registry patients with patient-centered (collaborative) treatment planning by 4 weeks</td>
<td>31.8%</td>
<td>23.3%</td>
</tr>
<tr>
<td>NCDP registry patients in which at least one personalized self management goals was set and reviewed by 8 weeks</td>
<td>32.4%</td>
<td>27.7%</td>
</tr>
</tbody>
</table>

Source: NCDP 2013-2015
## Process Drives outcome

<table>
<thead>
<tr>
<th>All process measures (n=228)</th>
<th>Initial PHQ-9 Score</th>
<th>Final PHQ-9 Score (ITT)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication (n=554)</td>
<td>17.07</td>
<td>10.70</td>
<td>-6.37</td>
</tr>
<tr>
<td>Individual Counseling (n=1020)</td>
<td>17.08</td>
<td>12.13</td>
<td>-4.95</td>
</tr>
<tr>
<td>Group Counseling (n=81)</td>
<td>16.75</td>
<td>13.50</td>
<td>-3.23</td>
</tr>
<tr>
<td>Self Management (n=474)</td>
<td>16.52</td>
<td>12.12</td>
<td>-4.40</td>
</tr>
</tbody>
</table>

*Among patients in registry for > 87 days

Source: NCDP 2013-2015
“Oh, if only it were so simple.”
Join the Movement
toward better care and better health at increased value for students on college campuses nationwide

CollegeHealthQI.nyu.edu