Clinical Safety & Effectiveness
Cohort # 15
Establish a Spirometry Competency Program for the COPD Patient Population at the UT Primary Care Clinic
Disclaimer
Lynn Young and Monica Pereida do not have any conflict of interest to disclose with our CS&E project.
The Team

• Division
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• Sponsor Department:
  – Dr. Sara Pastoor, Director, Primary Care Center
AIM Statement

The aim of this project is to improve the competency of the clinical support staff as defined by correctly demonstrating 90% of the 10 steps of spirometry testing for all patients tested by January 15, 2015. Since currently there is no established competency testing protocol, the baseline for percent of patients correctly tested is 0%.

The process begins when clinical support staff are trained to complete spirometry testing and ends when they are able to administer the exam to the patient competently. This is important to improve because it effects the quality and efficiency of care that our patients are receiving.
Project Milestones

• Team Created August 2014
• AIM statement created September 2014
• Weekly Team Meetings Sept – Nov 2014
• Background Data, Brainstorm Sessions, Sept – Nov 2014
  Workflow and Fishbone Analyses
• Interventions Implemented 08 Oct 2014
  15 Oct 2014
  22 Oct 2014
  05 Nov 2014
• Data Analysis Sept - current
• CS&E Presentation 23 January 2015
Background

• Staff have not had a competency verification process in place for spirometry within the Primary Care Center

• Lack of formalized training/competency programs in ambulatory settings

• This is important to address to make sure that we are delivering safe quality healthcare to our patients
Pre-analysis Tool

Can you please write down what steps you think are involved from start to finish for administering a spirometry check? Please be as specific as you can be.

Steps

1. Calibration String
2. Explain how meter works
3. Place sample in mouth of instrument
4. Have patient blow into instrument
5. Record results
6. Give breathing in or...
7. 
8. 
9. 
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30.
**Staff/Human Resources**
- Staff Turnover
- Lack of Pre-employment Testing
- Lack of Career Ladder
- Lack of Verification of Critical Skills

**Equipment**
- Lack of Equipment
- Space Allocation – Dedicated Training Area
- No Simulator Lab

**Healthcare Environment**
- No Mandated State or National License/Certification Requirements
- No National/State Standards for MAs
- No recognition of Higher Skill Sets

**Training**
- Limited Training Opportunities
- No Preceptorship Program
- Limited Staff Resources for Training

**Absence of Spirometry Competency Program**
Pt referred for testing

Insurance verified

Check for medical contraindications

Central indications present

Inform referrer and document

Pt not willing to pay out of pocket

No test

Pt willing to pay out of pocket

Cleared for testing

Verify room is available

Assure all needed equipment is available and calibrated

Bring patient to testing room

Provide explanation and demonstration of procedure

Correctly position patient

Perform spirometry with coaching

If needed stop/interrupt test

If done correctly, note results

Restart test

Clean equipment and dispose of waste

Present results to provider

Place results in scanning bin for EHR
Pre-intervention Data

• There is currently no Spirometry Testing Competency in place. Therefore we have do not have any pre-intervention data.
PLAN: Intervention

Create a Spirometry Competency Check-off Process

• Introduction of CS & E Project to Staff

• Spirometry Training Started with an introduction to the process and testing

• Staff Training Started – Learning the equipment & how to calibrate

• Staff learned the correct process of administering a spirometry test

• Staff Performed Spirometry Test and checked off with each other

• Staff check-off when administering test to patient
DO: Implementing the Change

Training

- 08 Oct 2014 – Introduction to CS&E Project
- 15 Oct 2014 – Staff training started - equipment
- 22 Oct 2014 – Staff trained on the steps of administering spirometry
- 05 Nov 2014 – Staff Checked off
## Spirometry Workshop Checklist

### TASK

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Done</th>
<th>Not Done</th>
<th>Inaccurate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong>&lt;br&gt;Daily Check&lt;br&gt;1. Calibration of EasyOne&lt;br&gt;2. Print trends</td>
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</tr>
<tr>
<td><strong>Preparation</strong>&lt;br&gt;Step 2&lt;br&gt;Enter required data:&lt;br&gt;1. Age, height, gender, ethnicity&lt;br&gt;2. Select test type: PEF&lt;br&gt;3. Select Predicted Value (NSANES)&lt;br&gt;4. Select Best Value</td>
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<tr>
<td><strong>Step 3</strong>&lt;br&gt;2. Ensure patient is in the proper position</td>
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<td></td>
</tr>
<tr>
<td><strong>Step 4</strong>&lt;br&gt;3. Explained procedure:&lt;br&gt;• Purpose&lt;br&gt;• Deep breath is&lt;br&gt;• Placement of mouth around spirometer&lt;br&gt;• Blast out all air&lt;br&gt;• Deep breath in</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Step 5</strong>&lt;br&gt;4. Demonstrated procedure:&lt;br&gt;• Deep breath in&lt;br&gt;• Placement of mouth around spirometer&lt;br&gt;• Blast out all air&lt;br&gt;• Deep breath in</td>
<td></td>
<td></td>
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<tr>
<td><strong>Step 6</strong>&lt;br&gt;5. Hocked spirometer (mouthpiece) and press enter</td>
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<tr>
<td><strong>Step 7</strong>&lt;br&gt;6. Nose clip placed on patient</td>
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</tbody>
</table>

### ADMINISTERING BRONCHODILATOR TREATMENT / POST TEST

#### Step 9
- Select bronchodilator (and/or nebulizer)
- Administer medication properly
- Wait 10 minutes, repeat testing

#### TEST RESULTS
- Print or download results

#### Step 10
Take printed results to the ordering provider for review.
ACT: Sustaining the Results

• Spirometry Training will be added to Clinical Employee’s Competency Assessment Tool (Initial competency check-off sheet)

• Once everyone has been checked off initially then we will change and do a random sample of 3 support staff each month and check them off and add that data to another SPC Chart

• Annual Validation Tool will be used to review and check off skill competency
## Competency Assessment Tool

### Leadership, Organizational Performance, Care Teams, and Human Resources

<table>
<thead>
<tr>
<th>Required Competency</th>
<th>Manager</th>
<th>RN</th>
<th>LVN</th>
<th>MA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Validates the mission, goals, and core values</td>
<td>U/M, M</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- U/M = Utilizes
- M = Manages
- A = Assumes

### Competency Assessment Method

- Evaluation/Validation Methods/Steps:
  - 
  - 
  - 

- Implementation of the competency tool allows for performance evaluation for staff. Assessment Tool at each stage allows for continuous improvement opportunities.

**Employee Signature:**

**Supervisor Signature:**
# Annual Competency Form

This form is used to validate an employee's competency in various areas. Employees must complete the form to demonstrate their ability to perform their job functions. The form includes sections for different areas of competency, such as knowledge, skills, and training. Employees must sign the form to confirm that they have met the competency requirements for their position. The form is used to ensure that employees have the necessary skills and knowledge to perform their job functions effectively.
Return on Investment

Reimbursement rate in current state over the last year:

- 273 of 493 patients have had spirometry (within the last 10 years)
- $273 \times 64.00/\text{per test} = 17,472$

Reimbursement rate in future state:

- If aim is achieved, an additional 47 patients will have spirometry
- $47 \times 64.00/\text{per test} = 3,008$ (over a 3-month period, which may be up to $12,032 over the first year) We will have to deduct the disposable cost of the spirettes and nose which is minimal.
Conclusion/What’s Next

Highlights of this project thus far: staff have gained knowledge of competency of administering spirometry and gained confidence.

Future benefits of this project is to be able to use this process in checking off support staff on other competencies.

Barriers would be time and space.
Thank you!