

RESIDENT DRIVEN QI PROJECTS

Pediatrics and Family Medicine

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Advocate

• Lutheran General Hospital

Lutheran General Children's Hospital

Institution of asthma-based clinic to reduce visits and improve outcomes in high emergency room utilizers or hospital readmissions

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Goals of project

- Institute an asthma-based clinic for pediatric patients with diagnosis of asthma
- Optimize asthma control
- Decrease overall hospitalization rates and ER visits
- Improve patient care and education



PDSA Cycle 1: Identifying our Population Sample

Accessed database of Yacktman clinic patients and searched for those that fit our criterion:

- Inclusion Criteria:
 - History of asthma or wheezing
 - An asthma-related ED visit or hospitalization from Jan 2016 - Sept 2017
- Exclusion Criteria:
 - Followed by pulmonology
 - Age >18
- Patient's parents were called to evaluate interest in attending the asthma clinic. If interested, appointment was scheduled

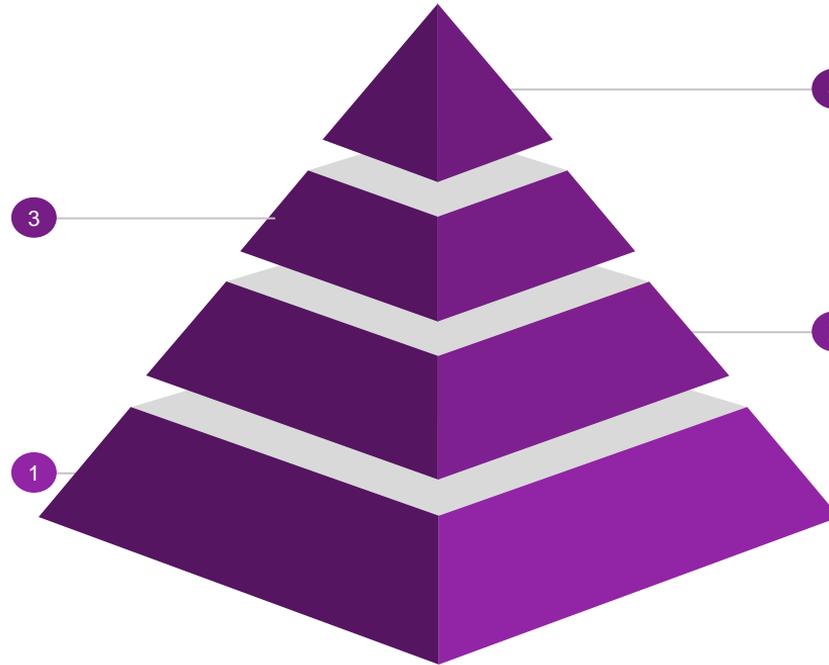
PDSA Cycle 1 Chart

Patients that responded to invitation

128 patients responded yes or no.

Yacktman Database after Inclusion Criteria

468 patients identified through our initial search for diagnoses: "wheezing", "asthma", "reactive airway disease"



Final Sample of Patients in Study

39 patients were interested, but only 13 patients showed up to appointment.

Sample after exclusion criteria

232 patients were not followed by pulmonology and were not older than 18.

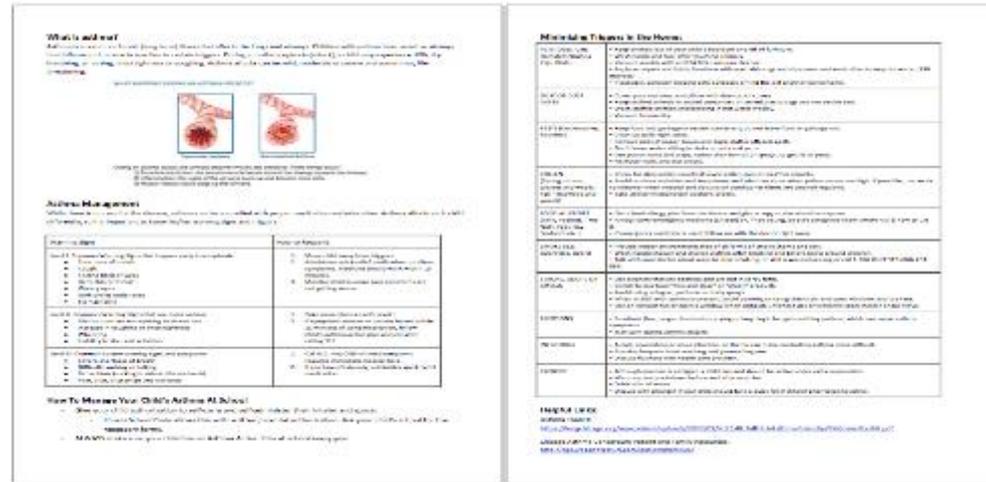
PDSA Cycle 1 Table

Calls documented	160
Families Interested	39
Scheduled	18 (13 kept appointments)
Follow-Ups	1 (2 cancelled)
Interest Rate	22%
Schedule Rate	9.88%

PDSA Cycle 2: Asthma Clinic

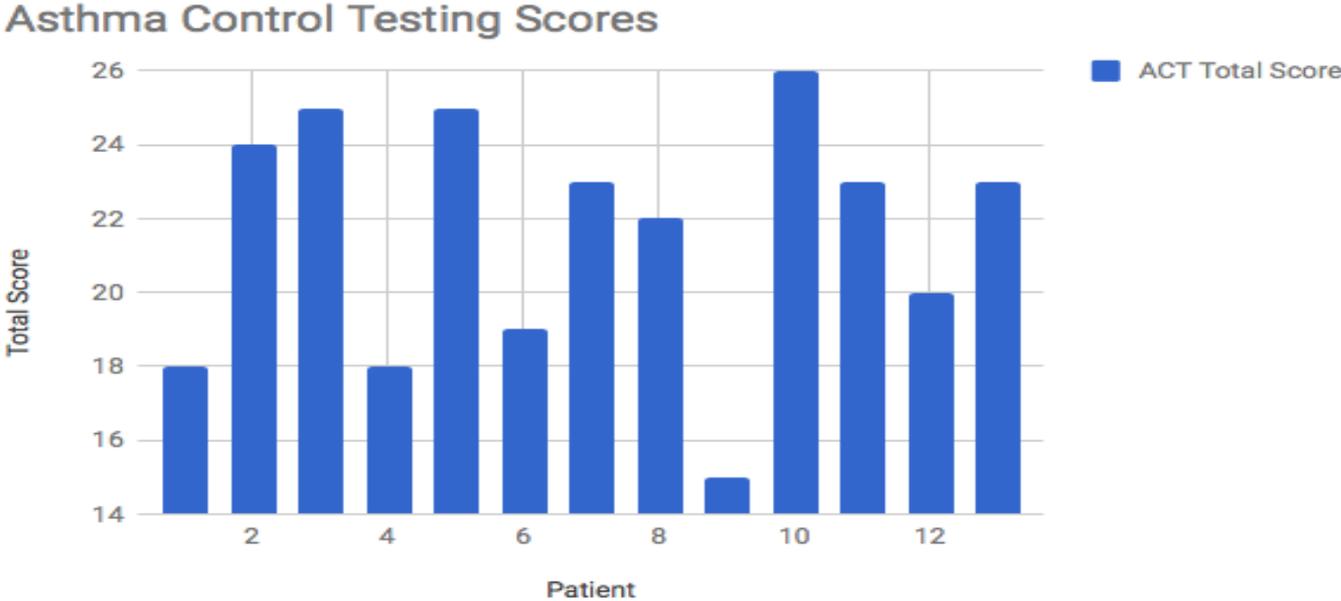
Intervention & Methods:

- Educational materials about asthma, triggers, and medications were developed and reviewed with patients during the asthma clinic.
- Patient's asthma was assessed by an Asthma Control Test (ACT) and their medication regimen was adjusted accordingly.
- Follow up appointments with patients were also made.



Asthma Education Handout

PDSA Cycle 2 Chart



ACT scores at preliminary appointment before intervention

Results

- Pre-Survey Findings
 - Two thirds of patients last had inhaler teaching >1 year prior to visit
 - Triggers were most commonly weather, followed by exercise
 - One third of patients had not missed a dose of maintenance inhaler
 - One third of patients had last received Asthma Action Plan (AAP) >1 year prior to visit
 - Most common medication used by patients was only albuterol

Results

- Post-Survey Findings

	Pre-Survey	Post-Survey
Inhaler Comfort	Very comfortable (N=6)	Very comfortable (N=7)
	Somewhat uncomfortable (N=1)	Neutral (N=1)
AAP Helpfulness	Essential (N=4)	Essential (N=6)
	Somewhat helpful (N=3)	Somewhat helpful (N=6)

Discussion

- Overall 22% interest rate in eligible patients with 10% schedule rate
- 1 ED visit and 0 hospital admissions since initial asthma clinic visit
- Study strengths:
 - Easy to assimilate into clinics
 - Low cost
 - Low harm to patient
- Limitations:
 - Scheduling conflicts for family
 - Copay/travel costs
 - Unable to obtain spirometry



Future Research

- Continue to track ER visits/hospitalizations from initial asthma clinic visit
- Re-assess ACT scores and asthma education at follow-up asthma clinic visit
- Addition of spirometry to further quantify data



Spirometry testing

References

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ADVOCATE LUTHERAN GENERAL FAMILY MEDICINE QI



Residents:

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Amanda Wojciechowski MD, PGY3

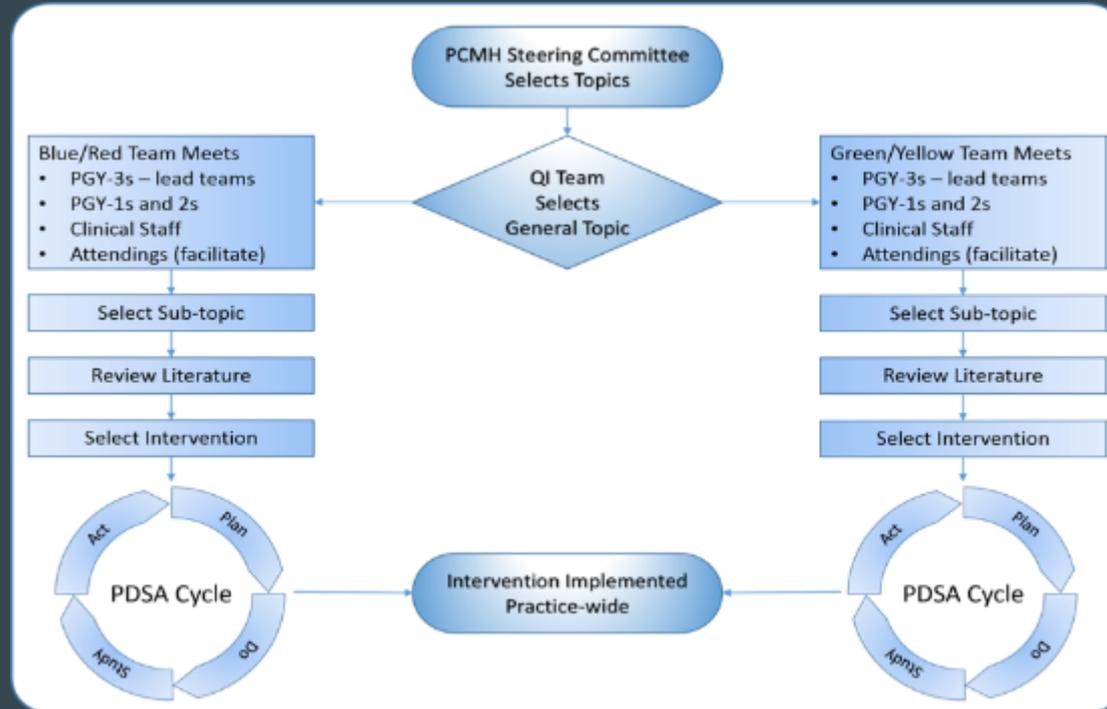
Faculty:

Farah Chaus, MD
Greg Kirschner, MD

Advocate Lutheran General Family Medicine QI: Our Model

- Uses a two year timeframe.
- Each resident year will start a new project.
- Projects involve staff, residents, and faculty participation in an ongoing way in biweekly meetings.
- We focus on making a difference for our patients and incorporating their voices in every project.

Advocate Lutheran General Family Medicine QI: Our Model



Advocate Lutheran General Family Medicine QI: Our Model

Residents learn:

- Improving their own clinical practice.
- Principles of quality improvement.
- Conducting literature reviews.
- IRB submission process.
- Basic statistical analysis.
- Academic dissemination through presentation.
- Leadership skills.
- Interprofessional teamwork.

2017-2018 Advocate Lutheran General Family Medicine QI

- 2017-2018 QI Focus: Chronic Obstructive Pulmonary Disease.
- Our 2017 CI registry suggested that about 30% of individuals with a diagnosis of COPD had not undergone spirometry testing.
- Goal: Improve our accuracy for the diagnosis of COPD by increasing the rate of spirometry ordered as well as identify what barriers our patients face in completing spirometry.

Project Background

- Spirometry is a pulmonary function test used to measure the presence and severity of airflow obstruction and is required to make the diagnosis of COPD according to newer GOLD recommendations.
- Spirometry testing is often not completed as recommended for diagnosis and monitoring.
- In 2013 the US Veteran Health Administration, reported that only 36.7% of newly diagnosed COPD patients had completed spirometry.
- More accurate diagnosis of COPD through spirometry will lead to improved management of COPD with reduction in exacerbations, hospitalizations, and prolong survival rates.

Team 1

Aim Statement:

- The purpose of this study is to improve accuracy rates for the diagnosis of COPD in our 2017 CI registry, by identifying those with a diagnosis of COPD who have not been formally diagnosed by spirometry, and **improve rates of ordered spirometry** for those individuals from 0 to 100% over a three month period.

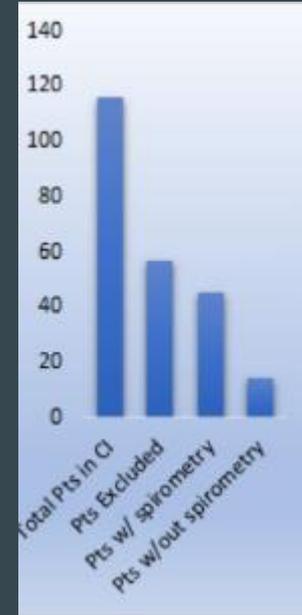


Team 1

Study Design:

- 116 patients were identified in our CI registry with a diagnosis of COPD, however 57 were excluded from the study leaving a total of 59 patients.
- 14 of these 59 patients were found to not have spirometry completed (23.7%).
- These patients were contacted via phone and an order for spirometry was placed in their chart.
- An official letter with recommendations for spirometry along with a written order was also sent via mail to reinforce the importance of obtaining spirometry.

Results:



Team 1

Discussion:

- Large portion of patients with the diagnosis of COPD was based off of X rays, CT imaging, or smoking history with symptoms.
- Patients often unaware of necessity of spirometry for COPD diagnosis.
- Intervention to place orders for spirometry was successful, most patients were receptive to the recommendation.

Team 2

Aim Statement:

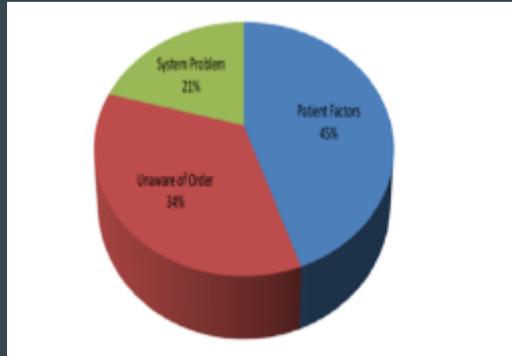
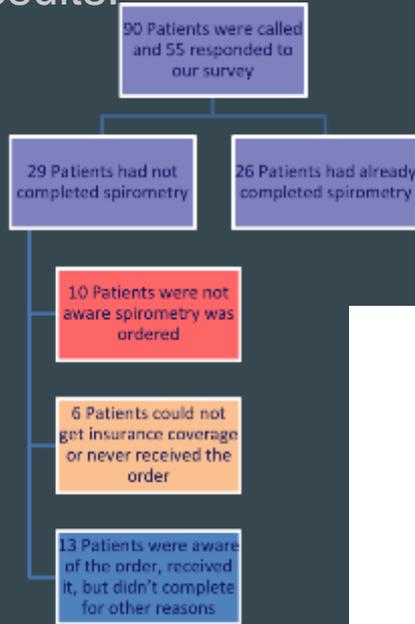
- We aim to increase the number of completed spirometry tests for patients with the diagnosis of COPD at our family medicine clinic.

Study Design:

- Identify a minimum of ten patients with uncompleted spirometry test orders.
- Administer a telephone questionnaire to **elucidate barriers to spirometry completion.**
- All responses were recorded without patient identifying information.

Team 2

Results:



Discussion:

- A significant number of survey respondents did not get the spirometry done because either they were unaware the test was ordered or they forgot to schedule.
- We can improve awareness of the test with patient education and handouts.
- We can improve scheduling by calling to follow up and to schedule the test.

Future COPD QI Projects for Year 2

Team 1

- Cycle 1: Expand study design to include entire CI registry of clinic.
- Cycle 2: Collaborate with team 2 to provide educational handouts to those without completed spirometry identified in cycle 1.

Team 2

- Cycle 1: Creating a handout to patients explaining what spirometry is and how/where it can be completed
- Cycle 2: Initiating new PDSA cycles measuring spirometry completion with handout intervention

References

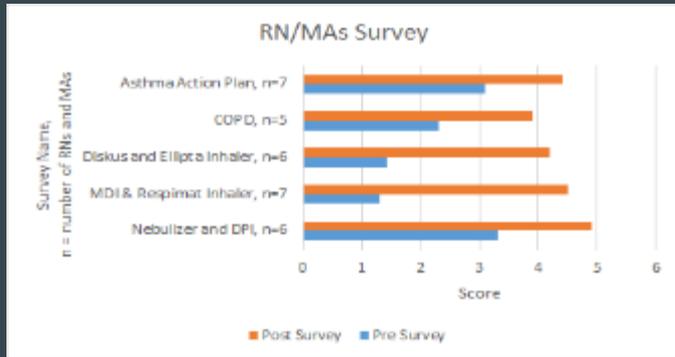
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An Interdisciplinary Approach to
Improving Asthma and COPD Education
in a Primary Care Setting

PDSA cycle 1

- Project team included an attending, 2 family medicine residents and a pharmacist
- Our study looked at improvement of our patients' understanding of COPD and asthma through a multidisciplinary education program at Nessel Family Medicine in Park Ridge, IL.
- Goal: To measure the impact of education program with decrease in number of ED visits by 50% over the next two years
- PDSA Cycle 1
 - A clinical pharmacist gave a series of COPD and asthma lectures to groups of medical assistants, nurses and residents in Internal medicine, Family Medicine and Pediatrics clinics.
 - For each lecture participants received a pre and post survey related to the content.

PDSA cycle 1



Both the resident and RN/MA survey showed improvement in knowledge after pharmacist teaching.

Some limitation of the study include small sample size and survey bias

Results showed increased knowledge and promise for making a positive impact on patient care.

Two further PSDA cycles are planned:.

- Cycle 2: Pharmacists, nurses and medical assistants will conduct one-on-one education sessions with COPD and asthma patients and provide inhaler technique teaching. Patients will receive pre and post surveys to complete.
- Cycle 3: The interdisciplinary team will develop educational resources that will be made available in the clinic setting for patients with COPD and asthma.

Future Directions in Resident Driven QI

- Grant: Implementation of Teleconference Technology to Improve Resident Participation in Team QI Meetings
- Continue to Increase Resident Engagement Through Faculty Coaching
- Improve Standardization of “Best Practices” in our offices
- Better use of ongoing monitoring of metrics and appropriate use of QI statistics
- Increase interdisciplinary sharing across Internal Medicine, Pediatrics, and Family Medicine

QUESTIONS on Resident Driven QI

Specific Projects

Opportunities and Challenges in Resident QI



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