Primary Care Provider Training: Integrating Guidelines into Practice

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Chest Conference 2011

Objectives

- Describe two interventions for integrating asthma guidelines into primary care practices
- Discuss Outcomes
- Discuss Lessons Learned

Background

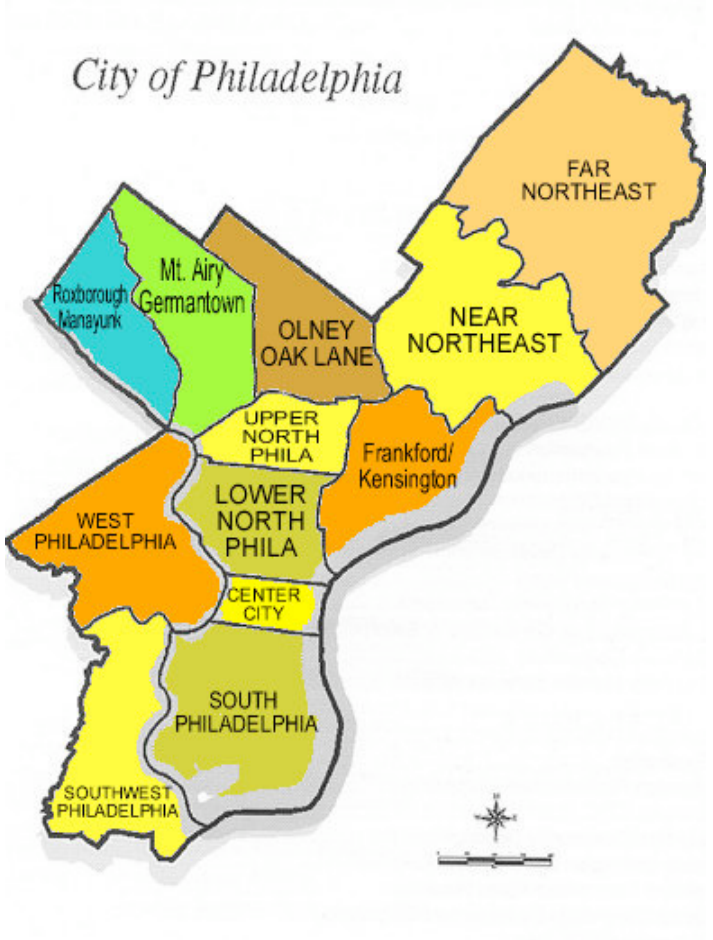
- Over a 9 year period, visits for asthma to generalists increased whereas those to specialists decreased. *(Freed.Jpeds.2005)*
- Multiple studies show care provided by specialists is more likely to be consistent with guidelines than when provided by generalists.*(Diette.Pediatrics. 2001)*
- Asthma–experienced generalists have patients with better outcomes than generalists:
    - Less cancelled activities
    - Less emergency or hospital visits
    - Less missed work days
    - *(Wu et al. Arch Intern Med.2001)*

Controlling Asthma In American Cities Project

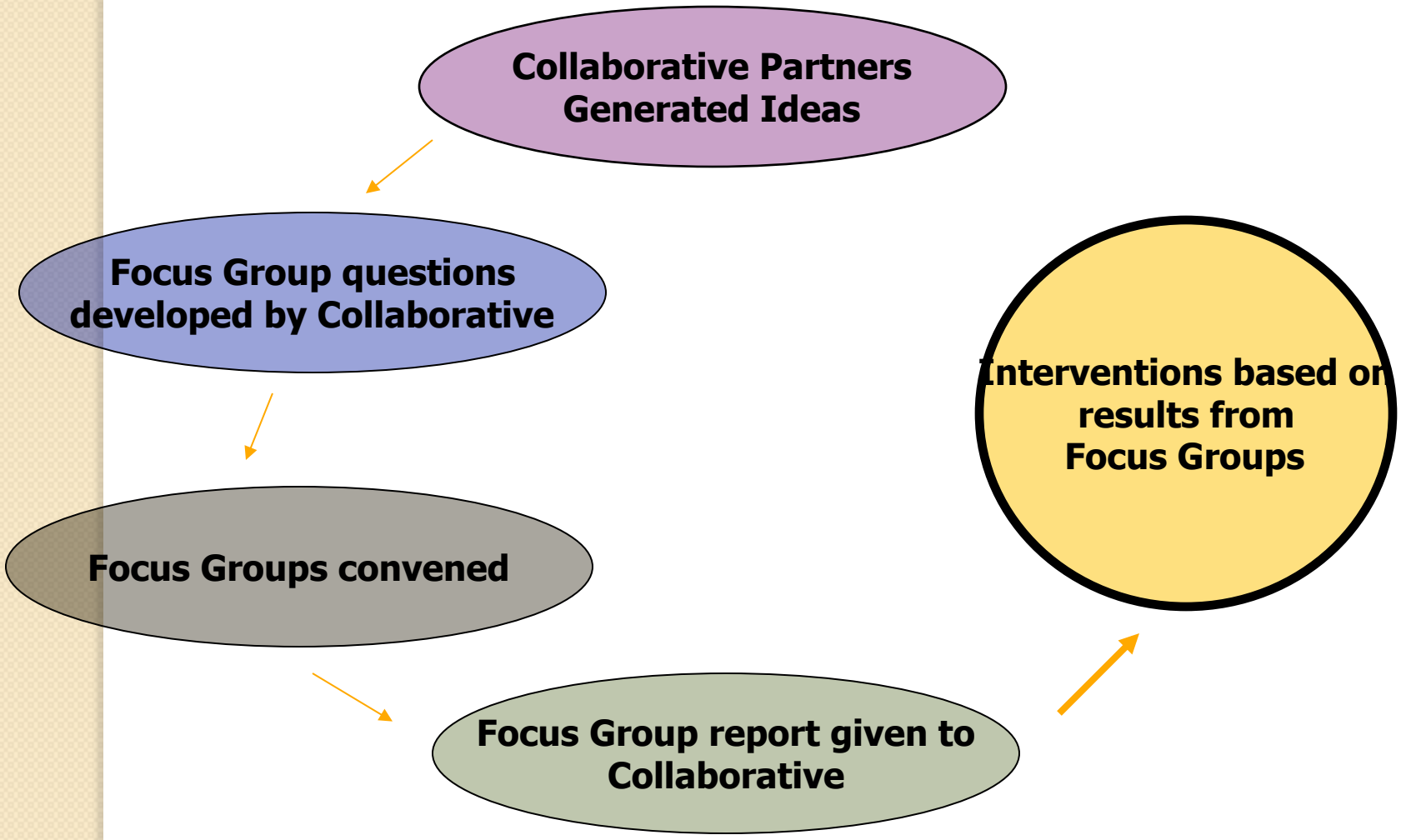
- Goal: To develop a comprehensive community-focused asthma intervention plan based on proven scientific methods that will reduce the burden of asthma among children 0-18 years who have asthma.
- Seven sites funded across the US- Philadelphia, Oakland, Twin Cities, New York City, Richmond, Chicago, St. Louis
- Two years planning phase and five years implementation phase
- Design- Must be directed by a Coalition or collaboration of community, health and social agencies
- Funding through the Center for Disease Control and Prevention

Target Population

- North Philadelphia
- Zip codes: 19121, 19122, 19144,19123,19130,19132, 19133,19134,19140,19141
- Urban, poor, predominately African-American communities, 20% Latinos of Puerto Rican origin

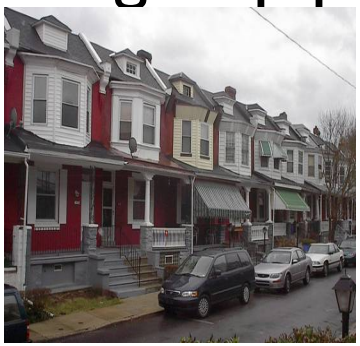


Collaborative Workflow- Phase 1



General Focus Group Findings

- Nine focus groups: caregivers (AA/Latino), teens, nurses, physicians
- All agreed that education is needed at school, community and doctor's office
- Parents were concerned about the cost of asthma
- Parents and Physicians were frustrated with how payors cover medications and devices
- In many ways each group pointed fingers at the other



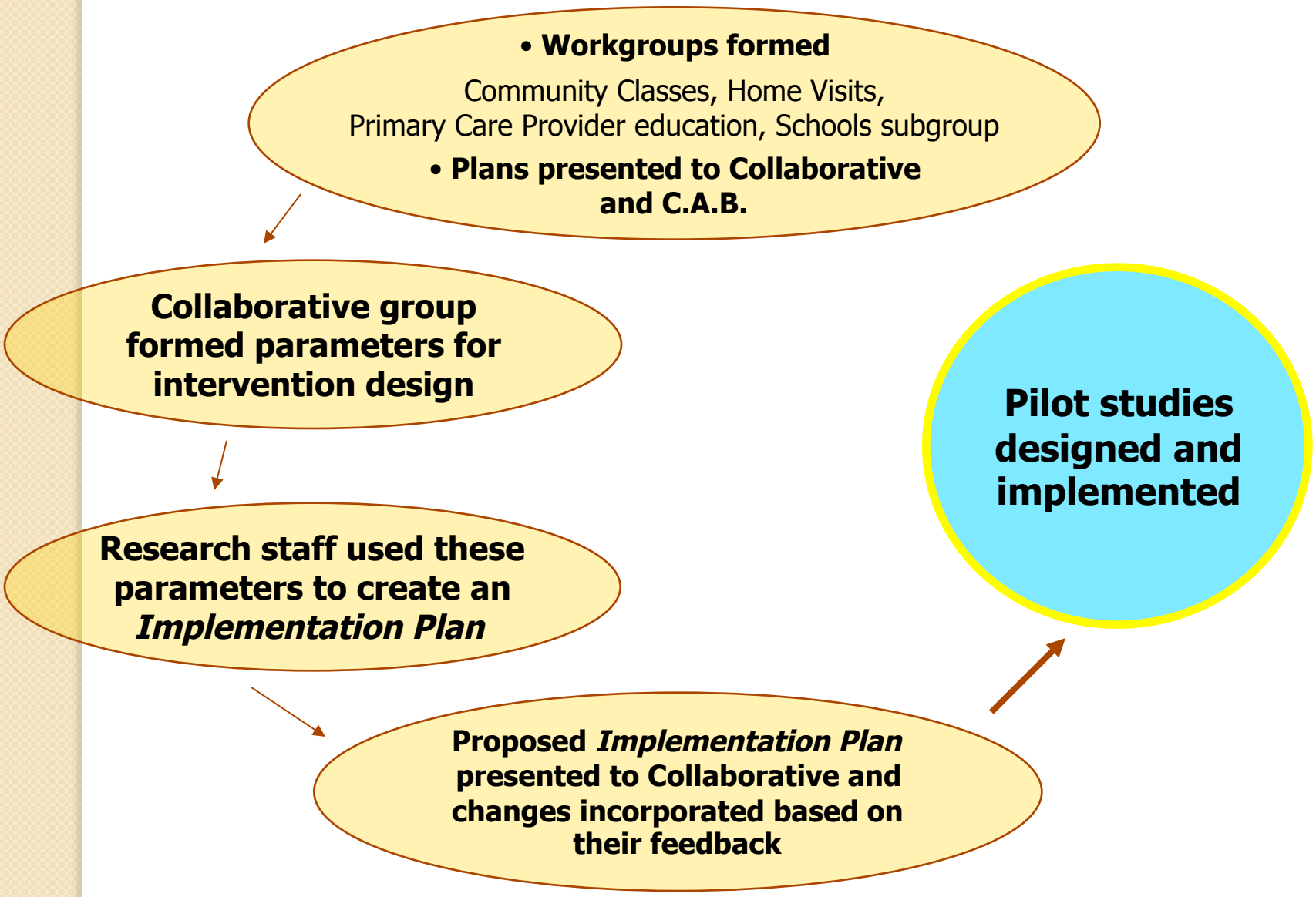
Written Surveys and Focus Groups of PCP's revealed barriers:

- Lack of Time
- Deficiency of Devices
- Need of Education Materials
- Insufficient training in spirometry

CAB recommendations

- Caregivers should have choices about which level of home visit intervention they wanted
- Physicians should have choices about which level of practice intervention they wanted
- Flexible hours for classes; Less sessions
- Choose community sites which have track record of successful partnerships

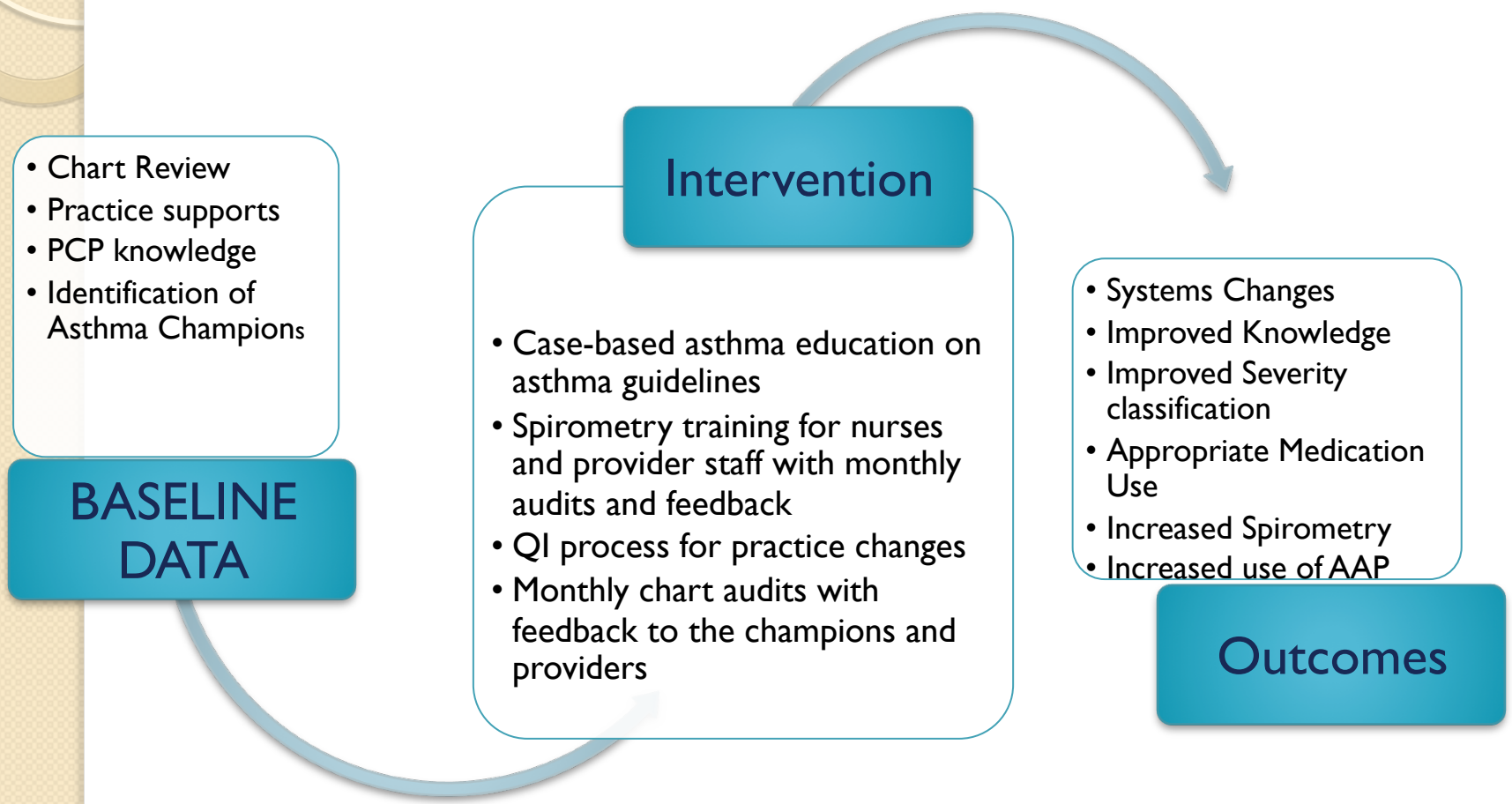
CAPP Collaborative Workflow- Phase 2



Intervention: Primary Care Provider/ Practice Asthma Education

- Design: Three levels of PCP education:
- Level One: A four hour workshop using modified *Physician Asthma Care Education* (PACE) curriculum.
- Level Two: Practice must Identify an asthma practitioner and nurse champions who are trained to use essential tools in managing asthma.
- Level Three: Practice uses quality improvement systematic approach to improve asthma care by training the staff to become proficient in systems and clinical management of asthma using "best practice" methods.

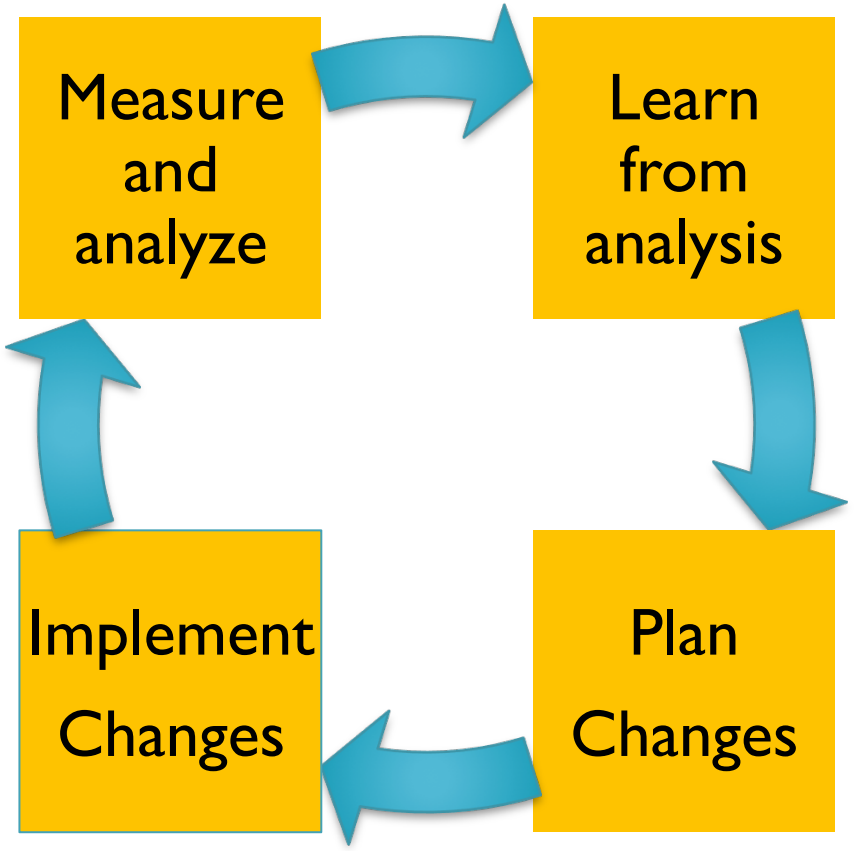
Methodology



Methodology

- Practices approached by PI and/or Nurse Coordinator
- Practices asked to sign an MOU
  - Agreed to identify a nursing and physician asthma champion
  - Agreed to host four lunchtime talks given by PI
  - Agreed to choose Level 2 or 3
  - CAPP offered nurse support for at least six months
  - CAPP offered physician support for spirometry interpretation for at least six months
- NICHQ QI process
  - Baseline chart data pulled for 25 patients
  - Monthly charts pulled randomly for 10 patients
- Feedback of baseline data given to practice physicians and NP's
- Practice decided which area to work on first
- Nurse Coordinator remained in contact with practice on a weekly basis for at least six months

QI PDSA cycle (adapted from NICHQ)



Interventions for Severity Classification

- Lecture series with cases
- Pocket card with severity classification criteria
- Posters with severity classification in charting area
- Severity classification on billing sheet with mandatory completion at end of visit
- Feedback on performance to providers

Interventions for Appropriate Medication Use

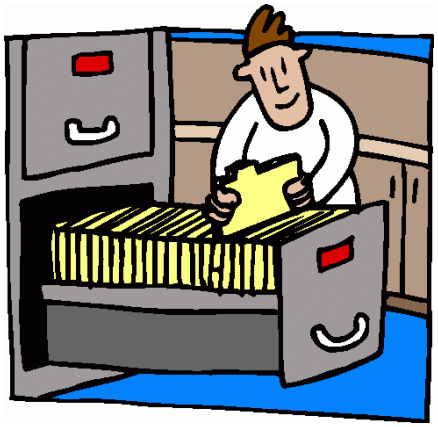
- Lecture series with cases
- Pocket card with step medication chart according to classification
- Posters with step medication in charting area
- Feedback to primary care providers from chart audits

Interventions for Spirometry

- Case-based lecture for primary care providers
- Training of nursing staff with f/u support from nurse coordinators
- Pulled 10 random readings every month and gave written feedback to providers and nurse staff re: adequacy of study and interpretation
- Nurse coordinator provided on-site guidance for nursing staff and signed off on them

Baseline: >200 charts audited in multi-site practice revealed:

- 38% of the charts had severity classification.
- No asthma action plans
- No spirometry



Results

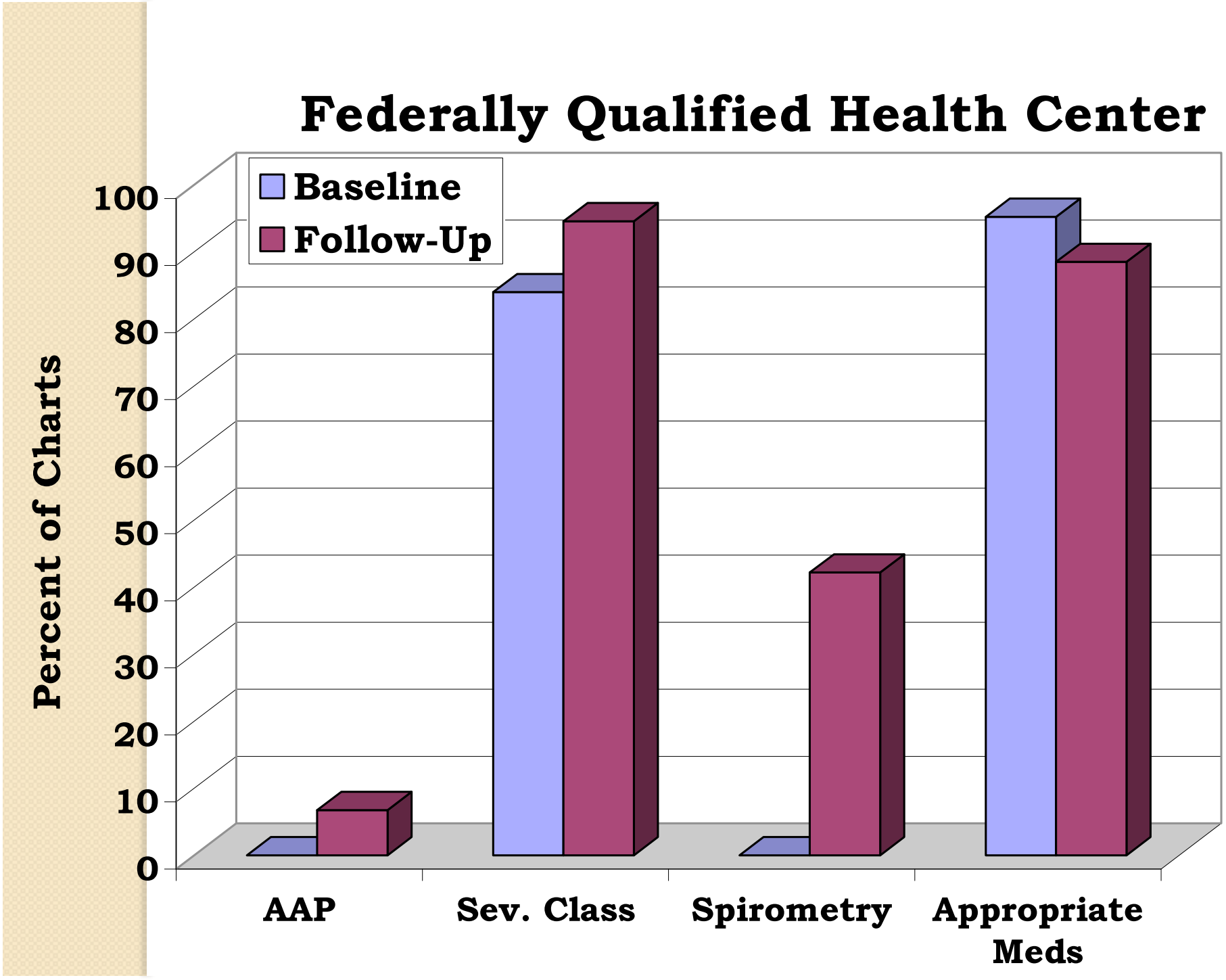
- **Enrollment**
  - ★ 36 practitioners enrolled in Level two and three
  - ★ 18 Practices enrolled in Level 3
- **Chart Audit Data**
  - ❖ Total of 195 charts (avg-24) reviewed at 8 sites for baseline.
  - ❖ 475 charts (avg-59) reviewed at 8 sites at six month follow-up
  - ❖ Training time from 2-20 months

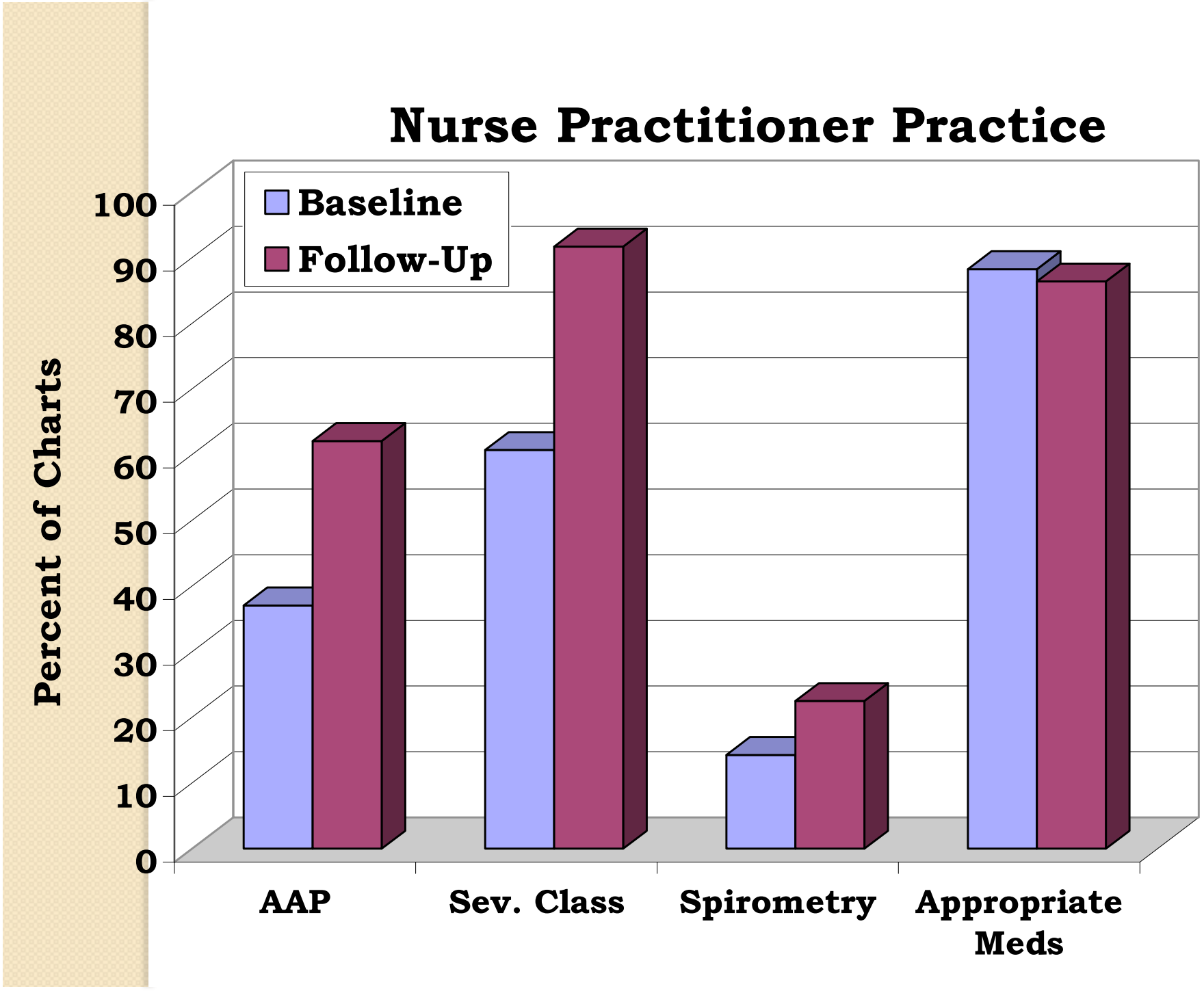
Results

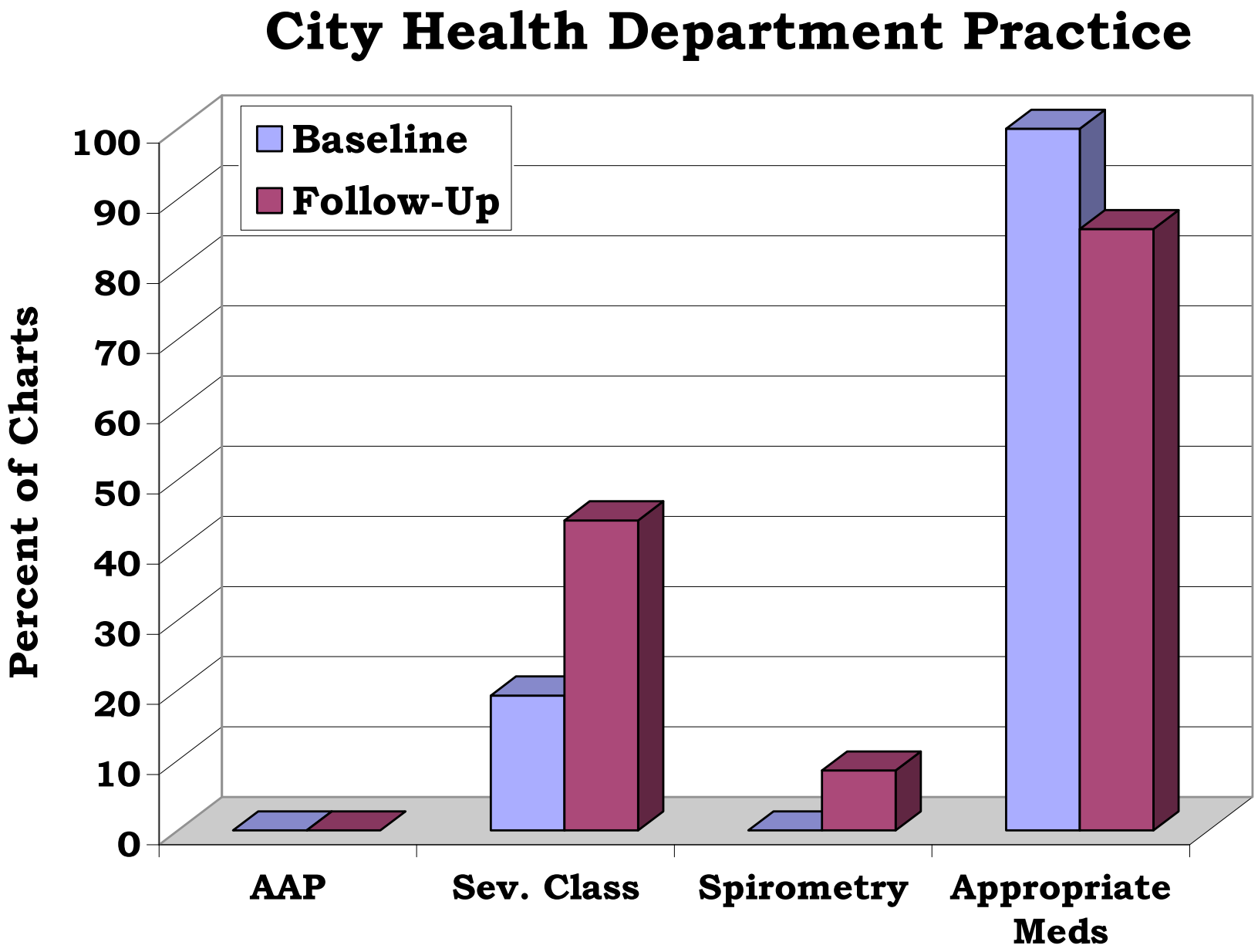
- Medication/classification match was high at baseline
  - Most patients had mild intermittent classification and were on albuterol
- Only one practice had a registry for asthma
- Most of the federally qualified health centers were aware of the need to create a registry and to establish a system for classification
  - Incentive program

Results

Outcomes	P value
Asthma Action Plan Use	0.0003
Severity Classification	0.0007
Spirometry	<.001
Med/Classification Mach	0.821


Federally Qualified Health Center
Baseline
Follow-Up
Percent of Charts
100
90
80
70
60
50
40
30
20
10
0
AAP
Sev. Class
Spirometry
Appropriate Meds


Nurse Practitioner Practice
Baseline
Follow-Up
Percent of Charts
100
90
80
70
60
50
40
30
20
10
0
AAP
Sev. Class
Spirometry
Appropriate Meds


City Health Department Practice
Baseline
Follow-Up
Percent of Charts
100
90
80
70
60
50
40
30
20
10
0
AAP
Sev. Class
Spirometry
Appropriate Meds

Lessons Learned

- At baseline, most practices had not implemented any of the guidelines on a systematic basis although many of the doctors did some part of the guidelines
- At baseline, most practices did not have a system for identifying children with asthma
- Strong asthma champions were directly related to improved implementation of guidelines
- All practices wanted spirometry but it was very difficult to integrate into practice

Lessons Learned

- The change in behavior was incremental "baby steps"
- Support from the NC was absolutely essential
- Understanding practice culture was key
- Flexibility to adapt to practice culture/flow was important
  - Asthma clinics
- Most practices really wanted to improve asthma management, but felt that barriers were difficult to overcome even with our support

Conclusions/Discussion

- On site training of physicians/staff using asthma champion model effective in improving use of:
  - severity classification,
  - asthma action plans
  - spirometry
- The only practice that did not show some improvement in outcomes differed from the rest in that it is a private practice with a solo pediatrician who left during the follow-up period

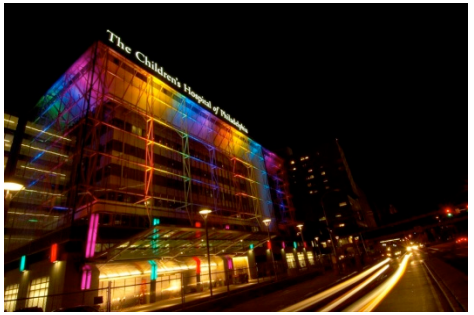
Future Directions

- Case-based lecture series given via live webcast and offered to all practitioners in Philadelphia and Pennsylvania
- Guideline Implementation Toolkit disseminated
- Spirometry Toolkit made available
- Practical guide to implementing guidelines in the office made available
- Incorporation to electronic health record

Integrating Asthma Into the Electronic Medical Record in order to improve asthma outcomes

"The next step towards integrating asthma guidelines into practice"

CHOP CARE Network Characteristics



- Has over 30 primary care practices, four which serve inner-city disadvantaged populations primarily
- Within the four sites there are ~ 40,000 patients
  - These practices have had over 13 years of asthma training
  - AAP use at about 88% overall
- ~ 20% children have been diagnosed with asthma= 8000 potential patients
  - ~25-30% will have moderate or severe persistent asthma =2400 patients
- Has an electronic health record(EHR) for which asthma has been the "prototype" disease which has resulted in the asthma care assistant- a one-stop shop for asthma information and management for physicians and nurse practitioners

Care Assistant

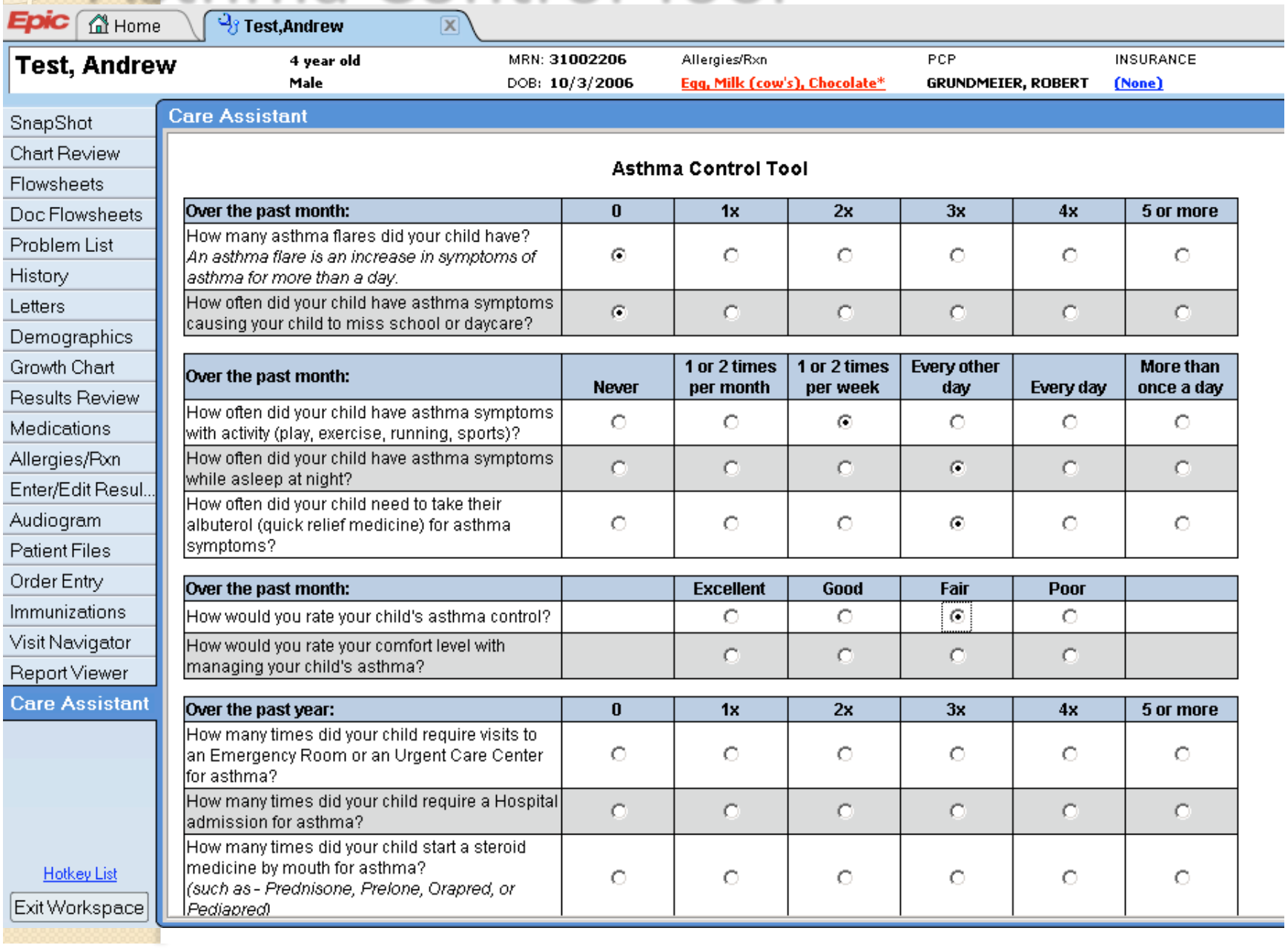
No immunizations are due

Manually review immunization history and guidelines to determine if a second dose of **Influenza** vaccine is required

Office Neb
Billing
Asthma PFE

- **Control Tool:** 10/20/2010 *(click to file new form)*
- **Severity:** Intermittent *(problem list noted 11/15/2006)*
- **Tests:** Spirometry: not on file
- **ED/Hospital:** Last 6 months: Emergency: 0 *(last: 11/07/2009)*
- **Medication:** On treatment step #3: medium-dose ICS *(click for Asthma SmartSet)*
- **Care Plan:** 04/24/2010 *(click to access form)*
- **Education:** not on file *(click to file new form)*

Asthma Control Tool



Epic | Home | Test,Andrew

Test, Andrew | 4 year old, Male | MRN: 31002206, DOB: 10/3/2006 | Allergies/Rxn: Egg, Milk (cow's), Chocolate* | PCP: GRUNDMEIER, ROBERT | INSURANCE: (None)

SnapShot
Chart Review
Flowsheets
Doc Flowsheets
Problem List
History
Letters
Demographics
Growth Chart
Results Review
Medications
Allergies/Rxn
Enter/Edit Resul...
Audiogram
Patient Files
Order Entry
Immunizations
Visit Navigator
Report Viewer
Care Assistant

Hotkey List
Exit Workspace

Care Assistant

Asthma Control Tool

Over the past month:	0	1x	2x	3x	4x	5 or more
How many asthma flares did your child have? *An asthma flare is an increase in symptoms of asthma for more than a day.*	◉	○	○	○	○	○
How often did your child have asthma symptoms causing your child to miss school or daycare?	◉	○	○	○	○	○

Over the past month:	Never	1 or 2 times per month	1 or 2 times per week	Every other day	Every day	More than once a day
How often did your child have asthma symptoms with activity (play, exercise, running, sports)?	○	○	◉	○	○	○
How often did your child have asthma symptoms while asleep at night?	○	○	○	◉	○	○
How often did your child need to take their albuterol (quick relief medicine) for asthma symptoms?	○	○	○	◉	○	○

Over the past month:		Excellent	Good	Fair	Poor	
How would you rate your child's asthma control?		○	○	◉	○	
How would you rate your comfort level with managing your child's asthma?		○	○	○	○	

Over the past year:	0	1x	2x	3x	4x	5 or more
How many times did your child require visits to an Emergency Room or an Urgent Care Center for asthma?	○	○	○	○	○	○
How many times did your child require a Hospital admission for asthma?	○	○	○	○	○	○
How many times did your child start a steroid medicine by mouth for asthma? *(such as - Prednisone, Prelone, Orapred, or Pediapred)*	○	○	○	○	○	○

Using the Care Assistant to Check Spirometry!

Accessing the Asthma Care Plan with Graphics

Asthma Care Plan

GREEN ZONE

Give these medicines everyday:

Give these controller (anti-inflammatory) medicines everyday, to prevent problems. Even when you/your child is well!

Medicine	How much?	How often?
Flovent Inhaler 110 mcg with a spacer	1 puff inhaled	2 times a day

- Rinse mouth after giving inhaled medications. Give a sip of water, swish it out or brush teeth.
- Make sure to refill control medications before they run out, usually they last one month.

Give these medicines if you have trouble breathing with exercise:

Medicine	How much?	How often?
Albuterol inhaler with a spacer	2 puffs inhaled	15-30 minutes before exercise

YELLOW ZONE

Give these medicines when symptoms start:

For cough, wheeze, shortness of breath, chest tightness or chest pain use a quick-relief (bronchodilator) medicine:

Medicine	How much?	How often?
Albuterol inhaler with a spacer	4 puffs inhaled	up to every 4 hours as needed

- If symptoms **are not better** after 20 minutes, give the quick relief medicine once more. If symptoms are STILL not better go immediately to the RED ZONE

Asthma Environmental Education Program

- Objective
  - To improve environmental education for asthma control in inner city primary care practices
- Methodology
  - 1) Pcp training through lecture series
  - 2) Creation of education module in EMR
- Outcomes
  - Utilization of EMR
  - Enroll caregivers to determine whether education changes behaviors

Funded by US Environmental Protection Agency

Asthma Education

Education Module

EDUCATION MODULES

- ☐ basic asthma facts (PFE English Spanish)
- ☐ roles of controller medications
- ☐ roles of quick-relief medications
- ☐ school, sports and physical activity issues

SKILLS CHECK

- ☐ inhaler use
(spacer & mask PFE English Spanish)
(spacer & mouthpiece PFE English Spanish)
(diskus PFE English Spanish)
- ☐ spacer use
- ☐ symptom monitoring
- ☐ peak flow monitoring (PFE English Spanish)
- ☐ recognizing early signs of deterioration
- ☐ when and where to seek care
- ☐ when and how to take rescue actions
- ☐ use of asthma care plan (PFE English)

COCKROACH/PEST AVOIDANCE (PFE English)

- ☐ keep trash closed
- ☐ keep food in closed containers
- ☐ use roach/mice bait-keep out of child's reach

ENVIRONMENTAL CONTROL (PFE English Spanish)

Pet Avoidance Measures (PFE English)

- ☐ give furry pet or bird to family member/friend who does not live in your home
- ☐ keep pets off furniture, wipe furniture with wet cloth every week
- ☐ keep pets out of child's bedroom

Dust Avoidance Measures (PFE English)

- ☐ place dust mite covers on matttress/pillows
- ☐ remove fabric window coverings, feather or wool bedding
- ☐ vacuum at least once a week
- ☐ dust with damp cloth

Mold Avoidance Measures (PFE English)

- ☐ fix leaks
- ☐ remove visible mold from home
- ☐ use air conditioner and dehumidifier if possible
- ☐ remove indoor plants

Secondhand Smoke Avoidance (PFE English)

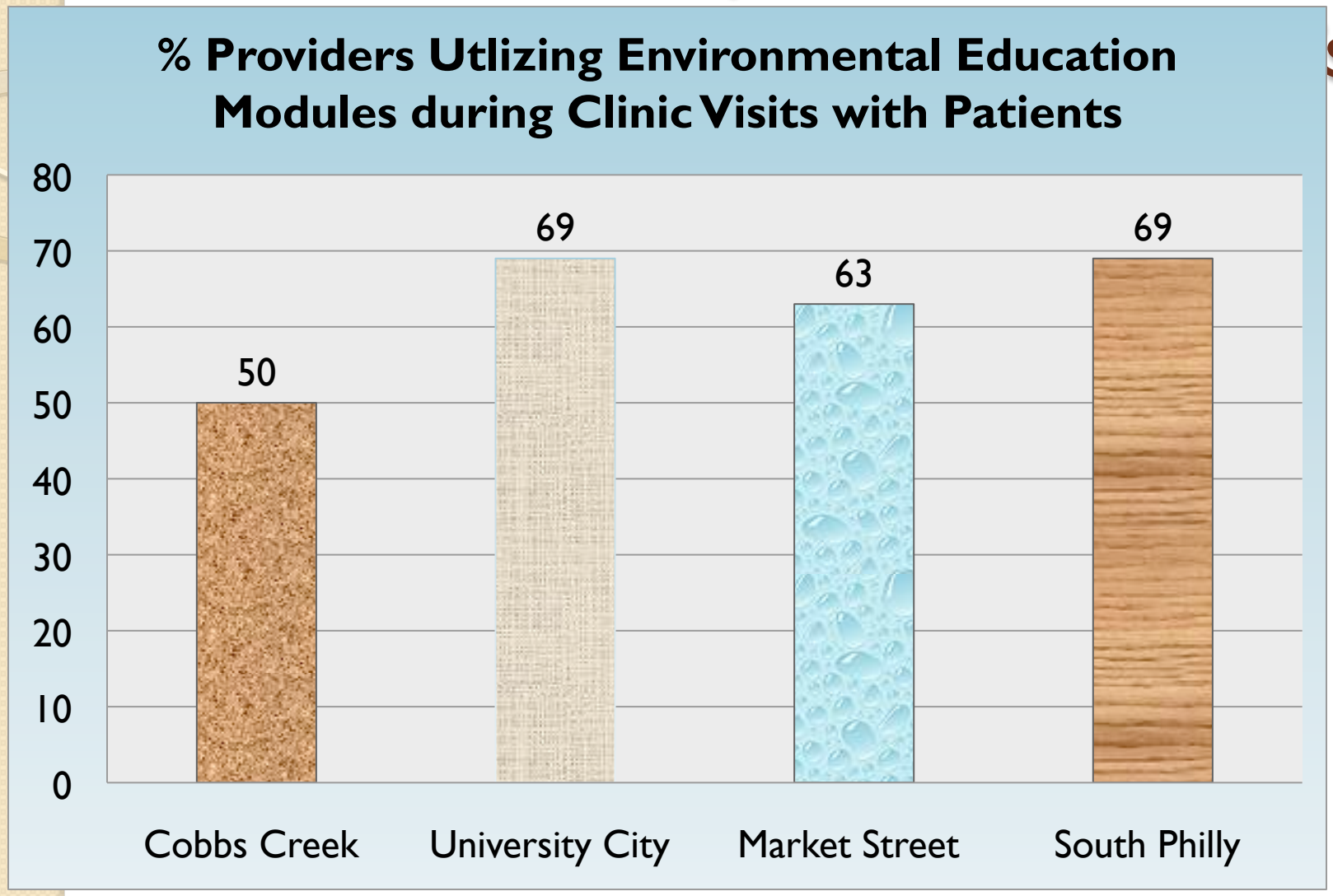
- ☐ don't allow smoking in the house
- ☐ don't allow smoking in the car

Documentation of Teaching

Education:
Persons Taught: {guardian:61}
Teaching Method: {VERBAL/WRITTEN:13324}
Patient-Parent Readiness to Learning: {readiness to learn:13325}
Patient-Parent Barriers to Learning: {barriers:11035::"none"}
Patient-Parent Outcome: {outcome:13326}

Dot-asthmaeducation

CAPP Asthma Updates



Asthma Care Asst Utilization

Primary Care Center	Providers who utilized Environmental Education Module	Providers who utilized at least one module in the Asthma Care Assistant	# of times environmental education module was utilized since its inception
Cobbs Creek	50%	92%	314
University City	69%	94%	164
Market Street	63%	94%	301
South Philadelphia	69%	97%	174

Conclusions

- Primary Care Practices can be enabled to implement asthma guidelines in a fast and busy practices
- Requires adapting guidelines to culture of practice
- Asthma Champions are key in making this adaptation
- Guidelines must be integrated into EMR to make them provider friendly and easy to access and use with feedback from pcp's

Acknowledgements

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Questions?

Thank You