

# Asthma Control in the School Age Child/Adolescent

Demonstrating a Clinical and  
Program Perspective  
*DEEP BREATH*

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# Presenter Disclosures

The presenters have no financial relationships with commercial interests relevant to this presentations

No relationships to disclose



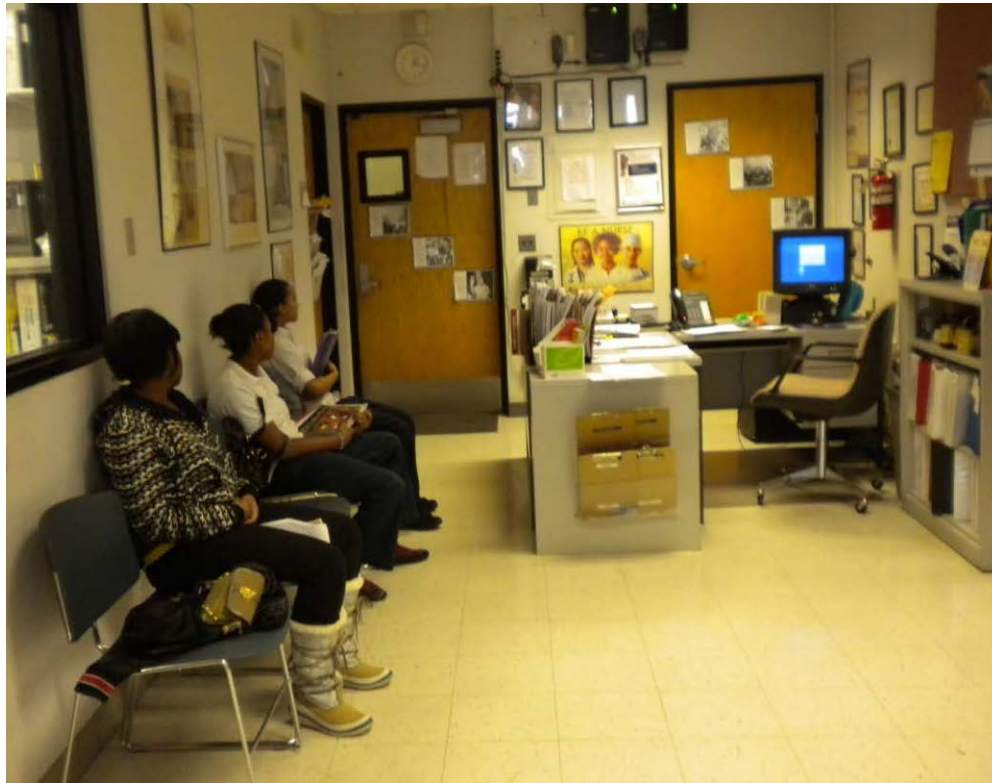
# Program Description

- Program Objectives
- Program Content
- Student Handouts
- Pre/Post Tests

# Session Content

- Session I Overview Pre Test
- Session II Asthma Explained Peak Flow Measurements
- Session III Triggers
- Session IV Use of Inhaler
- Session V Flare-ups and Emergencies
- Session VI Post Test Evaluation

# Napoleon B. Jordan Center for Health Care @ Marcus Garvey Academy (Formerly Butzel Elem/Middle School)



# Part II

Flow Sheets

Continuous Quality Improvement

Computer Assisted Program



# Asthma – Chronic Disease

## Individual Clinical Component

Students with consents assessed for history of asthma

- tracked on Excel consent list
- scheduled a visit in the health center

- Physical assessment or Acute Care form : Vital signs, BMI, growth charts
- Asthma Flow Sheet
- Asthma Treatment Plan

# Asthma Flow Sheet

- Used for acute and well child visit
- Identifies chronicity or asthma classification
- Identifies seasonal or year round exacerbation
- Assists in in chart review and QC



## ASTHMA FLOW SHEET

Name of School: \_\_\_\_\_ Name: \_\_\_\_\_  
 Date of last PE: \_\_\_\_\_ Birthdate: \_\_\_\_\_  
 Triggers: \_\_\_\_\_ Male / Female: \_\_\_\_\_  
 Smoker: \_\_\_\_\_ Predicted Peak Flow: \_\_\_\_\_  
 Exp. 2nd Smoke: \_\_\_\_\_ Best Peak Flow: \_\_\_\_\_  
 Influenza Vaccine: Y N Date Recorn: \_\_\_\_\_ Participated in Asthma Program: Y N  
 Date Given: \_\_\_\_\_ Date: \_\_\_\_\_

Date of Service:							
<b>Asthma Classification</b>							
<b>Inhaler / Nebulizer tx</b>		Yes No	Yes No	Yes No	Yes No	Yes No	Yes No
<b>Medications</b>	1						
	2						
	3						
<b>Use of beta 2 agonist</b>	< 2x wk						
	> 2x wk						
	less 2x mo						
	night cough						
<b>Compliance with meds.</b>		Yes No	Yes No	Yes No	Yes No	Yes No	Yes No
<b>Current Peak Flow</b>							
<b>Reported ER/Acute visits or hoop and missed days of school in past 1 year and between last visit</b>	ER:						
	Acute:						
	Hospital:						
	School:						
<b>Asthma Education Medication Use Spacer demo / use Peak Flow demo / use</b>	Medication:						
	Spacer:						
	Peak Flow:						
<b>Follow-up Schedule</b>	2-4 weeks						
	3 mos.						
<b>Return to Class</b>							
<b>Sent Home</b>							
<b>Sent to ER</b>							
<b>PCP (Y / N) Contacted (Y / N)</b>							
<b>Date of last Asthma visit at PCP</b>							
<b>Asthma Action Plan (see plan in chart)</b>							

# ASTHMA FLOW SHEET

- Name, BD, Gender
- Predicted PF, Best PF
- Participated in Program
- Date of last PE
- Triggers
- Smoker/2<sup>nd</sup> Smoke
- Influenza Vaccine
- Date of Service
- Asthma Classification
- Treatment
- Medications/Use
- Compliance
- Current Peak Flow
- Reported ER/Missed School/Hospitalizations
- Asthma Education
- Follow up
- Asthma Action Plan

# Asthma Treatment Plan

Name	Date of Birth	Effective Date
Severity Classification	Triggers: Check all items that trigger	
<input type="checkbox"/> Mild Intermittent <input type="checkbox"/> Mild Persistent <input type="checkbox"/> Moderate Persistent <input type="checkbox"/> Severe Persistent	<input type="checkbox"/> Cigarette Smoke & second hand smoke <input type="checkbox"/> Colds/Flu <input type="checkbox"/> Dust mites, dust, stuffed animals, carpet <input type="checkbox"/> Exercise <input type="checkbox"/> Mold <input type="checkbox"/> Pests - rodents &	<input type="checkbox"/> Pets - animal dander <input type="checkbox"/> Plants, flowers, cut grass, pollen <input type="checkbox"/> Strong odors, perfumes, cleaning products, scented products <input type="checkbox"/> Sudden temperature change <input type="checkbox"/> Wood Smoke <input type="checkbox"/> Foods

## GREEN ZONE HEALTHY



You have all of these:

- Breathing is good
- No cough or wheeze
- Sleep through the night
- Can work, exercise, and play

And/or Peak flow above \_\_\_\_\_

Take daily medicine(s). All metered dose inhalers (MDI) to be used with spacers.

MEDICINE \_\_\_\_\_ HOW MUCH to take and HOW OFTEN to take it

- Advair<sup>®</sup> 100, 250, 500 ..... 1 inhalation twice a day
- Advair<sup>®</sup> HFA 45, 115, 230 ..... 2 puffs MDI twice a day
- Asmanex<sup>®</sup> Twisthaler<sup>®</sup> 110, 220 .. 1 - 2 inhalations a day
- Flovent<sup>®</sup> 44, 110, 220 ..... 2 inhalations twice a day
- Flovent<sup>®</sup> Diskus<sup>®</sup> 50 mcg ..... 1 inhalation twice a day
- Pulmicort Flexhaler<sup>®</sup> 90, 180 ... 1 - 2 inhalations once or twice a day
- Pulmicort Respules<sup>®</sup> 0.25, 0.5, 1.0 ... 1 unit nebulized once or twice a day
- Singulair 4, 5, 10 mg ..... 1 tablet daily
- Other \_\_\_\_\_

Remember to rinse your mouth after taking inhaled medicine.

If exercise triggers your asthma, take this medicine \_\_\_\_\_ minutes before exercise.

## YELLOW ZONE CAUTION



You have any of these:

- Exposure to known trigger
- Cough
- Mild wheeze
- Tight chest
- Coughing at night
- Other: \_\_\_\_\_

And/or Peak flow from \_\_\_\_\_ to \_\_\_\_\_

Continue daily medicine(s) and add fast-acting medicine(s).

MEDICINE \_\_\_\_\_ HOW MUCH to take and HOW OFTEN to take it

- Accuneb<sup>®</sup> 0.63, 1.25 mg 1 unit nebulized every 4 hours as needed
- Albuterol 1.25, 2.5 mg 1 unit nebulized every 4 hours as needed
- Albuterol Pro-Air Proventil<sup>®</sup> 2 puffs MDI every 4 hours as needed
- Ventolin<sup>®</sup> Maxair Xopenex<sup>®</sup> 2 puffs MDI every 4 hours as needed
- Xopenex<sup>®</sup> 0.31, 0.63, 1.25 mg - 1 unit nebulized every 4 hours as needed

\*\* If fast-acting medicine is needed more than 2 times a week, except before exercise, then call your doctor.

## RED ZONE EMERGENCY



•Fast-acting medicine did not help within 15-20 minutes

- Breathing is hard and fast
- Nose opens wide
- Ribs show
- Trouble walking and talking
- Use/Strain neck

And/or Peak flow below \_\_\_\_\_

Take these medicines NOW and call 911.

Asthma can be a life-threatening illness. Do not wait!

- Accuneb<sup>®</sup> 0.63, 1.25 mg 1 unit nebulized every 20 minutes
- Albuterol 1.25, 2.5 mg 1 unit nebulized every 20 minutes
- Albuterol Pro-Air Proventil<sup>®</sup> 2 puffs MDI every 20 minutes
- Ventolin<sup>®</sup> Maxair Xopenex 2 puffs MDI every 20 minutes
- Xopenex<sup>®</sup> 0.31, 0.63, 1.25 mg 1 unit nebulized every 20 minutes
- Other \_\_\_\_\_

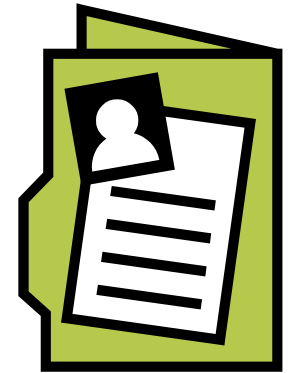
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- This student is capable and has been instructed in the proper method of self-administering of the in
- This student is not approved to self-medicate

NP Signature \_\_\_\_\_

Date \_\_\_\_\_

# Asthma Treatment Plan



- Severity Classification
  - Mild Intermittent
  - Mild Persistent
  - Moderate Persistent
  - Severe Persistent
- Triggers: Check all
  - Cigarette smoke
  - Colds, Fever
  - Dust mites,
  - Exercise
  - Pets
  - Plants
  - Strong odors
  - Food

# Zones



## Green Zone

Healthy

- Breathing good; No cough

Take daily medications

## Yellow Zone

Caution

- Cough
- Tight chest

Continue daily medicines  
and ADD fast-acting  
medicine

## Red Zone

Emergency

- Trouble walking/talking

Take these medicines NOW  
and call 911

# Continuous Quality Improvement CQI

Based on a chronic disease within clinical context

- Lead NP chart review once a year
- NP's meet twice a year

- Evaluate compliance to outcomes
- Outcomes predetermined



# Peer Review Chart Audit



Chart Name & DOB : Provider NP/RN/ COA		Asthma Severity Documented	Asthma Flow Sheet Used	Triggers Documented	Smoker/ Smoke Exposure Evaluated	Peak Flow Meter Reading Documented	Current Medicaitons Reviewed	Evaluated Compliance with Treatment Plan	Evaluated Frequency of ER Visits	Evaluated Frequency of Missed School Days	Evaluate Use of Beta 2 agonist	Asthma Education	Asthma Action Plan in Chart	Flu Shot Recommended	Flu Shot Given in most recent flu season	PCP Follow-up	Invited to Deep Breath	Participated in Deep Breath	Date of Last PE	PE at SBHC or PCP
		Y N NA	Y N NA	Y N NA	Y N NA	Y N NA	Y N NA	Y N NA	Y N NA	Y N NA	Y N NA	Y N NA	Y N NA	Y N NA	Y N NA	Y N NA	Y N NA	Y N NA		SBHC PCP

# Peer Review Chart Audit List of Measures



- Asthma Severity Documented
- Asthma Flow Sheet Used
- Triggers Documented
- Smoker/ Smoke Exposure
- Peak Flow Meter Reading Documented
- Current Medications Reviewed with Compliance;
  - Evaluated Use of Beta 2 agonist
- Evaluated Frequency of ER visits
- Evaluated Frequency of Missed School Days
- Asthma Action Plan in Chart
- Flu Shot Recommended
- Flu Shot Given in most recent flu season
- PCP Follow-up
- Asthma Education
- Invited to Deep Breath
- Participated in Deep Breath
- Date of Last PE PE at SBHC or PCP

# FY12 Annual Summary Report

## October 2011 – September 2012

“Summarize the results of the health center’s CQI process which was conducted during the report period.

List measures that were evaluated in the CQI process.”

Chronic Disease Asthma  
CQI and  
Goal Attainment Scaling  
Report (GAS)

# Comparison of CQI and GAS Flow Charts

Sentinel Condition	Resource	Marker	Measurement	2011	2012 June

Primary Care Objectives/ Activities	Clinical Anticipated Outcomes	Degree of Achievement Status	
		-2 -1 0 +1 +2	Q1 Q2 Q3 Q4

# Sentinel Condition – Asthma CQI

Marker

% of students with  
asthma classified  
according to NHLBI  
definitions

# Asthma – CQI Marker

% of students whose  
asthma identified as  
**well controlled**

- 1. sx < 2x/week
- 2. <2/month night cough
- 3. no interference with normal activity
- 4. SABA use < 2x/week

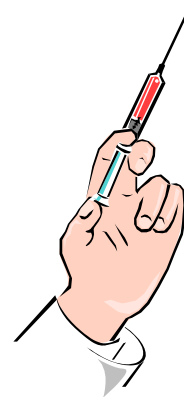
# Asthma – CQI Markers

- % triggers listed
- % documentation of Peak Flow Measurement
- % charts with Asthma Flow Sheet
- % Asthma Action Plan completed
- **% charts with record of annual physical examination**

# Asthma CQI Markers

% Influenza Vaccine offered

% Influenza Vaccine received



# Asthma – Sentinel Condition CQI

## Measurement

- 1=0-25% of charts
- 2=26-50%
- 3=50-75%
- 4= 76-90%
- 5=>90%

# Conversion of Marker to an Anticipated Outcome (GAS)

## CQI Marker

% charts with record of annual PE

## Anticipated Outcome

Continuous Quality Improvement (CQI) will show that 90% of charts audited of students diagnosed with asthma will have documentation of annual PE either by NP or PCP

# Comparison of Measurement and Degree of Achievement

Marker: % charts with record of annual PE Measurement (CQI)

- 1=0-25% of charts
- 2=26-50%
- 3=50-75%
- 4= 76-90%
- 5=>90%

Degree of Achievement (GAS)

- -2 = 26-50% of charts
- -1= 50-75%
- 0 = 76-90%
- 1 = 90- 95%
- 2 = 95%>

**Program**

**Computer  
Assisted  
Technology**

# The Buzz is . . .

## Technology



# Where Are We Heading?

- Cannot keep going where we are heading



# Program Outcomes

## Barriers to Learning in the Classroom

- ❑ Most SBHC's located in failing schools
- ❑ Attendance in core classes are important
  - ✓ Students are not allowed to attend by teacher
  - ✓ Students are not allowed to attend by parent
  - ✓ Students are just absent

## **!Re-Imagine** (Tom Peters, 2003)

- ❖ THINK BEAUTIFUL.....
- ❖ THINK WEIRD, AND
- ❖ EMBRACE even more “change” than we can imagine

# **!Re-Imagine** (Tom Peters, 2003)

Tom Peters mantra:

**DISTINCT . . .**

**OR EXTINCT**

Life in a Brand You World is

**NOT OPTIONAL.**

# Did You Know?

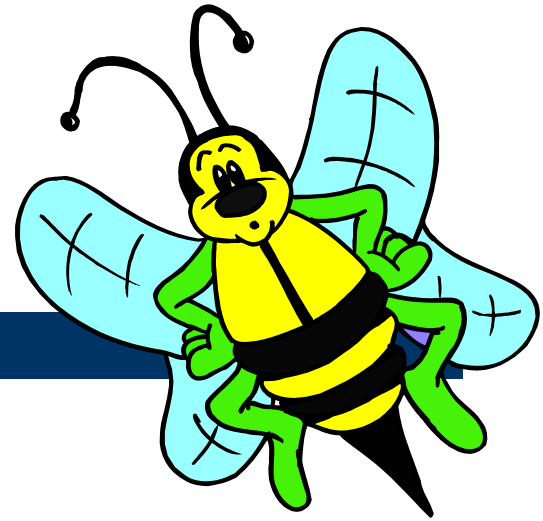
- 73% of online American teens use social networking
- 31% (1/3) of online teens get health, dieting, or physical fitness information from the internet
- 17% of online teens report that they use the Internet to gather information about sexual health, drug use, and topics that may be difficult to discuss.

# Types of Social Media



- Friending
- Chatting
- Liking
- Blogging
- Mashing up
- Posting
- Podcasting
- Tweeting
- texting

# What is Buzzing?



## Dynamic Change in the 21<sup>st</sup> Century

- How are our patients using social media?
- How we might adapt it to our practices to advance health and outcomes?

# Traditional Approach

*We have gone about our health promotion business in relatively the same fashion.*

- *Teach students in a classroom ....*
- *Six – ten one hour sessions*
- *Using a pre test and post test*

Estimating 60 – 100 hours of core curriculum classroom time per session

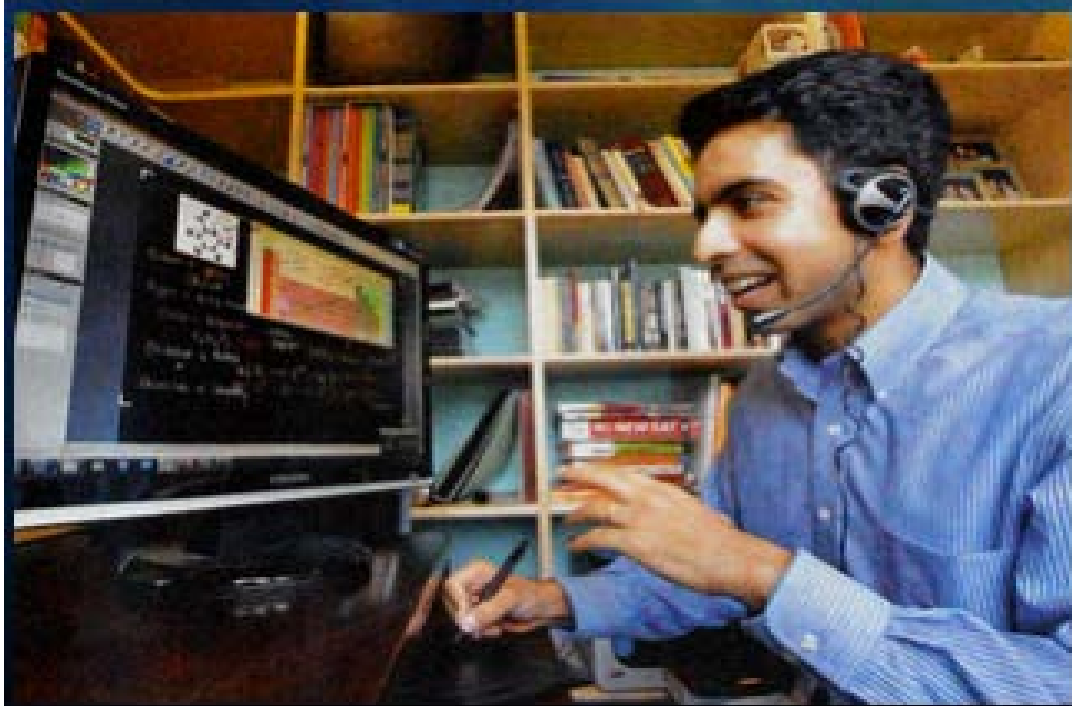




Learning never ends  
and is always leads to  
change.....



# 21<sup>st</sup> Century Learning



Screen  
Capture

# What are Screen Captures?

Screen captures are:

- used by on-line professionals to do trainings, educational presentations and reviews.
- Since the video is digital and can be shared on the web, a lecture video can be available to all students who may need to cover content despite being absent

# Potential is Endless.....

- By integrating screen capture, barriers to classroom would cease
- Significantly improve students' knowledge
- Appeals to the millennial generation



# Computer Based Tutorial

- Personal digital assistant (PDAs) shown to be an effective tool for screening adolescents (Olson, Gaffney, Hedberg et al, 2009).
- Computers have been shown to be effective in teaching anticipatory guidance (Sanghavi, 2005)
  - Computer-based tutorial in the waiting room significantly improved parent knowledge about car seat use, dental care, and nutrition.