Implementation and Analysis of the 2010 PACNJ School Nurse Survey: An Overview

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August 2011

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The Pediatric / Adult Asthma Coalition of New Jersey (PACNJ):

For detailed information and forms visit:

www.pacnj.org
Introduction

• 7.1 million children under 17 in US have asthma (9.6 %)

• Asthma is the 3rd ranking cause of hospitalizations for children under age 15

• Issues: Missed school days, ED visits, hospitalizations, medications, office visits, caretaker time

• >14 million school days lost per year

• Direct medical costs for asthma in New Jersey exceed $100 Million per year
Background on ATPs: from Published Literature

- Use of a written action [treatment] plan [ATP or AAP] significantly reduced acute care visits per child as compared with control subjects in numerous randomized controlled trials.

- Children using action plans also missed less school, had less nocturnal awakening, and had lessened severity of symptoms.
GOALS of the 2010 PACNJ School Nurse Survey

• Assess current usage of PACNJ ATP
• Identify areas for improvement on PACNJ ATP
• Identify barriers to usage of ATP’s
• Identify areas to improve asthma control in the schools
• Examine changes from 2005 to 2010
RESULTS

• Educational programs and the Asthma Friendly School Award improved local use of PACNJ ATP
• Successful in improving certain aspects of the implementation of the plan, such as health care provider compliance
• Increased use of PACNJ ATP in 2010 as compared to 2005
Use of PACNJ Asthma Treatment Plan and Outcomes

• Percent of school nurses reporting the PACNJ ATP was used in their school rose from 69.3% in 2005 to 92.3% in 2010

• This increase was statistically significant (p<10^{-7})
Among just the 420 schools that responded to the PACNJ survey in 2010, the number of schools that use any ATP are enumerated by county.
Use of PACNJ ATP by NJ County

• Highest usage rates for the PACNJ ATP clustered in Somerset, Union, and Middlesex counties
• The PACNJ is located in Bridgewater in Somerset
• There was a PACNJ presentation on asthma, asthma treatment plans to school nurses in Gloucester County
• There was a PACNJ presentation on Indoor Air Quality to school nurses in Ocean County
Compliance with NJ law
(NJSA 18A:40-12.8NJ)

- 93% of the respondents (384) have at least 1 PACNJ ATP on file for students with Reactive Airway Disease (RAD) or Asthma
- 88% of this group (335) accept the PACNJ ATP as a physician’s order
Results – Issues Raised by School Nurses in 2010

• Lack of space for a liability disclaimer by the school

• Barriers to good control of asthma
  – at least half of the school nurses responded that if they are not informed of students’ asthma history, this poses a barrier to good asthma control
  – at least half responded that if parents do not understand the asthma treatment plan, this is a barrier to good asthma control
Decline in Barriers to Using PACNJ Form From 2005 to 2010

• Among the schools using the PACNJ:
  – the problem of physician refusal to use the PACNJ ATP form decreased from 62.5% to 40.1% (p<10^{-7})
  – The problem of physicians not completing the form (other than peak flow) decreased from 70.8% to 37.8% (p<10^{-7})

• Several other barriers also declined
<table>
<thead>
<tr>
<th>Problems encountered with the use of PACNJ ATP</th>
<th>Overall (%)</th>
<th>Using PACNJ ATP/ Not using PACNJ ATP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2005</td>
<td>2010</td>
</tr>
<tr>
<td>HCPs refuse to complete the ATP</td>
<td>55.0</td>
<td>40.7</td>
</tr>
<tr>
<td>HCP complete the form illegibly</td>
<td>28.2</td>
<td>23.0</td>
</tr>
<tr>
<td>HCP charge a fee to fill out</td>
<td>28.3</td>
<td>34.2</td>
</tr>
<tr>
<td>Other than peak flow, ATP not completed by HCP*</td>
<td>61.6</td>
<td>36.1</td>
</tr>
<tr>
<td>ATP not signed by the HCP*</td>
<td>*</td>
<td>17.7</td>
</tr>
<tr>
<td>Parents do not hand the ATP to HCP</td>
<td>56.6</td>
<td>56.2</td>
</tr>
<tr>
<td>ATPs are not received back</td>
<td>73.8</td>
<td>65.1</td>
</tr>
<tr>
<td>ATP is inconvenient to use</td>
<td>12.5</td>
<td>3.8</td>
</tr>
<tr>
<td>Other:</td>
<td>31.9</td>
<td>21.8</td>
</tr>
</tbody>
</table>

*In 2005, “Other than peak flow, the ATP not completed by HCP” and “ATP not signed by the HCP” were combined into one question, “AAP form not completely filled in and/or not signed by a physician.”*
To what degree do the following act as barriers to good asthma control for your students?

**No PACNJ Asthma Treatment Plan or similar document on file**

- **a lot**: 32.0%
- **a little**: 33.3%
- **not at all**: 26.0%
- **BLK**: 5.3%
- **DK**: 3.4%

(Chart shows percentage, N=415)
To what degree do the following act as barriers to good asthma control—by grade level

Students permitted to carry inhalers in school do not bring them

- High
- Interm
- Middle
- Primary
- Ungrade
- Ungrade
To what degree do the following act as barriers to good asthma control for your students?

- School nurse not informed of asthma history

<table>
<thead>
<tr>
<th>Perception</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A lot</td>
<td>39.3%</td>
</tr>
<tr>
<td>A little</td>
<td>46.3%</td>
</tr>
<tr>
<td>not at all</td>
<td>9.9%</td>
</tr>
<tr>
<td>BLK</td>
<td>1.2%</td>
</tr>
<tr>
<td>DK</td>
<td>3.4%</td>
</tr>
<tr>
<td>NA</td>
<td>7.2%</td>
</tr>
</tbody>
</table>
To what degree do the following act as barriers to good asthma control for your students?

- Students and/or parents don't use peak flow meters to monitor asthma

62.4% a lot
15.2% a little
5.5% not at all
16.1%
To what degree do the following act as barriers to good asthma control for your students?

Exposure to strong or noxious odors in the classroom or school

- A lot: 4.1%
- A little: 23.1%
- Not at all: 60.5%
- BLK: 4.8%
- DK: 7.5%
What factors, in your experience, contribute to better control of asthma for your students during school hours? (top 5 responses are listed below)

<table>
<thead>
<tr>
<th>Factors Contributing to Better Control of Asthma in Schools</th>
<th>Frequency</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education of parents, students, teachers, administration, HCP</td>
<td>162</td>
<td>38.6%</td>
</tr>
<tr>
<td>Proper use of Rx at home and school; following prescribed regimen</td>
<td>110</td>
<td>26.2%</td>
</tr>
<tr>
<td>Availability of Rx at home and school (including having an extra inhaler to keep at school)</td>
<td>89</td>
<td>21.2%</td>
</tr>
<tr>
<td>Communication and support between parent, student, teacher, HCP and school nurse</td>
<td>87</td>
<td>20.7%</td>
</tr>
<tr>
<td>Preventive use of Rx</td>
<td>70</td>
<td>16.7%</td>
</tr>
</tbody>
</table>
Limitations

• Survey response rate low (11.8%)
  – Survey was mailed in May, only 3-7 weeks left in the school year
  – At that time, many other issues were confronting the school nurses such as budget cutbacks and nonrenewal of contracts

• If those schools more actively involved with the PACNJ selectively chose to respond, there could be Respondent Bias issues

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Conclusions

• Asthma rates among schools responding to this study consistent with other estimates of asthma in NJ
  • The responding group, although small, is fairly representative of the public, private, and parochial schools in New Jersey

• Further surveys may be of value to further evaluate the awareness and usage of the PACNJ asthma treatment plan, especially among the non-responders to this survey
Recommendations

• Examine other AAPs for best features, and consider incorporating them into the PACNJ ATP

• Increase outreach to lower responding counties

• Improve education of, and communications between, health care providers, school nurses, students and parents

• Develop appropriate new tools
Asthma Treatment Plan

(Please Print)

Name
Doctor
Parent/Guardian (if applicable)

Date of Birth
Emergency Contact

Phone Phone

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). Some metered dose inhalers may be more effective with a "spacer" – use if directed.

<table>
<thead>
<tr>
<th>MEDICINE</th>
<th>HOW MUCH TO TAKE</th>
<th>HOW OFTEN TO TAKE IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arinex® 100, 250, 500</td>
<td>1 inhalation twice a day</td>
<td></td>
</tr>
<tr>
<td>Azithromycin® 30, 150</td>
<td>2 puffs MDI twice a day</td>
<td></td>
</tr>
<tr>
<td>Albuterol® 300, 100, 250</td>
<td>2 puffs MDI twice a day</td>
<td></td>
</tr>
<tr>
<td>Ipratropium® 110, 220</td>
<td>2 puffs MDI twice a day</td>
<td></td>
</tr>
<tr>
<td>Symbicort® 44, 110, 220</td>
<td>2 puffs MDI twice a day</td>
<td></td>
</tr>
<tr>
<td>Pulmicort® 80, 100, 200</td>
<td>1 puff MDI once a day</td>
<td></td>
</tr>
<tr>
<td>Pulmicort® 80, 100, 200</td>
<td>1 puff MDI once a day</td>
<td></td>
</tr>
<tr>
<td>Fluticasone® 50, 100</td>
<td>1 puff MDI twice a day</td>
<td></td>
</tr>
<tr>
<td>Fluticasone® 100, 250, 500</td>
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Remember to shake your mouth after taking inhaled medicine.
If exercise triggers your asthma, take this medicine ____________ minutes before exercise.

CAUTION
You have any of these:
- Exposure to known triggers
- Cough
- Wides awake
- Tired
- Doodling at night
- Other:

And/or Peak flow from ____________ to ____________

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

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<th>HOW MUCH TO TAKE</th>
<th>HOW OFTEN TO TAKE IT</th>
</tr>
</thead>
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<tr>
<td>Accuhal® 0.5, 1.25 mg</td>
<td>1 inhalation every 4 hours as needed</td>
<td></td>
</tr>
<tr>
<td>Albuterol® 1.25, 2.5 mg</td>
<td>1 inhalation every 4 hours as needed</td>
<td></td>
</tr>
<tr>
<td>Albuterol® Pro-Air® Proventil®</td>
<td>2 puffs MDI every 4 hours as needed</td>
<td></td>
</tr>
<tr>
<td>Fenoterol® 2.5 mg, 5 mg</td>
<td>1 inhalation every 4 hours as needed</td>
<td></td>
</tr>
<tr>
<td>Ipratropium® 0.5 mg, 1 mg</td>
<td>1 inhalation every 4 hours as needed</td>
<td></td>
</tr>
<tr>
<td>Xopenex® 0.375 mg, 0.75 mg</td>
<td>1 inhalation every 4 hours as needed</td>
<td></td>
</tr>
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If fast-acting medicine is needed more than 2 times a week, except before exercise, then call your doctor.

EMERGENCY
Your asthma is getting worse fast:
- Fast-acting medicine did not help within 15-20 minutes
- Breathing is hard and fast
- Nose a whine wide
- Fills the air
- Trouble waking and talking
- Lips turn blue

And/or Peak flow below ____________

Take these medicines NOW and call 911.
Asthma can be a life-threatening illness. Do not wait!

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<th>HOW OFTEN TO TAKE IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuhal® 0.5, 1.25 mg</td>
<td>1 unit nebulized every 20 minutes</td>
<td></td>
</tr>
<tr>
<td>Albuterol® 1.25, 2.5 mg</td>
<td>1 unit nebulized every 20 minutes</td>
<td></td>
</tr>
<tr>
<td>Albuterol® Pro-Air® Proventil®</td>
<td>2 puffs MDI every 20 minutes</td>
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<td></td>
</tr>
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</table>

The asthma treatment plan is meant to assist, not replace the clinical decision-making required to meet individual patient needs.

For Minors Only:
- This is not approved for self-administration.
- Make a copy for patient and for physician.
- For children under 18, send original to school nurse or child care provider.

Physician: ___________________________ Date: ___________________________

Parent/Guardian: ___________________________ Date: ___________________________

This document is intended for educational purposes only and should not be used as a substitute for professional medical advice, diagnosis, or treatment. Always consult your healthcare provider with any questions you may have regarding a medical condition.
Asthma Treatment Plan
Patient/Parent Instructions

The PACNJ Asthma Treatment Plan is designed to help everyone understand the steps necessary for the individual patient to achieve the goal of controlled asthma.

1. Patients/Parents/Guardians: Before taking this form to your Health Care Provider:
   - Complete the top left section with:
     - Patient’s name
     - Patient’s date of birth
     - Parent/Guardian’s name & phone number
     - An Emergency Contact person’s name & phone number

2. Your Health Care Provider will:
   - Complete the following areas:
     - The effective date of this plan
     - The medicine information for the Healthy, Caution and Emergency sections
     - Your Health Care Provider will check the box next to the medication and check how much and how often to take it
     - Your Health Care Provider may check “OTHER” and:
       - Write in asthma medications not listed on the form
       - Write in additional medications that will control your asthma
       - Write in generic medications in place of the name brand on the form
   - Together you and your Health Care Provider will decide what asthma treatment is best for you or your child to follow.

3. Patients/Parents/Guardians & Health Care Providers together:
   - Discuss and then complete the following areas:
     - Patient’s peak flow range in the Healthy, Caution and Emergency sections on the left side of the form
     - Patient’s asthma triggers on the right side of the form
     - For Minors: Only section at the bottom of the form. Discuss your child’s ability to self-administer the inhaled medications, check the appropriate box, and then both you and your Health Care Provider must sign and date the form

4. Parents/Guardians: After completing the form with your Health Care Provider:
   - Make copies of the Asthma Treatment Plan and give the signed original to your child’s school nurse or child care provider
   - Keep a copy easily available at home to help manage your child’s asthma
   - Give copies of the Asthma Treatment Plan to everyone who provides care for your child, for example: babysitters, before/after school program staff, coaches, scout leaders

This Asthma Treatment Plan is meant to assist, not replace, the clinical decision-making required to meet individual patient needs.
Not all asthma medications are listed and the generic names are not listed.

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• NJ Law, NJSA 18A:40-12.8NJ, Regulations for use of nebulizer in schools.


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Acknowledgments

• Dan Rosenblum, PhD - UMDNJ
• Joshua Parks, BA - UMDNJ
• Maris Chavenson, PACNJ
• Teresa Lampmann, PACNJ

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