Progress, Paediatrics and Protocols

Dr Andy Powell
Dr Lesley Ayling
West Hampshire CCG
Progress
Solutions...

- **CQUIN** – discharge bundle (including personal action plan), specialist review, immediate management
- Specialist nurse - Asthma friendly schools (visit), training, reviews
- **Practice** – targeting at risk asthmatics, Asthma Audit Tool
- Education – ‘The Patient with Asthma’ – BMJ Learning
- ‘Enhanced’ annual reviews in primary care
- **Ambulance service (nebulisations)**
- Review all those who have an ED attendance/OOH exacerbation.
- Review all obese (BMI > 30) patients with asthma
Update

- **CQUIN – discharge bundle (including personal action plan), specialist review, immediate management**
  - Acute contract

- **Practice – targeting at risk asthmatics, Asthma Audit Tool**
  - Medicines Management Optimisation Scheme (SABA > 15/year, LABA with no ICS)

- **Education – ‘The Patient with Asthma’ – BMJ Learning**
  - Asthma guidelines and education events

- **Ambulance service (nebulisations)**
  - 48 in WHCCG that were treated on scene or left at home, all of whom had salbutamol. (395 total treated over 1 year)
  - Two surgeries each had 3 patients (different age bands)
  - 12 were aged 55+ (? Asthma therefore) but there spread over all age ranges.
  - Ongoing discussions to notify practices (electronically / phone call from treating clinician)

- **Review all those who have an ED attendance/OOH exacerbation.**
  - Discussion with acute trusts to see if counter can be put on discharge summaries
Paediatrics
Commissioning for Value: Pathways on a page (Nov 2014)
Commissioning for Value Where to Look pack (Jan 2017)

Asthma pathway

NICE guidance:
http://pathways.nice.org.uk/pathways/asthma

PRIMIS Toolkit:
http://www.nottingham.ac.uk/primis/tools-audits/tools-audits/asthma.aspx
Hampshire 5 Asthma NEL (0-19) 2013-14
Crude rate of emergency admissions for children with asthma, per 100,000 population aged 0-18 years, 2013/14
# Wessex v. Comparators

## Wessex CCGs

<table>
<thead>
<tr>
<th>Year</th>
<th>WH CCG</th>
<th>Dorset CCGF</th>
<th>F&amp;G CCG</th>
<th>IOW CCG</th>
<th>NEHF CCG</th>
<th>NH CCG</th>
<th>Portsmouth CCG</th>
<th>SEH CCG</th>
<th>SC CCG</th>
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<tr>
<td>2010/11</td>
<td>170.7</td>
<td>189.2</td>
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<td>357.0</td>
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<td>180.8</td>
<td>176.8</td>
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<td>71.2</td>
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<td>238.0</td>
<td>200.1</td>
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<td>168.3</td>
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## 10 Similar CCGs

<table>
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<tr>
<th>Year</th>
<th>WH CCG</th>
<th>Gloucestershire CCG</th>
<th>Coastal West Sussex CCG</th>
<th>Wiltshire CCG</th>
<th>Ipswich &amp; East Suffolk CCG</th>
<th>Somerset CCG</th>
<th>East &amp; North Hertfordshire CCG</th>
<th>Mid Essex CCG</th>
<th>Kernow CCG</th>
<th>East Leicestershire &amp; Rutland CCG</th>
<th>South Worcestershire CCG</th>
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<td>2011/12</td>
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NEL By Age

NEL Inpatient Admissions by Age Band

- 0-4 years
- 5-9 years
- 10-14 years
- 15-19 years
- 20-24 years
- 25-29 years
- 30-34 years
- 35-39 years

2013/2014
2014/2015
2015/2016

Legend:
- 2013/2014
- 2014/2015
- 2015/2016
### Emergency Inpatient Admissions by Primary Diagnosis

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<tr>
<td>Wheeze</td>
<td>321</td>
<td>392</td>
<td>388</td>
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<tr>
<td>B349 - Viral infection, unspecified</td>
<td>302</td>
<td>372</td>
<td>368</td>
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<tr>
<td>R062 - Wheezing</td>
<td>19</td>
<td>20</td>
<td>20</td>
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<tr>
<td>Asthma</td>
<td>187</td>
<td>201</td>
<td>177</td>
</tr>
<tr>
<td>J450 - Predominantly allergic asthma</td>
<td>80</td>
<td>30</td>
<td>17</td>
</tr>
<tr>
<td>J458 - Mixed asthma</td>
<td></td>
<td>1</td>
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</tr>
<tr>
<td>J459 - Asthma, unspecified</td>
<td>94</td>
<td>139</td>
<td>139</td>
</tr>
<tr>
<td>J46X - Status asthmaticus</td>
<td>13</td>
<td>31</td>
<td>21</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>508</strong></td>
<td><strong>593</strong></td>
<td><strong>565</strong></td>
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</table>
• Positive areas highlighted in the audit include the following:
  • Medical care of children with acute wheezing and asthma continues to be highly efficient and effective.
  • Most children receive appropriate ‘first line’ rescue treatment and care.
  • Hospital stays are short – more than seven in ten children were in hospital for one day or less - with a substantial proportion receiving care entirely within the emergency department.
Key areas of concern highlighted in the audit include the following:

- Exposure to environmental tobacco smoke (ETS) was reported in nearly a third (32%) of children. Not reported in approximately 40% cases.
- Most aspects of discharge from hospital are less than optimal with fewer than six in ten (56%) children and families/carers being given a personal asthma action plan. Furthermore, only four in ten (42%) of children were reported to have had their asthma inhaler technique assessed.
- Contrary to national guidance, only 24% of families/carers and their children were advised to visit their GP within two working days after discharge from hospital.
National Improvement Objectives:

1. Demonstrate an improvement in the proportion of children who are recorded to have been given a written asthma action plan (Target in 2 years: 95%)

2. Demonstrate an improvement in the proportion of children with follow up arranged with their GP within two working days of discharge (Target in 2 years: 95%)

3. Demonstrate a reduction in the use of CXRs in children with wheezing/asthma (Target in 2 years: 15%)

4. Demonstrate an improvement in the proportion of children who have exposure to tobacco smoke documented within the medical record (Target in 2 years: 80%)

Timeframe: to be achieved by the time of local re-audit in 2017/18
What should we be focusing on...

• ?? Education – action plans, diagnosis, review
• ?? Commissioning
• ?? Public health (smoking)
Protocols (Guidelines)
WHCCG Asthma Guidelines

Inhaler Choice

**SELECTING AN INHALER THE PATIENT CAN AND WILL USE IS CRITICAL**

Check ability to generate appropriate inspiratory flow using an In-Check device (on Turbohaler and pMDI settings)

**DPI** - DEEP, FORCEFUL, LONG technique. Consider ability to generate inspiratory flow for reliever medication during an exacerbation. Ideally breath hold 10s after inhalation.

**pMDI** - GENTLE, SLOW, LONG technique. Use a spacer unless technique consistently excellent. If cannot inspire for 5 sec and hold then use tidal breathing technique (5 normal tidal breaths per actuation into spacer + 1 large breath). Always actuate one puff at a time into the spacer and minimise delay between actuation and inhalation.

**pMDI** - requires hand strength to depress, some have dose counter (Flutiform), may need re-priming after non-use.

**Turbohaler** - minimal grip needed (can get additional base gripper), lactose taste, dose counter.

**Ellipta** - minimal dexterity, no taste, dose counter, actuated every time opened (wasted), 6/52 shelf life, don’t block vents.

**Notes**

- Spacers
  - Spacers should be washed with hot soapy water monthly (not just with water) and NOT wiped dry. They should be replaced every year.
  - After use of ICS
  - Patients should be encouraged to wash their mouth out with water after using a steroid containing inhaler.
  - Flo-Tone
  - Consider using a Flo-Tone with a pMDI to ensure correct inspiratory flow rate.

**Adult Asthma Inhaler Guide**

- **Step 1**
  - SABA only
  - **Bricanyl**
  - 1 puff prn (*)
  - **Turbohaler**
  - DPI

- **Step 2**
  - Low ICS
  - **Pulmicort 100**
  - 2 puffs bd (*)

- **Step 3**
  - LABA/Low ICS
  - **Symbicort 100/6**
  - 2 puffs bd (*)

- **Step 3/4**
  - LABA/Moderate ICS
  - **Symbicort 200/6**
  - 2 puffs bd (*)

- **Step 4**
  - High ICS
  - **Relvar 92/22 Ellipta**
  - 1 puff om (*)

**Other treatment considerations**

- Refer all uncontrolled step 4 patients to secondary care
- Consider referral for weight loss and smoking cessation
- Consider O2/SOS regimes – using Fostair 100/6 or Symbicort 100/6 or 200/6 – using one inhaler as a preventer and reliever at step 4
- Step down after 6 months of stability
- Only patients with very mild and intermitent symptoms should be step 1
- Treat any associated rhinitis or reflux (use Hull Cough Hypersensitivity Questionnaire > 13/70)
- Screen for dysfunctional breathing (use Nijmegen Questionnaire > 23/60)
- Treat vitamin D deficiency
- All need a written personal action plan
- All inhalers should be prescribed by BRAND

- **Ventolin 100 Evohaler**
  - Aerochamber plus
  - 2 puffs prn (*)
- **Qvar 50 MDI**
  - Aerochamber plus
  - 2 puffs bd
- **Fostair 100/6 MDI**
  - Aerochamber plus
  - 2 puffs bd
- **Flutiform 50/5**
  - Aerochamber plus
  - 2 puffs bd (*)
- **Flutiform 125/5**
  - Aerochamber plus
  - 2 puffs bd (*)
- **Clenil Modulite 100**
  - Volumatic
  - 2 puffs bd (*)
- **Flutiform 250/10**
  - Aerochamber plus
  - 2 puffs bd
- **Relvar 184/22 Ellipta**
  - 1 puff om (*)
- **Flixotide 50 Accuhaler**
  - 2 puffs bd (*)
- **Fostair 100/6 NEXThaler**
  - 2 puffs bd
- **Fostair 200/6 NEXThaler**
  - 2 puffs bd
- **Fostair 100/6 NEXThaler**
  - 1 puff bd
- **Relvar 50/22 Ellipta**
  - 1 puff om (*)
- **Relvar 100/22 Ellipta**
  - 1 puff om (*)

**Inhaler Choice**

- **Ventolin 200 Accuhaler**
  - 1 puff prn (*)
- **Bricanyl**
  - 1 puff prn (*)
- **Qvar 50 MDI**
  - 2 puffs bd
- **Flutiform 50/5**
  - Aerochamber plus
  - 2 puffs bd
- **Symbicort 100/6**
  - Aerochamber plus
  - 1 puff bd
- **Fostair 100/6 MDI**
  - Aerochamber plus
  - 2 puffs bd
- **Fostair 200/6 MDI**
  - Aerochamber plus
  - 2 puffs bd
- **Relvar 200/6 MDI**
  - Aerochamber plus
  - 2 puffs bd
- **Flutiform 250/10**
  - Aerochamber plus
  - 2 puffs bd
- **Symbicort 500/12**
  - 2 puffs bd (*)
- **Symbicort 100/6**
  - 2 puffs bd (*)
- **Symbicort 200/6**
  - 2 puffs bd (*)
- **Fostair 100/6 NEXThaler**
  - 1 puff bd
- **Fostair 100/6 NEXThaler**
  - 2 puffs bd
- **Fostair 200/6 NEXThaler**
  - 2 puffs bd
- **Fostair 200/6 NEXThaler**
  - 1 puff bd
- **Relvar 200/6 NEXThaler**
  - 2 puffs bd
- **Fostair 100/6 NEXThaler**
  - 2 puffs bd
- **Relvar 50/22 Ellipta**
  - 1 puff om (*)
- **Relvar 100/22 Ellipta**
  - 1 puff om (*)

**Ventolin 100 Evohaler**

- **Aerhochamber plus**
  - 2 puffs prn (*)
- **Qvar 50 MDI**
  - Aerochamber plus
  - 2 puffs bd
- **Flutiform 50/5**
  - Aerochamber plus
  - 2 puffs bd
- **Symbicort 100/6**
  - Aerochamber plus
  - 1 puff bd
- **Fostair 100/6 MDI**
  - Aerochamber plus
  - 2 puffs bd
- **Fostair 200/6 MDI**
  - Aerochamber plus
  - 2 puffs bd
- **Relvar 200/6 MDI**
  - Aerochamber plus
  - 2 puffs bd
- **Flutiform 250/10**
  - Aerochamber plus
  - 2 puffs bd
- **Symbicort 500/12**
  - 2 puffs bd (*)
- **Symbicort 100/6**
  - 2 puffs bd (*)
- **Symbicort 200/6**
  - 2 puffs bd (*)
- **Fostair 100/6 NEXThaler**
  - 1 puff bd
- **Fostair 100/6 NEXThaler**
  - 2 puffs bd
- **Fostair 200/6 NEXThaler**
  - 2 puffs bd
- **Fostair 200/6 NEXThaler**
  - 1 puff bd
- **Relvar 200/6 NEXThaler**
  - 2 puffs bd
- **Fostair 100/6 NEXThaler**
  - 2 puffs bd
- **Relvar 50/22 Ellipta**
  - 1 puff om (*)
- **Relvar 100/22 Ellipta**
  - 1 puff om (*)

**Ventolin 200 Accuhaler**

- **Aerochamber plus**
  - 2 puffs bd
- **Bricanyl**
  - 1 puff prn (*)
- **Qvar 50 MDI**
  - 2 puffs bd
- **Flutiform 50/5**
  - Aerochamber plus
  - 2 puffs bd
- **Symbicort 100/6**
  - Aerochamber plus
  - 1 puff bd
- **Fostair 100/6 MDI**
  - Aerochamber plus
  - 2 puffs bd
- **Fostair 200/6 MDI**
  - Aerochamber plus
  - 2 puffs bd
- **Relvar 200/6 MDI**
  - Aerochamber plus
  - 2 puffs bd
- **Flutiform 250/10**
  - Aerochamber plus
  - 2 puffs bd
- **Symbicort 500/12**
  - 2 puffs bd (*)
- **Symbicort 100/6**
  - 2 puffs bd (*)
- **Symbicort 200/6**
  - 2 puffs bd (*)
- **Fostair 100/6 NEXThaler**
  - 1 puff bd
- **Fostair 100/6 NEXThaler**
  - 2 puffs bd
- **Fostair 200/6 NEXThaler**
  - 2 puffs bd
- **Fostair 200/6 NEXThaler**
  - 1 puff bd
- **Relvar 200/6 NEXThaler**
  - 2 puffs bd
- **Fostair 100/6 NEXThaler**
  - 2 puffs bd
- **Relvar 50/22 Ellipta**
  - 1 puff om (*)
- **Relvar 100/22 Ellipta**
  - 1 puff om (*)
## DPI v. MDI

### Inhaler Choice

**SELECTING AN INHALER THE PATIENT CAN AND WILL USE IS CRITICAL**

Check ability to generate appropriate inspiratory flow using an In-Check device (on Turbohaler and pMDI settings)

<table>
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<tr>
<th>DPI</th>
<th>DEEP, FORCEFUL, LONG technique. Consider ability to generate inspiratory flow for reliever medication during an exacerbation. Ideally breath hold 10s after inhalation.</th>
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<tbody>
<tr>
<td>pMDI</td>
<td>GENTLE, SLOW, LONG technique. Use a spacer unless technique consistently excellent. If cannot inspire for 5 sec and hold then use tidal breathing technique (5 normal ‘tidal’ breaths per actuation into spacer v. one larger breath). Always actuate one puff at a time into the spacer and minimise delay between actuation and inhalation.</td>
</tr>
<tr>
<td>pMDI</td>
<td>requires hand strength to depress, some have dose counter (Flutiform), may need re-priming after non-use.</td>
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<tr>
<td>Turbohaler</td>
<td>minimal grip needed (can get additional base gripper), lactose taste, dose counter.</td>
</tr>
<tr>
<td>Ellipta</td>
<td>minimal dexterity, no taste, dose counter, actuated every time opened (wasted), 6/52 shelf life, don't block vents.</td>
</tr>
</tbody>
</table>
MDI

(Step 1 SABA only)
- Ventolin 100 Evohaler
- 2 puffs prn (*)

Step 2 Low ICS
- Clenil Modulite 100
- Volumatic
- 2 puffs bd (*)

Step 3 LABA/Low ICS
- Flutiform 50/5
- Aerochamber plus
- 2 puffs bd (*)

Step 3/4 LABA/Moderate ICS
- Flutiform 125/5
- Aerochamber plus
- 2 puffs bd (*)

Step 4 LABA/High ICS
- Flutiform 250/10
- Aerochamber plus
- 2 puffs bd

Extrafine Particle MDI
- Ventolin 100 Evohaler
- 2 puffs prn (*)

- Qvar 50 MDI
- 2 puffs bd (*)

- Fostair 100/6 MDI
- 1 puff bd

- Fostair 100/6 MDI
- 2 puffs bd

- Fostair 200/6 MDI
- 2 puffs bd
Other treatment options

### Other treatment considerations

- Refer all uncontrolled step 4 patients to secondary care
- Consider referral for weight loss and smoking cessation
- Consider (S)MART regimes – using Fostair 100/6 or Symbicort 100/6 or 200/6 – using one inhaler as a preventer and reliever at step 4
- Step down after 6 months of stability
- Only patients with very mild and intermittent symptoms should be step 1
- Treat any associated rhinitis or reflux (use Hull Cough Hypersensitivity Questionnaire > 13/70)
- Screen for dysfunctional breathing (use Nijmegen Questionnaire > 23/60)
- Treat vitamin D deficiency
- All need a written personal action plan
- All inhalers should be prescribed
- by BRAND

### Notes

**Spacers**
Spacers should be washed with hot soapy water monthly (not just with water) and NOT wiped dry. They should be replaced every year.

**After use of ICS**
Patients should be encouraged to wash their mouth out with water after using a steroid containing inhaler.

**Flo-Tone**
Consider using a Flo-Tone with a pMDI to ensure correct inspiratory flow rate.

* - Licenced age > 12
Draft WHCCG asthma guidelines for children

**Paediatric MDI Age <5**
- Ventolin 100 Evohaler
- Clenil Modulite 50 Volumatic
  - 1 puff bd
- Montelukast 4mg on prn
- AND
- Serevent 25 Evohaler
- Clenil Modulite 100 Volumatic
  - 1 puff bd
- Montelukast 4mg on

**Paediatric MDI Age 5-12**
- Ventolin 100 Evohaler
- Clenil Modulite 50 Volumatic
  - 2 puffs bd
- AND
- Serevent 25 Evohaler
  - Clenil Modulite 100 Volumatic
    - 2 puffs bd
    - AND
    - Montelukast 4mg on
    - AND
    - ≤5yrs Montelukast 4mg on
    - 6-14yrs Montelukast 5mg on

**Step 1**
- SABA only

**Step 2**
- Low ICS

**Step 3**
- Low ICS + LRTA/LABA

**Step 3/4**
- Moderate ICS + LRTA/LABA

**Step 4**
- Moderate ICS + LRTA + LABA
Draft WHCCG asthma guidelines for children

**Step 1**
- **SABA only**

**Step 2**
- **Low ICS**

**Step 3**
- **Low ICS + LRTA/LABA**

**Step 3/4**
- **Moderate ICS + LRTA/LABA**

**Step 4**
- **Moderate ICS + LRTA + LABA**

Paediatric
- **DPI**
- **Age 6-12**

**Paediatric Combo**
- **MDI**
- **Age 5-12**

- **Ventolin 100 Evohaler**
  - Aerochamber plus (±mask)
  - 2 puffs prn

- **Flixotide 50 Evohaler**
  - Aerochamber plus (±mask)
  - 1 puff bd

- **Symbicort 100/6**
  - Aerochamber plus (±mask)
  - 2 puffs bd

- **Seretide 25/50 Evohaler**
  - Aerochamber plus (±mask)
  - 1 puff bd

- **Serevent 25 Evohaler**
  - Aerochamber plus (±mask)
  - 2 puffs bd

- **Flixotide 50 Evohaler**
  - Aerochamber plus (±mask)
  - 1 puff bd

- **Symbicort 100/6**
  - Aerochamber plus (±mask)
  - 2 puffs bd

- **Seretide 25/50 Evohaler**
  - Aerochamber plus (±mask)
  - 1 puff bd

- **Serevent 25 Evohaler**
  - Aerochamber plus (±mask)
  - 2 puffs bd

- **Flixotide 50 Evohaler**
  - Aerochamber plus (±mask)
  - 1 puff bd

- **Symbicort 100/6**
  - Aerochamber plus (±mask)
  - 2 puffs bd

- **Montelukast 4mg**

- **Montelukast 5mg**

- **≤ 5yrs**

- **6-14yrs**

- **Paediatric**

- **Bricanyl**
  - 1 puff prn

- **Pulmicort 100**
  - 1 puff bd

- **Symbicort 100/6**
  - 1 puff bd

- **Symbicort 100/6**
  - 2 puffs bd

- **Symbicort 100/6**
  - 1 puff bd

- **Montelukast 5mg**

- **≤ 5yrs**

- **≤ 5yrs**

- **Montelukast 5mg**

- **6-14yrs**

- **Montelukast 5mg**

- **≥ 5yrs**

- **Montelukast 4mg**

- **Montelukast 5mg**
Summary

• We are making progress
• What should we be looking at for paediatric asthma?
• Guidelines - ? Wessex wide