EVOLVE Workshop for General Paediatrics

RACP Congress May 17 2016
10.30 - 12.30
Acknowledgements

• Harriet Hiscock, Jason Soon and the Paediatric EVOLVE working group
• John Wakefield, Jonny Taitz, Annie Moulden, Andrew Hallahan, Nicki Murdock, Peter Hibbert
Overview

• A story
• Overview clinical variation and low value care
• Choosing Wisely and EVOLVE
• Proposed indicators and priorities
• Next steps for General Paediatrics
Jassandra; 10 month old girl

**HPC**
- unwell since Friday with runny nose
- cough developed on Saturday
- occasionally felt warm, but did not measure temperature
- sibling had URTI recently
- developed some tachypnoea and increased work of breathing on Sunday

On arrival to RESUS: Patient awake, irritable, but settled with parents
Breathing spontaneously on RA, with mod increased WOB, moderate TT, SC/IC/ Nasal flare, soft wheeze on auscultation
Warm to touch, CCRT < 3 seconds, soft fontanelle, crying tears

**MANAGEMENT PLAN** Entered on 09/05/2016 11:43
nasal suction
vitals
observe
analgesia
oxygen
D/W med reg - will review for admission
JMO Handover

• Strong family history atopy
• Child looked unwell
  – Suctioned
  – Bloods
  – CXR
  – Trial of ventolin
• Needs review for tachycardia
• Should I give antibiotics?
Why?

• Because that’s just what we do ...
• Because when I ring the Paed Reg that’s what they will ask me
• Because the last Consultant I worked with wanted that approach
• Because I wanted to try and do something that would help
Is it just me??

• How does my practice compare to others?
• What do they say about “Sarah’s approach”?
• Where is the evidence to back me up?
What is Usual Practice?

• Think of time you questioned something someone did
• Think of time you did something someone questioned
Reducing Low Value Care

*What, why and how.....*

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Pediatrician, Director, Health Services Research Unit
Centre for Community Child Health, The Royal Children’s Hospital
Murdoch Childrens Research Institute
Department of Paediatrics, University of Melbourne
Variation in healthcare isn’t new

Why does it matter?

• Variation in health care raises questions about:
  – appropriateness of care,
  – equity,
  – access, and
  – cost to patient and system.

• Understanding variation helps engage clinicians and patient groups to improve value in healthcare
Variation in itself does not infer good or bad.

Warranted

Unwarranted

Variation
Variation: not all bad

- **Warranted (expected) variation**
  - Reflects population health need or burden of disease
  - Individual preferences and values of patients
  - On a small scale may reflect practice innovation

- **Unwarranted variation – aka ‘low value care’**
  - Not explained by need, preferences and values
  - May signal safety and quality issues
  - May signal resource misallocation – equity of access, efficiency ($) and value
Australian Atlas of Healthcare Variation 2015

• Data drawn from 2013 MBS, PBS and hospital data, based on child’s postcode of residence.
• PBS - dispensed medication (includes repeat scripts)
• Conditions/medications:
  • Asthma admissions
  • Asthma medications
  • Anti-depressant/anti-anxiety medications
  • Stimulant medications
  • Grommets
  • Ts and As
• Data mapped to statistical area 3 (ABS area, n=325 in Australia)
ADHD Medicines – 17 years and under
State & Territory

ADHD Medicines

<table>
<thead>
<tr>
<th></th>
<th>NSW</th>
<th>Vic</th>
<th>Qld</th>
<th>SA</th>
<th>WA</th>
<th>Tas</th>
<th>NT</th>
<th>ACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest rate</td>
<td>28,642</td>
<td>23,546</td>
<td>25,373</td>
<td>14,465</td>
<td>14,272</td>
<td>24,414</td>
<td>13,380</td>
<td>13,020</td>
</tr>
<tr>
<td>Lowest rate</td>
<td>3,013</td>
<td>2,513</td>
<td>3,128</td>
<td>1,767</td>
<td>1,937</td>
<td>6,489</td>
<td>382</td>
<td>7,811</td>
</tr>
<tr>
<td>No. prescriptions</td>
<td>218,758</td>
<td>88,917</td>
<td>134,986</td>
<td>19,321</td>
<td>54,289</td>
<td>15,145</td>
<td>3,870</td>
<td>8,847</td>
</tr>
</tbody>
</table>

The size of each circle represents the number of prescriptions dispensed in each local area.
Remoteness and Socioeconomic status

ADHD Medicines

The size of each circle represents the number of prescriptions dispensed in each local area.
Background
Community acquired pneumonia one of the most common infections in children
No study has looked at diagnostic testing and clinical decisions in the ED

Aim
Describe the variability across hospitals in diagnostic tests and whether there was an association with clinical decisions

Methods
Retrospective cohort study ED presentations with CAP
Pediatric Health Information system (database from 43 hospitals)
Patients between 2 months and 18 years between 2007 - 2010
Results
100,615 ED presentations with CAP
Median age 3 years
26% of patients hospitalised
6.4% returned within 3 days

<table>
<thead>
<tr>
<th>Test</th>
<th>Unadjusted Distribution Across Hospitals (% of Patients Receiving Test Across All Hospitals)</th>
<th>Adjusted Distribution Across Hospitals (% of Patients Receiving Test Across All Hospitals)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>25th %ile</td>
</tr>
<tr>
<td>CBC</td>
<td>11.4</td>
<td>20.9</td>
</tr>
<tr>
<td>Blood cultures</td>
<td>11.3</td>
<td>18.6</td>
</tr>
<tr>
<td>Chemistries</td>
<td>8.6</td>
<td>11.9</td>
</tr>
<tr>
<td>Coagulation studies</td>
<td>0.18</td>
<td>0.45</td>
</tr>
<tr>
<td>Viral studies</td>
<td>1.4</td>
<td>8.5</td>
</tr>
<tr>
<td>Inflammatory markers</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td>Chest radiograph</td>
<td>38.1</td>
<td>73.6</td>
</tr>
<tr>
<td>Chest ultrasound</td>
<td>0</td>
<td>0.04</td>
</tr>
<tr>
<td>Chest CT scan</td>
<td>0.1</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Max: maximum; Min, minimum; NA, not available.
In hospitals, test use was high—all had high rates of multiple tests:

- FBE + BC ($r=0.83$)
- FBE + Chemistry ($0.78$)

**PREVAILING CULTURE IMPORTANT**
Drivers of Variation in Paediatric Care

2014 Review for NSW Gov’t

• 16 common conditions
• Inpatient, OP and ED settings
• Data from North America > UK > Aus
• Variation in care common

• Reductions in low value care associated with:
  • setting ie children’s vs generalist hospitals
  • clinicians ie hospitalists vs non-hospitalists
  • age of clinician ie younger clinicians perhaps more likely to be aware of and adhere to clinical practice guidelines; and;
  • electronic order set use.


Background
Asthma is among one of the top 5 diagnoses in children admitted to hospital
Chest X-rays are often ordered with limited benefit
Average cost of CXR = Australia ~$50
Exposure to radiation (80-100 μGY)
High prevalence of asthma in Australia (2 million children aged 5-14 years)
Australian study - Central coast
Methods
Defined when CXR was unnecessary
- Known asthmatic
- Diagnosis of asthma
- Good response to treatment
- No suspicion of pneumothorax
- Not ICU

Ask Yourself
Is a CXR Necessary in Children?

NOT IF:

Your patient is a known asthmatic

AND

Your diagnosis is asthma

AND

Your patient is responding* to asthma therapy

* A reduced need for nebulisers/spacers over 3 hours given appropriate aggressive therapy on arrival
<table>
<thead>
<tr>
<th>Criteria</th>
<th>12 months before n</th>
<th>6 months before n</th>
<th>6 months after n</th>
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<tbody>
<tr>
<td>Total presentations with asthma</td>
<td>466</td>
<td>230</td>
<td>197</td>
</tr>
<tr>
<td>Total asthma presentations with CXR</td>
<td>260</td>
<td>134</td>
<td>72</td>
</tr>
<tr>
<td>Of the above – known asthmatic</td>
<td>232</td>
<td>121</td>
<td>57</td>
</tr>
<tr>
<td>Of the above – diagnosis asthma</td>
<td>221</td>
<td>116</td>
<td>57</td>
</tr>
<tr>
<td>Of the above – improved</td>
<td>211</td>
<td>109</td>
<td>56</td>
</tr>
<tr>
<td>Total unnecessary CXRs</td>
<td>211</td>
<td>109</td>
<td>56</td>
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</tbody>
</table>

CXR, chest X-ray.

45.3% before vs. 28.4% after (ARR 16.9%, p<0.001)
Next Steps

Clinical Groups

- Ensure education aligns with clinical guidelines & care standards
- Promote better knowledge & use of shared decision making
- Promote use of guidelines & continued professional development in areas where high variation exists

Health Services/ Health Networks

- Analyse reasons for variation at local level
- Develop local responses & priority action plans
- Monitor adherence to clinical care standards & guidelines
Reducing Low Value Care

Drivers
- Community expectations
- Patient decisions
- Clinical decisions
- Management / policy decisions

Approaches
- Social marketing
- Shared decision making
- QI initiatives
- Provider-level reporting
- Public reporting
- Setting targets
- Payment for quality
- Changes in reimbursement systems
- Resource allocation

Guideline & Standards
Outcomes Monitoring
Some Pearls of Wisdom...

- Patrick Conway (CMO, USA...and a paediatrician!)  
  To change practice you need  
  - leadership & culture +  
  - data and data transparency +  
  - real time, comparative feedback.

- **Lown Institute** – getting the right amount of care to patients

- **Harding Center for Risk Literacy** – risks of screening

- **Costsofcare.org** – not for profit - patients, clinicians & administrators
An International Movement

NICE 'do not do' recommendations

Prudent Healthcare

Weninger Medizin kann mehr sein

Slow Medicine

fare di più non vuol dire fare meglio
Antibiotics for a sore throat, cough, or runny nose
When children need them—and when they don’t

If your child has a sore throat, cough, or runny nose, you might expect the doctor to prescribe antibiotics. But most of the time, children don’t need antibiotics to treat a respiratory illness. In fact, antibiotics can do more harm than good. Here’s why:

Antibiotics fight bacteria, not viruses.
If your child has a bacterial infection, antibiotics may help. But if your child has a virus, antibiotics will not help your child feel better or keep others
1. Antibiotics should not be used for apparent viral respiratory illnesses (sinusitis, pharyngitis, bronchitis).

Although overall antibiotic prescription rates for children have fallen, they still remain alarmingly high. Unnecessary medication use for viral respiratory illnesses can lead to antibiotic resistance and contributes to higher health care costs and the risks of adverse events.

2. Cough and cold medicines should not be prescribed or recommended for respiratory illnesses in children under four years of age.

Research has shown these products offer little benefit to young children and can have potentially serious side effects. Many cough and cold products for children have more than one ingredient, increasing the chance of accidental overdose if combined with another product.

3. Computed tomography (CT) scans are not necessary in the immediate evaluation of minor head injuries; clinical observation/Pediatric Emergency Care Applied Research Network (PECARN) criteria should be used to determine whether imaging is indicated.

Minor head injuries occur commonly in children and adolescents. Approximately 50% of children who visit hospital emergency departments with a head injury are given a CT scan, many of which may be unnecessary. Unnecessary exposure to x-rays poses considerable danger to children including increasing the lifetime risk of cancer because a child’s brain tissue is more sensitive to ionizing radiation. Unnecessary CT scans impose undue costs to the health care system. Clinical observation prior to CT decision-making for children with minor head injuries is an effective approach.

4. Neuroimaging (CT, MRI) is not necessary in a child with simple febrile seizure.

CT scanning is associated with radiation exposure that may escalate future cancer risk. MRI also is associated with risks from required sedation and high cost. The literature does not support the use of skull films in the evaluation of a child with a febrile seizure. Clinicians evaluating infants or young children after a simple febrile seizure should direct their attention toward identifying the cause of the child’s fever.

5. Computed tomography (CT) scans are not necessary in the routine evaluation of abdominal pain.

Utilization of CT imaging in the emergency department evaluation of children with abdominal pain is increasing. The increased lifetime risk for cancer due to excess radiation exposure is of special concern given the acute sensitivity of children’s organs. There also is the potential for radiation overdose with inappropriate CT protocols.
Choosing Wisely Australia members and supporters

Thanks to all the members and supporters listed below who have joined our journey to more appropriate use of tests, treatments and procedures. Thank you for taking the lead in changing the healthcare culture of ‘more is always better’.

If your organisation would like to join Choosing Wisely Australia and take the lead in improving healthcare, contact us.

<table>
<thead>
<tr>
<th>2016</th>
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<tbody>
<tr>
<td>- ACEM</td>
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<tr>
<td>- ANZICS</td>
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<td>- RACS</td>
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<td>- RANZCO</td>
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<td>- RANZCR</td>
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<tr>
<td>- RACGP</td>
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EVOLVE
ASCIA

www.evolve.edu.au

1. Don’t use antihistamines to treat anaphylaxis — prompt administration of adrenaline is the only treatment for anaphylaxis.

2. Alternative/unorthodox methods should not be used for allergy testing or treatment.

3. Allergen immunotherapy should not be used for routine treatment of food allergy — research in this area is ongoing.

4. Food specific IgE testing should not be performed without a clinical history suggestive of IgE mediated food allergy.

5. Don’t delay introduction of solid/complementary foods to infants — ASCIA Infant Feeding Advice recommends early introduction of solid foods to infants, from 4-6 months old.
Identifying Paediatric Top 5

• Review all items relevant to children on international lists
• Exclude if already published on an ANZ list or relevant to sub-speciality
• Debated in several forums including EVOLVE working group
• Evidence review for each proposed item
• Top 16 for prioritisation by paediatricians
Challenges

• What is “General Paediatrics”?  
• Discussion with PREDICT, NBPSA and CCCH  
• Ongoing dialogue with sub-specialities  
• Next steps  
  – Online voting  
  – Implementation and Evaluation
Related Items on Other Lists

- CT for suspected appendicitis (RACS)
- Ultrasound for groin hernias (RACS)
- Antibiotics for otitis media (RACGP)
- CT head for minor head injury (ACEM/RANZCR)
- CT head for first afebrile seizure (ANZCNS)
Top 16

- Salbutamol in bronchiolitis
- Antibiotics in bronchiolitis
- Hypertonic saline in bronchiolitis
- Adrenaline in bronchiolitis
- CXR in bronchiolitis
- CXR in asthma
- Steroids in LRTI under 2 years of age
- Continuous pulse oximetry unless supplemental oxygen
- Oral antibiotics for fever with no apparent source
- Allergy testing in eczema
- Acid suppression in GORD
- VCUG for first UTI
- AXR for constipation
- Ultrasound for undescended testes
- SSRI as first line for depression
- Frenotomy for tongue tie
Table Work

• Individually review 8 indicators and mark according to frequency, evidence and importance (5-10mins)

• Note any proposals for new indicators

• Share your marks with the table and derive consensus re Yes / No / Maybe for indicator to go through to next round (15 mins)

• One table member write group consensus on whiteboard
Feedback

• How many are YES and through to next round?
• How many are NO and removed?
• How many are MAYBE and need further discussion?
• Are there any new proposed items?
Where to now?

- Online voting July 2016
  - https://www.surveymonkey.com/r/C6WXX9Y
- Final Top 5 September 2016
- Spread to Paediatric Sub-speciality groups
- Implementation and Evaluation
Implementation and Evaluation

• How can we use the Paediatric Top 5 to drive change?
• What might be some enablers?
• What barriers do we need to overcome?
• How will we know what we do has worked?
What about you?

• When might you over use, under use or suggest management not aligned with consensus guidelines?
• How does your practice compare to others and how do you know?
• What are you going to take away from today?
5 QUESTIONS TO ASK YOUR DOCTOR OR OTHER HEALTH CARE PROVIDER BEFORE YOU GET ANY TEST, TREATMENT OR PROCEDURE

1. **DO I REALLY NEED THIS TEST OR PROCEDURE?**
   Tests may help you and your doctor or other health care provider determine the problem. Procedures may help to treat it.

2. **WHAT ARE THE RISKS?**
   Will there be side effects? What are the chances of getting results that aren’t accurate? Could that lead to more testing or another procedure?

3. **ARE THERE SIMPLER, SAFER OPTIONS?**
   Sometimes all you need to do is make lifestyle changes, such as eating healthier foods or exercising more.

4. **WHAT HAPPENS IF I DON’T DO ANYTHING?**
   Ask if your condition might get worse — or better — if you don’t have the test or procedure right away.

5. **WHAT ARE THE COSTS?**
   Costs can be financial, emotional or a cost of your time. Where there is a cost to the community, is the cost reasonable or is there a cheaper alternative?