EVOLVE Workshop for General Paediatrics

RACP Congress May 17 2016

10.30 - 12.30

evolve

evaluating evidence. enhancing efficiencies

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 devleoped on Saturday
- occassionally 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, irritbale, but settled with parents
Breathing spontaneously on RA, with mod increased WOB, moderate TT, SC/IC/ Nasal flare, soft wheez eon ascultation
Warm to touhc, 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?

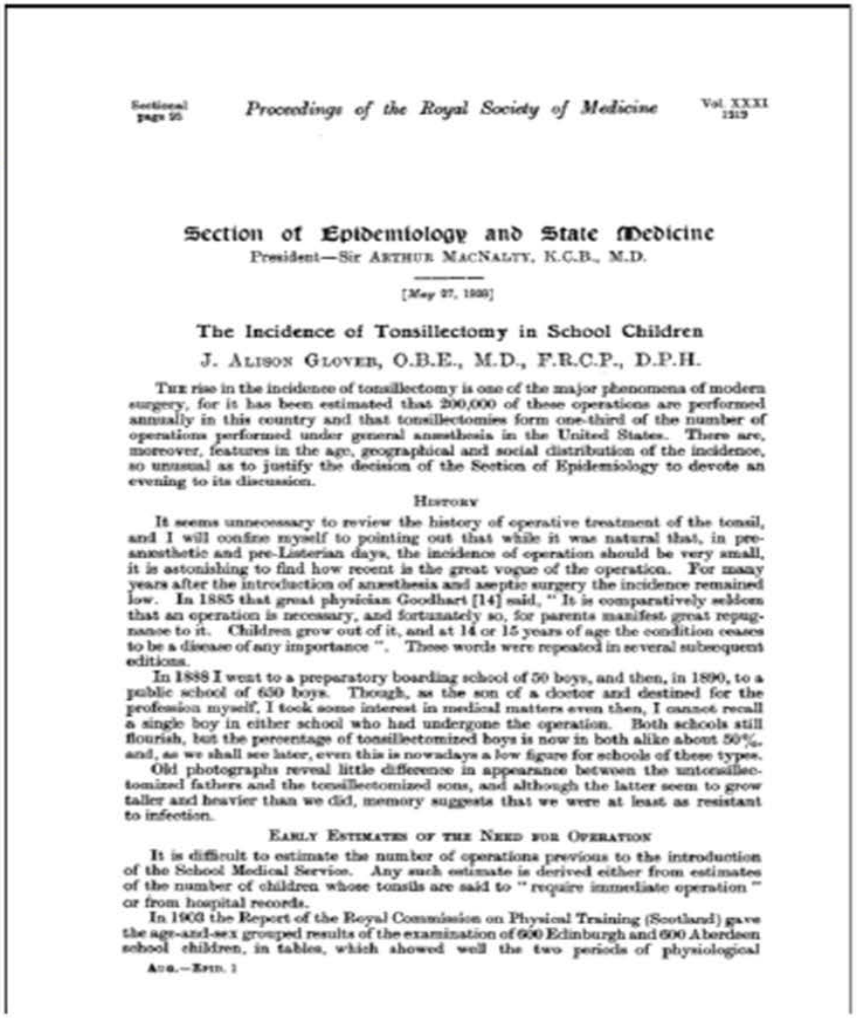
- Think of time you questioned something someone did
- Think of time you did something someone questioned

Reducing Low Value Care
What, why and how.....

Associate Professor Harriet Hiscock
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

Glover AJ (1938). '**The incidence of tonsillectomy in schoolchildren**'. Proceedings of the Royal Society of Medicine, vol 31, no 10, pp 1219–36.



Sectional page 95 *Proceedings of the Royal Society of Medicine* Vol. XXXI 1919

Section of Epidemiology and State Medicine

President—Sir ARTHUR MACNALTY, K.C.B., M.D.

[*May 27, 1938*]

The Incidence of Tonsillectomy in School Children

J. ALISON GLOVER, O.B.E., M.D., F.R.C.P., D.P.H.

THE rise in the incidence of tonsillectomy is one of the major phenomena of modern surgery, for it has been estimated that 200,000 of these operations are performed annually in this country and that tonsillectomies form one-third of the number of operations performed under general anæsthesia in the United States. There are, moreover, features in the age, geographical and social distribution of the incidence, so unusual as to justify the decision of the Section of Epidemiology to devote an evening to its discussion.

HISTORY

It seems unnecessary to review the history of operative treatment of the tonsil, and I will confine myself to pointing out that while it was natural that, in pre-anæsthetic and pre-Listerian days, the incidence of operation should be very small, it is astonishing to find how recent is the great vogue of the operation. For many years after the introduction of anæsthesia and aseptic surgery the incidence remained low. In 1885 that great physician Goodhart [14] said, "It is comparatively seldom that an operation is necessary, and fortunately so, for parents manifest great repugnance to it. Children grow out of it, and at 14 or 15 years of age the condition ceases to be a disease of any importance". These words were repeated in several subsequent editions.

In 1888 I went to a preparatory boarding school of 50 boys, and then, in 1890, to a public school of 650 boys. Though, as the son of a doctor and destined for the profession myself, I took some interest in medical matters even then, I cannot recall a single boy in either school who had undergone the operation. Both schools still flourish, but the percentage of tonsillectomized boys is now in both alike about 50%, and, as we shall see later, even this is nowadays a low figure for schools of these types.

Old photographs reveal little difference in appearance between the untonsillectomized fathers and the tonsillectomized sons, and although the latter seem to grow taller and heavier than we did, memory suggests that we were at least as resistant to infection.

EARLY ESTIMATES OF THE NEED FOR OPERATION

It is difficult to estimate the number of operations previous to the introduction of the School Medical Service. Any such estimate is derived either from estimates of the number of children whose tonsils are said to "require immediate operation" or from hospital records.

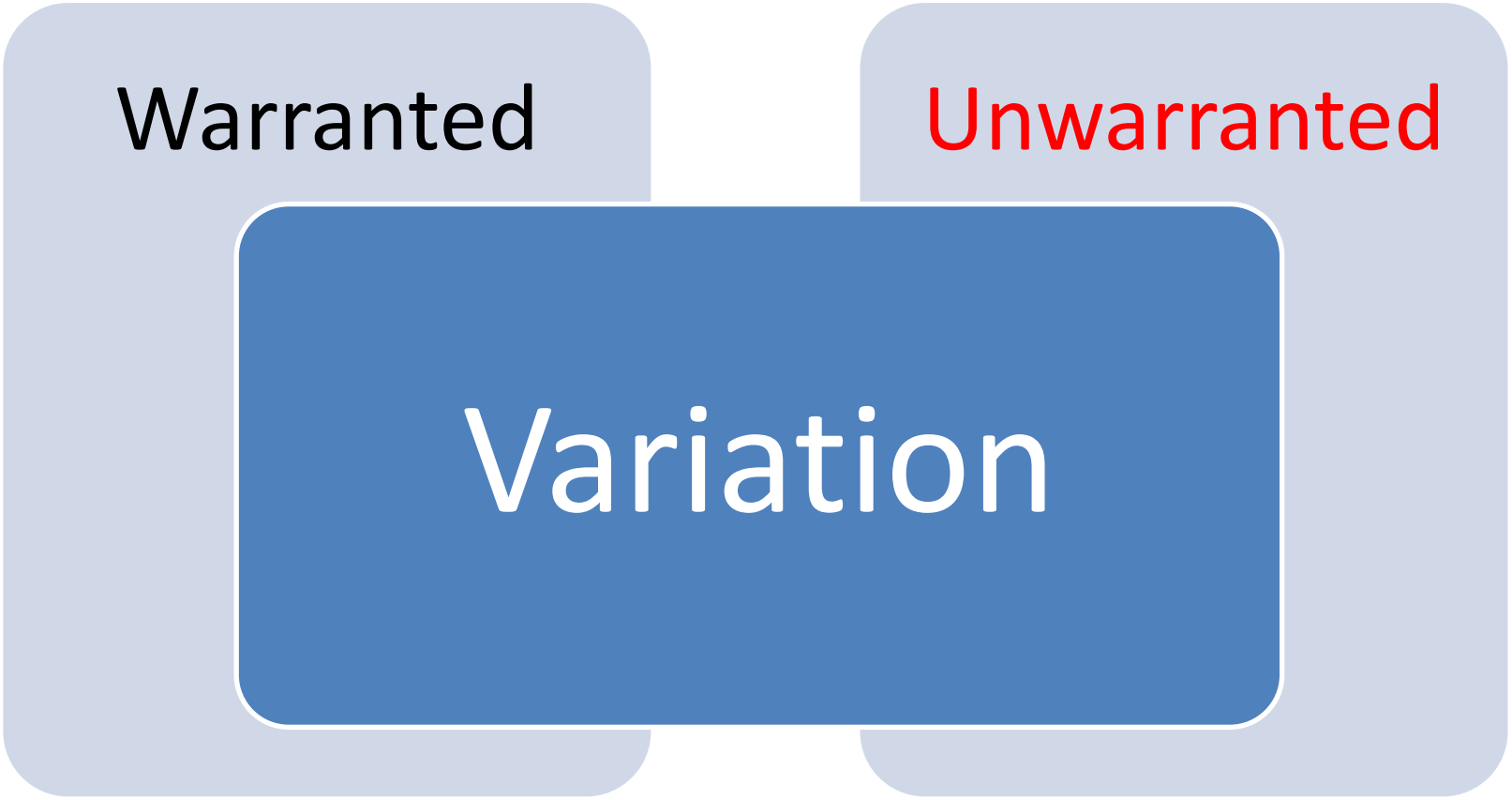
In 1903 the Report of the Royal Commission on Physical Training (Scotland) gave the age-and-sex grouped results of the examination of 600 Edinburgh and 600 Aberdeen school children, in tables, which showed well the two periods of physiological

AUG.—EPID. 1

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



Variation: not all bad

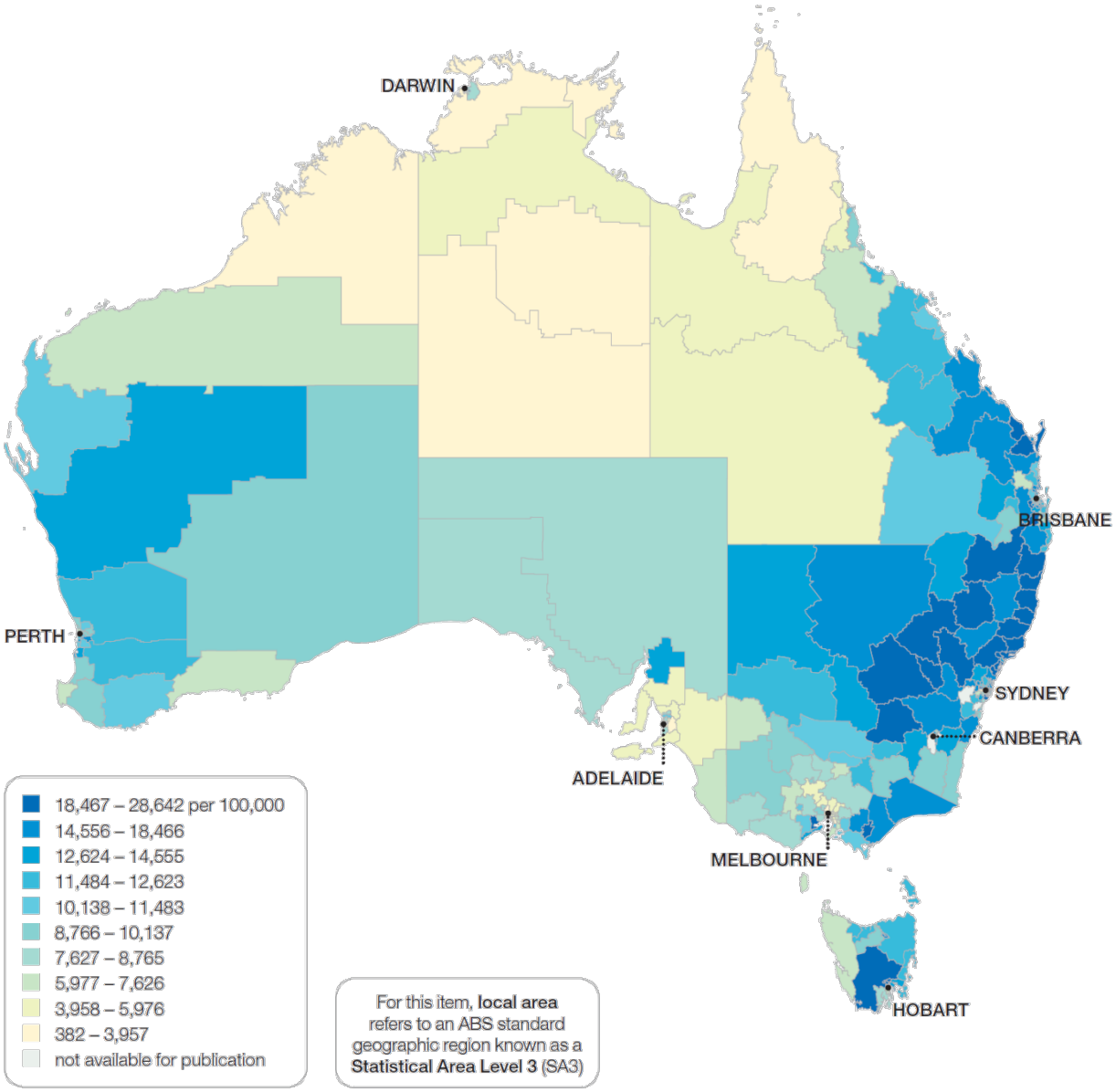
- **Warranted (expected) variation**
  - Reflects population health need or burden of disease
  - Individual preferences and values of patients
  - On a small scale may reflect practice innovation

- **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)

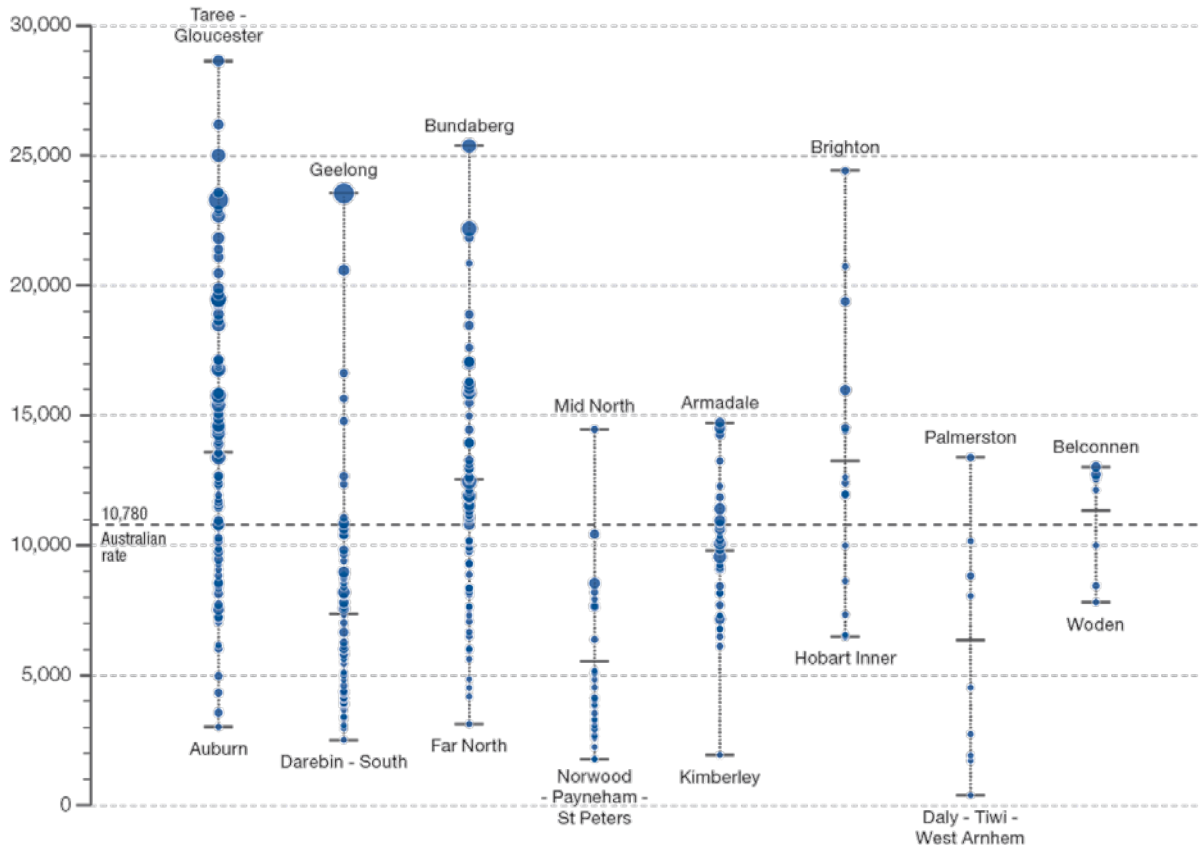
ADHD Medicines – 17 years and under



State & Territory

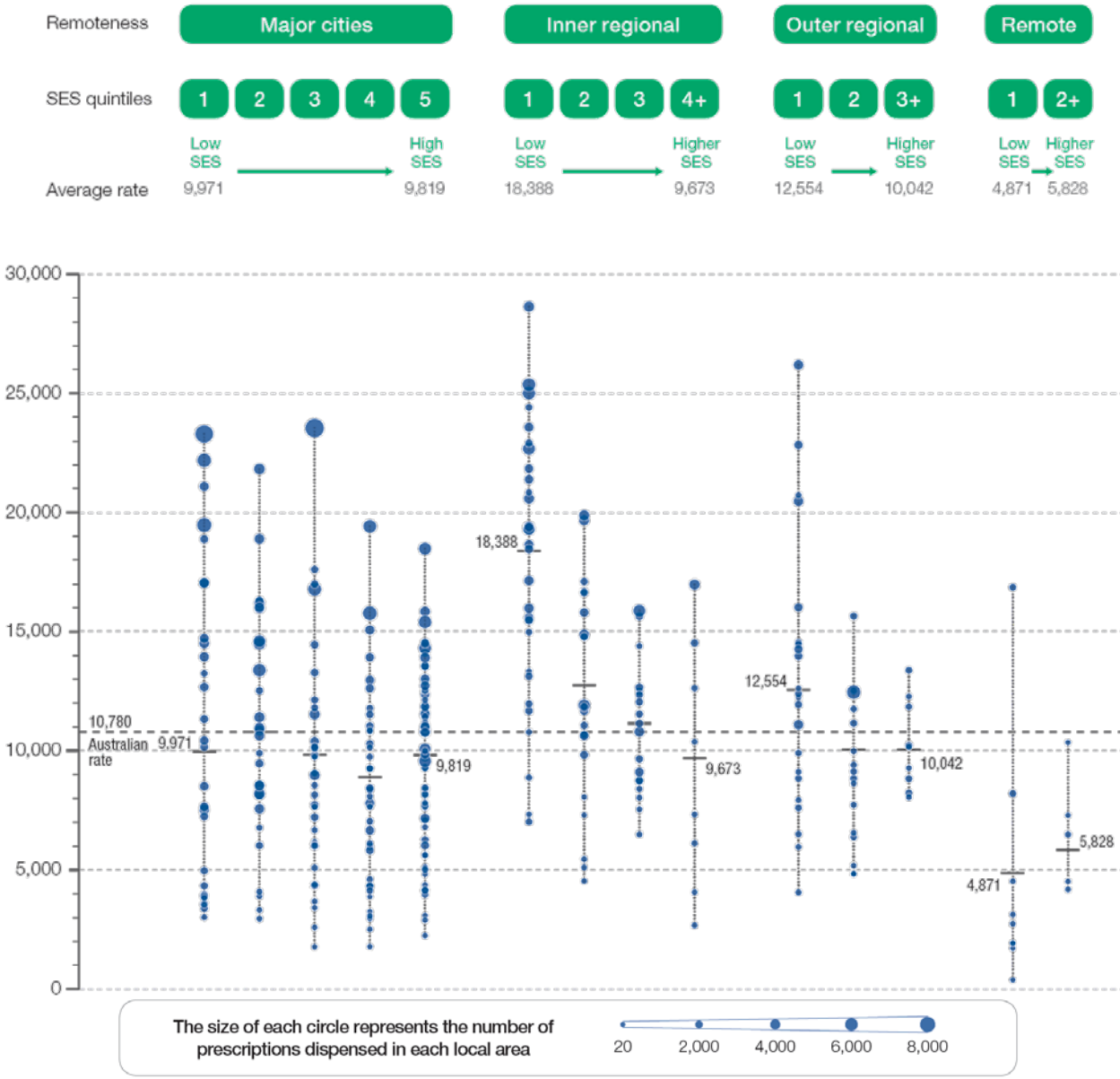
ADHD Medicines

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Highest rate	28,642	23,546	25,373	14,465	14,725	24,414	13,380	13,020
State/territory	13,588	7,367	12,555	5,541	9,805	13,253	6,361	11,330
Lowest rate	3,013	2,513	3,128	1,767	1,937	6,489	382	7,811
No. prescriptions	218,758	88,917	134,986	19,321	54,289	15,145	3,870	8,847



Remoteness and Socioeconomic status

ADHD Medicines



PEDIATRICS Volume 132, Number 2, August 2013

Variation in Emergency Department Diagnostic Testing and Disposition Outcomes in Pneumonia

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

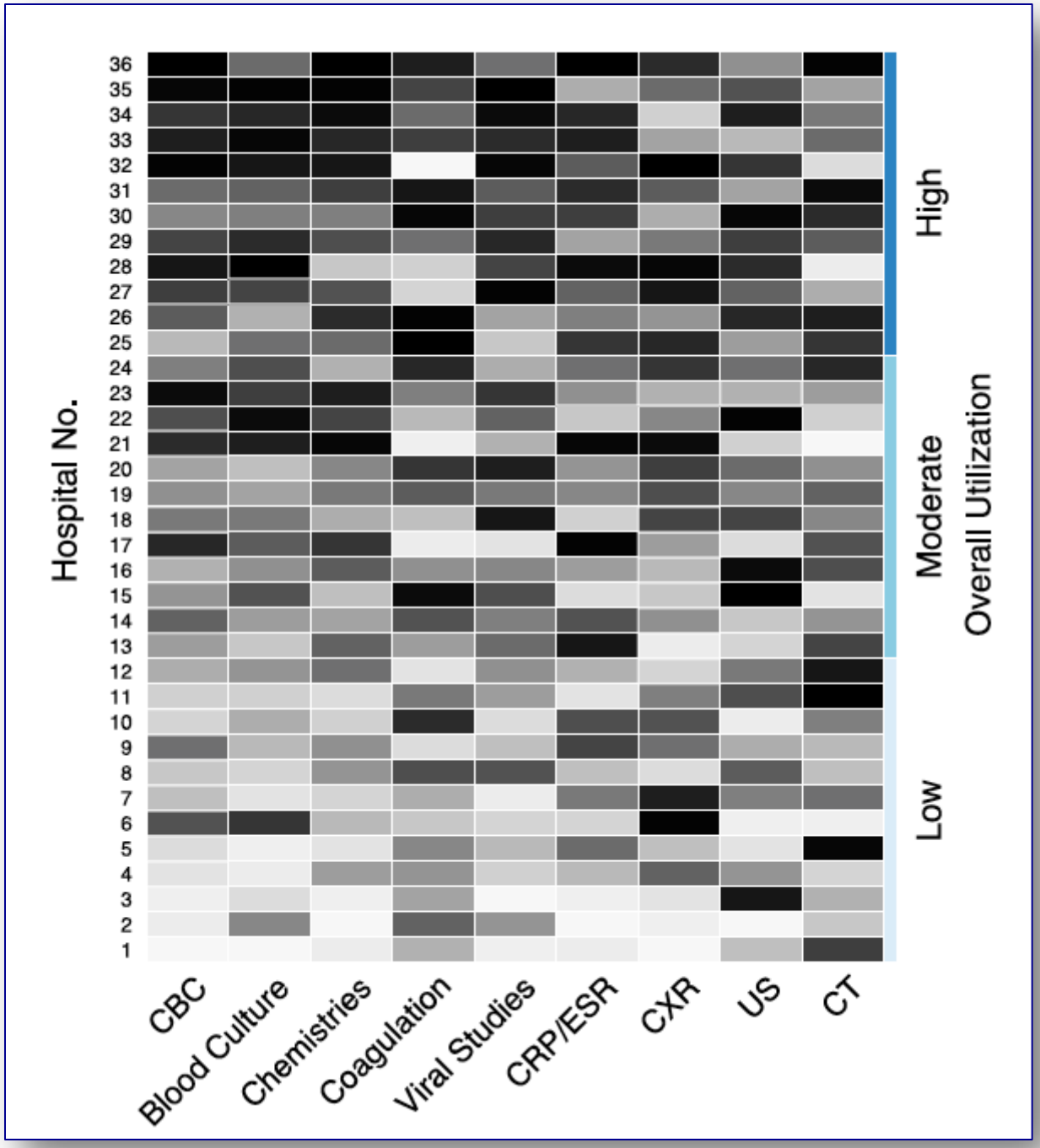
26% of patients hospitalised

6.4% returned within 3 days

TABLE 1 ED Utilization of Diagnostic Tests for CAP Across 36 PHIS Hospitals

Test	Unadjusted Distribution Across Hospitals (% of Patients Receiving Test Across All Hospitals)					Adjusted Distribution Across Hospitals[a,b] (% of Patients Receiving Test Across All Hospitals)				
	Min	25th %ile	Median	75th %ile	Max	Min	25th %ile	Median	75th %ile	Max
CBC	11.4	20.9	28.3	35.6	54.2	10.6	21.7	28.7	36.7	64.9
Blood cultures	11.3	18.6	27.2	35.2	50.9	9.4	19.4	27.9	37.9	62.5
Chemistries	8.6	11.9	14.8	22.1	39.1	8.2	11.9	15.7	23.1	49.8
Coagulation studies	0.18	0.45	0.65	0.83	1.6	0.4	0.5	0.63	0.96	1.6
Viral studies	1.4	8.5	13.3	22.1	40.1	1.6	9	14.7	24.2	43.7
Inflammatory markers	1	2.2	4.3	13.4	47	1.7	4.6	7.5	23.5	82.4
Chest radiograph	39.1	73.6	77.2	82.8	86.3	40	71.2	75.7	78.2	87.3
Chest ultrasound	0	0.04	0.19	0.5	2.7			NA[c]		
Chest CT scan	0.1	0.3	0.49	0.6	1.4			NA[c]		

Max, maximum; Min, minimum; NA, not available.



In hospitals were 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**.

Hiscock H, Perera P, McLean K, Roberts G. *Variation in paediatric clinical practice: Rapid Review of the Evidence*; 2014.

https://www.saxinstitute.org.au/category/publications/evidence-check-library

J. Paediatr. Child Health (2005) **41**, 107–111

Reduce the rads: A quality assurance project on reducing unnecessary chest X-rays in children with asthma

A Buckmaster[1] and R Boon[2]

[1]*Gosford General Hospital, Gosford, New South Wales, Australia and* [2]*Booth Hall Children's Hospital, Manchester, United Kingdom*

Objectives: To quantify and then reduce the number of unnecessary chest X-rays (CXR) being performed on children

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
- N
- N

Bef
ICD

Educ
All m
Pres

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 2 Breakdown of the number of asthma presentations meeting each of the successive criteria for an unnecessary CXR. 6 Months before represents the same **calendar** 6 Months as those in the 6 month period after the education

Criteria	12 months before *n*	6 months before *n*	6 months after *n*
Total presentations with asthma	466	230	197
Total asthma presentations with CXR	260	134	72
Of the above – known asthmatic	232	121	57
Of the above – diagnosis asthma	221	116	57
Of the above – improved	211	109	56
Total unnecessary CXRs	211	109	56

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

Choosing Wisely®
An initiative of the ABIM Foundation

National Health Committee
Hunga Kaititiro i te Hauora o te Tangata

NICE
'do not do' recommendations

Llywodraeth Cymru
Welsh Government

Prudent Healthcare

NPS MEDICINEWISE

smartermedicine
Weninger Medizin kann mehr sein

Slow Medicine
fare di più non vuol dire fare meglio

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ConsumerReportsHealth

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

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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.

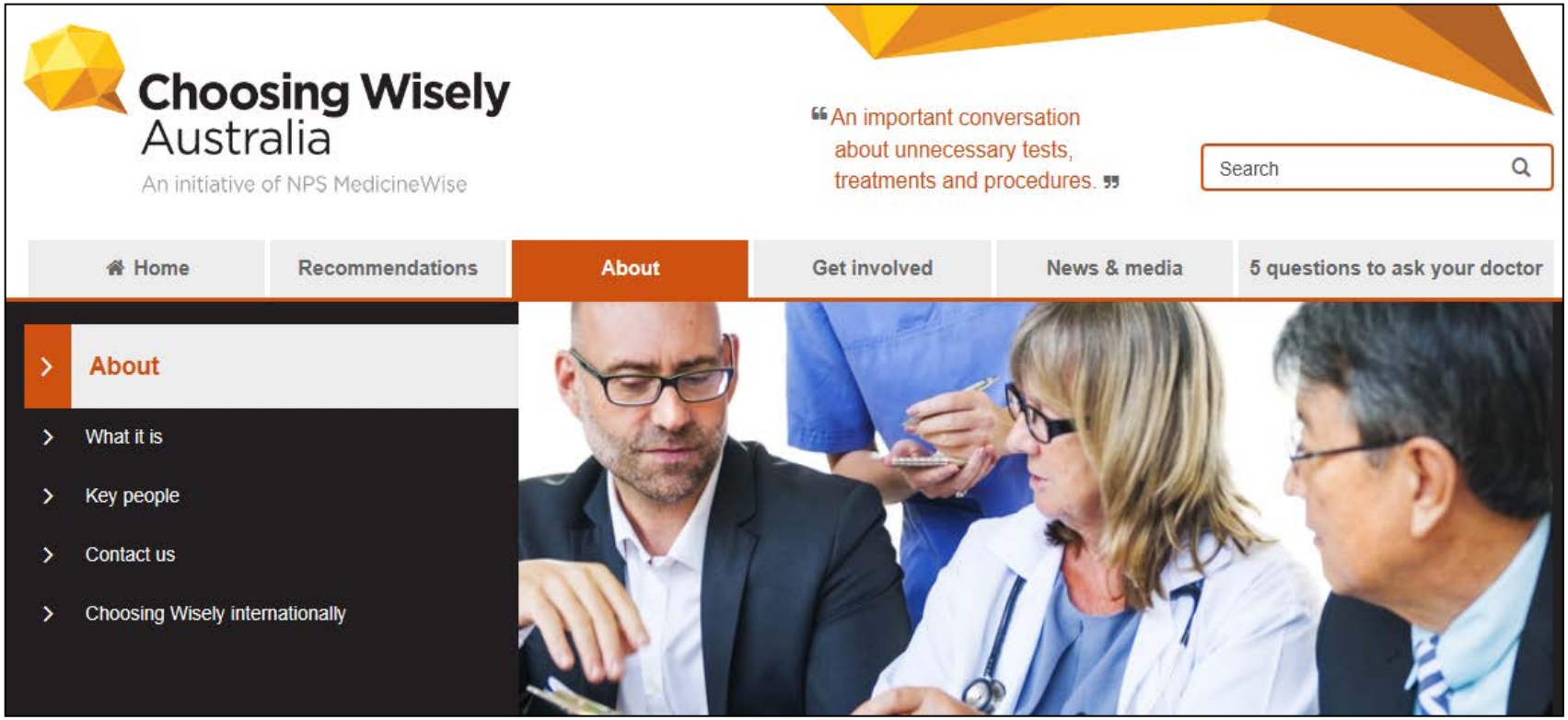
4 Neuroimaging (CT, MRI) is not necessary in a child with simple febrile seizure.

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



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.

Expand all | Collapse all

- Australasian College for Emergency Medicine
- Australasian Society for Infectious Diseases
- Australasian Society of Clinical Immunology and Allergy
- Australian and New Zealand Intensive Care Society
- Australian and New Zealand Society of Palliative Medicine & the Australasian Chapter of Palliative Medicine
- Australian College of Nursing
- College of Intensive Care Medicine of Australia and New Zealand
- Consumers Health Forum of Australia
- Haematology Society of Australia and New Zealand
- healthdirect Australia
- Royal Australasian College of Surgeons
- The Australasian College of Dermatologists
- The Australian Physiotherapy Association
- The Endocrine Society of Australia
- The Royal Australasian College of Physicians
- The Royal Australian and New Zealand College of Ophthalmologists
- The Royal Australian and New Zealand College of Radiologists
- The Royal Australian College of General Practitioners
- The Royal College of Pathologists of Australasia
- The Society of Hospital Pharmacists of Australia

2016

- ACEM
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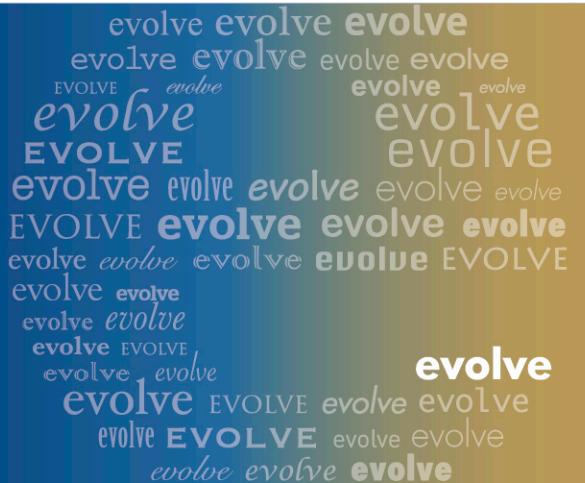

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Australian Rheumatology Association
AFRM
Australasian Faculty of Rehabilitation Medicine
ASCEPT
asmr
Australian Society for Medical Research
Australasian Sleep Association
Haematology Society
of Australia & New Zealand
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Australasian Chapter of Palliative Medicine
esa
endocrine society of australia
New Zealand Dermatological Society Inc
Australian and New Zealand Association of Neurologists
New Zealand Rheumatology Association
Perinatal Society of Australia & New Zealand
New Zealand Australia Internal Medicine Society
The Cardiac Society of Australia and New Zealand
ascia
australasian society of clinical immunology and allergy
SOMANZ
diabetes in pregnancy society
A.D.I.P.S.
AUSTRALASIAN ASSOCIATION OF NUCLEAR MEDICINE SPECIALISTS
Promoting quality molecular imaging and nuclear medicine
anzpcns
THE AUSTRALIA AND NEW ZEALAND CHILD NEUROLOGY SOCIETY
Australian & New Zealand Society for Geriatric Medicine
Australian Association for Adolescent Health
Australasian Paediatric Endocrine Group
ANZSN
Neurodevelopmental and Behavioural Paediatric Society of Australasia
New Zealand Society
NZSSD
for the Study of Diabetes
The Thoracic Society of Australia & New Zealand
LEADERS IN LUNG HEALTH
GESA
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ads
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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?

MACQUARIE
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HEALTH INNOVATION
Faculty of Medicine and Health Sciences

5 QUESTIONS

TO ASK YOUR DOCTOR OR OTHER HEALTH CARE PROVIDER BEFORE YOU GET ANY TEST, TREATMENT OR PROCEDURE

Choosing Wisely Australia
An initiative of NPS MedicineWise

NPS MEDICINEWISE

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?