Improving Childhood Asthma Management (ICAM) Community of Practice – Case Studies Deep Dive

Wednesday, 28 May 2025

The content in this session is valid at date of presentation

Acknowledgement of Country

In the spirit of reconciliation we acknowledge the Traditional Custodians of the lands on which we meet, the Wurundjeri people of the Kulin Nation.

We pay our respects to the Elders past and present, and extend that respect to all Aboriginal and Torres Strait Islander peoples today, for they are the safekeepers of memories, traditions and culture.

We recognise their connection to Country, land, sea and community, and the role in caring for and maintaining Country over thousands of years. May their strength and wisdom be with us today.

Photo credit: Koori Curriculum

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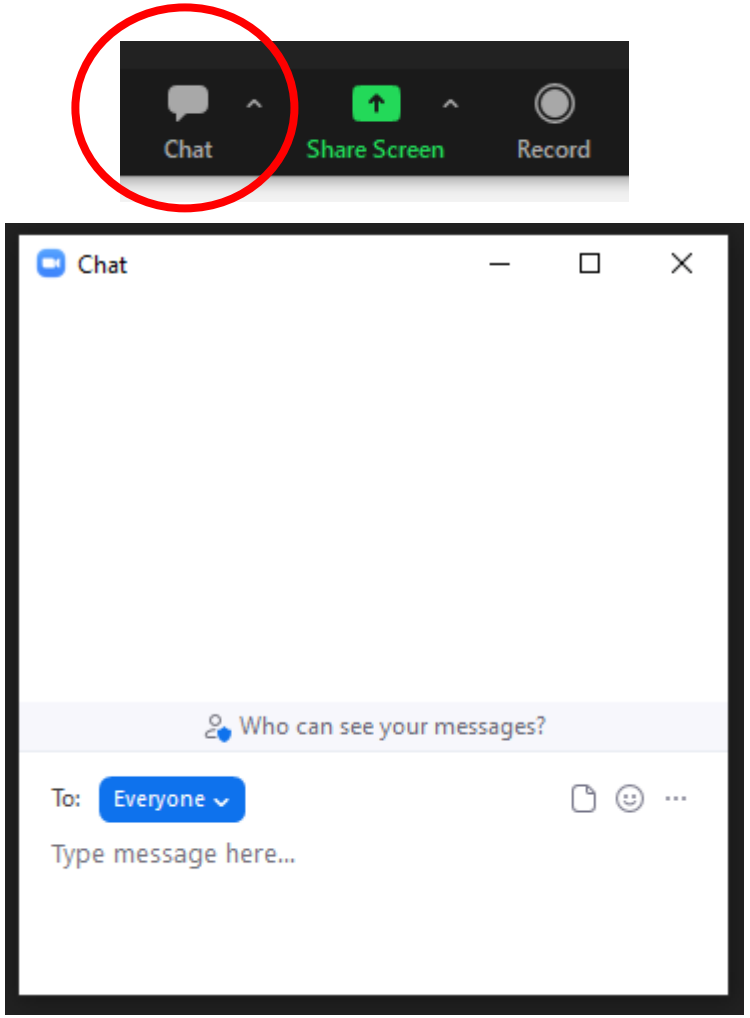

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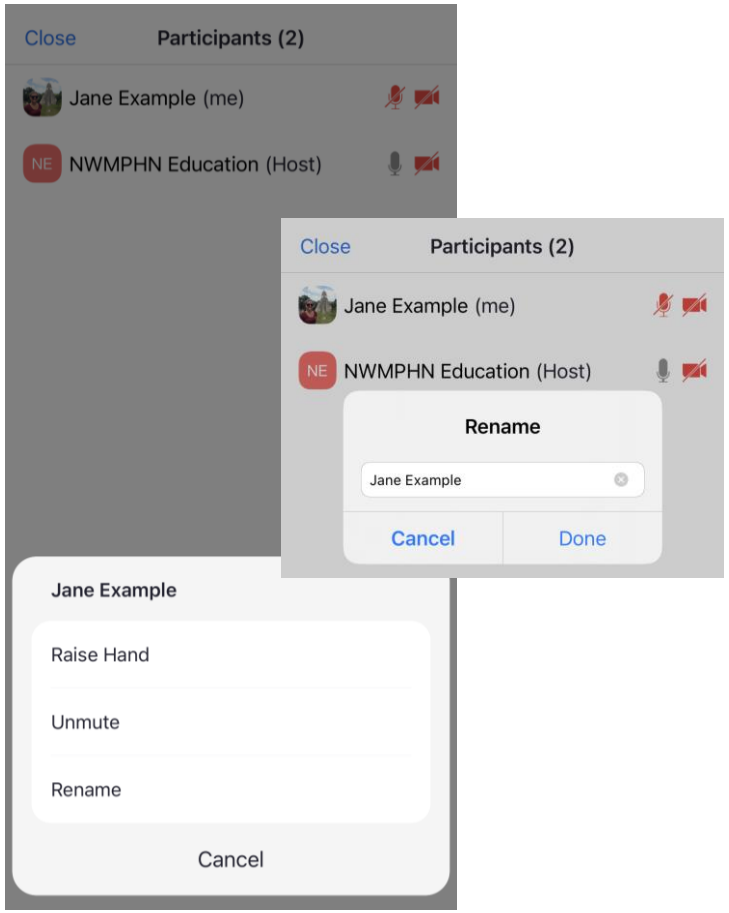
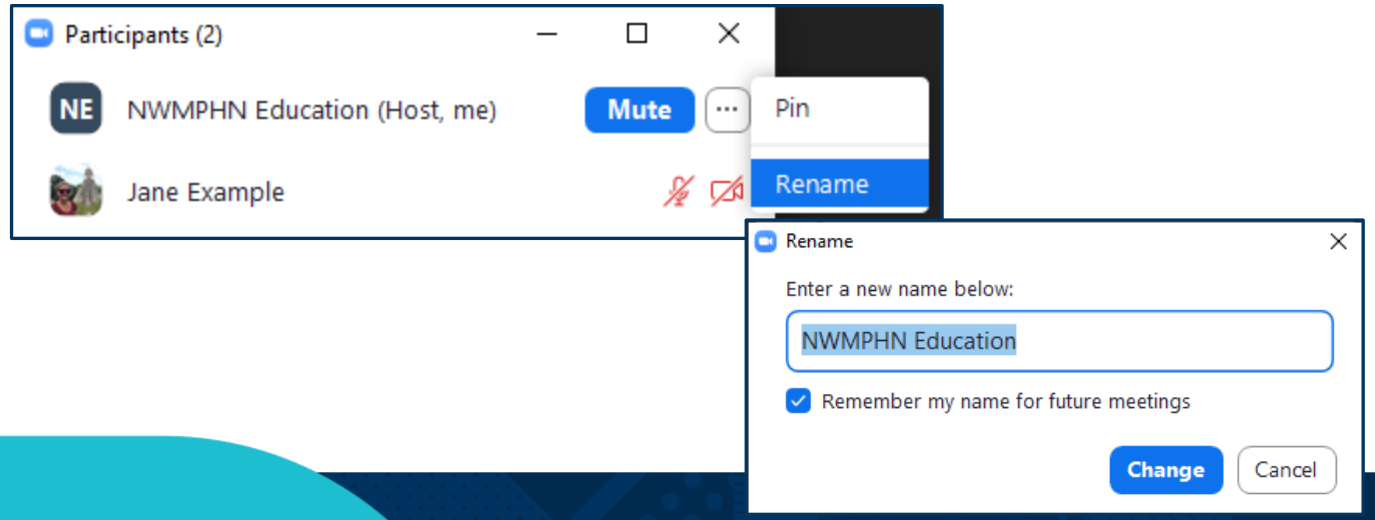




Agenda

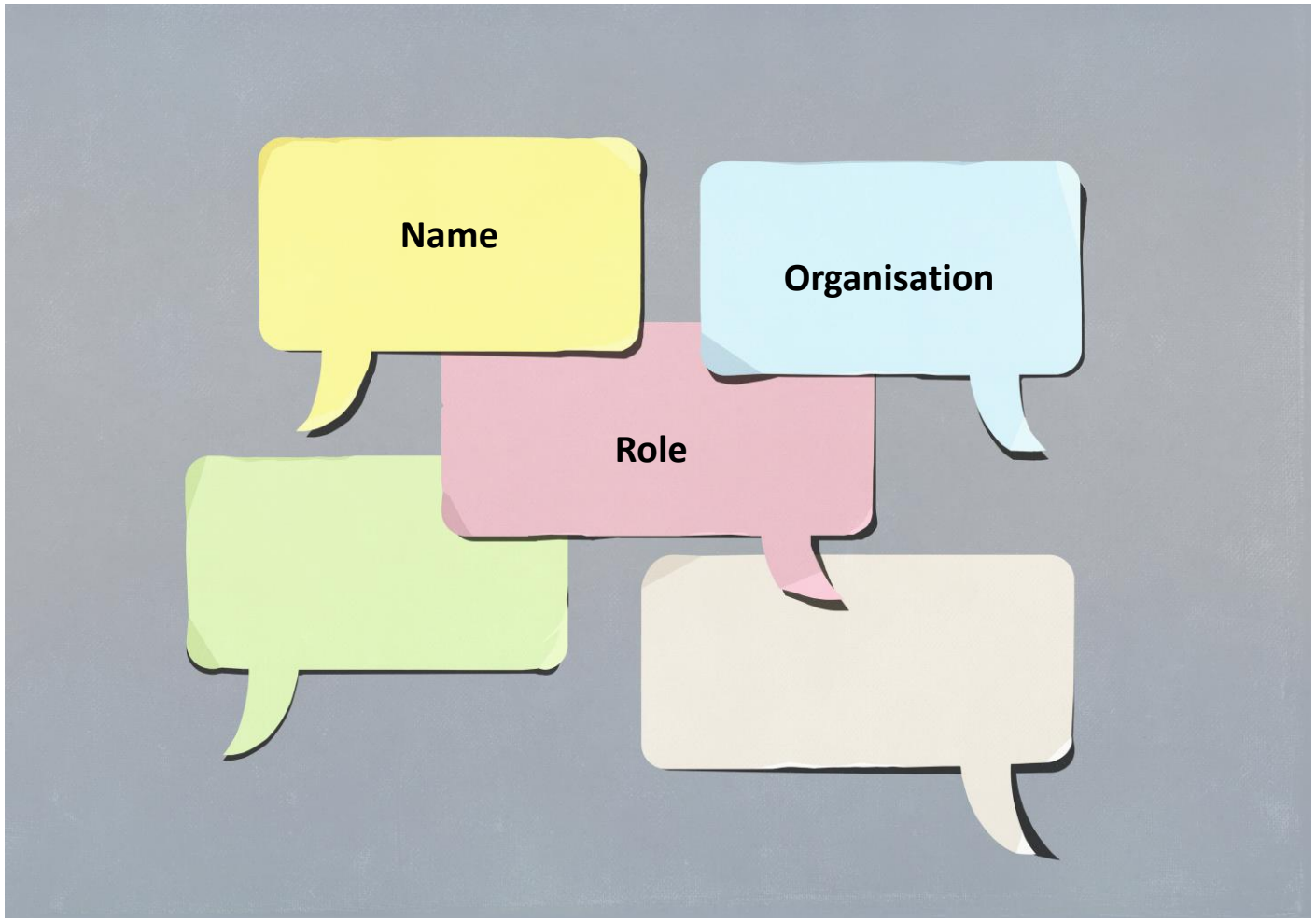
Topic	Speaker
Welcome and Introductions	Kirsty Tamis
Case Studies and Discussions 1 & 2	Katherine Chen
Case Study and Discussion 3	Kirsty Tamis
Case Study and Discussion 4	Deborah Hartsorn
HealthPathways & CAP	Kirsty Tamis
Wrap Up: Feedback and Next Community of Practice	Kirsty Tamis

Learning Outcomes

By the end of this session, you will be able to:

- Implement best practice management for asthma in children
- Describe resources and local services available for children living with asthma
- Identify collaborative, multidisciplinary opportunities to improve care for children living with asthma
- Interpret local data and identify potential solutions to improve asthma care locally

Introduce yourself in the chat



Introducing your Facilitators

Dr Katherine Chen
General Paediatrician
Royal Children's Hospital

Dr Kirsty Tamis
General Practitioner
Forsyth Park Medical Centre

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Case Study 1

Katherine Chen

Case Study 1

- 11 year-old boy
- Grade 5
- Multiple admissions for asthma
  - PICU intubated age 2
- Allergic to seafood
- Allergic rhinitis- grass pollen

Medications pre-admission

- Fluticasone 125mcg 2 puffs twice a day
- Salbutamol (spacer)
- Anti histamines
- Immunisations up to date (no Fluvax yet)

Clinical history

- 3 weeks of cough and frequent wheeze using 12 puffs Salbutamol via spacer every 3 hours on some days.
- Seen in ED 1/52 before presentation- burst therapy and 3/7 Pred
- Worsening symptoms, needing hourly Salbutamol when presented to GP clinic.
- AV called

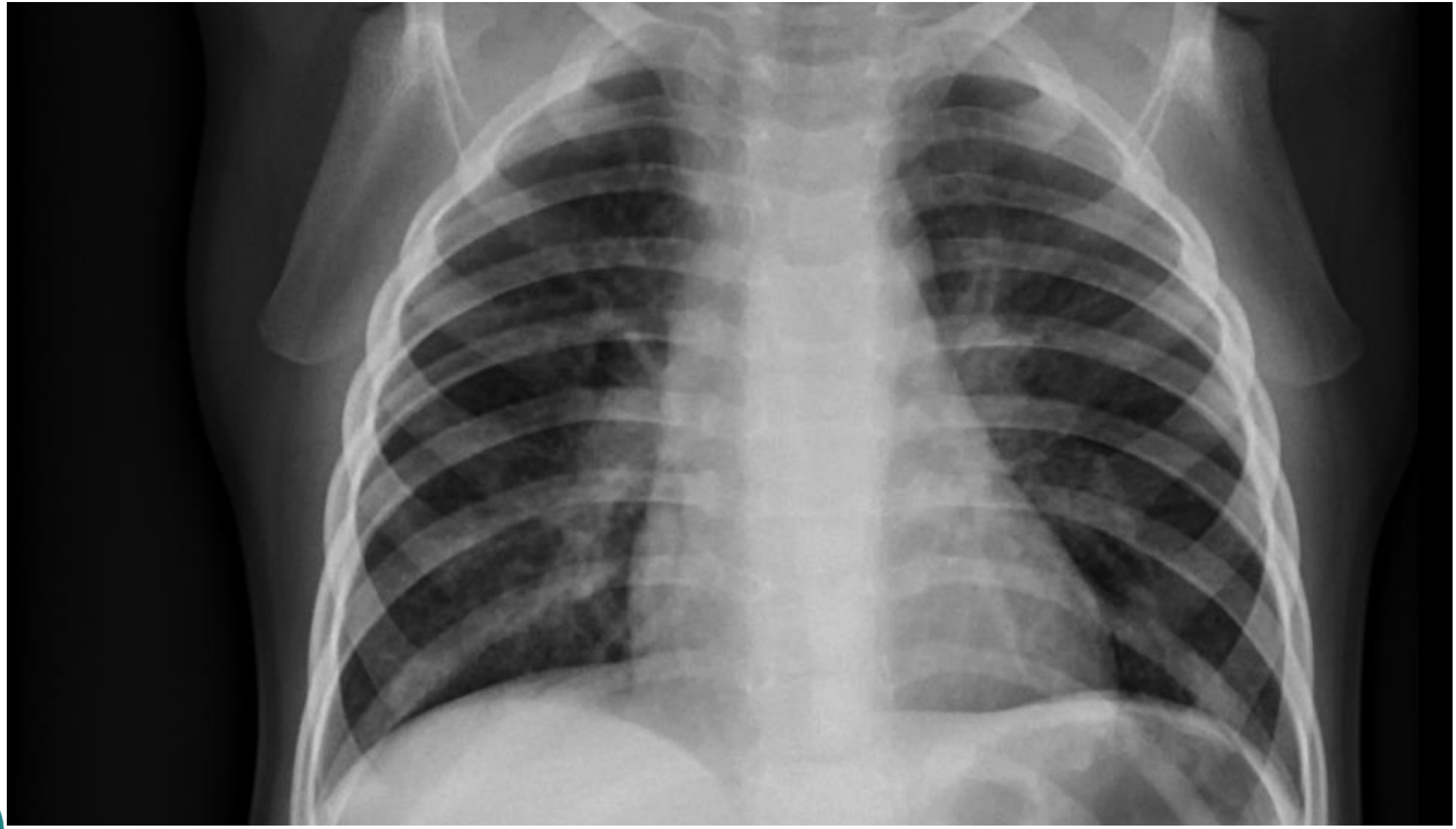
At a peripheral hospital

- Continuous Salbutamol and Atrovent
- IV Magnesium Sulphate and Methylprednisolone
- IV Ondansetron
- "Peri-respiratory arrest" and "erythematous rash spreading from arm to the rest of the body.

Would this change your diagnosis or management?

Progress

- 3 x IM Adrenaline
- IV adrenaline infusion
- IV Aminophylline
- Ongoing Salbutamol nebs
- On PIPER arrival "*On Piper arrival, awake alert, orientated Resp rate 30, Sats 98% in 2 lO2, widespread wheeze. Salbutamol every 30min. HR 150 reg BP 130/70. Warm well perfused with good peripheral pulses*"



Progress

- PICU for 1 day
- Slow recovery on wards
- Covered with 3 days of Azithromycin
- Discharge planning

What are the issues to consider regarding his asthma care?

What about his atopic co-morbidities?

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Case Study 2

Katherine Chen

Case Study 2

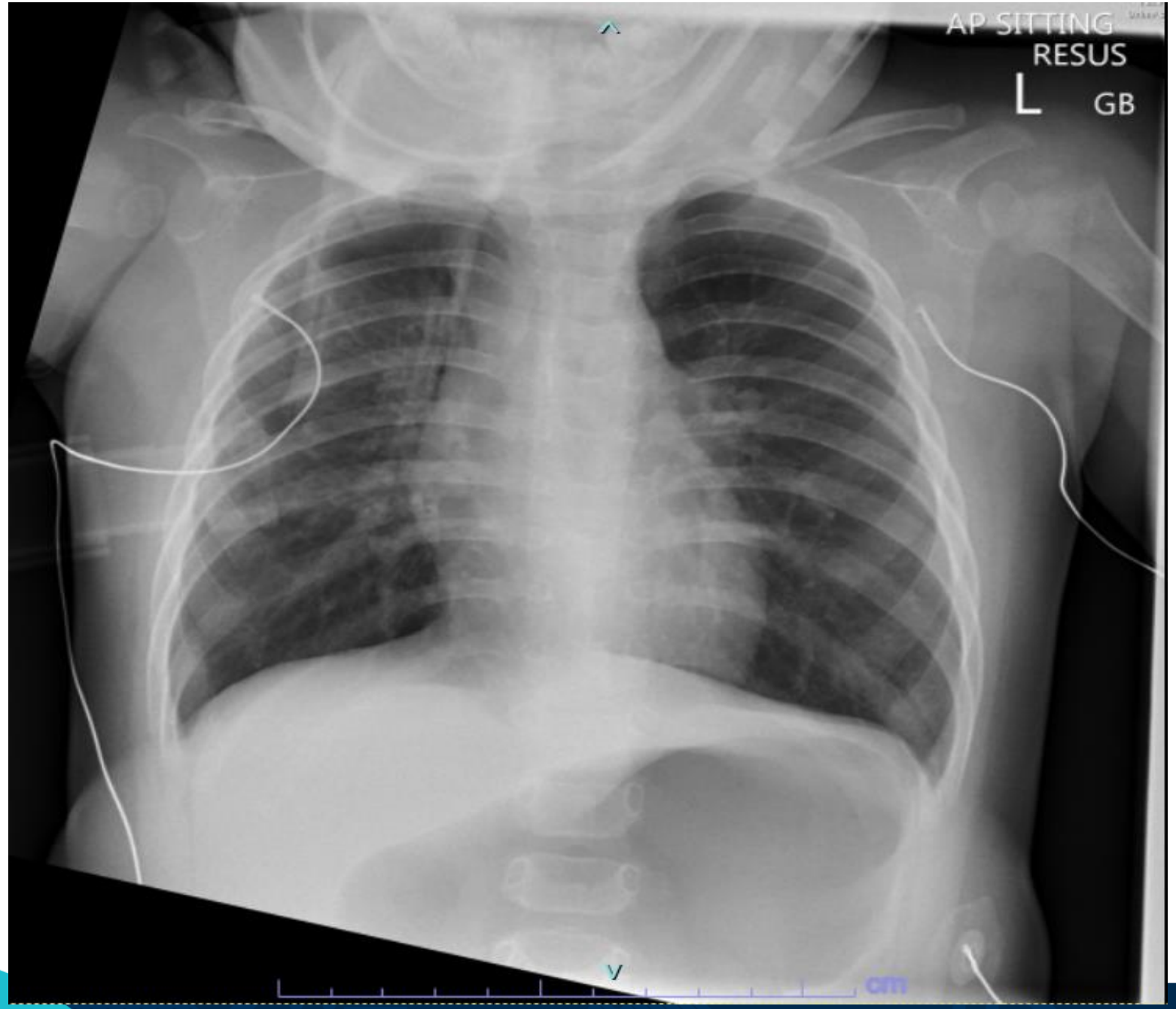
- 10 month old, well grown 99th weight
- Lives with parents, 7 and 2 yo siblings
- Parents smoke outside
- Had 6/52 vaccinations only
- 2 previous PICU admissions with bronchiolitis requiring CPAP at MMC.
- Discharged with Flixotide trial which family used intermittently.

5 days prior

- Quick onset of cough and shortness of breath
- Wheeze
- Admitted to short stay, brief high flow and Salbutamol
- Ceased flixotide- booked in paediatrician clinic for follow up
- Discharged the same day

This presentation

- Well for the last 4 days
- 1 day history of coryza, rapid decline in respiratory status.
- RR 60, Sats 87% RA, WOB ++, lethargic, wheeze and crackles
- cap gas - pH 7.03, 02 62, pCO2 76, bicarb 20, BE -12, lactate 5.7
- CPAP titrated to 10
- Salbutamol and Atrovent nebs
- IV Magnesium
- IV fluids
- IV Ceftriaxone


AP SITTING
RESUS
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Progress

- Responded to treatment
- Off CPAP day 2, placed on High flow
- Rhinovirus/Enterovirus positive
- Off oxygen in the evening
- Ready for discharge day 4

Is this still bronchiolitis?

Can we prevent another hospital admission in the near future?

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Case Study 3

Kirsty Tamis

Case Study 3

- 6 year old female, known asthma
- Diagnosed age 3 with acute admission to Werribee Mercy Hospital
- Unstable preschool period on flixotide 50mcg OD for 18months
- Review age 5: stable >6months, no or minimal symptoms
- Flixotide stopped
- Stable since
- Asthma plan in place, Ventolin only
- PRN use mostly in illness and spring, <5 times a year, 2puffs seems to settle
- Parents not clear on what symptoms trigger them to use Ventolin, mostly “noisey breathing” or “waking at night with asthma”

Medication:

- Ventolin PRN
- Antihistamine PRN

Allergies:

- Penicillin - Hives
- PMH
- Atopy: eczema, hayfever
- Born prem at 32 weeks, brief ventilatory support, follow up with Paeds until 2yo
- Obese

SH

- Lives with Parents and brother, schooled locally
- Dad smokes out with the house
- Cat at home
- Travel to Samoa 3months ago for 6 weeks
- Not had flu vaccine

- Presents with 5 week cough (its Autumn)
- Mum using Ventolin but not sure if helping
- Started shortly after return from Samoa
- Seemed to be viral at first, perhaps had second intercurrent URTI in that time but not sure
- Coughing mostly at night and mornings, can have “noisy breathing” – not sure if wheeze
- Does cough during day but not as much
- Sometimes sounds wet
- Tired from coughing, falling asleep during day

Infective cough

Recurrent URTI

- Periods of clear coryza and unwell with cough improving over 2-3 weeks then deterioration again with recurrence of other infective symptoms
- Nasal congestion/runny nose/mouth breathing with PND symptoms
- Absence of SOB/inc WOB/Wheeze
- Relatively well
- No response to Ventolin

Examination

- **Normal obs**
- Nasal symptoms, coryzal
- No signs asthma

Management

- Sitting upright at night and giving a warm drink settles the cough for a period
- Clarify “noisy breathing”: get videos UA noise vs wheeze
- Bring into clinic each time for assessment if unsure

Infective cough

Bacterial infection/Pneumonia/Atypicals

- Cough productive or chesty
- Nausea, vomiting, upper abdo pain, pallor, off food, unremitting fevers
- No response to Ventolin

Examination

- **Tachycardia, tachypnoea, hypotensive, fever**
- Often no chest signs
- With or without asthma signs

Management

- **Viral swab PCR, COVID, atypical PCR**
- **Sputum MCS**
- **First line abx**
- **Consider cover for atypicals and CXR if not responding or deteriorating**

Infective cough

Whooping cough

- **Catarrhal phase** (1-2 weeks): coryza and non-productive cough
- Paroxysmal phase (1-2 weeks): episodes of paroxysmal coughing which peak after about a week
    - Classic paroxysms of coughing with inspiratory whoop and post-tussive vomiting are more commonly seen in unvaccinated children
    - Infants may develop apnoea, bradycardia or cyanosis with coughing spasms
- **Convalescent phase** (2-6 weeks, may last up to 3 months): cough tapers off
    - During recovery, superimposed viral infections can trigger a recurrence of paroxysms
- Can present as a non-specific persistent cough
- Poor feeding, weight loss, sleep disturbance
- Other family members frequently have a cough (>70% of household contacts are also infected)
- Well child with nil on examination
- Cough improving over time and absence of other asthma features
- Supportive advice, “100day cough” at this point

Infective cough

Tuberculosis

- **History of exposure**
- Fevers
- Night sweats
- Weight loss
- SOB
- Pallor

Examination

- Lymphadenopathy
- No signs asthma

Management

- Need to have a high index clinical suspicion
- CXR and lateral

Upper Airway Pathology

Chronic Rhinosinositus

- Predominantly nasal symptoms
- Nasal voice
- Post nasal drip

Examination

- Inflamed turbinates
- Absence of asthma symptoms

Management

- Trial nasal steroid, avamys, nasonex
- Reassure on 3month trial
- Long term requirement and safety of intranasal steroid

Upper Airway Pathology

Adenoidal Hypertrophy and Sleep Apnoea

- Predominantly nasal symptoms
- Nasal voice
- Post nasal drip
- Mouth breathing, Snoring “noisy breathing” and pauses

Examination

- Tonsillar/Adenoid hypertrophy
- Nasal voice
- Overweight
- Micrognathia
- Absence of asthma symptoms

Management

- Trial nasal steroid, avamys, nasonex
- Reassure on 3month trial
- Long term requirement and safety of intranasal steroid
- ENT referral

Gastrointestinal

Reflux

- Typical reflux or additional GI symptoms
- Consider other family members HP status
- Sore throat/hoarse voice
- Over eating, eating late, poor nutrition, fasting

Examination

- Often none
- Absence of asthma symptoms

Management

- Lifestyle factors
- Weight loss
- PPI trial

Allergies

Hay Fever

- History Atopy
- Aware of Autumnal incidence
- Typical triad of conjunctivitis, sneezing, nasal symptoms in addition to cough

Examination

- Often none
- Nasal symptoms and conjunctivitis as above
- Absence or presence of asthma symptoms

Management

- Trial nasal steroid, avamys, nasonex
- Daily antihistamine
- Long term requirement until season over and safety of intranasal steroid
- PRN Ventolin
- Review after 2 weeks to assess if cough settled
- If all other symptoms settled but cough ongoing or other clear asthma symptoms treat as allergic asthma
- Allergic rhinitis action plan for school in addition to asthma plan

Allergies cont.

Environmental

- Cat – symptoms around
- Damp
- Housedust mite
- Other atopy worsening, hives, eczema, eye and nasal symptoms

Examination

- Often none
- Nasal symptoms and conjunctivitis as above, eczema
- Absence or presence of asthma symptoms

Management

- **Consider RAST to support diagnosis**
- **Reduce exposure/remove trigger**
- Trial nasal steroid, avamys, nasonex
- Daily antihistamine
- Long term requirement and safety of intranasal steroid
- PRN Ventolin
- Review after 2 weeks to assess if cough settled
- If all other symptoms settled but cough ongoing or other clear asthma symptoms treat as allergic asthma
- Allergic rhinitis action plan for school in addition to asthma plan

Asthma

- Accompanying asthma symptoms: SOB, WOB, wheeze
- Dry cough
- Overnight and early morning
- May have co-existing infective features
- Other triggers of cough: cold weather, wind, exercise, swimming…
- Response full or partial to ventolin

Examination

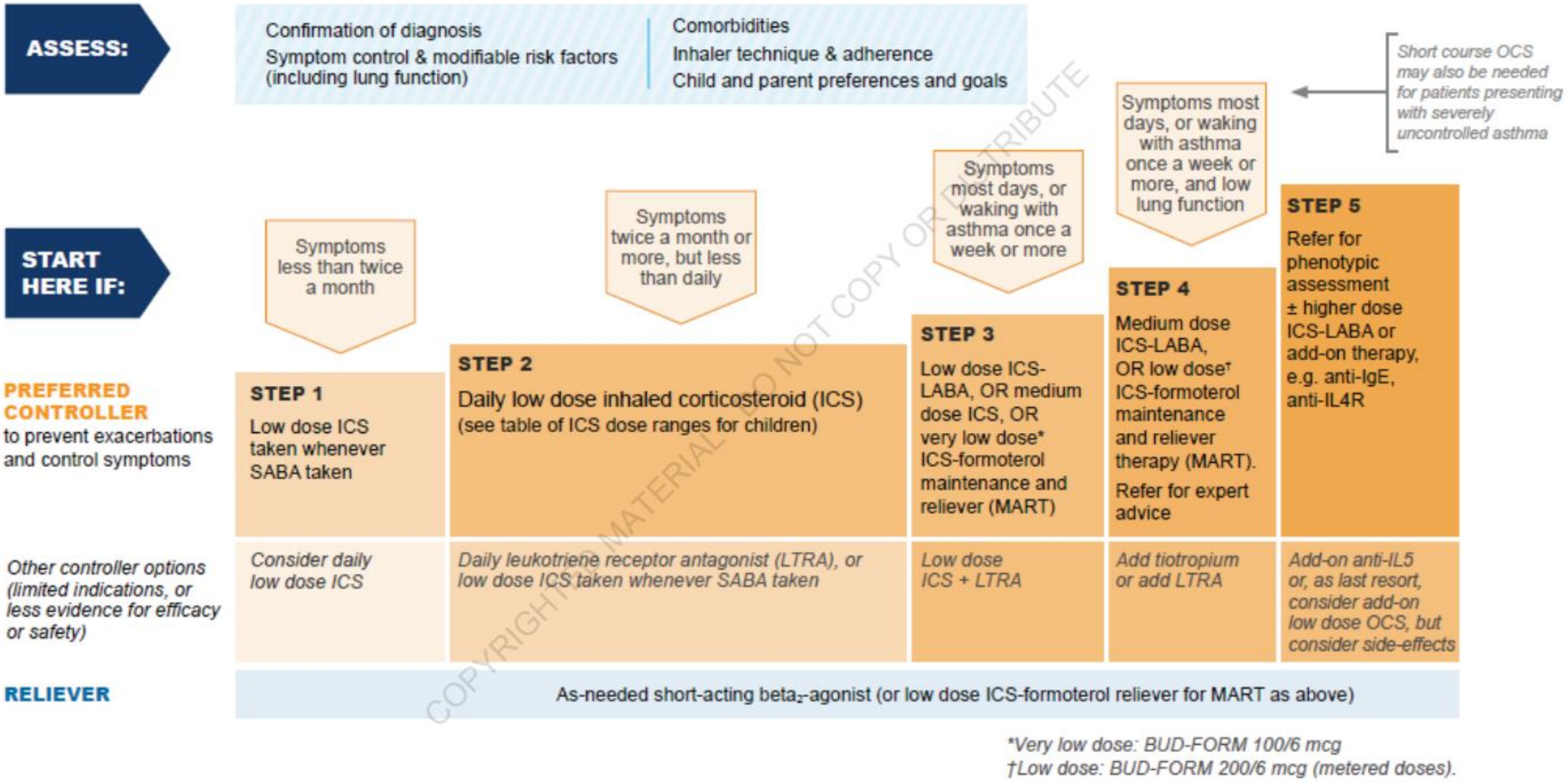
- Often none if cough alone

Management

- **Consider Spirometry if over 8yo and other asthmatic symptoms, cough only often normal spirometry**
- **Start inhaled ICS once more: flixotide 50mcg 1puff BD, alvesco 80mg OD**
- **Review after 6 weeks**
- **Consider weaning if 3months good control**
- **Consider stopping if a further 3 months good control on lower dose**

STARTING TREATMENT

Children 6–11 years with a diagnosis of asthma



BUD-FORM: budesonide-formoterol; ICS: inhaled corticosteroid; LABA: long-acting beta$_2$-agonist; LTRA: leukotriene receptor antagonist; MART: maintenance and reliever therapy with ICS-formoterol; OCS: oral corticosteroids; SABA: short-acting beta$_2$-agonist. See Box 3-6, p.63 for low, medium and high ICS doses in children.

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Case Study 4

Deborah Hartsorn

A patient journey with HARP Paeds Asthma –Community Care Coordination

DEB HARTSORN – RN CARE COORDINATOR
Western Health at Home
Sunshine Hospital

- Ibrahim is a 4 yr old boy. First episode preschool asthma age 2
- Youngest of 6 children, parents are from NESB.
- Previous 6 months 4 ED presentations/admissions to Sunshine/JKWC. Required burst therapy, oral Prednisolone with IV MgSo4 and Methylprednisolone on 3 occasions. Late presentation, triage Cat 2.
- No previous ICU adm. Child also known to RCH ED.
- Mother reported increasing asthma sx / episodes over previous 6 mths. Frequent use of Ventolin when well. Sleep often interrupted. Missing Kinder.
- Flixotide Jnr 1 puff bd had been started previously but parents stopped when child was well.
- Referred to Community Asthma Program by ED Sunshine for post discharge follow up, further asthma education, support and monitoring of his asthma sx control.

Allergies – egg, lentil, peas. No anaphylaxis sx. Immediate vomiting and rash. GP referred to RCH Allergy. GP provided Allergy Plan for Kinder. Zyrtec available at home and bottle left at Kinder.

Immunisations UTD – GP had mentioned Fluvax but mum felt hesitant.

Child has mild **eczema**, seasonal **hayfever**. Strong **family hx** of atopy.

Triggers – Viral URTI, weather changes, vigorous play, tantrums/laughter

Kinder 3 days per week. Kinder **refused attendance.** Asthma Action Plan provided but “not signed”. No spacer/mask/Ventolin given to centre.

Engage mother, arrange home visit with Arabic interpreter in home.

Key Issues

- Health literacy, confidence problem solving.
- Use of an in home interpreter, unhurried. Explore their beliefs and barriers.
- What matters to you… mum was unable to attend English classes.
- Allergy RCH OPC – confirm W/L, value of Ax prior to school.
- Fluvax hesitancy
- Medications – role, benefit, different effects. Stock, scripts.
- AAP – in preferred language for home, teach back understanding.
- Checking inhaler technique, stress importance of same.
- Kinder refusing child's attendance.
- Seasonal hayfever possible affect on Asthma.
- Managing eczema.

Where to start…

- Build rapport and trust, same interpreter each visit
- Current understanding asthma, using different “props” to assist with explanations
- Call RCH Outpatients confirm Allergy referral
- Discussion Influenza and asthma
- Medications and scripts out to see and discuss
- AAP, seeking timely medical review, safe transfer to hosp ? Ambulance
- Involve GP, practice nurse – discharge summaries to clinic?
- Attend Kinder with parents
- Reinforcement of information and check in with planned visits
- Home visits with mother and child weekly for 2 weeks. Second weekly for one month then phone monitoring with mum.

Outcomes…so far

- After first 2 weeks of good Flixotide adherence mum reported clear difference in sx. No use or need for Ventolin. Child “sleeping better and refreshed in the morning”.
- Care Coord contacted GP practice nurse to advise mum will attend for Fluvax and script for Flixotide AND signature/clinic stamp for AAP.
- Kinder have what they need, Ibrahim has good attendance.
- Mum has returned to English classes.
- No further ED attendances in last 2 months.

Western Health

Few things before discharge…

- Comprehensive review before discharge, MA**G**IC.
- Asthma managed season by season, year by year and in conjunction with family **GP**.
- Ensure understanding that preventer requires daily use(as prescribed) to maintain benefit. Review with **GP** at season change, ? Trial off preventer over summer, warmer months?
- While on a preventer child may need reliever if unwell, for sudden sx but often this is minimal. Review with **GP** prn.
- Promotion of self initiation of treatment using AAP and timely medical review, **GP** or ED, safety netting.
- Affect of poorly controlled hayfever on asthma. **GP** can help manage.
- Care Coordinator provide discharge information to **GP**.

Questions or comments…

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HealthPathways Melbourne and CAP

Kirsty Tamis

HealthPathways – Improving Childhood Asthma Management

Childhood Asthma Management Pathways Resources and Referral pages

Relevant pathways

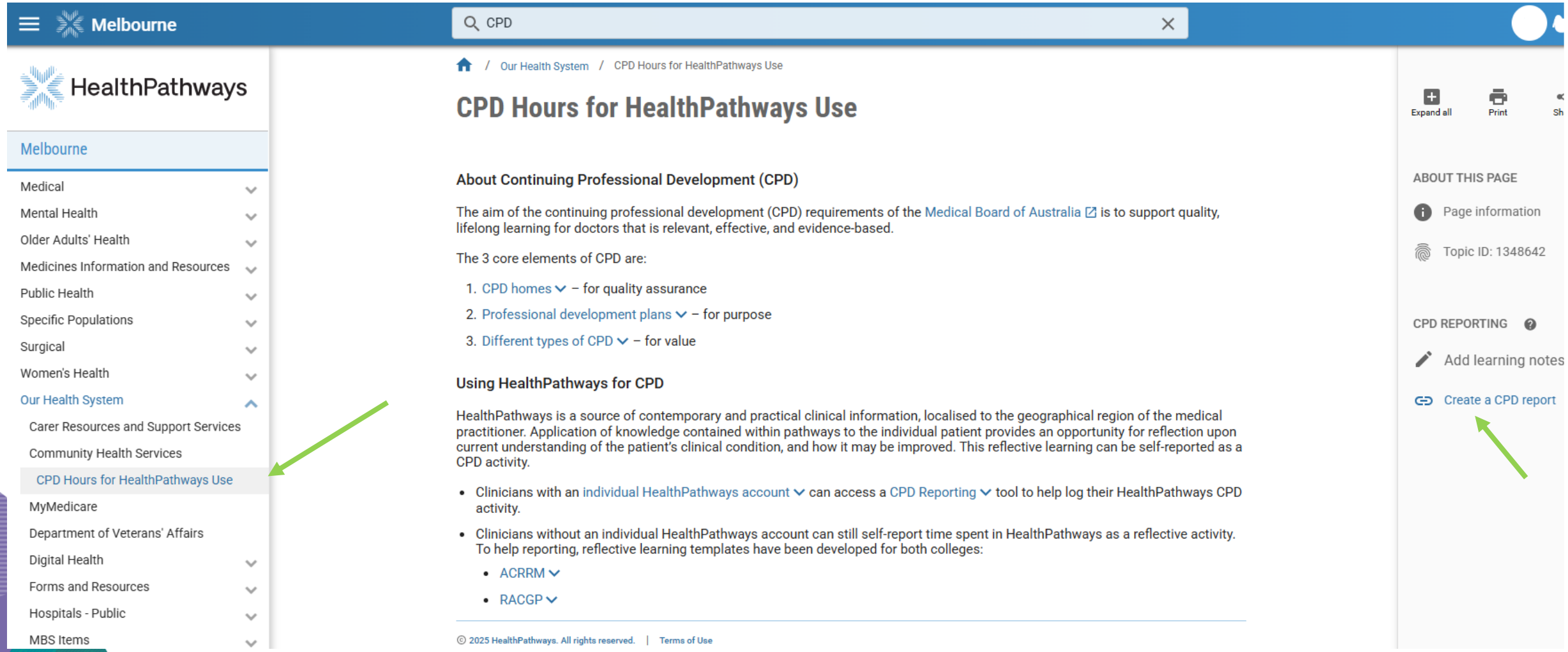
- Acute Respiratory Illness in Children
- Acute Asthma in Children
- Asthma in Adolescents (Aged 12 Years and Over)
- Asthma in Primary School-aged Children (Aged 6 to 11 Years)
- Wheeze and Asthma in Preschool Children (Aged 1 to 5 Years)
- Croup
- Chronic Cough in Children
- Influenza
- Community Asthma Education and Support
- Acute Paediatric Medicine Referral or Admission (Same-day)
- Non-acute Paediatric Medicine Referral (> 24 hours)

Related pathways

- Anaphylaxis
- Assessing Respiratory Presentations in General Practice
- Bronchiolitis in Infants
- Community Asthma Education and Support
- Non-acute Paediatric Immunology and Allergy referral
- Non-acute Paediatric Medicine Referral (> 24 hours)
- Pneumonia in Children
- Allergies and Allergy Testing
- Immunology
- Immunology Referrals
- Lung Function Testing
- Smoking and Vaping Cessation
- Skin Prick Testing
- Spirometry Interpretation
- Pertussis (Whooping Cough)

CPD Hours for HealthPathways Use

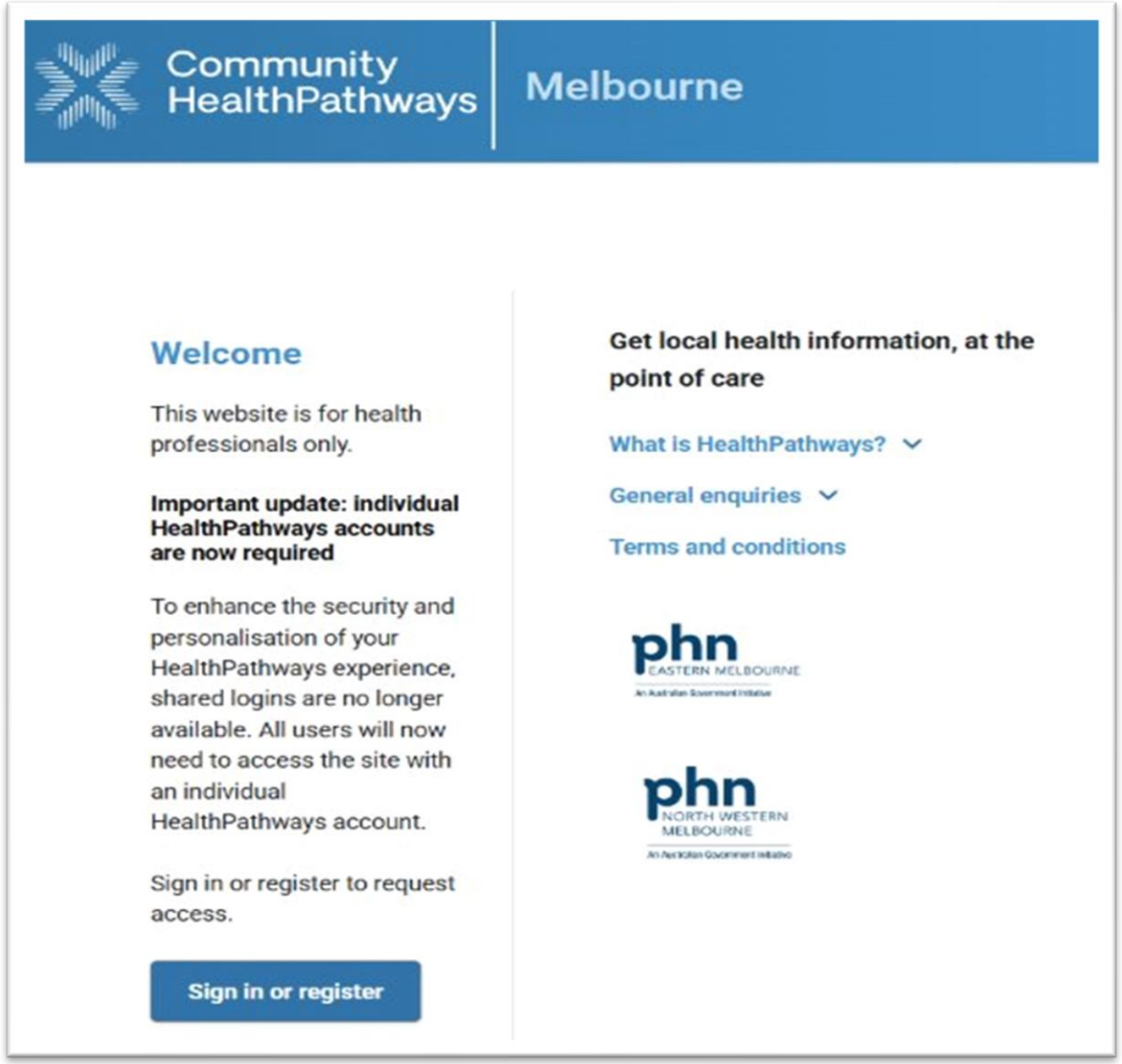
HealthPathways – CPD Hours for HealthPathways Use



Accessing HealthPathways

Please click on the **Sign in or register** button to create your individual account or scan the QR code below.

If you have any questions, please email the team at info@healthpathwaysmelbourne.org.au



Community Asthma Program

CAP is DHHS funded

(free service)

cohealth
care for all

DPV Health

cohealth
care for all

CAP Poll Question

7

Wrap up

Feedback

Your feedback is important to us, and helps us to get the most out of the Community of Practice

- Please answer the survey questions via link in chat or the QR code

- Share with us what you would you like to discuss at future Community of Practice Meetings?

Next Community of Practice

Date and time: TBD

Visit the NWMPHN event's calendar or subscribe to our newsletter to be notified.

Thank you