#AskAboutAsthma: welcome and background

Oliver Anglin – GP, Clinical Lead for CYP North Central London, Clinical Lead for CYP asthma NHS England (London)

Jen Townshend – General and Respiratory Paediatrician, Great North Children's Hospital, Newcastle upon Tyne, Chief Executive of BeatAsthma

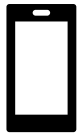
Joining instructions/Teams live etiquette

Attendees are automatically muted for teams live

Please include your questions or comments in the moderated chat box. The chair will pose questions to the speaker.

This conference is being recorded. Sharing options for the slides and conference will be circulated.

There is an AM and PM session so please ensure you join the PM with the dedicated link



Menti will be used later on in the session. Please have your phone nearby, ready to scan a QR code

Please complete the survey monkey evaluation to help us improve our content for you

What is #AskAboutAsthma

- 5th year of London's awareness raising campaign and 1st year run nationally
- Coincides with start of the new school year and the highest hospital admission rates for asthma (week 38)
- It highlights small steps to help improve the quality of life for children and young people living with asthma
- The #AskAboutAsthma campaign encourages

  - Each child or young person with asthma to have an asthma management plan
  - Each child or young person with asthma to be able to use their inhalers effectively
  - Each child or young person with asthma to have a review every year and after every attack

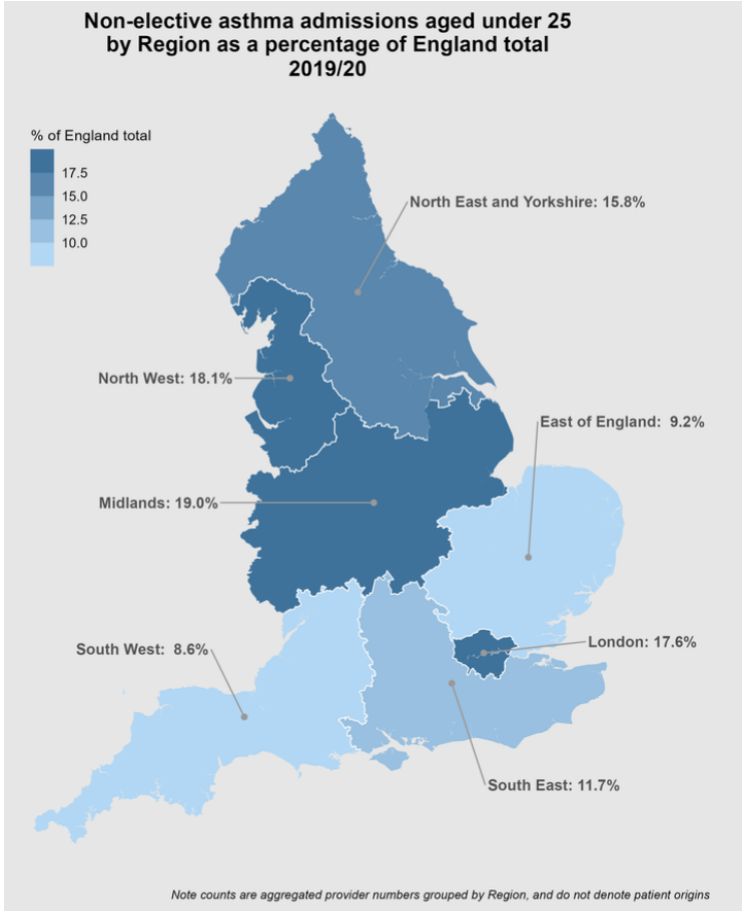
- It also includes the impact of air quality on lung health

The Case For Change

In 2019/20 **89,322 CYP** attended the ED and given a diagnosis of asthma, reflecting 1.5% of all attendances.

Already in 2021 CYP asthma presentations represent 1.5% of all ED attendances.

28, 636 CYP were admitted to hospital with asthma in 2019/20



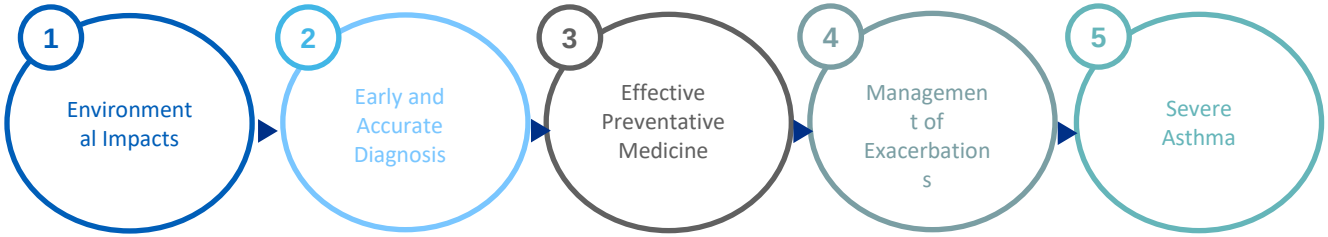
2019/20	Age																									Total
CYP Diagnosis Grouping	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Asthma	43	633	1,102	1,591	1,877	1,995	1,862	1,701	1,554	1,396	1,392	1,320	1,283	1,002	1,013	1,117	803	821	779	850	912	957	848	863	922	28,636
Wheeze	7,111	2,854	2,015	1,739	1,251	932	688	565	461	385	333	292	262	227	231	218	175	196	248	244	300	321	360	367	418	22,193
Chronic resp	1,267	1,867	2,928	4,320	4,297	3,499	2,512	1,789	1,532	1,329	1,257	1,228	1,204	1,133	1,130	1,214	1,190	1,400	1,361	1,454	1,398	1,325	1,498	1,532	1,653	45,317
Lower Resp Infection	49,941	17,630	8,870	6,484	4,066	2,963	2,210	1,798	1,436	1,228	1,042	866	850	833	758	746	723	760	940	949	911	1,013	1,141	1,144	1,160	110,462
URTI	25,758	27,389	14,747	10,565	7,730	5,626	4,087	2,928	2,197	1,885	1,643	1,503	1,233	1,224	1,283	1,456	1,755	2,181	3,317	3,340	2,910	2,451	2,230	2,009	1,843	133,290
Total NE Admissions	763,594	119,114	74,018	58,021	43,649	35,678	31,255	27,424	25,449	24,521	23,731	24,765	24,910	26,827	30,435	34,358	32,917	39,156	51,067	63,119	70,435	76,179	82,731	86,561	93,225	1,963,139

Non-elective admissions for CYP respiratory illness in 2019/20

The Solution: National Programme

Prioritisation	Governance	Funding	
NHSE & I have prioritised CYP asthma in the Long Term Plan	There is now a dedicated National CYP Transformation Team	Each Region has a CYP Lead & CYP Transformation Team with a reporting function to the National Team	Funding has been disseminated to all regions to prioritise improvements in CYP asthma care

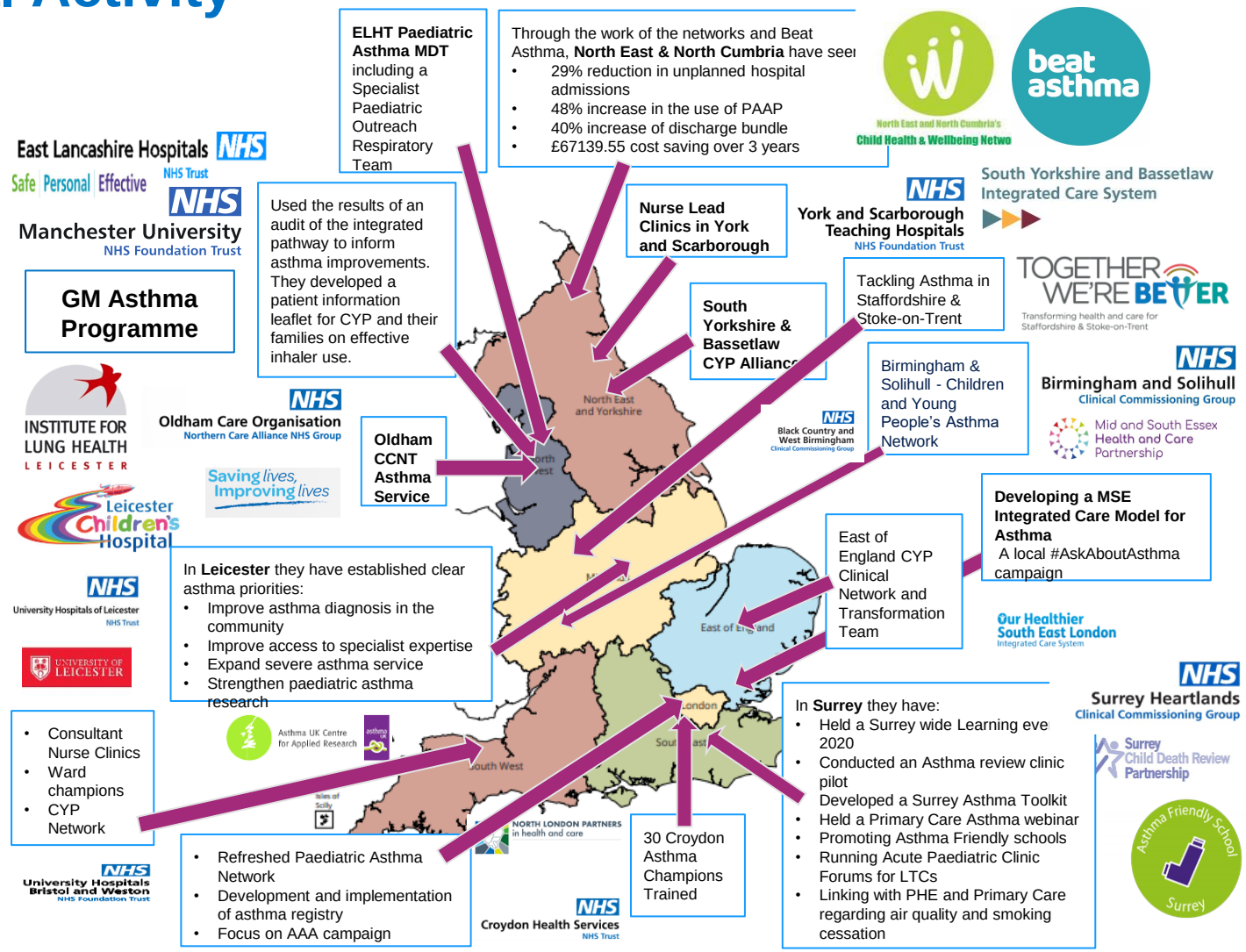
NHS England and Improvement have been working with key stakeholders, including young people and their families, to develop a National Bundle of Care for Children and Young People with Asthma to support local systems with the management of asthma care. Evidence based standards of care have been developed for each element of the patient pathway and associated with these are deliverables for systems, enablers and levers and measures of success



These themes will run as threads throughout the components:

- Asthma competencies, training and education needs (Jen Townshend & Oliver Anglin)
- Data and digital elements (Mark Levy)

The Solution: Local Activity



#AskAboutAsthma 2021

Thursday 23 September 9am - 4pm

Time	Topic	Speaker
9.00	Welcome & background to #AskAboutAsthma	Oliver Anglin, GP, Clinical Lead for CYP North Central London, Clinical Lead for CYP asthma NHS England (London) Jen Townshend, general and respiratory paediatrician, Great North Children's Hospital, Newcastle upon Tyne, Chief Executive of BeatAsthma
9.15	Setting the scene: Why are we here?	Rosamund Kissi-Debrah, health campaigner, founder of the Ella Roberta Foundation, teacher and World Health Organization advocate for health and air quality
9.30	Patient Voice: Our healthcare journey	Aishah Farooq and Haania Hussain, Patient and Public Voice Partners at NHS England
9.40	National update	Matthew Clarke, National Speciality Advisor Children and Young People, NHSE/I
10.05	Ensuring effective transition: working with adult respiratory services	Louise Fleming, Consultant Respiratory Paediatrician , Royal Brompton Hospital Trust
10.30	How can CYP asthma healthcare professionals learn from HSIB?	Helen Jones, National Safety Investigator, Healthcare Safety Investigation Branch
11.00	Break	NOTE: Slides will be shown illustrating the great work going on across the country
11.15	Learning from the National Asthma and COPD Audit Programme and implementing change	Ian Sinha, Consultant Respiratory Paediatrician Alder Hey Children's Hospital
11.45	Key note speech - Meeting the needs of Children and Young People with Asthma	Sarah Woolnaugh, Chief Executive Officer of Asthma UK and the British Lung foundation
12:15	Q&A	Matthew Clarke, Aishah Farooq, Haania Hussain, Ian Sinha, Jen Townshend and Sarah Woolnough

#AskAboutAsthma 2021

Thursday 23 September 9am - 4pm

Time	Topic	Speaker
12.45	Lunch	NOTE: please use the second link sent to re-join the conference
13.15	Clinical update	Ian Sinha, Consultant Respiratory Paediatrician Alder Hey Children's Hospital
14.00	BeatAsthma – working together in the North East and beyond	Jen Townshend, general and respiratory paediatrician, Great North Children's Hospital, Newcastle upon Tyne, Chief Executive of BeatAsthma
14.30	Salbutamol: relief or rescue - time to put out the fire?	Louise Fleming, Consultant Respiratory Paediatrician , Royal Brompton Hospital Trust
15.00	What to include in a post-attack review; where and when should it be held?	• Chin Nwokoro (Chair), Consultant Respiratory Paediatrician and Honorary Clinical Senior Lecturer, Barts Health NHS Trust and Queen Mary University of London • Richard Chavasse, Consultant Respiratory Paediatrician, St George's University Hospitals NHS Foundation Trust, South West London ICS and STPN Lead for LTV • Carol Stonham, Respiratory Nurse NHS Gloucestershire CCG, Executive chair PCRS • Rob Block, Consultant in Children's & Adolescent Services at Tameside & Glossop Integrated Care NHS Foundation Trust • Oliver Anglin, GP, Clinical Lead for CYP North Central London, Clinical Lead for CYP asthma NHSE (London)
15.40	Next steps, Mentimeter and close	Oliver Anglin
16:00	Close	

Agenda for the week

CHILDREN & YOUNG PEOPLE AND THEIR FAMILIES/CARERS	NURSES DAY	AIR QUALITY	VIRTUAL CONFERENCE DAY	PRIMARY CARE DAY	WHOLE SYSTEMS	PHARMACY DAY
Mon 20 Sept	Tue 21 Sept	Wed 22 Sept	Thurs 23 Sept	Fri 24 Sept	Sat 25 Sept	Sun 26 Sept
WEBINAR - 12.30-1.30 PM	**WEBINAR - 12.30-1.30PM**	**WEBINAR - 12-1.30PM**	**NATIONAL CONFERENCE**	**WEBINAR - 12.30-1.30PM**	**PODCAST**	**PODCAST**
Ask the Expert	Nurse-led delivery of excellent CYP asthma care: Case based discussion	Whole systems: delivering optimal care across the asthma pathway		Best practice CYP asthma for primary care: Enhanced asthma reviews; Refresher on asthma medication	Benefits and challenges on making schools asthma friendly	Preventer adherence guardians
WEBINAR 4-5PM	**PODCAST**	**WEBINAR 2-3PM**	**BLOG**	**BLOG**	**BLOG**	**BLOG**
Royal Brompton CYP asthma parent support group pilot study	Is it possible to complete a good virtual asthma assessment?	Impact of air quality on lung health and management strategies	Right Asthma Image Campaign	The things I wish I didn't know about asthma	High risk patient work: CNS perspective	Staying positive in 2021 – a pharmacist's view
PODCAST	**BLOG**	**PODCAST**		**BLOG**	**BLOG**	**BLOG**
Encouraging behavioural change in teenagers - Rob Horne	A day in the life of a paediatric respiratory nurse	Using and prescribing inhalers effectively to help the environment		From evidence to implementation, data-driven approach to improving quality standards in asthma	Asthma awareness week: A local perspective (Whipps Cross Hospital)	Incentivising young people to take their asthma medication
BLOG	**BLOG**	**BLOG**		**BLOG**		
Association of Young People's Health scoping review on CYP engagement	Transition and non-biologic patients	Asthma and air quality: Working together to improve lung health		Diagnostic hubs and respiratory champions at PCN level		
BLOG	**BLOG**	**BLOG**				
Asthmanauts launch - education and activity guide for CYP	Setting up a CNS asthma network	Asthma, pollen & pollution – selecting the best plants for healthy living				
VLOG	**WEBINAR - 7.30-8.30PM**	**BLOG**				
The young person's voice - how they feel about asthma, focus on transition	Pharmacy focus: Case study demonstrating opportunities for care; inhaler technique optimisation; making every contact count/Healthy living pharmacy	Have you heard about house dust mites?				
VLOG		**BLOG**		**BLOG**		
How the Asthma UK/BLF helpline supports our families		Damp buildings and human health		How a Network Incentive Scheme can improve CYP asthma diagnosis and care by Tori Hadaway		

#AAAsharethemessage

- **The theme for this year**
- **The idea is for people to choose one thing they will do to share the message about the aims of the #AskAboutAsthma campaign**
- **Please tweet us at @HealthyLDN to let us know, using #AAAsharethemessage and #AskAboutAsthma**
- **Also we welcome short videos (recorded on a phone) about how you will share the message**

Setting the scene: why are we here?

Rosamund Kissi-Debrah, health campaigner, founder of the Ella Roberta Foundation, teacher and World Health Organization advocate for health and air quality

#AskAboutAsthma

Patient Voice: Our Healthcare Journey

Aishah Farooq & Haania Hussain, patient and public voice partners at NHS England

#AskAboutAsthma

AISHAH FAROOQ

@ItsAishahF

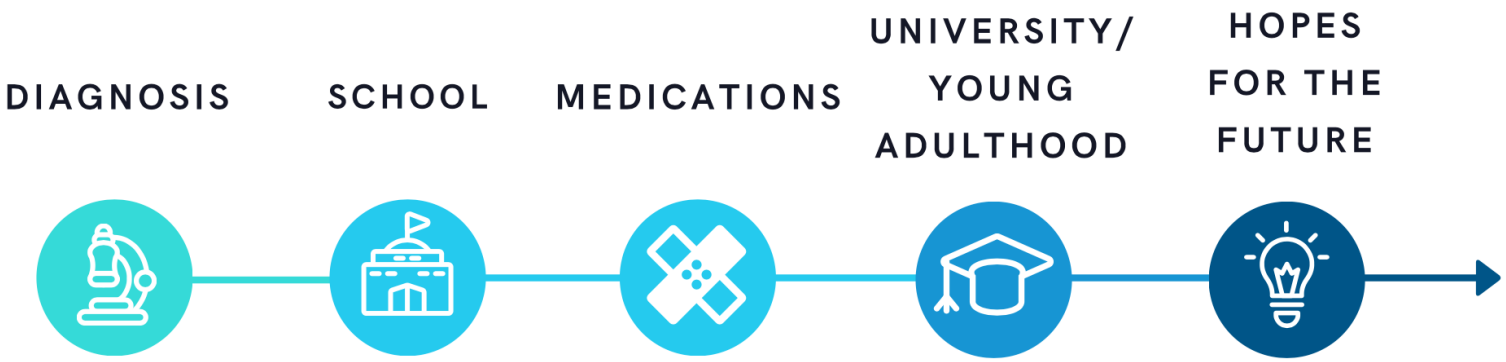
- PATIENT AND PUBLIC VOICE PARTNER AT NHS ENGLAND
- PHARMACOLOGY UNDERGRADUATE
- NHSYF ALUMNI
- YOUNG GOVERNOR FOR UNIVERSITY HOSPITALS BRISTOL
- LAY MEMBER ON BABIES, CHILDREN AND YOUNG PEOPLE'S EXPERIENCE OF HEALTHCARE NICE GUIDELINE

HAANIA HUSSAIN

@Haania_h

- PATIENT AND PUBLIC VOICE PARTNER AT NHS ENGLAND
- MEDICAL STUDENT
- NHSYF ALUMNI
- EQUALITY AND DIVERSITY OFFICER AT YPAG IN BIRMINGHAM CHILDREN'S AND WOMEN'S TRUST
- STEERING GROUP MEMBER OF NHS MUSLIM WOMENS NETWORK

OUR HEALTHCARE JOURNEY:



National Update - September 2021

Matthew Clark, National Specialty Advisor for Children and Young People at NHS England

#AskAboutAsthma

Background and Context

Asthma is the most common long-term medical condition in children in the UK, with around 1 in 11 children and young people in the UK having asthma[1].

The UK has one of the highest prevalence, emergency admission and death rates for childhood asthma in Europe[2]. **13** children (0-14 years) died from asthma in 2016[1].

In 2017, NICE published a set of guidelines for the Diagnosis and Monitoring of Asthma and also for the Management of Stable Asthma in Adults and Children[4].

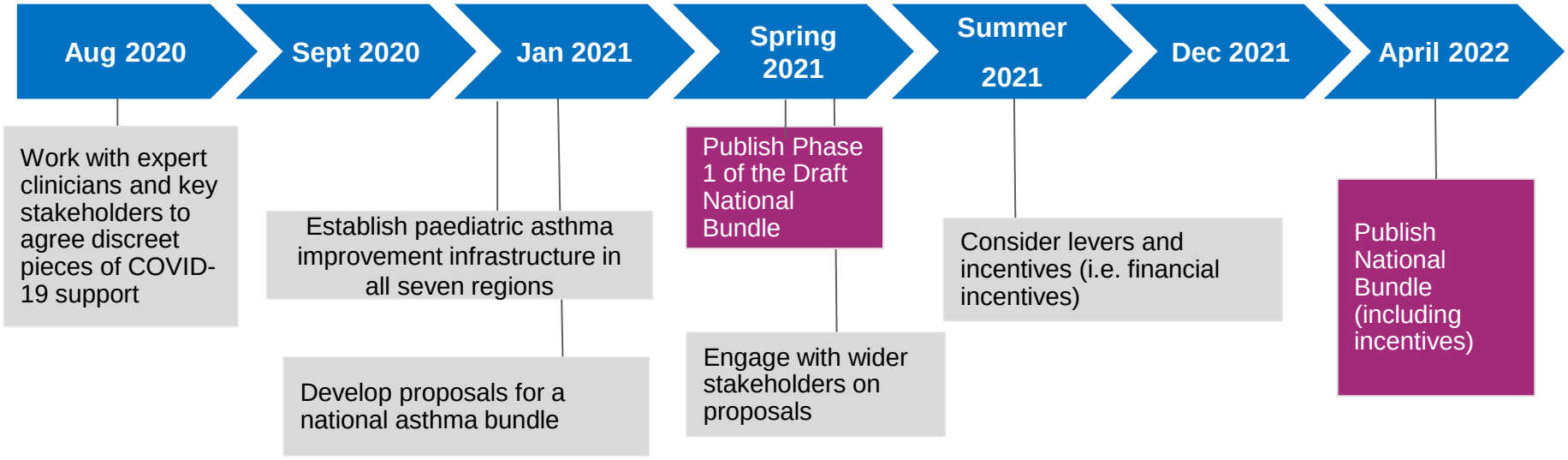
In 2015, The Royal College of Physicians, looked at deaths from asthma between 1 February 2012 and 31 January 2013 in the UK and published a report (NRAD4)[3] identifying a number of avoidable factors in relation to both the care people received and the recognition of risk and avoidable factors relating to patients and their families and environments.

This report found that two in three deaths from asthma could be prevented.

NHS England and NHS Improvement's ambition is to prevent deaths, reduce the number of admissions and improve the quality of life of CYP with asthma. This will be achieved by improving the accuracy of diagnosis and taking a whole system approach to managing asthma.

Sources: [1]https://www.asthma.org.uk/about/media/facts-and-statistics/, [2]https://www.england.nhs.uk/2019/09/nhs-warning-to-parents-as-asthma-season-hits/, [3]Royal College of Physicians. Why Asthma Still Kills 2014, [4]https://www.nice.org.uk/guidance/ng80

National Programme Timeline – we will map the opportunities in the patient pathway and develop a national bundle to prevent asthma deaths



Patient Engagement

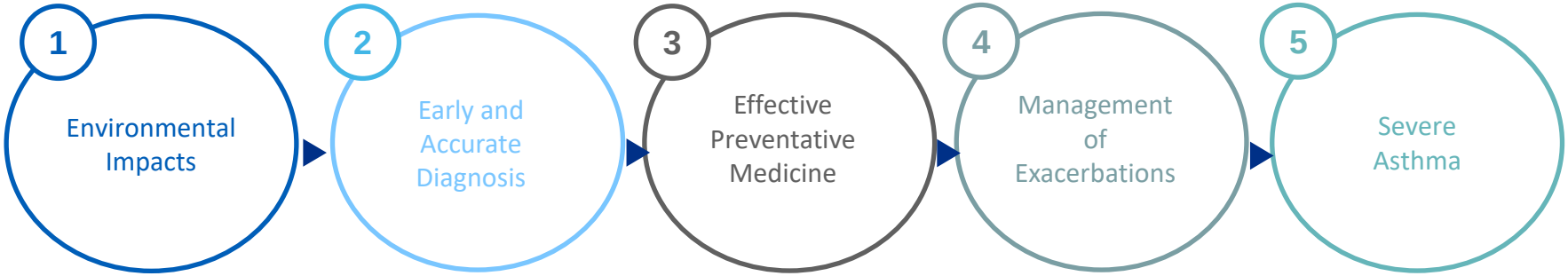
Association for Young People's Health

- We commissioned AYPH to publish a scoping review of all CYP asthma engagement to date
- AYPH have worked with the Race Equality Foundation and Friends of Families and Travellers to conduct engagement sessions with CYP around the management of their chronic asthma
- They also working with RCPCH & US to engage directly with patients after asthma clinics
- Both documents have now been published and available here.

Asthma Oversight Board

- We have appointed youth representatives with lived experience of asthma to sit on our asthma oversight board
- Both representatives have also been involved in the working groups and with the support of our voice team, we are sharing their feedback with all chairs across the programme

The National Bundle of Care will focus on improving these components of the asthma pathway



Considerations for components

• Parental smoking • Housing • Air Pollution	• Primary care • Secondary Care • Tertiary Care	• Self management • Primary Care & 111 • Secondary Care	• Self management • Apps/peakflow • Primary Care & 111 • Secondary Care • PICU	• Service Specification • New Therapies • Research & Development
Jonathan Grigg	Ian Sinha	Will Carrol	Satish Rao	Louise Fleming

These themes will run as threads throughout the components:

- Asthma competencies, training and education needs (Jen Townshend & Oliver Anglin)
- Data and digital elements (Mark Levy)

Progress Update

The CYP Transformation Programme formed 7 working groups as illustrated on slide 4, to develop a National Bundle of Care for Asthma, Phase One is now published and the final iteration will be published in April 2022.

- The working groups, lead by the chairs have conducted at least two meetings and identified the key standards for Phase One of the National Bundle of Care.
- The training and education working group have produced a set of training competencies and are now testing these with the professional colleges and other key arms length bodies to establish future ownership and governance.
- The data and digital working group have developed a straw man of what the CYP asthma dashboard could look like and are currently reviewing comments and feedback on this.

Funding has been disseminated to all regions and we have asked that they make CYP asthma a priority. Regional Leads will be required to report monthly on how their funding has engaged and impacted asthma services.

We have signposted regions to existing resources such as beat asthma and the Healthy London Partnership.

beat asthma	A comprehensive suite of resources for families and children, young people with asthma, schools, primary care health professionals and secondary care health professionals	Healthy London Partnership	This organisation have developed ambitions and standards of care for people in London, living with asthma

The National Bundle of Care for CYP with Asthma - Phase One

1. The Bundle outlines the rationale for developing each element of the bundle

2. Between 3- 9 standards for each element of the bundle have been developed

3. Each standard has an ICS deliverable attached to it, these are supported by a number of enablers and defined by a measure of success

National Bundle of Care for CYP with Asthma
Summary of Actions

Component of Patient Pathway	National Actions/Enablers	System Action
Organisation of Care	The CYP Transformation Programme has disseminated funding to local systems to make improvements in asthma care.	Integrated Care Systems should have a named lead with asthma expertise who is responsible and accountable for the dissemination and implementation of asthma standards and good asthma practice which includes CYP.
Environmental Impacts	The Asthma Competencies, Training, and Education Needs national working group have developed capabilities that include enabling conversations with patients around mitigating the risks of air pollution, indoor air quality and smoking. NHSE/I have signposted ICS leads to existing tools that will enable staff to do this.	All healthcare professionals working with CYP with expected or diagnosed asthma should understand the dangers of air pollution, indoor air quality and parental smoking and ensure they discuss these risks and potential mitigation strategies with them. Integrated care systems should ensure staff are equipped with the tools that will enable them to do this.
Early and Accurate Diagnosis	NHSE/I have been working with NICE, and other arms lengths bodies. Existing guidance is available, and we are working with organisations on their forthcoming updates.	The diagnosis of asthma in CYP should be based on clinical features of a comprehensive history and when a diagnosis of asthma is made in CYP, this should be recorded in the notes and coded accordingly. Diagnostic hubs should be used to support diagnoses.
Effective Preventative Medicine	An example of a PAAP and asthma review template can be found in the resource pack associated with this document.	All CYP with asthma should have a Personalised Asthma Action Plan. Prescription of inhaler medication should include the appropriate device and education. Inhaler technique should be reviewed and graded, and regular asthma reviews should be conducted.

National Bundle of Care for CYP with Asthma
Summary of Actions

Component of Patient Pathway	National Actions/Enablers	System Action
Managing Exacerbations	Providers of care should follow current guidance on minimum standards, the Managing Exacerbations working group will develop National Standards prior to final publication of the Bundle.	All providers of emergency and urgent care should adhere to minimum standards of assessment, treatment, referral, discharge planning and follow-up
Severe Asthma	The Severe Asthma national working group has developed standards for CYP severe asthma services, these can be found in the resource pack, section 5.	Each ICS should ensure that CYP with severe or difficult to treat asthma should have access to a severe or difficult to treat asthma service.
Data and Digital	The national data and digital working group have proposed a minimum asthma dataset that will feed into a National CYP asthma dashboard. See appendix 2 for more detail on the dashboard and dataset.	ICS leads for CYP asthma should use the reports from the CYP Asthma dashboard to benchmark their services against national averages and use this information to make targeted improvements in asthma services.
Asthma Competencies and Training and Education Needs	A 5-level tiered framework for anyone involved in the care of CYP with asthma has been developed. See the resource pack, section 7 for full framework. We are working with professional bodies and royal colleges to align the capabilities with other established frameworks and to determine their future ownership as well as the required accreditation for training partners.	All people involved in the management of CYP with asthma should be trained to the appropriate level depending on their role. Tier 2 training for example is currently supported by Health Education England through their e-learning for health platform. ICS' will be held to account to ensure their CYP asthma workforce have met the required levels of training.

Partnership Working

NICE/MHRA/BNFC

The National team are with these organisations to determine what additional information can be added to the BNF and BNFc that clarifies the importance of ensuring appropriate prescribing

We are establishing with the MHRA what additional information can be added to patient information upon prescribed inhaler devices

Respiratory Networks

We are working with the adult Respiratory Programme to build a network of CYP asthma specialists across the country

We attend the monthly meetings to ensure the networks are informed of the CYP programme and priorities

Inhaler Image Campaign

In December 2020 a group of interested parties came together to discuss the potential of kick starting a campaign to try and get change.

The idea being to build a campaign to improve the use of inhaler images in the media

Ensuring effective transition: Working with adult respiratory services

Louise Fleming, Consultant in Paediatric Respiratory Medicine, Royal Brompton and Harefield Hospital Trust & Clinical Senior Lecturer at Imperial College London

#AskAboutAsthma

Imperial College London

ROYAL BROMPTON DIFFICULT ASTHMA SERVICE

Ensuring effective transition

Dr Louise Fleming

Reader, Imperial College London

Consultant Respiratory Paediatrician, Royal Brompton Hospital

Conflict of interest disclosure

Affiliation / Financial interest	Commercial company
Grants/research support:	Asthma UK: Joan Bending, Evelyn Bending, Mervyn Stephens and Olive Stephens Memorial Fellowship; NIHR (EME); Asthma UK Centre for Applied Research
Honoraria or consultation fees:	Novartis, Chiesi, Astra Zeneca, Teva
Participation in a company sponsored bureau:	Astra Zeneca, Boehringer Ingelheim, Novartis, Synexus, GSK, Sanofi, Respiri UK

All fees paid directly to my institution

Adolescence

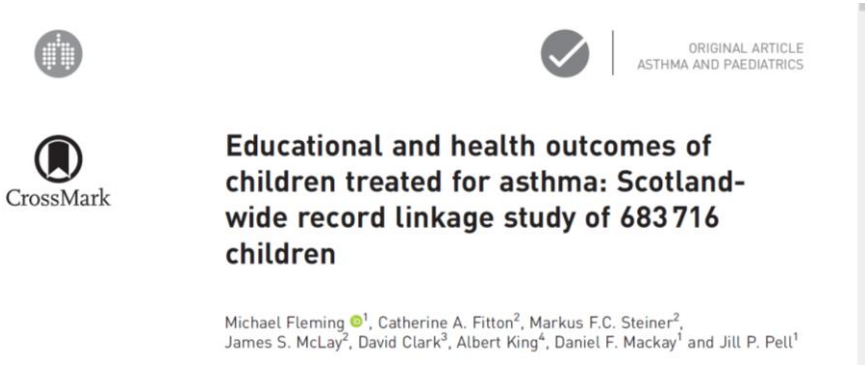
- Adolescence is a time of tremendous growth and physiological and psychological changes
- 10-20 year olds make up ~15% of the UK population
- 16–24 year olds account for 36% of ED attendances and 20% of those that receive in-patient care
- Average weight gain 14kg (girls) and 15kg (boys) during adolescence
- 23% teenagers are overweight, 6% obese
- Major improvements in health outcomes in younger children have not been matched in young people

Impact of Asthma on the Adolescent

Short term cross sectional studies of children with asthma:

- Increased time of school
- Poorer educational attainment
- Reduced activity
- Reduced exercise
- Obesity
- Poorer general health and well being
- Very few studies of long term outcomes

Harris K. Ad Health 2008
Fletcher J. Health Economics 2010



ORIGINAL ARTICLE
ASTHMA AND PAEDIATRICS

CrossMark

Educational and health outcomes of children treated for asthma: Scotland-wide record linkage study of 683 716 children

Michael Fleming[1], Catherine A. Fitton[2], Markus F.C. Steiner[2], James S. McLay[2], David Clark[3], Albert King[4], Daniel F. Mackay[1] and Jill P. Pell[1]

- Data on children attending Scottish schools 2009 – 2013
- 45 900 (6%) treated for asthma
- Increased risk of hospitalisation (incidence rate ratio 1.98, 95% CI 1.93–2.04); increased mortality (HR 1.77, 95% CI 1.30–2.40)
- More likely to have special educational need for mental health reasons (OR 1.76, 95% CI 1.49–2.08)
- Performed worse in exams and left school earlier

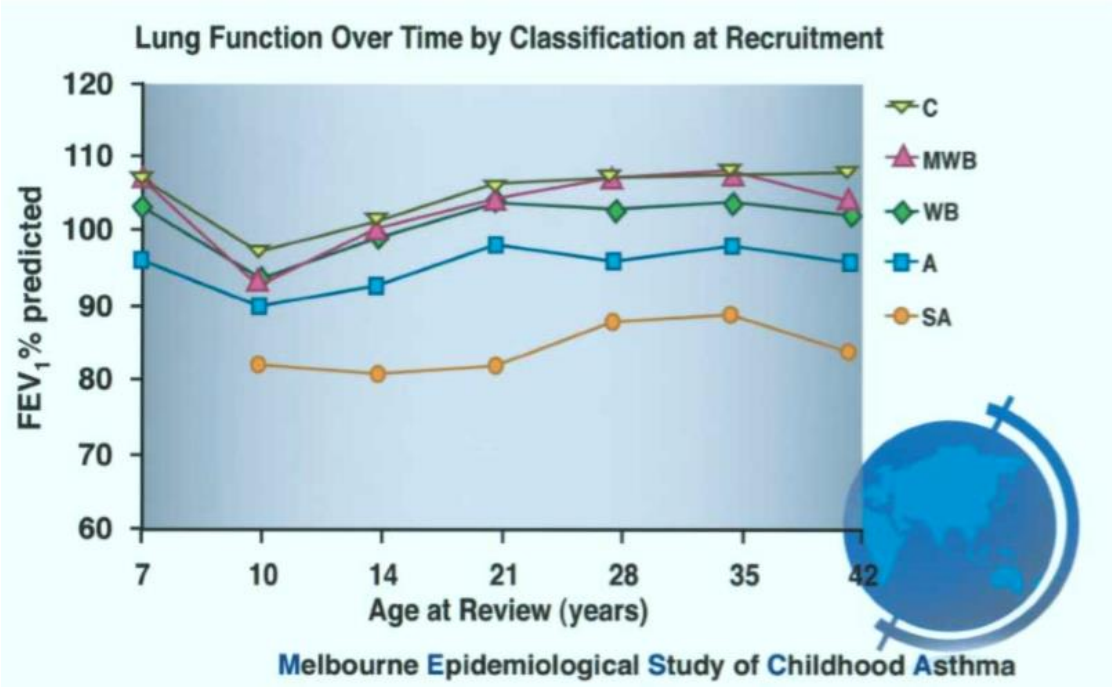
M Fleming, Eur Respir J 2019; 54.

Adolescence and Asthma

- Adolescence a recognised risk for asthma related outcomes
- Asthma prevalence is rising in adolescents (11.6% ISAAC phase one to 13.7% in ISAAC phase three)
- Teenagers and young adults over-represented in mortality reviews
- A male preponderance in childhood
- Early menarche risk factor for adolescent and adult onset asthma
- Majority of school age children with asthma will have resolution of symptoms in early adulthood (although this may not equate with resolution of airway inflammation or lung function)
- Relapse rate of 30% by 33 years
- The more severe the symptoms in adolescence the more likely persistence into adult life

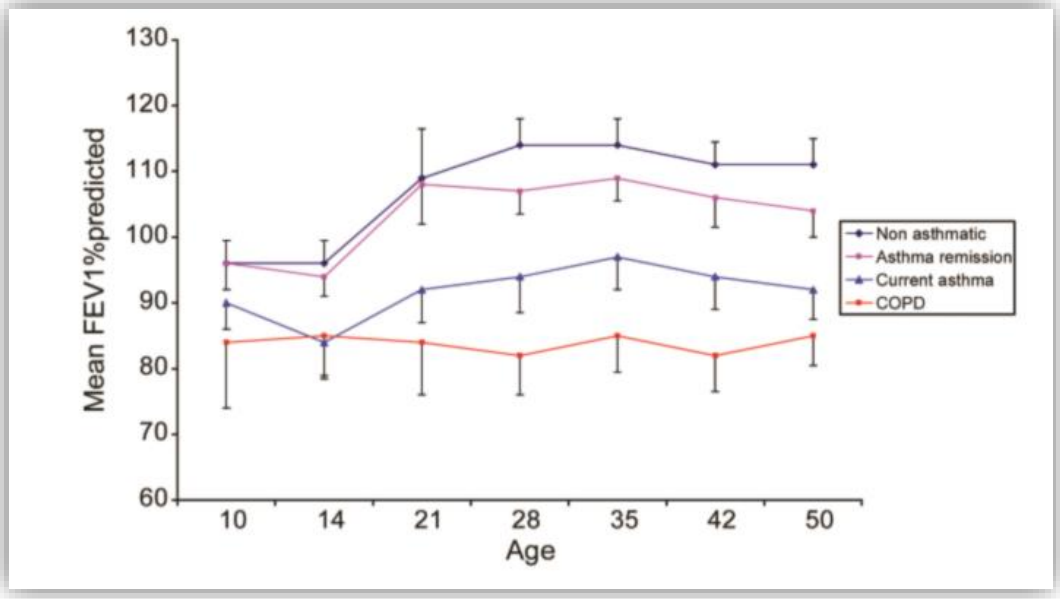
Pearce, *Thorax* 2007; 62: 758-766.
Van Asperen, *Med J Aust* 2015; 202: 125-126.
Levy, The National Review of Asthma Deaths (NRAD). London Royal College of Physicians; 2014.
Strachan, *BMJ* 1996; 312: 1195-1199.

Melbourne Asthma Study



Phelan D *et al*. JACI 2002;109:189-94

Melbourne Asthma Study



Children with Severe Asthma have a 32 times higher risk of developing COPD

Tai A *et al*. Thorax 2014;69(9):805-10

Transition

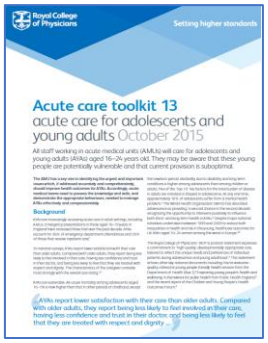
- *noun:* the process or a period of changing from one state or condition to another
- *verb:* to undergo or cause to undergo a process of transition
- *origin:* from Latin *transire:* to go across

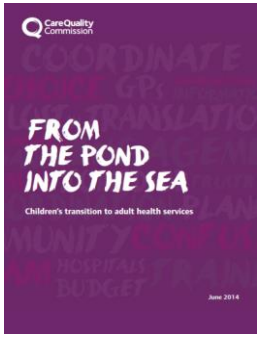
"A purposeful, planned process that addresses the medical, psychosocial and education/vocational needs of adolescents and young adults with chronic physical and medical conditions as they move from child-centred to adult-orientated health care systems"

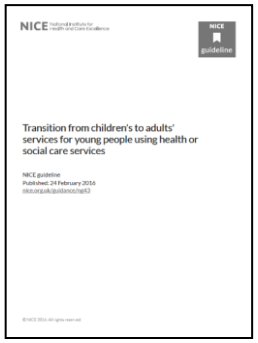
Blum R *et al*. J Adol Health 1993:14;570-6

National Drivers and Quality Standards

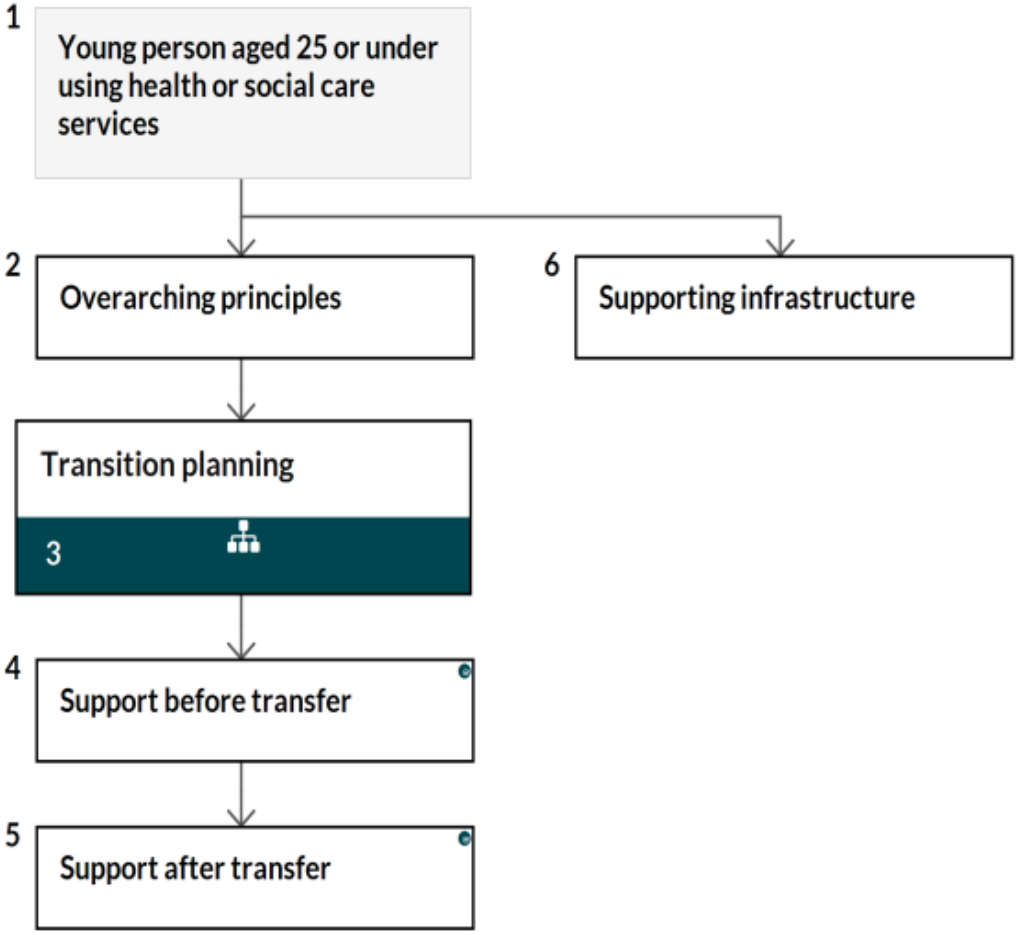
- **RCP** Position Statement 2014 – commitment to providing high quality care to adolescents and young adults
- One of 6 key priority areas identified by the National Clinical Director for Children and Young People
- **CQC 2014 –** Services must be tailored to meet the needs of YP and include extra training for health staff
- **NICE Guidance 2016:** named worker to coordinate transition, integrated health and social care transition







NICE Pathway 2020



Paediatric and Adult Clinics

- Family centred care
- Safe, nurturing environment
- Quite informal
- Strong relationships built over many years
- Familiar

- Greater autonomy
- More emphasis on the young person
- Access to a greater range of (licensed) treatments

Paediatrics

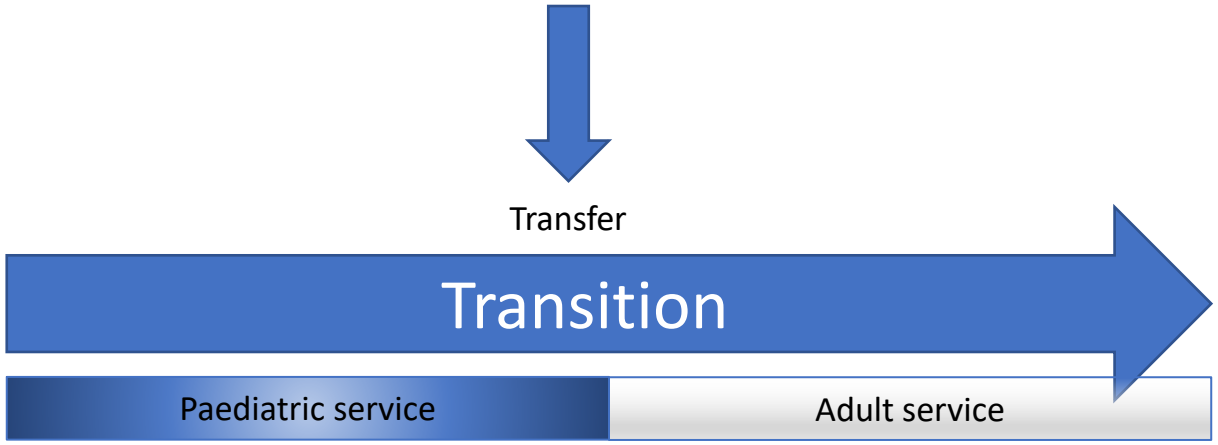
Adult services

- Environment aimed at much younger children
- Waiting rooms and wards full of toddlers and babies
- Still treated like a child
- Paternalistic

- Bigger, busier clinics
- Different diseases
- End stage disease
- May fall through the gaps

When?

- At what age should the process start?
- When does Paediatric care end?
- When does the “transfer” take place?
- When does the process finish?



The Transition Process

- Independent health care behaviour
- Health and lifestyle
- Sexual health
- Psychology support
- Family
- Information transfer

Independent Healthcare Behaviour

- Respecting privacy, confidentiality
- Addressing the young person
- Involvement in decision making / consent (assent)
- Giving the young person the opportunity to have time alone in the consultation
- Promoting self advocacy (*vs* parental / doctor advocacy)
- Understanding of health needs
- Making appointments, repeat prescriptions
- Confidentiality

Support and Advice

- Health and lifestyle (including smoking)
- Sexual health (including contraception)
- Psychology support
- Disease specific information
- Other sources of information (internet)

H Home
E Education (or employment)
A Activities
D Drugs
S Sexuality
S Suicide

Payne D *et al*. Contemp Pediatr 1988:75-90

Asthma Transition

- Life course of asthma difficult to predict
- Time for re-evaluation
- Transition arrangements and needs can be variable
- Very little asthma specific guidance

Transition models for asthma:

- Discharge to primary care
- Discharge and ask primary care physician to arrange onward referral
- Dedicated follow up in an adult clinic (clearly defined pathways)

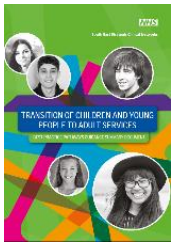


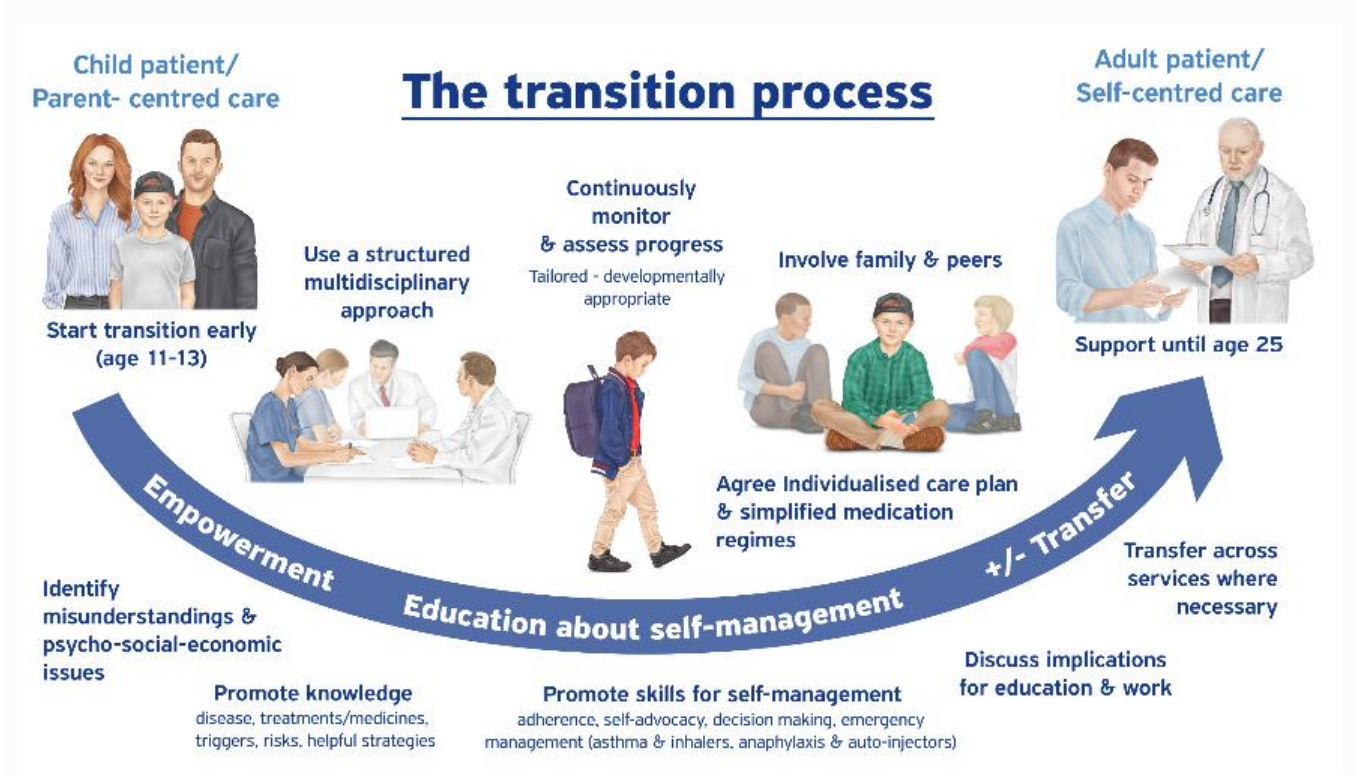
FIGURE 5: TRANSITION BEST PRACTICE PATHWAYS (ASTHMA)

CHILD	ADOLESCENT		ADULT
Paediatric asthma clinic (below 14 years of age)	**Adolescent/Transition asthma clinic** (age 14-15 years)	**Adolescent/Transition asthma clinic** (age 16-17 years)	**Young adult asthma clinic** (age 18-24 years)
Paediatric asthma team • Patients accompanied by family/carer to the clinic • Introduce concept of transition clinic at GP/secondary care • Promote knowledge and self-help skills	**Paediatric asthma team** • Patient choice to be seen in the clinic alone or accompanied by parent/ carer • Introduce transition 'coordinator' • Agree written Transition Plan • Appropriate clinic timings and settings	**Joint clinic with paediatric and adult asthma team** • Patient choice to attend clinic alone or supported by family • Supported by the 'coordinator' • Update written Transition Plan • Appropriate clinic timings and settings	**Adult respiratory team** • Patient choice to attend clinic alone or supported by the family • Appropriate clinic timings and settings including in patient wards • Offer smoking cessation, communication skills appropriate to young people
Patient skills and knowledge • Aware of name of diagnosis/ long-term condition • Names/doses of medication • Names of professionals involved • Aware of lifestyle issues affecting LTC including puberty • Aware of sources of information and support	**Patient skills and knowledge** • Aware of short and longer implementations of LTC • Able to recognise symptoms requiring medical input or dose adjustment • Aware of consent/confidentiality issues • Aware of implication of lifestyle issues eg. alcohol, smoking, diet, exercise and driving • Able to access support resources including external organisations, psychological support, peer group etc • Able to access support at school through primary care • Awareness/involvement in support groups and resources using a wider range of media eg apps, telemedicine, online resources	**Patient skills and knowledge** • Able to arrange and attend healthcare appointments independently inc. failed/missed appointments and repeat prescriptions • Aware of impact of LTC on education (current and future) and career options • Enhanced awareness of issues relating to relationships/sexuality eg. contraception • Able to access/transfer to different health services if leaving home • Able to take charge of health related documents/records inc Transition Plan • Aware of elegibility for Benefits and how to apply using support networks if neccessary • Awareness/ involvement in support groups and resources using a wide range of media eg apps, telemedicine and online resources	**Patient skills and knowledge** • Ability to contact professionals in non-routine circumstances eg re-referrals into secondary care, problems with planning, inter-professional communications • Longer term implications of LTC inc issues on pregnancy, including smoking whilst pregnant

PRIMARY OR SECONDARY CARE

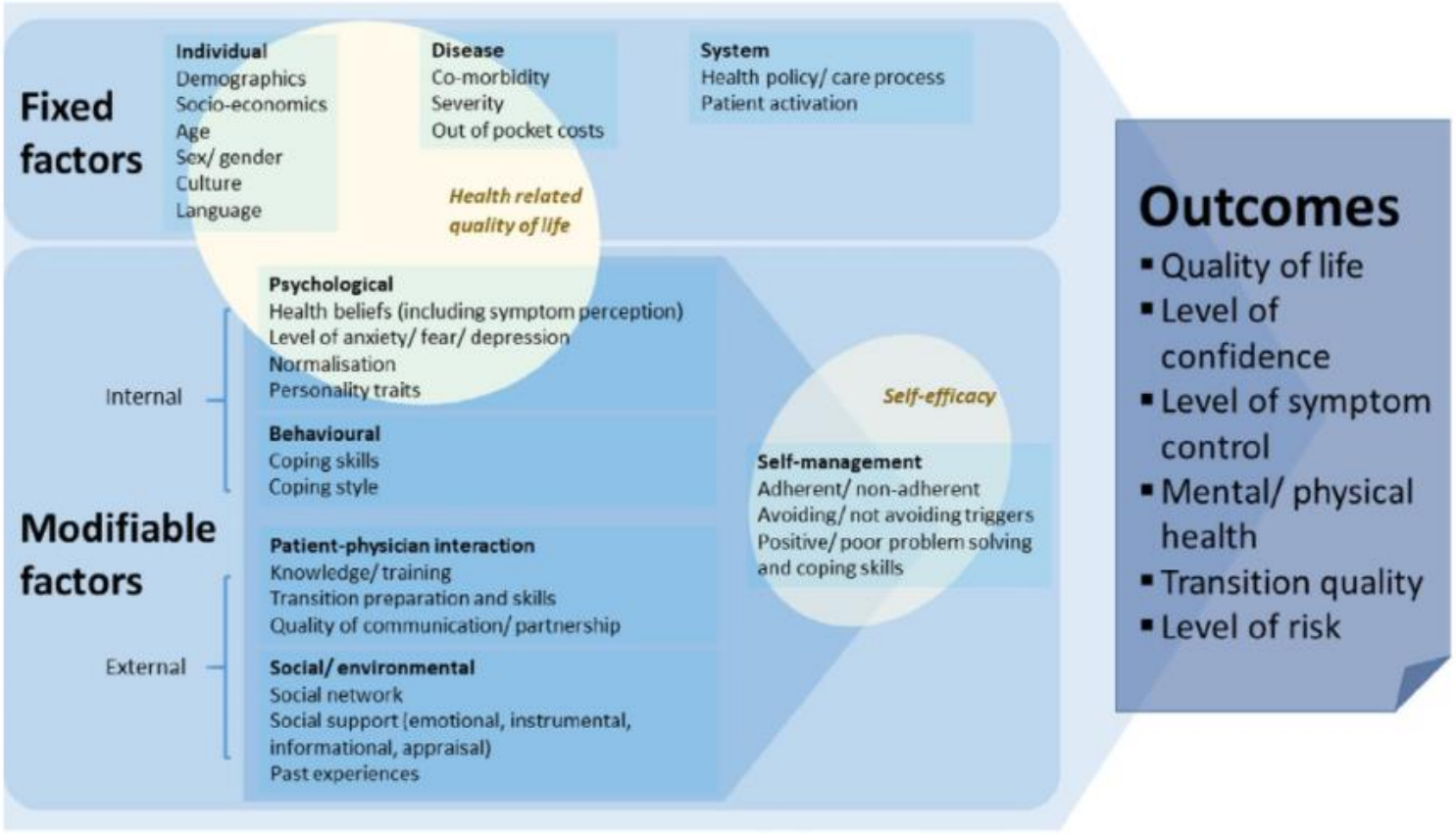
FAMILY SUPPORT... ...INCREASING INDEPENDENCE

EAACI Guideline on the Effective Transition of Adolescents and young Adults with Allergy and Asthma



Roberts, Allergy 2020:75; 2734-2752

Factors Influencing Outcomes



Vazquez-Ortiz, Allergy 2020:75;1850-1880

Severe Asthma Transition: Considerations

- Different commissioning arrangements for Severe Asthma in adults and children
- All paediatric Severe Asthma Centres should be aligned with an adult commissioned service
- If established on a biologic need to ensure there is continuity in administration / home care prescription
- Not all biologics are licensed for adolescents – but can still be used

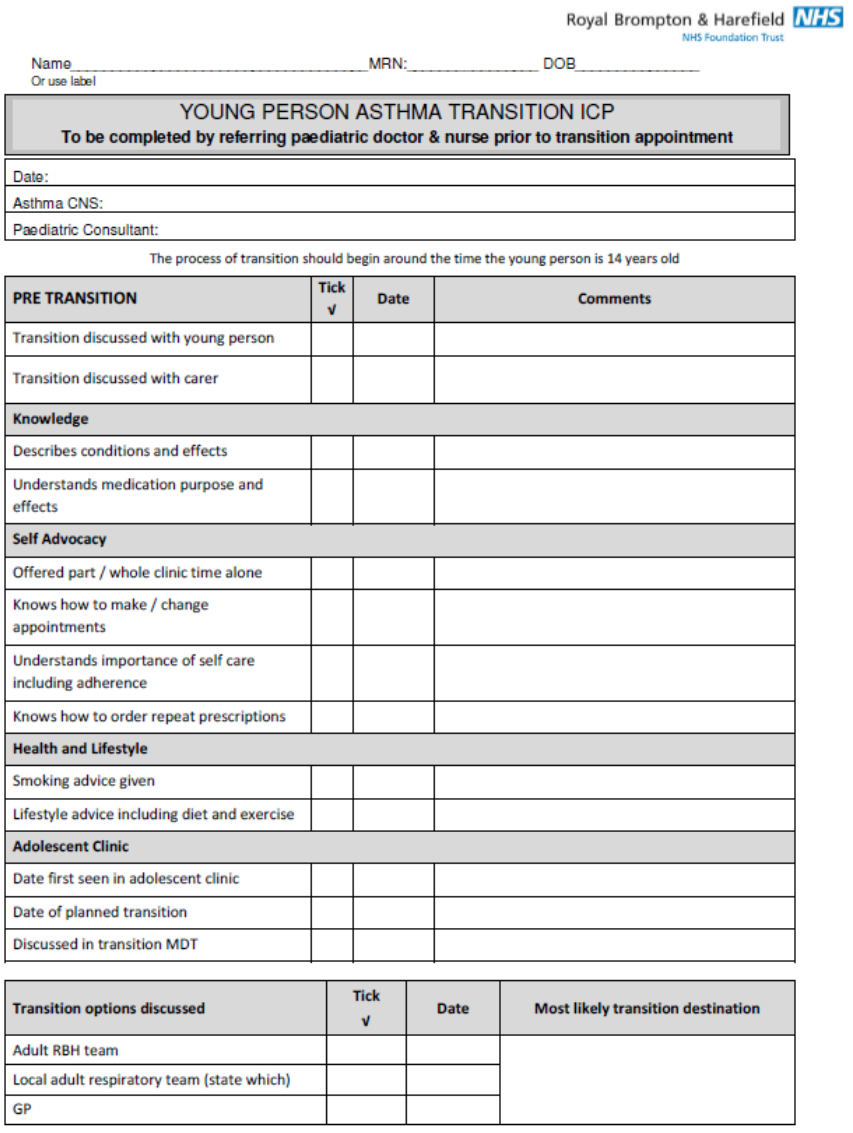
Novel Treatments in Adolescents

- Adult colleagues likely to have greater experience in use of newly licensed treatments
- Joint MDTs to guide decision making
- Shared learning
- Timing of initiation of treatment

Transition ICP

Smooth transition

- Start early
- Transfer options
- Joint clinics
- Contact details
- Integrated care pathway
  - Ready, Steady, Go (knowledge, self advocacy, health and lifestyle
  - Clinical information
  - All about me
  - Post transfer



Royal Brompton & Harefield NHS
NHS Foundation Trust

Name_____MRN:_____ DOB_____
Or use label

YOUNG PERSON ASTHMA TRANSITION ICP
To be completed by referring pædiatric doctor & nurse prior to transition appointment

Date:
Asthma CNS:
Paediatric Consultant:

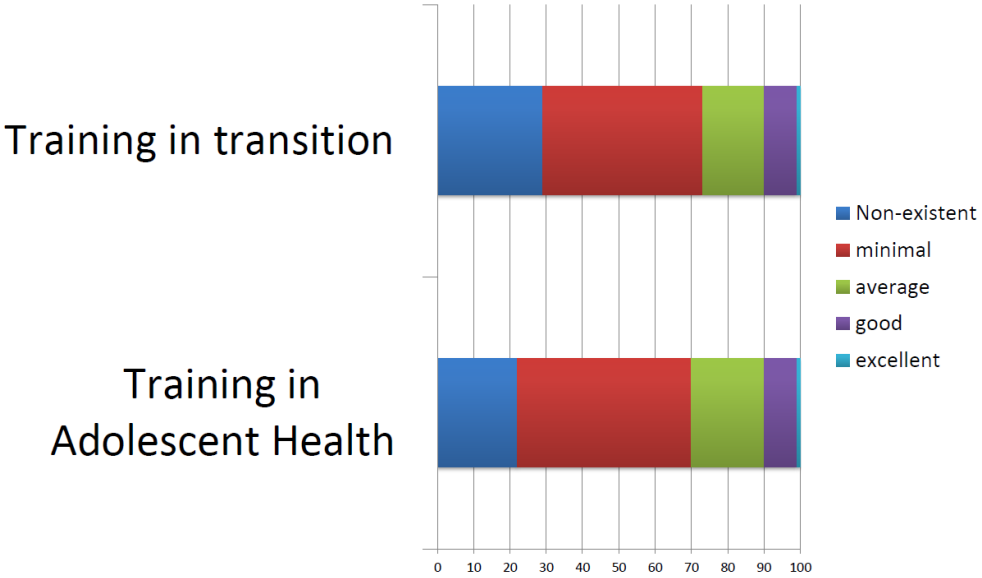
The process of transition should begin around the time the young person is 14 years old

PRE TRANSITION	Tick √	Date	Comments
Transition discussed with young person			
Transition discussed with carer			
Knowledge			
Describes conditions and effects			
Understands medication purpose and effects			
Self Advocacy			
Offered part / whole clinic time alone			
Knows how to make / change appointments			
Understands importance of self care including adherence			
Knows how to order repeat prescriptions			
Health and Lifestyle			
Smoking advice given			
Lifestyle advice including diet and exercise			
Adolescent Clinic			
Date first seen in adolescent clinic			
Date of planned transition			
Discussed in transition MDT			

Transition options discussed	Tick √	Date	Most likely transition destination
Adult RBH team			
Local adult respiratory team (state which)			
GP			

Training

- Both the RCPCH and RCP have stated that improvements are needed in medical training and professional development
- Adolescent medicine is recognised as a speciality within paediatrics but adolescent training and provision remains patchy



RCP Survey of 600 Higher Specialist Trainees

Summary

- Transition is a process that should take place over several years and take into account individual emotional and developmental maturity
- Transition programmes should plan ahead, engage with adolescents and their families to identify the patients' management priorities and the current challenges they are experiencing
- During healthcare interactions with teenagers, the opportunity can be taken to explore wider issues relating to health and psychological well being
- Teenagers should be equipped and empowered to manage their asthma with appropriate support
- Adolescents with asthma need robust transition processes

How can CYP asthma healthcare professionals learn from HSIB?

Helen Jones, National Safety Investigator, Healthcare Safety Investigation Branch (HSIB)

#AskAboutAsthma

HSIB

HEALTHCARE SAFETY
INVESTIGATION BRANCH

How can CYP asthma healthcare professionals learn from HSIB?

Helen Jones, National Safety Investigator

#AskAboutAsthma conference : 23 September 2021 at 10:25

Overview of presentation

- I will talk briefly about HSIB and our approach to national investigations.
- I will provide an overview of our national asthma investigation to share our findings across the system.
- The focus today will be on the impact of our work on clinicians and changes to practice arising from our recommendations.

About us

Independent safety investigations in NHS-funded care

Do not apportion blame or liability

Focus on system-level (policy and regulatory) change

Professionalise the patient safety investigator role

Our approach

Wide ranging expertise from safety-critical industries

Multidisciplinary and inclusive teams; patient and family involvement

Focus on learning not blame to reduce further risk of harm

Transparent and collaborative to support learning

Reference event

- Child was 5 years old at the time of the event.
- He had a complex medical history, which included chronic lung disease.
- Respiratory symptoms included a ‘wheeze’ and a cough.
- He was on a monitored initiation plan for ‘suspected’ asthma and was prescribed asthma medicines.
- The treatment plan was compromised due to outpatient appointment delays and adherence to treatment issues.
- He suffered a near fatal episode in July 2019, after contracting Influenza A.

What the Child's mother told us…

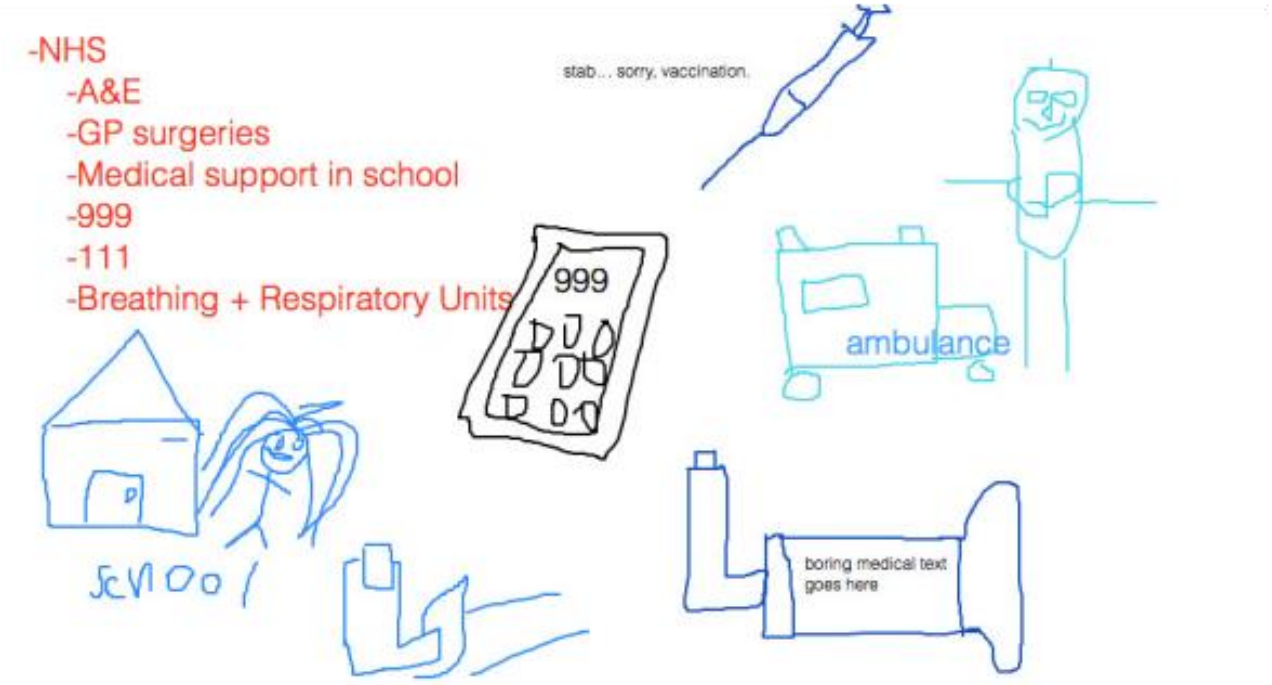
- **Joined up working**, particularly in respect of GP surgeries and school nurses; to include the sharing of information from school nurses to GP's and GP's discussing with parents if any vaccines are declined by parents.

- **School nurse involvement with parents of children with asthma**, to ensure the Asthma Management Plan is shared and parents have the opportunity to meet and discuss their child's management with them.

- Need to **raise the profile of asthma and the potential seriousness of the condition,** so that parents know that their child could die of this condition.

- **Parent education in respect of asthma needs to be improved** so that parents are better informed, they know what the treatment is for and why it is so important to administer as prescribed (one missed dose has a long- lasting effect).

What the young people told us…



What Experts by Experience told us…

- “I think I did not understand at all the seriousness of asthma and how dangerous it can get for people. No, I didn't have any understanding of it at all before [the child] got her diagnosis.”
- “So, when I got educated by the asthma nurse I just felt as if a weight had been lifted…”
- “I felt for a long, long time that that asthma controlled us and that was in control. We were doing everything we could but then once we were educated it made me feel like, actually, we can manage this. We can actually do it.”

Menti

Please use a mobile phone to open your camera app and scan the below QR code to access menti or alternatively you can click on the link provided in the Q&A box.

Outputs from the Investigation

- Report published on 5 May 2021: https://www.hsib.org.uk/investigations-cases/management-chronic-asthma-children-aged-16-years-and-under/
- 7 safety recommendations were received by national organisations in a position to implement.

Focus of safety recommendations

They broadly focused on:

- Improving the monitoring of symptoms
- Following up on recommendations from NRAD
- Developing training competencies for healthcare professionals caring for children with asthma
- Developing resources to influence behaviour change
- Improving digital integration and information sharing

Turning findings into reality…

- NHS England and NHS Improvement welcomed our recommendations as they aligned well with the commitments laid out in the Long-Term Plan for improving outcomes for Children and Young People (CYP) with asthma.
- We saw this as an opportunity to dovetail our work, focussing on the key areas that needed to change from a safety perspective.
- Our findings were not new, as we discovered from a review of the NRAD recommendations, however our approach to closing the loop was different.

Implementation – NHSE & NHSI

- NHSE and NHSI have worked with the British Paediatric Respiratory Society to ensure systems are provided with standardised templates (preschool wheeze decision aid, Personalised Asthma Action Plan template, template for asthma reviews) to support the delivery of high standards of care for CYP with asthma.

- NHSE and NHSI have worked with the authors of the National Review of Asthma Deaths to incorporate their recommendations into the National Bundle of Care for CYP with Asthma.

Implementation – NHS Digital

- NHS Pathways has undertaken a review of the question relating to breathlessness for children under 16 years old, to determine whether it was sufficiently sensitive to detect a life-threatening breathing difficulty.

- Changes were made to the supporting information of the breathlessness question in those aged 5-11 years old, to include a prompt for chest recession.

Implementation – NHSE, NHSI & NHSX

- NHSE and NHSI are collaborating with Royal Colleges and Professional Bodies to develop training competencies for all healthcare staff who care for CYP with asthma and are developing an implementation strategy for the future sustainability of the competencies and associated training.

- NHSE and NHSI are working with NHSX to facilitate better use of data systems to build a picture of the CYP asthma landscape and identify risk factors for CYP with asthma.

Implementation – PHE

- In relation to developing resources for young people and their parents/carers, PHE are in the process of reviewing the Healthy child programme intervention schedule to ensure this includes asthma and interventions to support parents & young people.

- PHE are also engaging with partners to work with parents and young people to co-produce awareness materials which can be accessed through public health nurses.

Key messages

1. Diagnosis of wheeze or suspected asthma and the issuing of a written plan helps to monitor symptoms, adjust treatment.
2. Educational resources for healthcare professionals, patients/families contributes to the management of asthma.
3. Clinical oversight of care can be enhanced by using the digital child health record.
4. Changing health-related behaviours in terms of adherence is a key enabler to safer asthma management.

Questions and discussion

Break

Learning from the National Asthma and COPD Audit Programme and implementing change

Ian Sinha, Consultant respiratory paediatrician from Alder Hey Children's Hospital

#AskAboutAsthma

Royal College of Physicians | NACAP

Learning from the National Asthma and COPD Audit Programme and implementing change

Ian Sinha
Consultant Respiratory Paediatrician
NACAP CYP Clinical Lead

Royal College of Physicians | NACAP

National Asthma and Chronic Obstructive Pulmonary Disease Audit Programme (NACAP)

Children and young people asthma: combined clinical and organisational audit 2019/20

Recommendations and quality improvement priorities

Ian Sinha Declaration of Interest

No financial interests to declare

My department (University of Liverpool Division of Child Health) has received payments for my consultancy on an observational research study (Astra Zeneca) but no fees were directly or indirectly distributed to me

I hold an NIHR Grant for the ASYMPTOMATIC Randomised Controlled Trial in children with asthma (not relevant to this presentation)

Audit participation

- Includes CYP (aged 1-18) admitted to hospital with an asthma attack from 1 June 2019 and discharged by 31 January 2020 and,
- Structure and resourcing of CYP asthma services between December 2019 and February 2020.

8,506 patient records were entered for the clinical audit

152 (84%) of eligible hospitals submitted patient records

119 (66%)* of eligible hospitals submitted a full organisational audit record

*An additional 23 hospitals provided a partially complete organisational audit record. 78% of all eligible hospitals participated in this audit.

Demographics

Admission and demographics

> The median age at admission was **6 years old**.

> More **male CYP** (**60.1%**) were admitted for asthma attacks than female.

Socioeconomic status

> **30.8%** of admissions were **CYP** living in the most deprived areas, whereas **10.8%** were from the least deprived areas.

Arrival time

> The majority of **CYP** presented to hospital in the afternoon and early evening. However, **22%** presented at night and in the early hours of the morning (between 22:00 to 06:00).

National Quality Improvement (QI) priorities CYP asthma services

Exposure to second-hand smoke was recorded in **57.7%** of admissions. Where it was recorded, **30.1%** were regularly exposed to second-hand smoke in the home.

National QI priority C1:

Record smoking status and exposure to second-hand smoke for 95% of children and young people

National QI priorities for CYP asthma services

Systemic steroids

88.0% of CYP received systemic corticosteroids during their admission. Only **38.7%** of CYP aged 6 years or older **presenting with severe or life-threatening features** of acute asthma, who had not received them before arrival at hospital **received them within 1 hour of arrival.**

National QI priority C2:

Administer systemic steroids within 1 hour of arrival at hospital to *95%* of children and young people aged 6 years old or over, who have not received systemic steroids as part of pre-hospital care.

National QI priorities for CYP asthma services

- **61.9%** had an inhaler technique check.
- **45.5%** had a PAAP given or reviewed.

National QI priority C3:

Provide *95%* of children and young people with the following as part of their discharge bundle:

1. **Review or issue of a personalised asthma action plan (PAAP).**
2. **Check of their inhaler technique.**
3. **A follow-up appointment in a paediatric clinic requested within 4 weeks.**

National Quality Improvement (QI) priorities for CYP asthma services

Of participating hospitals:

- **58.8%** have a respiratory nurse specialist.

National QI priority O1:

***85%* of hospitals should have a respiratory nurse specialist trained in the care of children and young people with asthma.**

National Quality Improvement (QI) priorities for CYP asthma services

Of participating hospitals:

89.9% have access to spirometry.

41.2% have access to fractional exhaled nitric oxide (FeNO), as a diagnostic tool for CYP asthma patients.

National QI priority O2:

***80%* of hospitals should have access to fractional exhaled nitric oxide (FeNO) as a diagnostic tool for paediatric asthma services.**

National recommendations

Recommendation OA1

Nationally there should be a collaborative focus on developing functional regional paediatric asthma networks to facilitate:

- Best practice.
- Partnership approaches to the provision of care with appropriate input from different healthcare sectors and non-healthcare agencies.
- The involvement of children and young people, parents and carers to support the development of regional strategies.

These networks should have representation from professional groups, patients and relevant services including:

- Primary care.
- Community asthma services.
- District general hospitals.
- Tertiary specialist services.
- Local area authorities.

Recommendations for children and young people living with asthma and their families and carers

Recommendation CA3:

if you are admitted to hospital with an asthma attack there are some important things that you should know – you may want to discuss these with the team looking after you:

- You should have a dose of oral steroids within 1 hour of arriving at hospital (unless you had them before you came).
- Someone should check that you know how to use your inhaler before you go home.
- You should go home with an up to date personalised asthma action plan (PAAP). This might be a new plan, or someone checking your old plan to make sure it is right.
- If you are admitted to hospital with an asthma attack, you should be seen in a few weeks in a hospital asthma clinic. There should be an expert involved in your care in this clinic, such as a specialist nurse.

In some instances, you may not be able to ask for this yourself, if this is the case, we recommend your parent or carer does this for you.

Other NACAP QI resources

NACAP quality improvement resources

Good practice repository

We are in the process of producing a CYP audit good practice repository which will share stories from services across the country about their challenges and achievements in the provision of quality CYP services. If you have any examples of good practice you would like to share, please contact us on asthma@rcplondon.ac.uk.

Once complete it will be made available here: www.rcplondon.ac.uk/nacap-cyp-asthma-resources

Quality improvement workshops

In 2019, the NACAP team ran a series of QI workshops. A selection of QI resources from the events have been published online: www.rcplondon.ac.uk/projects/national-asthma-and-copd-audit-programme-nacap-quality-improvement.

Hospital teams are encouraged to attend a second series of NACAP QI workshops which will be held in 2021. Further details regarding these workshops will be circulated to participating hospital teams in due course.

Royal College of Physicians | NACAP

National Asthma and Chronic Obstructive Pulmonary Disease Audit Programme (NACAP)

Thank you for your continued support! Keep in touch

asthma@rcplondon.ac.uk
020 3075 1526
www.rcplondon.ac.uk/nacap
@NACAPaudit

Key note speech - Meeting the needs of Children and Young People with Asthma

Sarah Woolnaugh, Chief Executive Officer of Asthma UK and the British Lung foundation

#AskAboutAsthma

Meeting the needs of Children and Young People with Asthma

Sarah Woolnough, Asthma UK and the British Lung Foundation

ABOUT ASTHMA UK AND THE BRITISH LUNG FOUNDATION

- **Merged at the start of 2020, building on earlier joint working which had led to real and significant improvements in outcomes for people affected by a lung condition.**
- **By coming together, we have been able to act as a more powerful voice for people with respiratory disease including asthma, particularly at a time when our beneficiaries most need us.**
- **We campaign for improvements to policy and NHS services, invest in research and provide vital support services.**
- **We will be publishing a strategy for the newly merged organisation and approach to our brand soon.**

PREVALENCE OF ASTHMA IN CHILDREN AND YOUNG PEOPLE

1.1 MILLION CHILDREN IN THE UK HAVE ASTHMA

UK HAS ONE OF THE WORST ASTHMA DEATH RATES IN EUROPE

PAEDIATRIC ADMISSIONS TO TREAT ASTHMA OR WHEEZING COST £30.1M (2016-17)

OUR MISSION

Child asthma deaths should become 'never events.'

Dr Shirley Radcliffe, HM Assistant Coroner

OUR KEY PRIORITIES

- **Building on our recent annual asthma survey and ensuring that basic asthma care is made available to everyone.**
- **Addressing the general backlog in asthma care and ensuring that NHS Long Term Plan commitments are delivered.**
- **Re-imagining the way asthma care is delivered by utilising digital technologies and improving data sharing so those most at risk of having an asthma attack are identified sooner.**
- **Reducing exposure to air pollution and tobacco smoking so we can all breathe clean air with healthy lungs.**
- **Providing support and health advice to everyone with asthma, their families, friends, and healthcare professionals.**

ASTHMA CARE

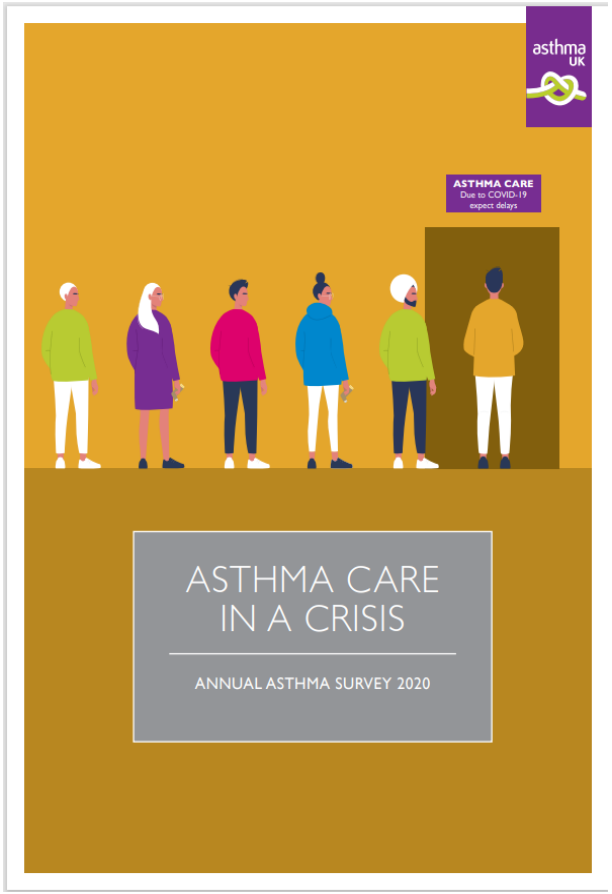
- **We raise awareness of how asthma can be a serious and life-threatening condition and use reports to campaign for better and more joined-up asthma care.**

ANNUAL ASTHMA SURVEY

- **Basic asthma care levels have dropped for the first time in the eight years we have run this survey.**

- **Annual Asthma Survey statistics:**
  - An estimated **564,300 children with asthma** in the UK did not receive basic asthma care.
  - Only **48.7%** of under 17s receive basic care, with **45%** receiving emergency care in the last 12 months.18-29s receive the worst basic care at **28.6%.**
  - Correct inhaler technique is joint lowest for under 17s and 18-29s at **75%.**
  - Keeping control of asthma is a persistent challenge, particularly for younger people and for those on lower incomes.

- **A national effort is needed to improve basic asthma care and ensure it is made available to everyone.**

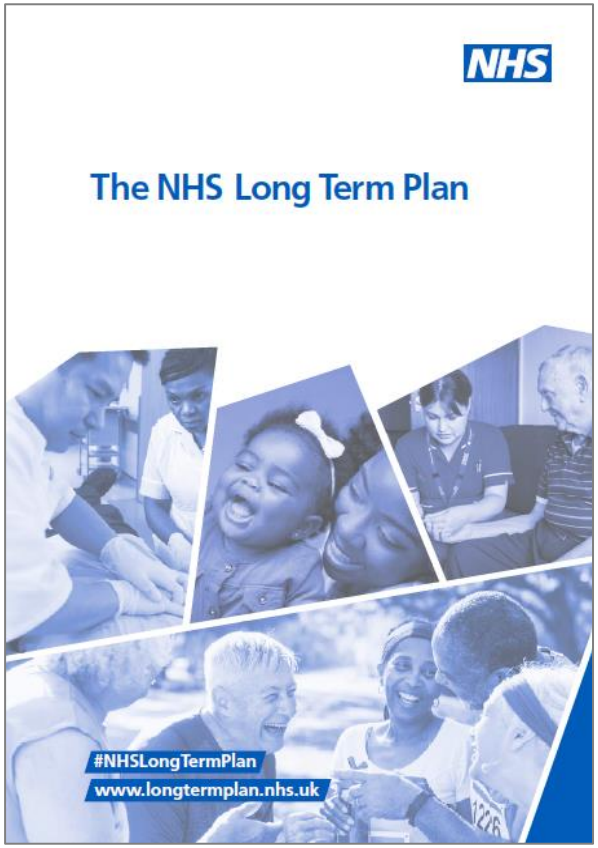


THE IMPACT OF COVID-19 ON ASTHMA CARE

- **246,000 children most at risk of having an asthma attack haven't had an annual review face-to-face and are missing out on life-saving care.**
- **A significant number of people with asthma are avoiding or delaying receiving care – due to worries about putting pressure on the NHS and fears around the spread of Covid.**
- **Over a third of people with asthma experienced worse symptoms as a result of care being delayed or because they avoided seeking treatment – an estimated 631,800 people.**
- **Confidence in using the NHS needs to be rebuilt among people with asthma and the normal delivery of services must be restored.**

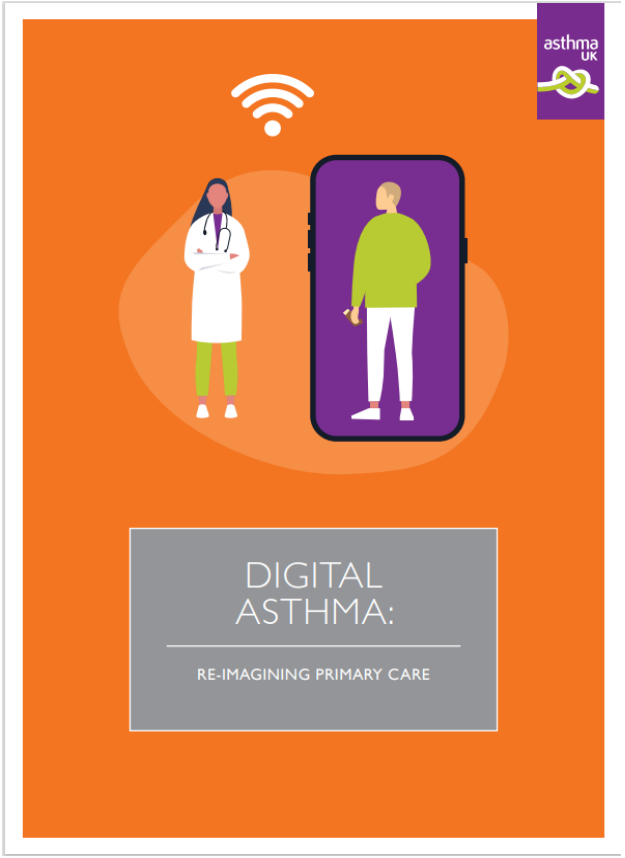
MEETING THE AMBITIONS OF THE LONG TERM PLAN

- **The NHS England Long Term Plan promised a huge step forward for people with asthma. Significantly, the plan made lung health a priority area for the NHS for the first time.**
- **If implemented, the plan would deliver real change for children and young people with asthma by reducing admissions, improving diagnosis and their quality of life.**
- **Due to COVID-19, there is now a significant backlog in care which may impact the delivery of NHS Long Term Plan commitments.**
- **The government and NHS must commit to a plan to restore the normal delivery of care for people with asthma and other lung conditions, as we have seen for other condition areas.**



RE-IMAGINING ASTHMA CARE

- **Asthma is a condition with multiple triggers and varying symptoms, managed by a variety of different NHS providers.**
- **Better utilisation of digital technologies and greater data sharing can help identify those most at risk of having an asthma attack and save lives.**
- **Many people with asthma are young, live busy lives and their asthma is not always a priority.**
- **The NHS now have a golden opportunity to build on the innovation we've seen during Covid and design services around the way people live, making it easy for them to attend appointments and self-manage their asthma effectively.**
- **Technology has the potential to develop new ways of tackling persistent asthma care challenges and radically transform asthma outcomes.**



THE TRAGIC CASE OF SOPHIE HOLMAN

“Sophie did not have an asthma action plan, something which everyone with asthma should have and which is proven to reduce someone’s likelihood of going to hospital. She wasn’t referred to an asthma specialist despite showing signs of having the severest form of asthma. Worst of all, despite multiple hospital stays and GP appointments, no one connected the dots to identify her as a high-risk patient.”

Dr Samantha Walker, Asthma UK and the British Lung Foundation

PREVENTION

- **We’re working to reduce the exposure that people with asthma have to air pollution and tobacco smoking so we can all breathe clean air with healthy lungs.**

CLEANER AIR AND HEALTHY LUNGS

- **We want everyone in the UK with asthma to be able to breathe air that doesn't damage their lungs.**
- **27% of schools are in areas where PM2.5 exceeds WHO levels.**
- **Air pollution is stunting the growth of children's lungs, causing new lung conditions and worsening existing ones.**

<u>What our supporters say:</u>

- **88% told us it affects their lives and wellbeing**
- **Over half of people with asthma said it triggers their condition**
- **1 in 6 saw improvements to their condition during the first lockdown**
- **Strong majority want more information and government action**

ELLA KISSI-DEBRAH

“Material contribution to Ella’s death,”

Coroner, Southwark Crown Court

“It’s not too late for other children,”

Rosamund Kissi-Debrah, Ella’s mother

OPPORTUNITIES FOR CHANGE

SMOKING AND ASTHMA

- **Exposure to second hand smoke is one of the leading causes of poor respiratory health in children, yet in 2019 62% of pupils reported being exposed to second hand smoke.**
- **The pandemic has seen an increase in children being exposed to second hand smoke, and an increase in young people starting smoking.**
- **In 2019/20 just over 10% of pregnant women smoked, leaving their child more vulnerable to a range of health problems, including asthma.**
- **The Government have plans to make England 'Smoke-Free' by 2030 but are currently set to miss these targets.**
- **We are working with partners to push for faster, more effective action on smoking. We campaigned on smoking in cars with children to be banned and successfully changed the law across the UK except for NI.**

OUR SERVICES

- **We provide support and advice to everyone with asthma, their families, friends, and healthcare professionals.**

SUPPORTING CHILDREN WITH ASTHMA AND THEIR FAMILIES

- **Providing health advice information for children and young people with asthma and their families.**
- **Asthma UK's back to school campaign raises awareness of the spike in asthma attacks across the UK when children go back to school.**
- **Helpline team support everyone with asthma, their families and friends.**
- **Since COVID-19, our support services have faced unprecedented demand.**
- **At the start of the COVID-19 pandemic, calls to our helplines went up by 557% in one week.**

NEXT STEPS

MEETING THE NEEDS OF CHILDREN WITH ASTHMA

- **We need to raise awareness amongst clinicians, children and their families that asthma is a serious and life-threatening condition.**
- **There is still complacency and a lack of urgency from the health services around ensuring basic asthma care is available to everyone.**
- **There is huge scope to improve basic care and ensure that child asthma deaths become a ‘never event’. The NHS needs to design services around the way people live to deliver care that is more accessible and convenient.**
- **Children with asthma and their families need to be given the tools and knowledge to manage their condition effectively.**
- **We need to see a reduction in exposure to air pollution and tobacco smoking so children with asthma can breathe clean air with healthy lungs.**

QUESTIONS?

Stay in touch:

swoolnough@auk-blf.org.uk

@lungUK

@asthmaUK

Q&A

- Matthew Clarke, National Specialty Advisor for Children and Young People at NHS England
- Aishah Farooq, Patient and Public Voice Partners at NHS England
- Haania Hussain, Patient and Public Voice Partners at NHS England
- Ian Sinha, Consultant respiratory paediatrician from Alder Hey Children's Hospital
- Jen Townshend, General and respiratory paediatrician, Great North Children's Hospital, Newcastle upon Tyne, Chief Executive of BEATAsthma
- Sarah Woolnough, Chief Executive Officer of Asthma UK and the British Lung foundation

#AskAboutAsthma

Lunch Break

#AskAboutAsthma

Clinical update

Ian Sinha, Consultant respiratory paediatrician from Alder Hey Children's Hospital

#AskAboutAsthma

CLINICAL UPDATE

IAN SINHA
CONSULTANT RESPIRATORY PAEDIATRICIAN
@wheezylikesund1
iansinha@liv.ac.uk

STRUCTURE

Our clinic and its ethos

Diagnosis

Management - ICS, ICS/LABA

1 slide on biologics (just 1 slide...!)

Socioeconomic determinants of outcome

Acute asthma

I have no financial or other interests to declare

I am the chief investigator on an NIHR RCT (ASYMPTOMATIC), clinical lead for an NIHR Meta-analysis (EINSTEIN), and co-applicant on other clinical research studies

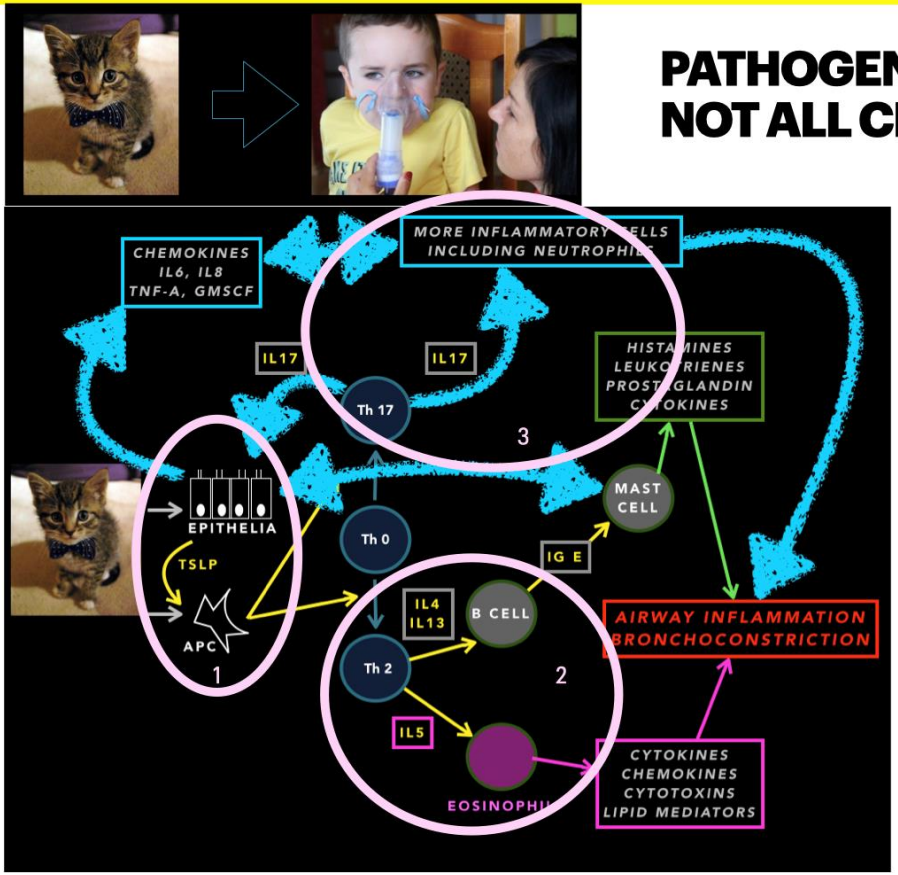
I am clinical lead for the Children and Young People's asthma audit within the National Asthma and COPD Audit Programme

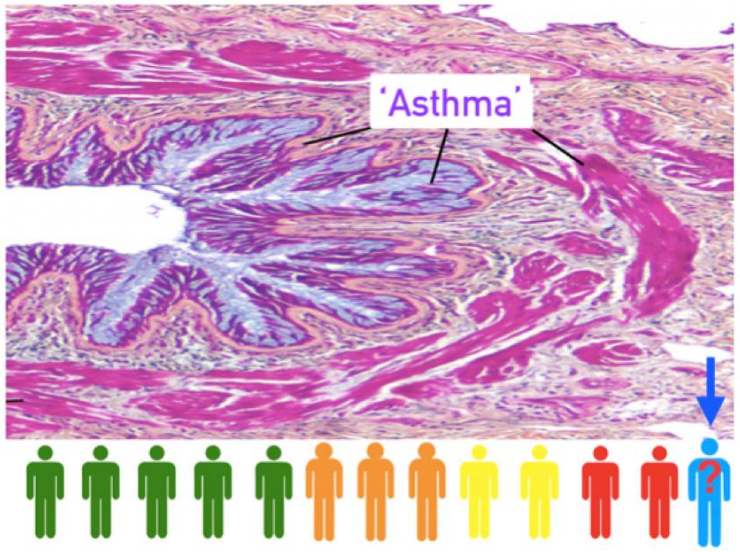
Our socially distanced team watching the European Respiratory Society Congress!

DEVELOP A MULTIDISCIPLINARY TEAM

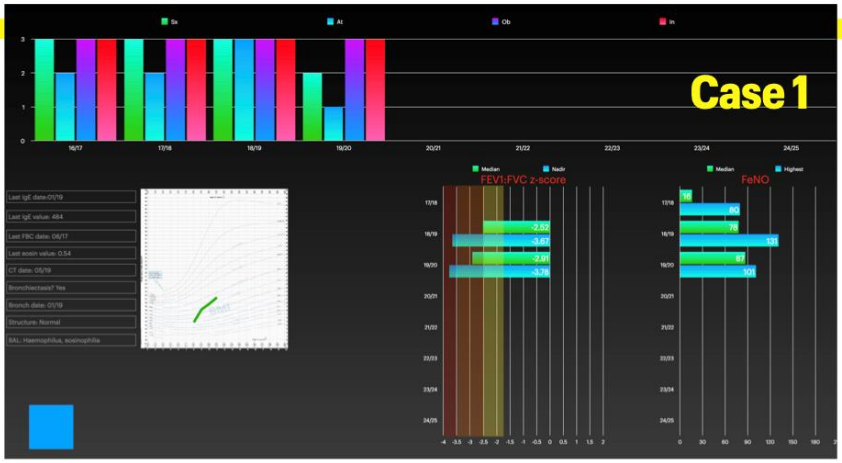
- @MDASasthma
- Managing asthma:
  33% inhaled steroids,
  33% healthy living,
  33% self esteem,
  1% everything else

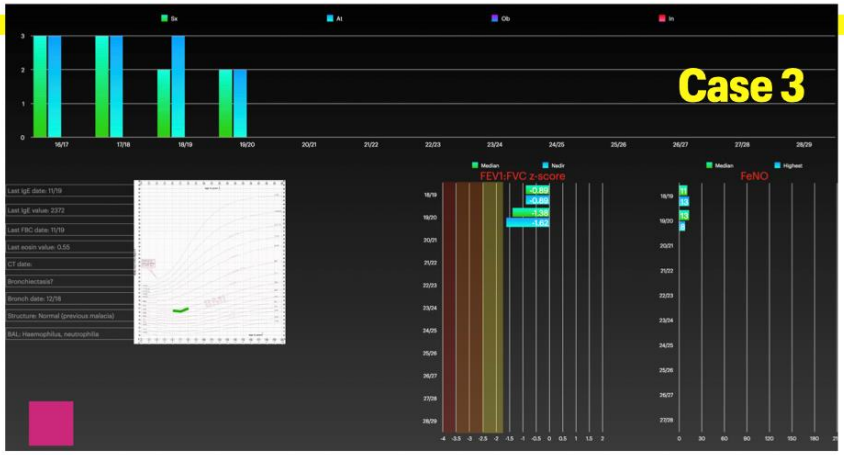
PATHOGENESIS OF ASTHMA - NOT ALL CHILDREN ARE THE SAME

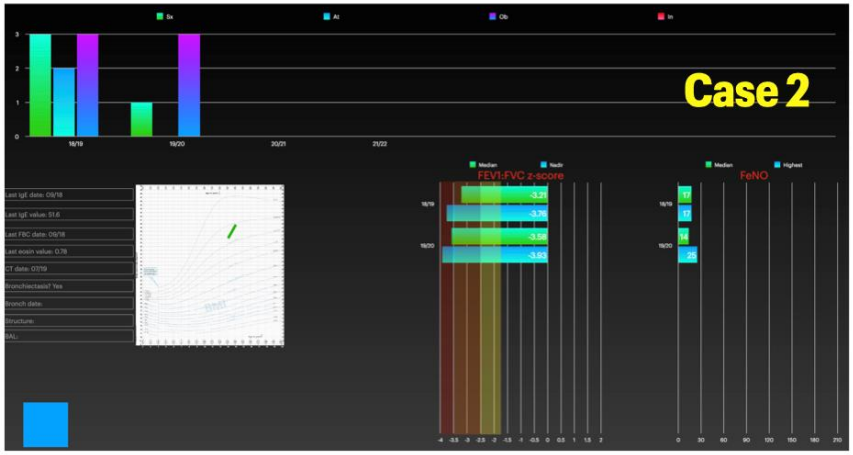


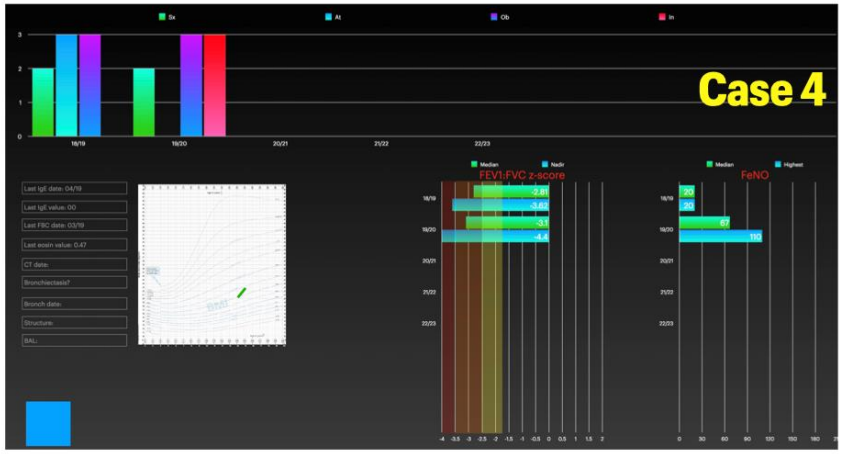


@wheezylikesund1

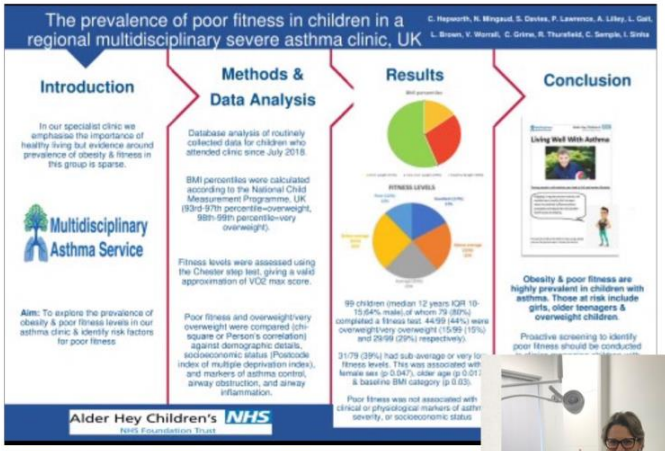








DIET, EXERCISE, SLEEP, AND REDUCING STRESS CAN ALL REDUCE INFLAMMATION



99 children -

44% overweight/ very overweight;
39% low fitness

@wheezylikesund1

EMPOWER CHILDREN WITH ASTHMA

Review

Empowering children and young people who have asthma

Ian P Sinha ,[1,2] Lynsey Brown,[1] Olivia Fulton,[1] Lucy Gait,[1] Christopher Grime,[1] Claire Hepworth,[1] Andrew Lilley,[1] Morgan Murray,[1] Justus Simba[1,3]

Sinha IP, *et al*. *Arch Dis Child* 2020;**0**:1–5. doi:10.1136/archdischild-2020-318788

ENABLE CHILDREN TO

- **SELF-MANAGE**
- **TAILOR THEIR ASTHMA AROUND THEIR LIFE**
- **MAKE SHARED DECISIONS**

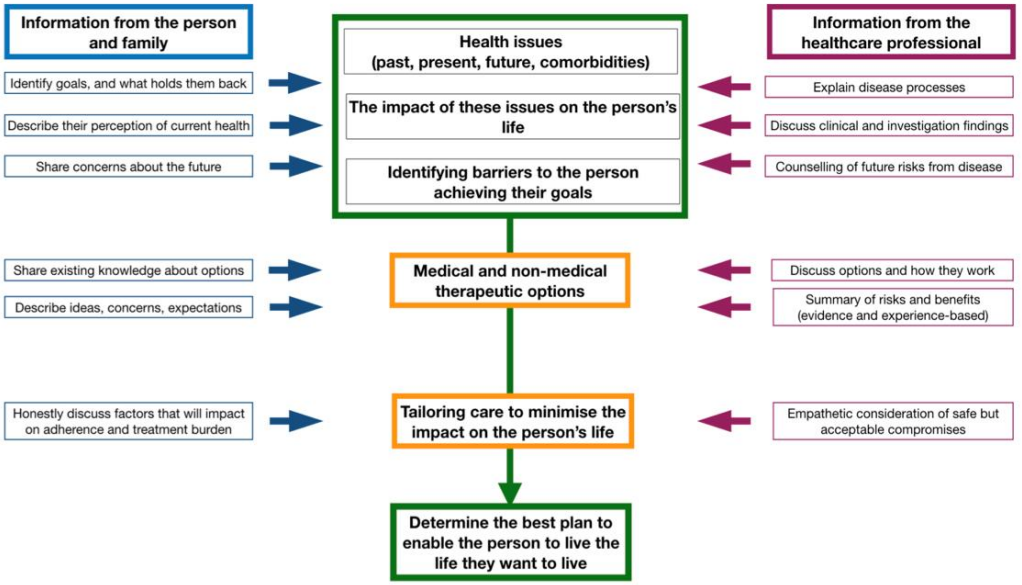


Figure 1 An approach to making shared healthcare decisions with young people.

GET THE DIAGNOSIS AS RIGHT AS YOU CAN

YOU NEED MOST OF THE FOLLOWING:

DRY COUGH
WHEEZE
CHEST TIGHTNESS
ATOPY
VARIABILITY

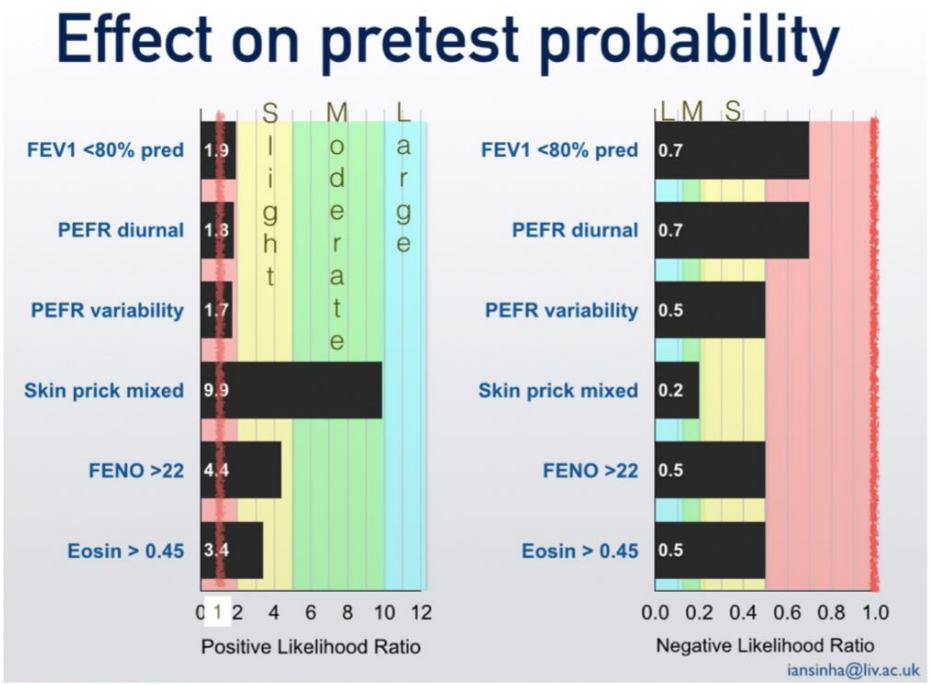
KNOWING PRESENCE/ABSENCE OF INFLAMMATION IS HELPFUL:

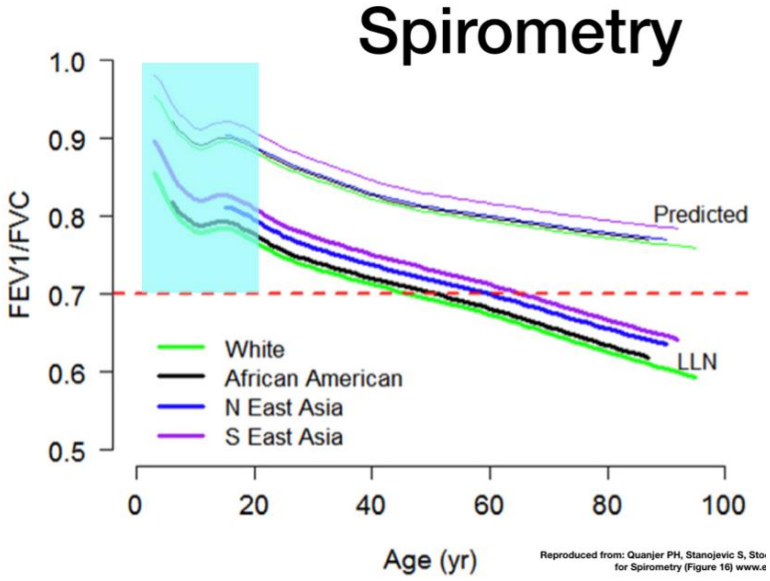
SERUM EOSINOPHILS
SPUTUM EOSINOPHILS
EXHALED NITRIC OXIDE
IGE/RAST
SKIN PRICK TEST

KNOWING PRESENCE/ABSENCE OF AIRWAY OBSTRUCTION MAY OR MAY NOT BE HELPFUL

PEFR
FEV1:FVC Z-SCORE

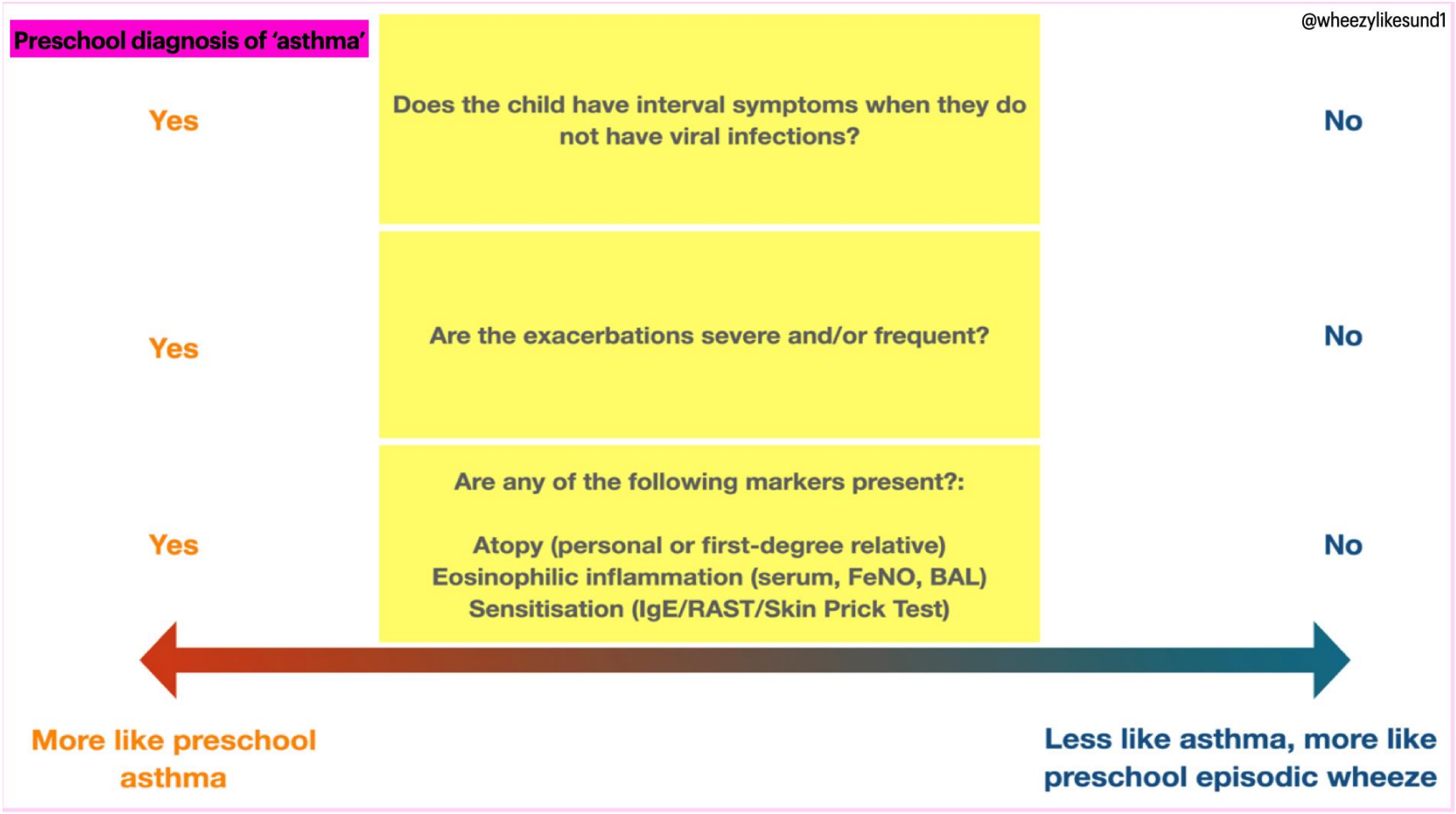
VARIABILITY MAKES ASTHMA MORE LIKELY





Traditional markers will MISS obstruction in children and young adults

Ethnic differences in lung physiology can be substantial


@wheezylikesund1
Preschool diagnosis of 'asthma'
Yes
Does the child have interval symptoms when they do not have viral infections?
No
Yes
Are the exacerbations severe and/or frequent?
No
Yes
Are any of the following markers present?:
Atopy (personal or first-degree relative)
Eosinophilic inflammation (serum, FeNO, BAL)
Sensitisation (IgE/RAST/Skin Prick Test)
No
More like preschool asthma
Less like asthma, more like preschool episodic wheeze

@wheezylikesund1

ALL CHILDREN WITH ASTHMA SHOULD TAKE INHALED CORTICOSTEROIDS

EXCESS SALBUTAMOL IS ASSOCIATED WITH AN INCREASED RISK OF DEATH

INHALED CORTICOSTEROIDS REDUCE EXACERBATIONS

ICS VIA METERED DOSE INHALER MUST BE GIVEN VIA A SPACER

GINA GUIDELINES NOW RECOMMEND IN MILD ASTHMA, ICS CAN BE GIVEN INTERMITTENTLY...

ARE WE SURE THAT INTERMITTENT ICS IS SAFE IN CHILDREN?

I) MAINTENANCE ICS MAY BE MORE EFFECTIVE IN CHILDREN THAN ADULTS

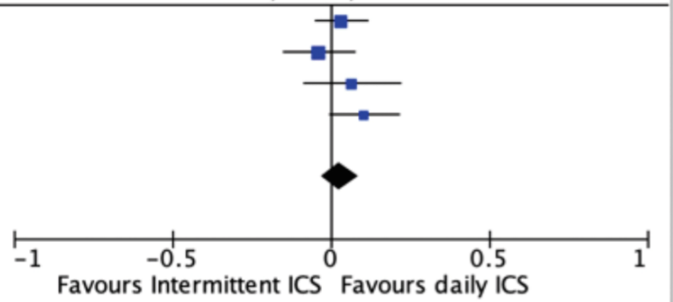
II) INTERMITTENT INCREASES IN ICS MAY BE MORE BENEFICIAL IN ADULTS THAN CHILDREN

III) SELF-MANAGEMENT STRATEGY FOR SYMPTOM-DRIVEN ICS IS MORE DIFFICULT IN CHILDREN

	Intermittent ICS		Daily ICS			Risk Difference
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Fixed, 95% CI
Camargos 2018	10	94	7	94	28.7%	0.03 [-0.05, 0.11]
Sumino 2019	20	103	24	103	31.5%	-0.04 [-0.15, 0.07]
Trexa 2011	25	72	20	71	21.9%	0.07 [-0.09, 0.22]
Turpeinen 2008	9	58	3	59	17.9%	0.10 [-0.00, 0.21]
Total (95% CI)		**327**		**327**	**100.0%**	**0.03 [-0.03, 0.09]**
Total events	64		54			

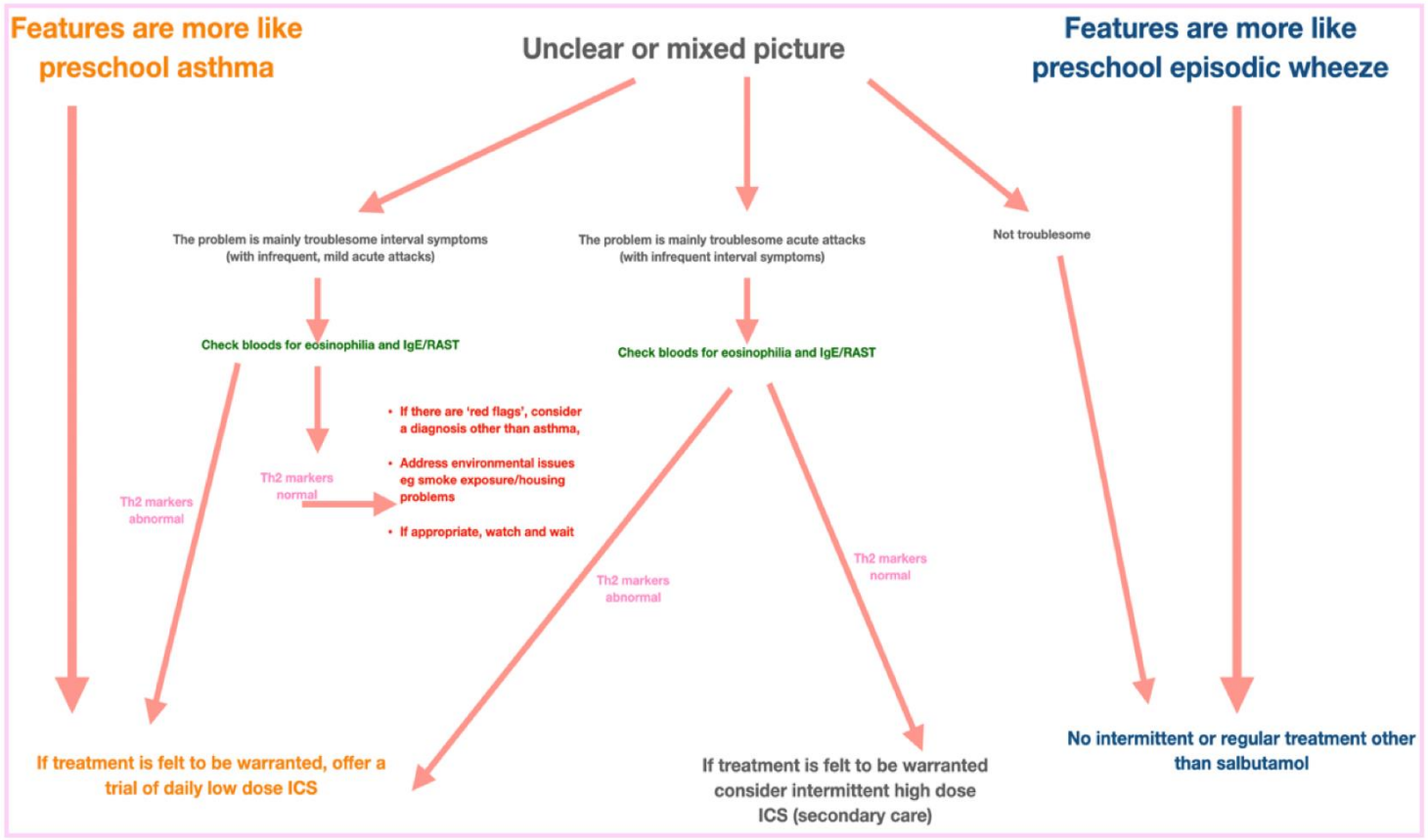
Heterogeneity: $Chi^2 = 3.46$, $df = 3$ ($P = 0.33$); $I^2 = 13\%$

Test for overall effect: $Z = 1.03$ ($P = 0.31$)



WATCH THIS SPACE!!...THE ASYMPTOMATIC STUDY (NIHR): NI PRAGMATIC TRIAL IN PRIMARY CARE

Preschool wheeze?



IF ASTHMA IS UNCONTROLLED...
GET THE BASICS RIGHT BEFORE STEPPING UP THERAPY

IS IT ASTHMA?

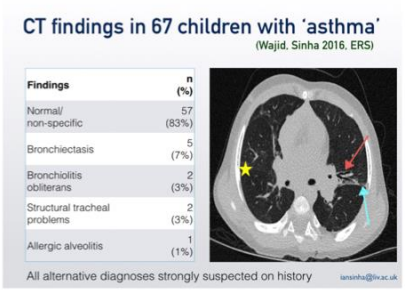
IS IT ASTHMA + COMORBIDITY?

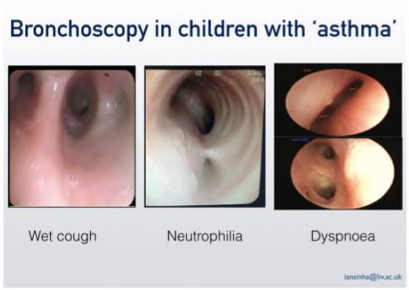
ARE THEY TAKING THEIR INHALED STEROIDS... PROPERLY?

DOES THE CHILD KNOW WHAT TO DO DURING AN ASTHMA ATTACK?

ARE THERE WIDER THINGS AFFECTING THE CHILD'S ASTHMA?

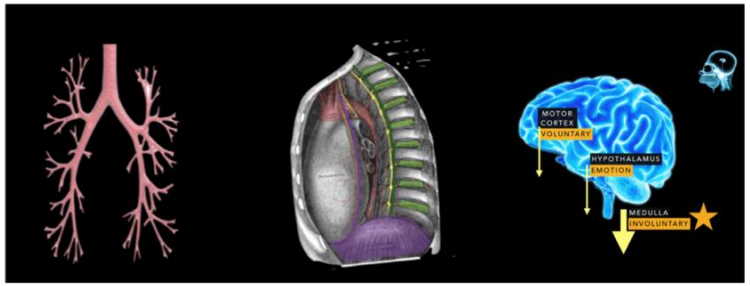
Cough and wheeze ≠ asthma

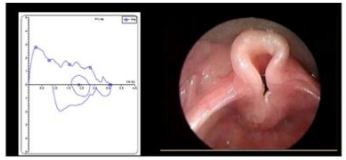




Cystic fibrosis
Primary ciliary dyskinesia
Bacterial bronchitis

Dyspnoea ≠ asthma





JOURNAL OF ASTHMA
https://doi.org/10.1080/02770903.2020.1784195

Commercial valved spacers versus home-made spacers for delivering bronchodilator therapy in pediatric acute asthma: a cost-effectiveness analysis

Carlos E. Rodríguez-Martínez, MD, Msc, PhD(c)[a,b], Monica P. Sossa-Briceño, MD, MSc[c], and Ian P. Sinha, MD, PhD[d]

[a]Department of Pediatrics, School of Medicine, Universidad Nacional de Colombia, Bogota, Colombia; [b]Department of Pediatric Pulmonology and Pediatric Critical Care Medicine, School of Medicine, Universidad El Bosque, Bogota, Colombia; [c]Department of Internal Medicine, School of Medicine, Universidad Nacional de Colombia Bogota, Colombia; [d]Respiratory Department, Alder Hey Childrens Hospital Liverpool, Liverpool, UK

Conclusions: The present study shows that in Colombia, an MIC, compared with commercial valved spacers, the use of home-made spacers for administering bronchodilator therapy is more cost-effective because it yields a similar probability of hospital admission at lower overall treatment costs.

Royal College of Physicians | NACAP

National Asthma and Chronic Obstructive Pulmonary Disease Audit Programme (NACAP)

Children and young people asthma clinical and organisational audits 2019/20

Clinical (children and young people with asthma attacks admitted to hospital from 1 June 2019 and discharged by 31 January 2020) and organisational audits of children and young people asthma services in England, Scotland and Wales 2019/20

Children and young people asthma 2019/20 audit report

Published May 2021

In association with: ARNS, asthma UK, British Thoracic Society, Imperial College London, pcrs, RCGP, RCPCH

Commissioned by: HQIP

Participant information

8,506 hospital admissions for asthma attacks between June 2019 and January 2020.

152/181 hospitals participated in the clinical audit **84%**

136 in England, **7** in Scotland and **9** in Wales

142/181 hospitals participated in the organisational audit **78%**

119 provided a full organisational audit record. **110** in England, **2** in Scotland and **7** in Wales

23 provided a partially complete organisational audit record. **18** in England, **3** in Scotland and **2** in Wales

C1 Recording smoking status*and exposure to second-hand smoke

*smoking status is only recorded for children and young people aged over 11 years old

46.9% of children and young people did have their smoking status recorded.

57.7% of children and young people did have their exposure to second-hand smoke recorded..

QI priority: Record smoking status and exposure to second-hand smoke for **95%** of children and young people.

C2 Systemic steroids

38.7% of children and young people aged 6 years or older received systemic steroids within 1 hour of arrival at hospital.

Over 6 years

QI priority: Administer systemic steroids within 1 hour of arrival at hospital to **95%** of children and young people aged 6 years old or over, who have not received systemic steroids as part of pre-hospital care.

C3 Discharge bundle

45.5% of children were in receipt of an up-to-date PAAP at discharge.

61.9% had their inhaler technique checked before discharge.

28.8% request of a follow-up appointment in a paediatric asthma clinic within 4 weeks

QI priority: Provide **95%** of children and young people with the following as part of their discharge bundle:

1. review or issue of a personalised asthma action plan (PAAP)
2. check of their inhaler technique
3. request a follow-up appointment in a paediatric asthma clinic within 4 weeks

The rationale for each priority and its associated guidelines and standards are included with the key findings at relevant points throughout the report.

ORIGINAL ARTICLE
ASTHMA & PAEDIATRIC PULMONOLOGY

Budesonide/formoterol maintenance and reliever therapy in adolescent patients with asthma

Carin Jorup[1], Dan Lythgoe[2] and Hans Bisgaard[3]

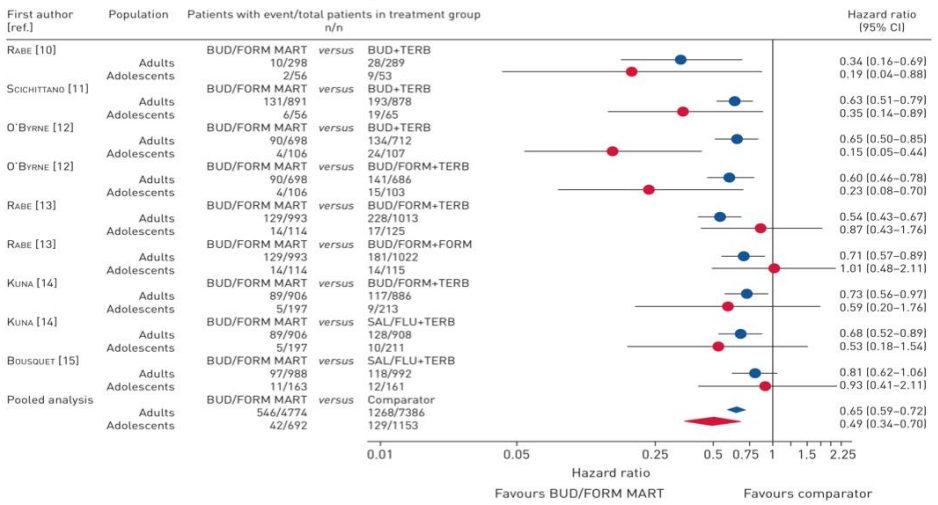


FIGURE 1 Forest plot of treatment comparisons for time to first severe exacerbation. Doses differ across studies (table 1). Estimates obtained from Cox regression models with treatment as a factor. Pooled analysis: Cox model stratified by study, budesonide/formoterol (BUD/FORM) *versus* not-BUD/FORM as a treatment variable and with country as a covariate. Heterogeneity p-values 0.1995 (adults) and 0.0435 (adolescents).

ICS/LABA...

MART

6% vs 11%

NNT 5.9

ICS/LABA

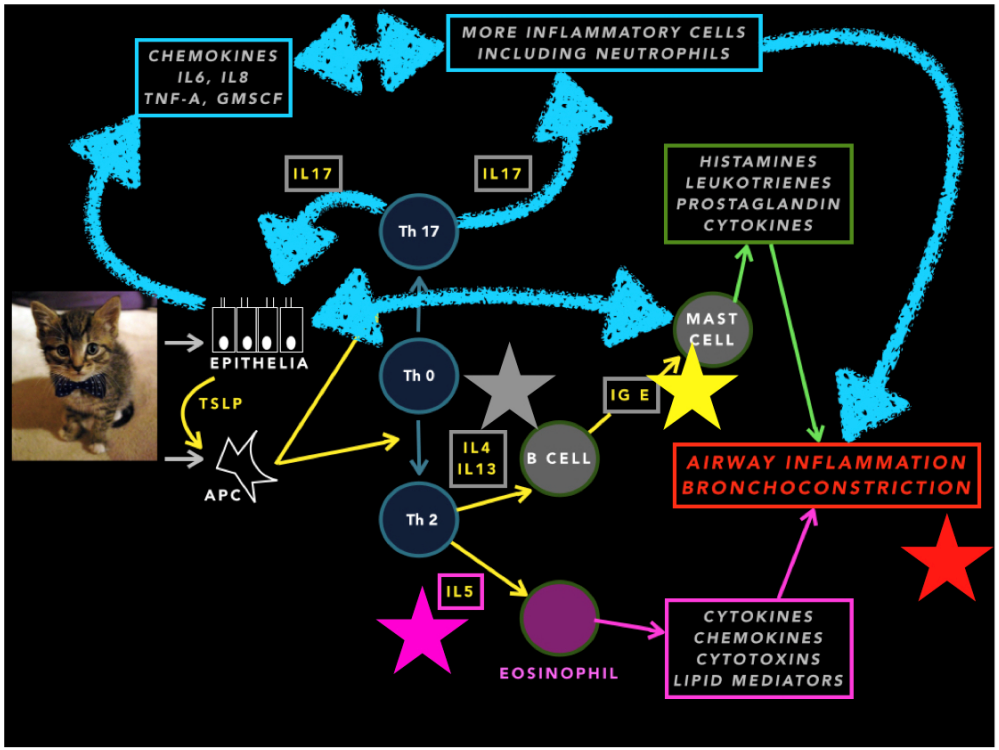
ULTRA LONG ACTING

Is Relvar better than FP/Salmeterol?

- 3 trials (Allen, Busse, Woodcock) of FF100 FP/salm
  - 1 of these trials (Woodcock) of FF100 vs FP 250/salm 50 BD

Outcome	Allen	Busse	Woodcock
Sx scores/ control	Not reported	**No difference**	**No difference**
% Sx free days	Not reported	Not reported	Not reported
Exacerbations needing OCS	**No difference**	Not reported	**No difference**
Hospitalisation	**No difference**	Not reported	**No difference**
QoL	Not reported	Not reported	**No difference**

TREATMENT OF VERY SEVERE ASTHMA



NO BIOLOGIC IS A TREATMENT FOR:

OBESITY,
BROKEN HOME,
ANXIETY,
NON-ADHERENCE
... OR
... POVERTY

@wheezylikesund1

iansinha@liv.ac.uk

Living in poverty is associated with factors that increase the risk of developing asthma, and having asthma attacks

@wheezylikesund1

iansinha@liv.ac.uk

Living in poverty alters your DNA

Received: 12 November 2018 | Revised: 1 February 2019 | Accepted: 2 February 2019
DOI: 10.1002/ajpa.23800

RESEARCH ARTICLE

Genome-wide analysis of DNA methylation in relation to socioeconomic status during development and early adulthood

Thomas W. McDade[1,2,3] | Calen P. Ryan[1] | Meaghan J. Jones[4,5,6] | Morgan K. Hoke[7,8] | Judith Borja[9,10] | Gregory E. Miller[2,11] | Christopher W. Kuzawa[1,2] | Michael S. Kobor[3,4,5]

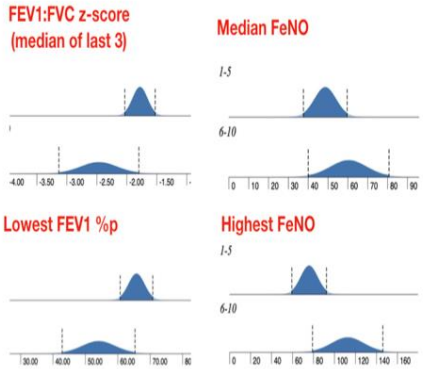
[1]Department of Anthropology, Northwestern University, Evanston, Illinois

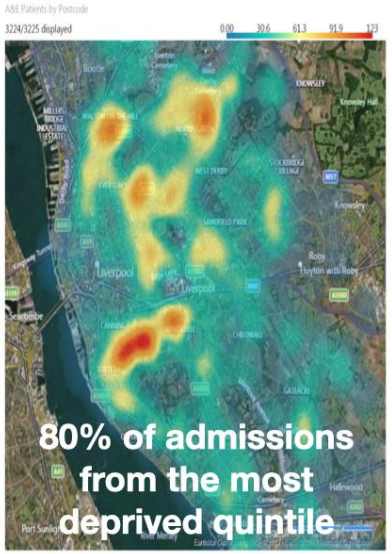
Results: A total of 2,546 CpG sites, across 1,537 annotated genes, were differentially methylated in association with SES. In comparison with high SES, low SES was associated with increased methylation at 1,777 sites, and decreased methylation at 769 sites. Functional enrichment analysis identified over-representation of biological pathways related to immune function, skeletal development, and development of the nervous system.

Conclusions: Socioeconomic status predicts DNA methylation at a large number of CpG sites across the genome. The scope of these associations is commensurate with the wide range of biological systems and health outcomes that are shaped by SES, and these findings suggest that DNA methylation may play an important role.

By DNA methylation, poverty can change the structure and function of 8-10% of your DNA

Children in the Alder Hey Multidisciplinary Asthma Service who live in more deprived postcodes (IMD decile 6-10) had more airway obstruction and higher inflammation (n=97)



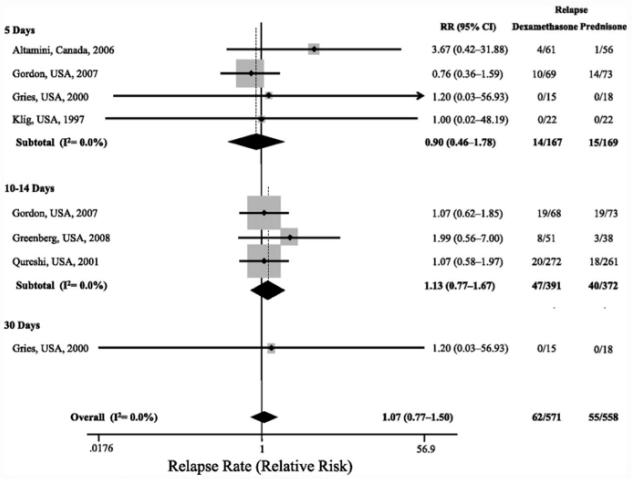


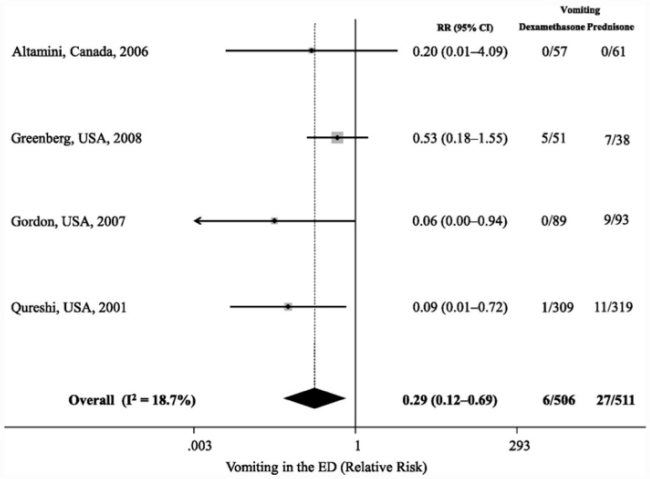
ACUTE ASTHMA

Royal College of Physicians | NACAP

- **Give steroids at triage**
- (cut risk of admission [NNT 13] and ED LOS [44 minutes])
- **Different steroids (prednisolone to dexamethasone)**
- (£5 vs £45)
- **Give inhalers not nebulisers**
- (cut risk of admission NNT 10)
- **Nurse-led weaning protocol with earlier discharge**
- (cut admission LOS by 8 hours)

ORAL DEXAMETHASONE (0.6 MG/KG)





Keeney, Paediatrics 2014

On the basis of moderate to high quality evidence,

- Prednisolone is not more effective than dexamethasone
- Dexamethasone is better tolerated than prednisolone

IN SUMMARY, MANAGING ASTHMA IN CHILDREN IS:

33% ICS, 33% SELF ESTEEM, 33% HEALTHY LIVING, 1% EVERYTHING ELSE

Focus on the right history - tests can help but are imperfect

Develop a multidisciplinary approach

Empower children

Ensure every child has ICS

Address wider determinants of health where you can

Beat Asthma – Working together in the North East and beyond

Jen Townshend, General and respiratory paediatrician, Great North Children's Hospital, Newcastle upon Tyne, Chief Executive of BEATAsthma

#AskAboutAsthma

BeatAsthma

Dr Jen Townshend

jennyj@doctors.org.uk

www.beatasthma.co.uk

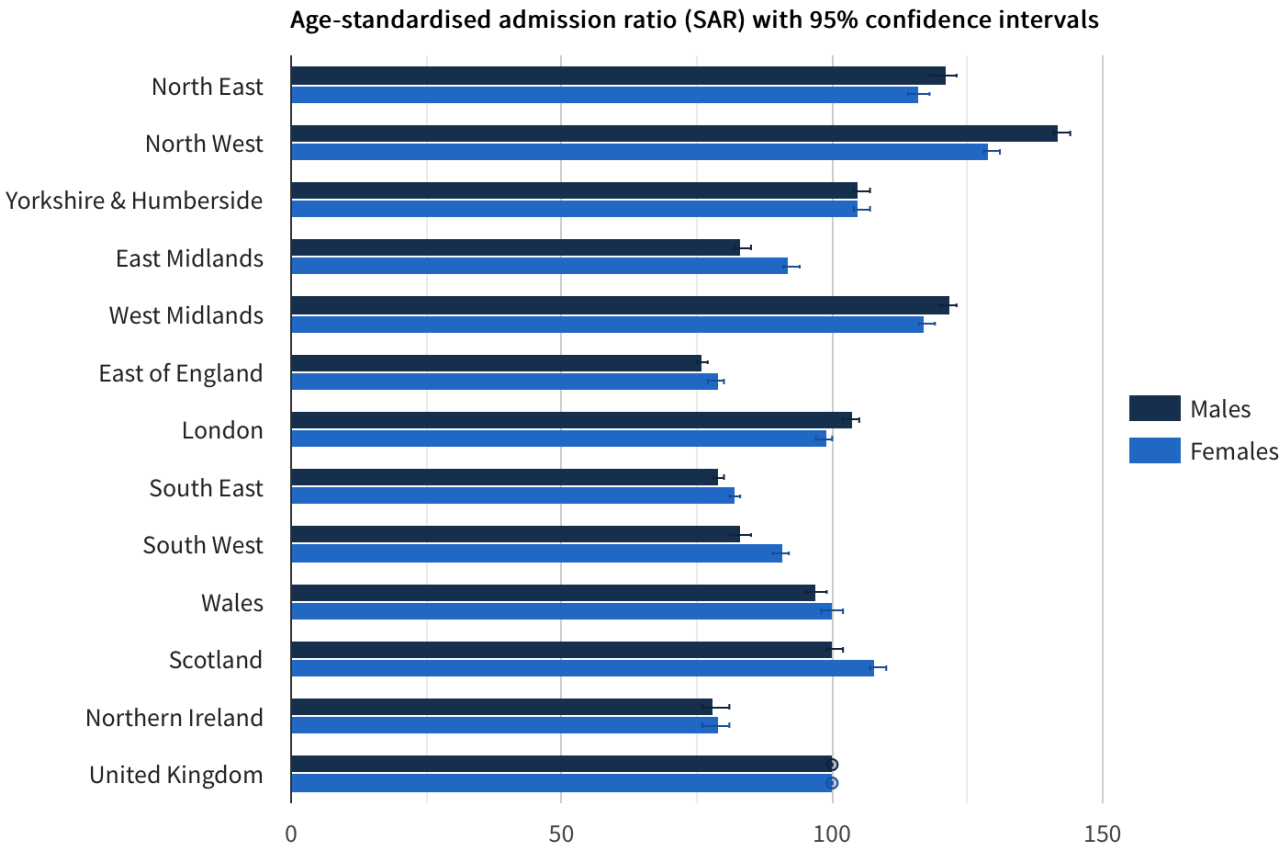
Aims

- BeatAsthma
  www.beatasthma.co.uk
  - Improving
  - Standardising
  - Impact

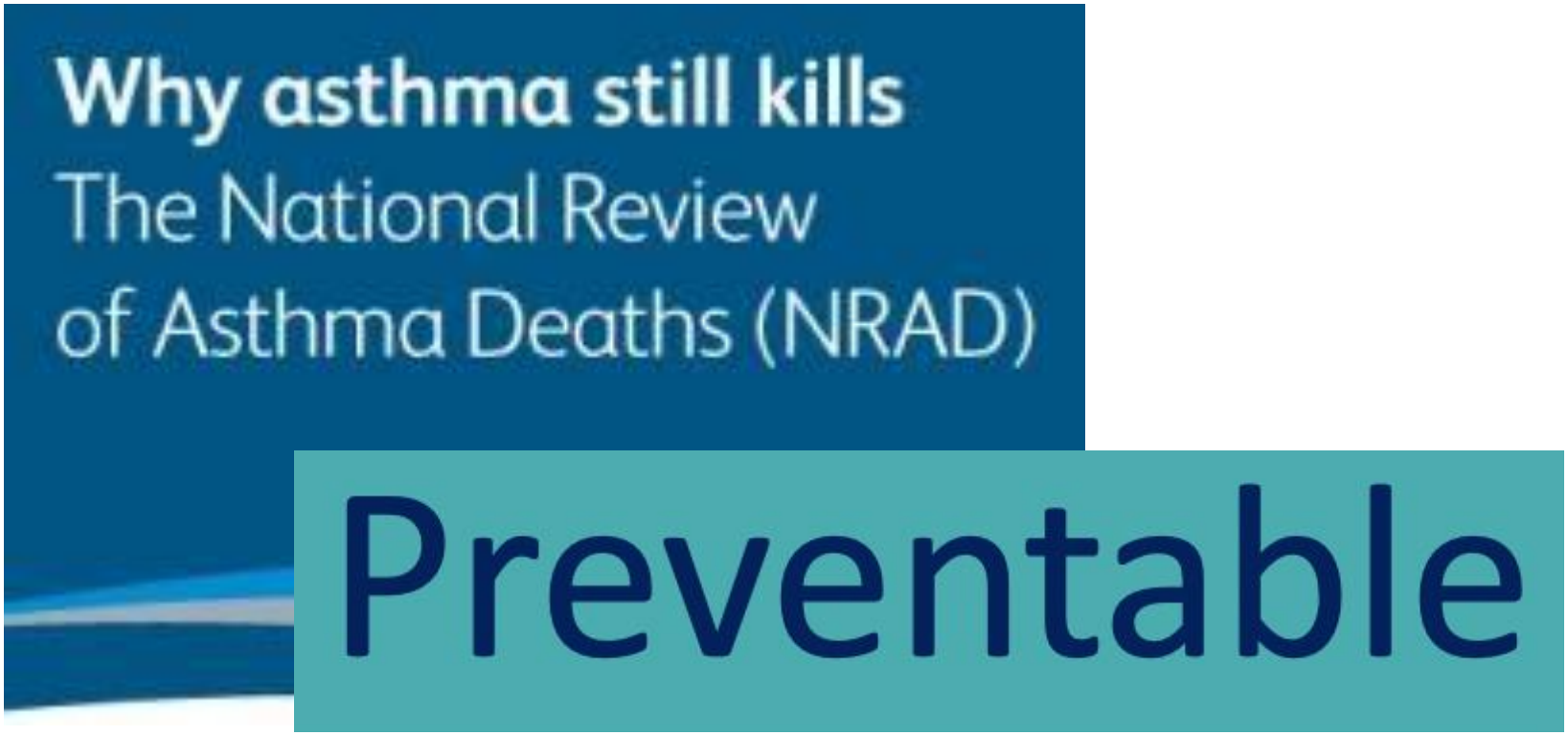
- Future directions

www.beatasthma.co.uk

Asthma hospital admission ratios, males and females, in each UK region, 2008–12

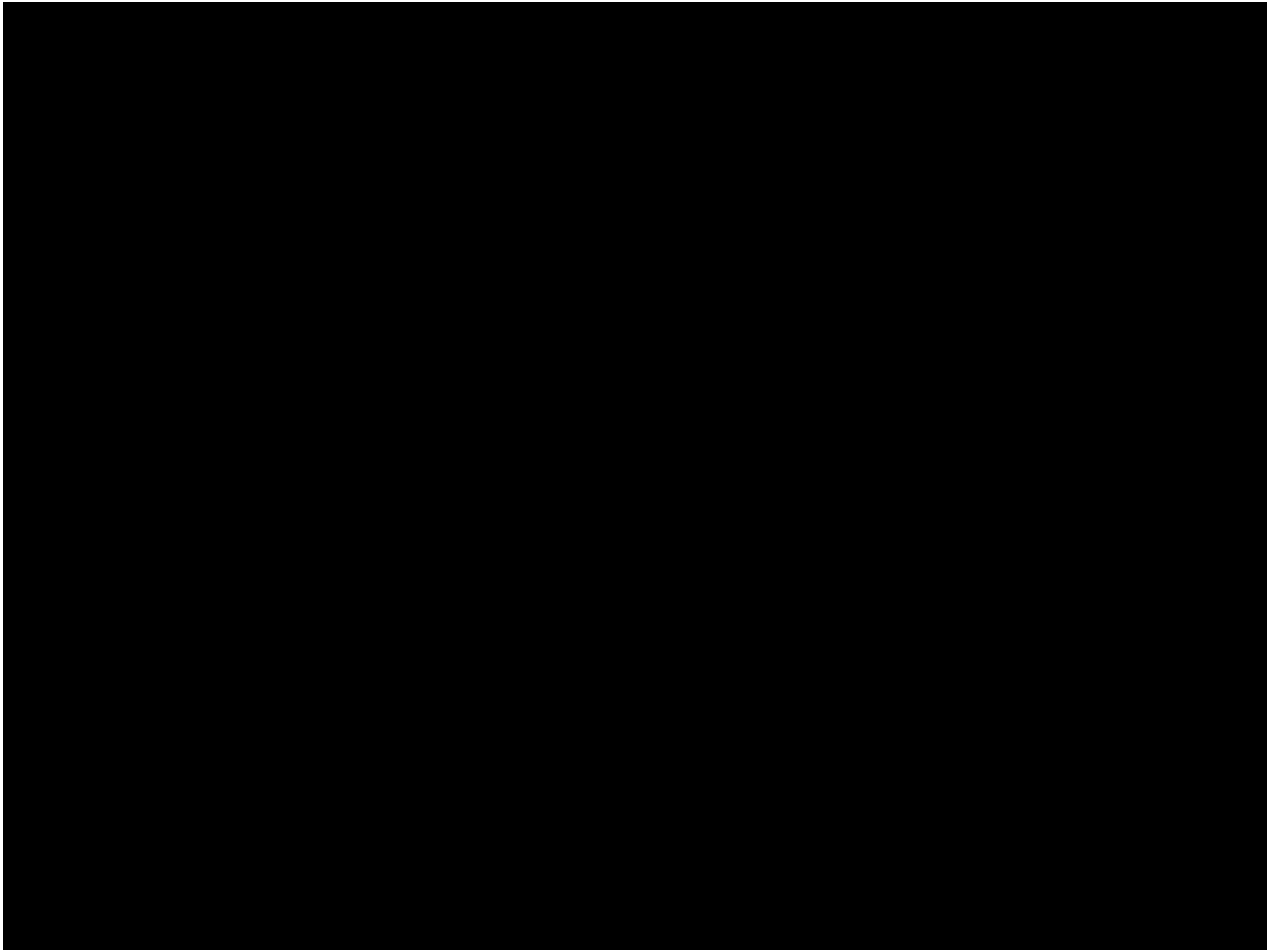


Source: British lung foundation



2/3rds had inadequate care

21 children died



Source: BBC Look North

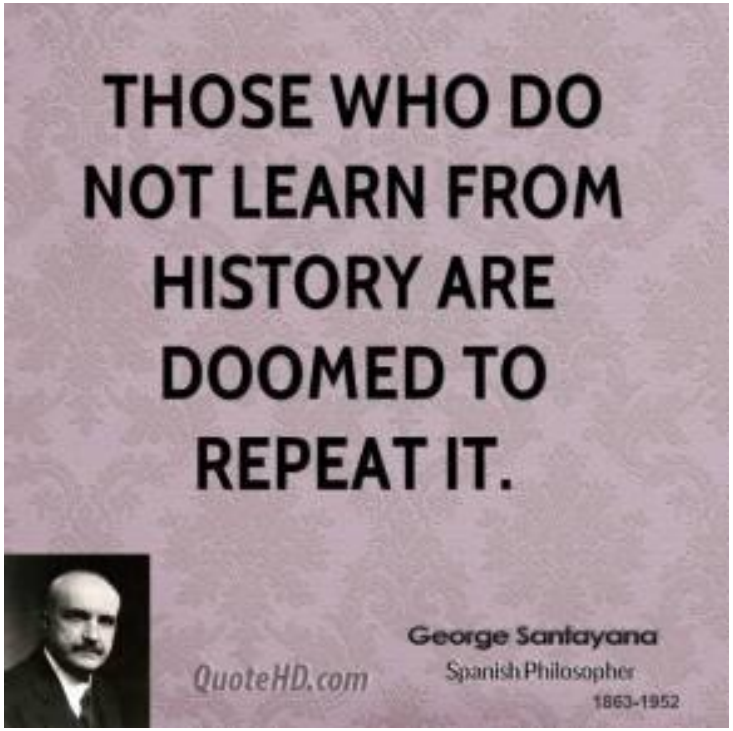
Coroners conclusions

- Fragmented care
- Simple interventions not done
- Asthma can still kill


The Telegraph
HOME
NEWS
News
UK | World | Politics | Science | Education | Health | Brexit | Royals | Investigations
News
Doctors missed 11 chances to treat chess champion before he died of chronic asthma, inquest hears
Save
Regulation 28


The Sun
FABULOUS
MONEY
MOTORS
TRAVEL
TECH
DEAR DEIDRE
NHS BLASTED Fury over ten-year-old girl who died of asthma as coroner rules she was failed by 'woeful' NHS treatment
By Ben Leo
1 Jun 2019, 0:11 | Updated: 1 Jun 2019, 0:11
Regulation 28


ISA


THOSE WHO DO NOT LEARN FROM HISTORY ARE DOOMED TO REPEAT IT.
QuoteHD.com
George Santayana
Spanish Philosopher
1863-1952

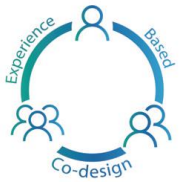
Aims

- Education
- Empowering patients
- Promote self management
- Co-ordinated care

Outcome Measures

- **Reduced unplanned hospital admissions**
- Improved PAAP usage
- Improved overall asthma control
  - 2-point increase

Experience based co-design



1. Capturing the experience

2. Understand the experience

3. Improve the experience

4. Measure the Experience

Regional Partnership

Focus groups

Families:

- Isolated
- Self management resources

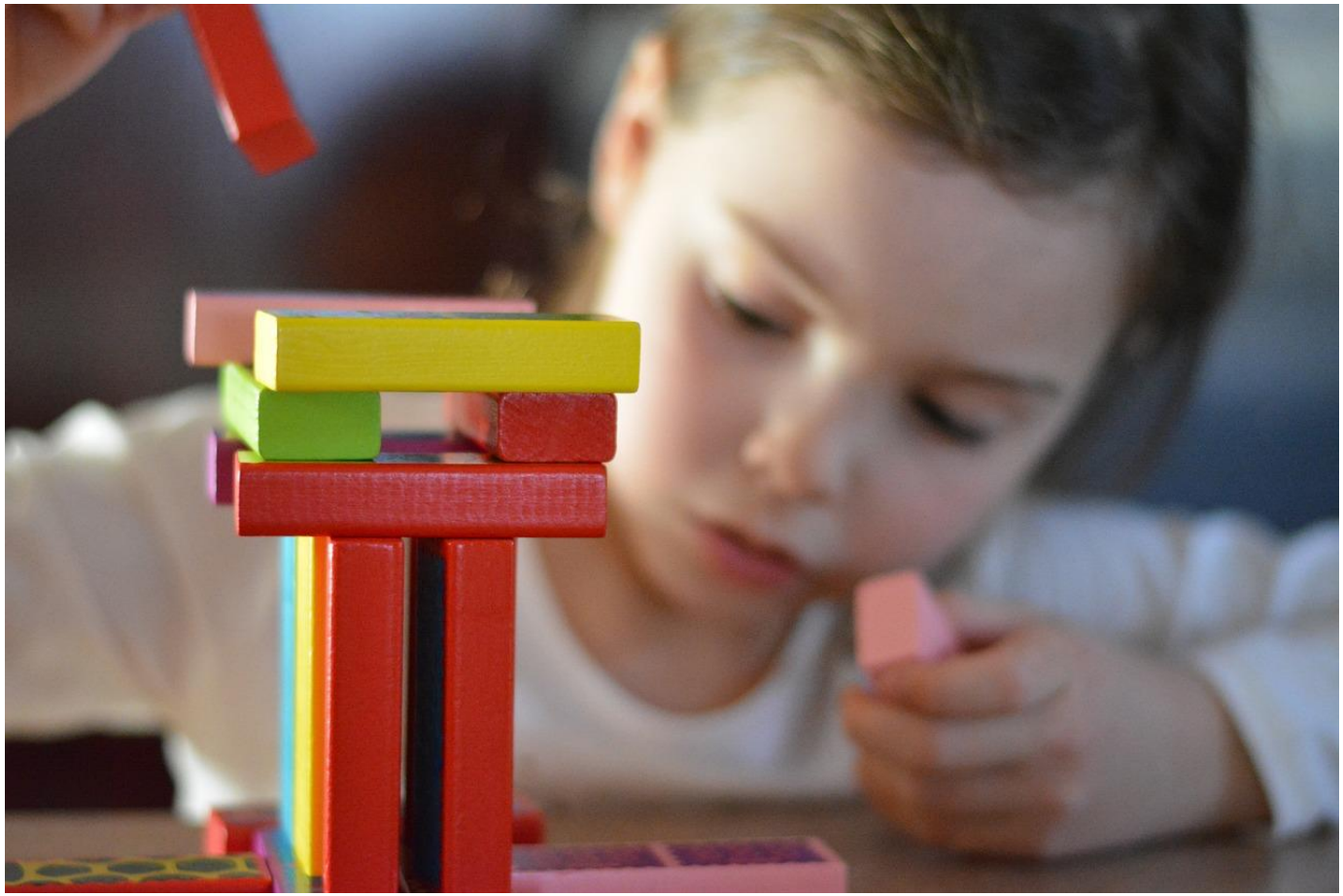
Primary care:

- Standardised resources
- Easily accessible resources

Young people:

- Ability to share information
- Schools

Intervention design



www.beatasthma.co.uk

BReATHE

Beating Regional Asthma Through Health Education

beat asthma

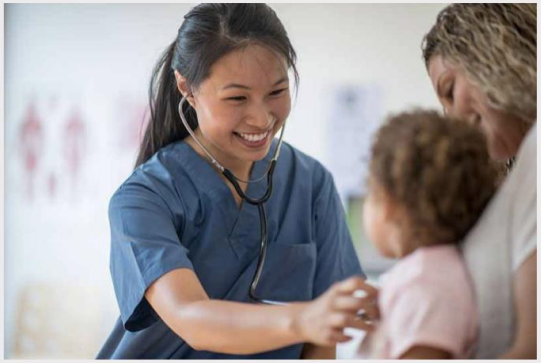
Home Resources Fundraising Feedback DONATE

Families & children

Young people with asthma

Schools

Primary Healthcare Professionals



Secondary Healthcare Professionals

Fundraising

Do you want to help beat asthma?

Supporting young people with asthma

Resources tailored to the needs of young people

On this site, you will find all the information you need to fully understand your asthma, know how to recognise important symptoms and know how your treatment should be so you can get the best possible control of your asthma. There is also advice for how to look after your asthma in schools and things to help your friends understand more about it too, and know what to do if you need their help.

Why is Asthma serious

Learn why it is important to take asthma seriously

Managing my Asthma

Find all the information you need to manage your asthma day to day

I am having an asthma attack

Helpful information on recognising an asthma attack and easy to follow steps of what to do for you and your friends

Asthma in schools

Resources and information to help you look after your asthma and feel safe in school

Asthma medicines information

Understand your asthma medicines

Emerging treatments

Learn what the future holds for asthma treatment

Learning to take control and manage your own asthma day to day is the best way to keep you well and prevent having an asthma attack.

General Resources

- Are my symptoms due to asthma?
- Personalised asthma action plan
- What to expect at an annual review
- Smoking and My Asthma
- Air pollution and my asthma
- Keeping my asthma safe on a night out

Is my asthma well controlled?

Keeping your asthma under good control is the key to preventing asthma attacks and good lung health. Take the Asthma Control Test to find out if your asthma is as well controlled as it could be.

- Asthma control test for young people 12 years and older

How to use my inhalers

It is important to use your inhaler in the right way. If not, the medicine may not get to the lungs and may mean your asthma is less well controlled. The most commonly used inhaler is a 'Metered Dose Inhaler (MDI) and these must always be taken with a spacer device, no matter how old you are, in order to get the medicine to the lungs. Not all inhaler devices need a spacer, though. Read our easy to follow information sheets for the different inhalers.

- How to use my large volume spacer
- How to use my accuhaler
- How to use my autohaler
- How to use my Easibreathe
- How to use my Easyhaler
- How to use my turbohaler
- How to use my peak flow meter

Video guides

How to use my large volume spacer

How to use my accuhaler

How to use my autohaler

How to use my Easibreathe

beat asthma

Home | Resources | Fundraising | Feedback | DONATE

Families & children

Young people with asthma

Schools

Primary Healthcare Professionals

Secondary Healthcare Professionals

Fundraising

Do you want to help beat asthma?

www.beatasthma.co.uk

Resources tailored to the needs of secondary care

On this site, you will find all the information and resources you need to deliver consistently high quality paediatric asthma care in your practice meeting all national standards and recommendations.

Why is asthma serious?

Understand why we all need to raise the standards of asthma care

Asthma Diagnosis

Tools to aid an accurate asthma diagnosis and alternative differentials

Chronic management

Tools for the day to day management of Paediatric Asthma

Exacerbation management

Tools to support the emergency management of children with asthma including discharge information for parents.

Contact Sister Hails

If you have questions on devices or inhaler technique, get in touch with Sister Hails here, our specialist paediatric asthma nurse, and she will try and reply within 7 days

‘All that wheezes is not asthma.’

Find out here how to make an accurate diagnosis and other diagnoses to consider

- How to make an Asthma Diagnosis in Secondary Care
- A basic guide to lung function tests in children
- Alternative diagnoses in wheezy children
- ‘Red flags’ and indicators of other diagnoses

Resources for families following a diagnosis of asthma

Educating families is essential if they are to be able to feel empowered and able to self-manage their children’s asthma. This section provides the resources to support this

- Asthma information leaflet for families and children
- Personalised asthma action plan
- Personalised asthma action plan for school
- Asthma and panic attacks, knowing the difference
- Air pollution and asthma

Resources for young people following a diagnosis of asthma

Young people are beginning to take control of their own health. This section provides resources specifically designed for them

- Asthma information leaflet for young people
- Personalised asthma action plan
- Personalised asthma action plan for school
- Asthma and panic attacks, knowing the difference
- Air pollution and asthma

How to use your devices information sheets

Accurate delivery of medication to the lungs is essential for it to be effective. All children should be trained in the use of their specific inhaler device at least annually. All metered dose inhalers (MDIs) should always be given via a spacer. Devices that don’t require a spacer can be useful for use when out and about but shouldn’t be used during an asthma exacerbation. Use our easy to follow information sheets for the different devices to support this training.

- How to use an aerochamber spacer with a mask
- How to use a large volume spacer with a mask
- How to use a large volume spacer
- How to use an accuhaler
- How to use an autohaler
- How to use an Easibreathe
- How to use a Easyhaler

Remember: take your blue inhaler **before** you come into contact with any of your triggers and every 4 hours if you have a cold

My Triggers are:

-
-
-
-
-
-
-

Common Triggers are:

- Viruses
- Changes in weather
- House dust mites
- Animal fur, feathers and their bedding
- Foods
- Exercise
- Upset, distress, and emotions
- Smoke – cigarettes and fires

Additional Comments:

Your Asthma Nurse's name and telephone number is:

Your doctor's name and telephone number is:

Recommended websites
www.beatasthma.co.uk

AsthmaUK at:
www.asthma.org.uk

https://uk-air.defra.gov.uk/forecasting/

This leaflet is intended for colour printing.

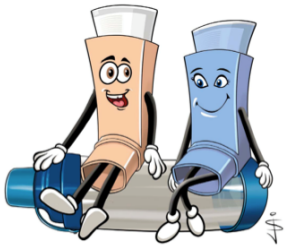
beat asthma

THE great north CHILDREN'S HOSPITAL

Asthma Management Plan For

Best Peak Flow .....

Date .....



Please take this with you when you visit your doctor or asthma nurse.

Patient Identifier

beat asthma

Annual Review Sheet

(20 minutes recommended)

1) SYMPTOMS
   - Children's Asthma control Test score
   - Frequency of Salbutamol use
   - Acute attacks:
     - i. Number of acute attacks since last review
     - ii. Number of courses of steroids since last review
     - iii. Number of A and E attendances/admissions since last review
2) TRIGGERS
   - Known/possible triggers
   - Known food allergies/nut avoidance?
   - Smoking status – young person
     - family members
   - Concomitant rhinitis present?
   - Raised BMI? If so, advice given?
3) RISK FACTORS FOR LIFE THREATENING EPISODE
   - Previous life-threatening episode
   - Parental mental illness
   - Psychosocial deprivation
   - High DNA rate/poor compliance
4) MEDICATION
   - Current medications
   - Number of preventers since last review?
   - Number of relievers since last review?
   - Does this indicate good adherence?

beat asthma

What is asthma

Asthma triggers

Everyone's asthma is different and can be triggered by different things.

Common asthma triggers include:

- Viral infections
- Allergies – e.g. to pollen, animals, dust)
- Irritants – e.g. cold air, smoke, chemicals)
- Exercise
- Changing weather

If you know your child is going to be in contact with one of your triggers, give them their blue reliever inhaler beforehand. Use it every 4 hours if the trigger is still there, for example, if they have a cold or the pollen count is high.

Asthma plans

Your child should have a personalised asthma action plan which may be provided by the hospital when you go home or by your GP as part of your asthma review. This plan details which treatments should be used to manage your asthma when your child is unwell.

We hope this information sheet has been helpful but it is by no means a replacement for talking to either the Doctor or Nurse. Please ask questions if you feel you need more information or have a look at our website:

www.beatasthma.co.uk

How to use my child's large volume spacer

www.beatasthma.co.uk

www.beatasthma.co.uk

beat asthma

I am having an asthma attack.

Scan here

www.beatasthma.co.uk

Follow us on facebook

BReATHE

www.beatasthma.co.uk

REGIONAL ASTHMA EDUCATION DAYS

BReATHE

www.beatasthma.co.uk

REGIONAL ASTHMA EDUCATION DAYS

NURSE LED 'ONE STOP SHOP' CLINIC

BReATHE

www.beatasthma.co.uk

REGIONAL ASTHMA EDUCATION DAYS

NURSE LED 'ONE STOP SHOP' CLINIC

LOCAL SPECIALIST ASTHMA SERVICE

BReATHE

www.beatasthma.co.uk

REGIONAL ASTHMA EDUCATION DAYS

NURSE LED 'ONE STOP SHOP' CLINIC

LOCAL SPECIALIST ASTHMA SERVICE

DISCHARGE BUNDLE AND TELEPHONE FOLLOW UPS

BReATHE

www.beatasthma.co.uk

REGIONAL ASTHMA EDUCATION DAYS

NURSE LED 'ONE STOP SHOP' CLINIC

LOCAL SPECIALIST ASTHMA SERVICE

DISCHARGE BUNDLE AND TELEPHONE FOLLOW UPS

CASCADE TRAINING FOR SCHOOLS


Impact

29%

Reduction in unplanned hospital admissions

(10 % increase region-wide)

SUSTAINED CHANGE over 3 years

48% increase use of PAAP in primary care

40% increase use of discharge bundle in secondary care

£67139.55

cost saving over 3 years

6

Point improvement in ACT score (sustained)

beat asthma

35,000

page views **world-wide**

100%

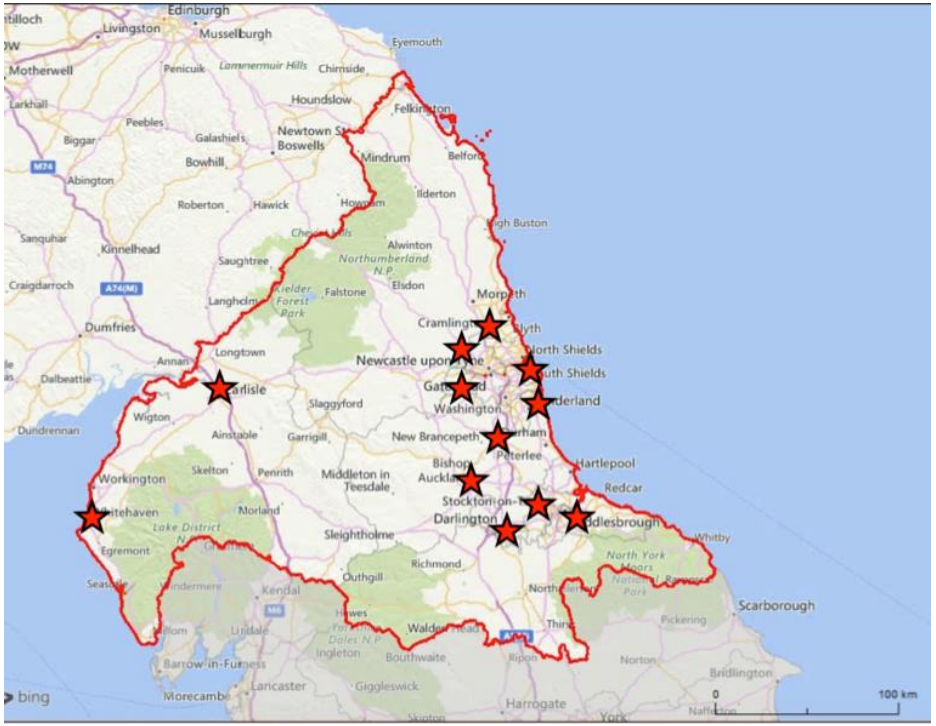
positive feedback from all user groups

I needed to say thank you, this is a fantastic resource for primary care! It's so nice to have something to direct both patients and staff too.

'Thank you all for this fantastic website. So easy to navigate and every bit of information is to the point and actually makes

REACH

Region wide use of shared paperwork



National Interest

LOCAL AND NATIONAL AWARDS

beat asthma schools

beat asthma +

beat asthma pharmacy

Future directions...

- BeatAsthma School
- BeatAsthma Pharmacy
- BeatAsthma+
- BeatAsthma Tier 3 Education Module

….join the team

www.beatasthma.co.uk

Fundraisers, Helvellyn, Lake District

Salbutamol: relief or rescue – time to put out the fire?

Louise Fleming, Consultant in Paediatric Respiratory Medicine, Royal Brompton and Harefield Hospital Trust & Clinical Senior Lecturer, National Heart and Lung Institute

#AskAboutAsthma

Imperial College London

ROYAL BROMPTON DIFFICULT ASTHMA SERVICE

Salbutamol: relief or rescue – time to put out the fire?

Dr Louise Fleming

Reader, Imperial College London

Consultant Respiratory Paediatrician, Royal Brompton Hospital

Conflict of interest disclosure

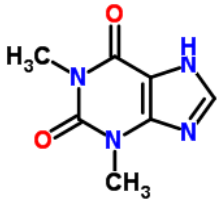
Affiliation / Financial interest	Commercial company
Grants/research support:	Asthma UK: Joan Bending, Evelyn Bending, Mervyn Stephens and Olive Stephens Memorial Fellowship; NIHR (EME); Asthma UK Centre for Applied Research
Honoraria or consultation fees:	Novartis, Chiesi, Astra Zeneca, Teva
Participation in a company sponsored bureau:	Astra Zeneca, Boehringer Ingelheim, Novartis, Synexus, GSK, Sanofi, Respiri UK

All fees paid directly to my institution

Member of GINA Science Committee

Asthma Drug Timeline

Anticholinergic

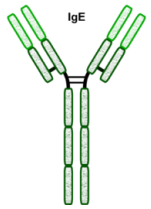


Theophylline

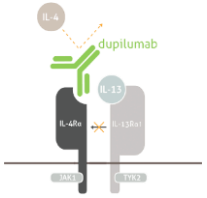
Salbutamol

Inhaled corticosteroids

Long acting beta agonists



Omalizumab



Dupilumab

1900 | 1930s | 1940s | 1950s | 1960s | 1970s | 1980s | 1990s | 2000s | 2010s | 2020s

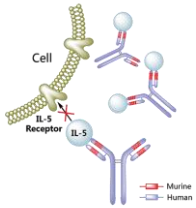
Nebulized epinephrine

First inhaler

Prednisolone

Ipatropium bromide

Montelukast



Mepolizumab

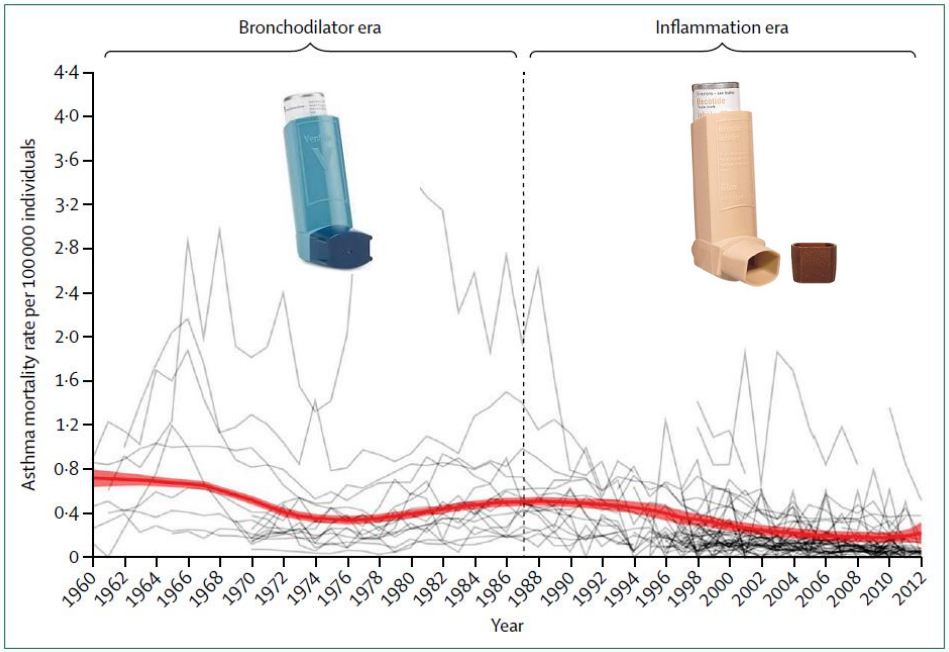


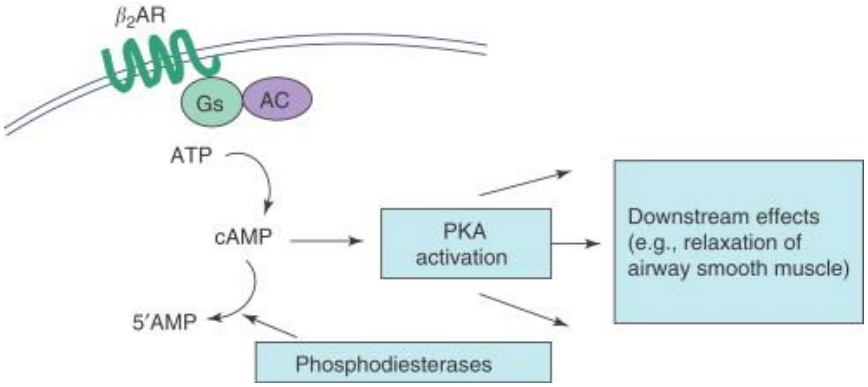
***Figure 1*: Crude asthma mortality rates between 1960 and 2012 for individuals aged 5–34 years in 46 countries during the bronchodilator and inflammation eras of asthma management**
The association between the anti-inflammatory era and improved outcomes, and the flat-line with regard to further improvements between 2005 and today, is evident. The red lines indicate the locally weighted scatter plot rates after scatterplot smoothing with 90% confidence intervals, weighted by country population. The grey lines represent the rates of individual countries. Reproduced from Ebmeier et al.[19]

despite 50 years of research into asthma it is still a blue and a brown inhaler, measuring the urinary cotinine and looking menacingly at the pet cat regardless of the 151 pages of BTS asthma guidelines.

Rosenthal, Thorax 2015; 70:112-114

Beta-2 Adrenoceptor Agonists

- β_2-adrenoceptor: G-protein coupled receptors (GPCR)
- Coupled via stimulatory G protein (Gs) to adenylate cyclase (AC) resulting in increased intracellular cyclic AMP and activation of protein kinase A
  - ➢Reduction in intracellular calcium
  - ➢Reduced sensitivity of contractile proteins
  - ➢Relaxation of smooth muscle

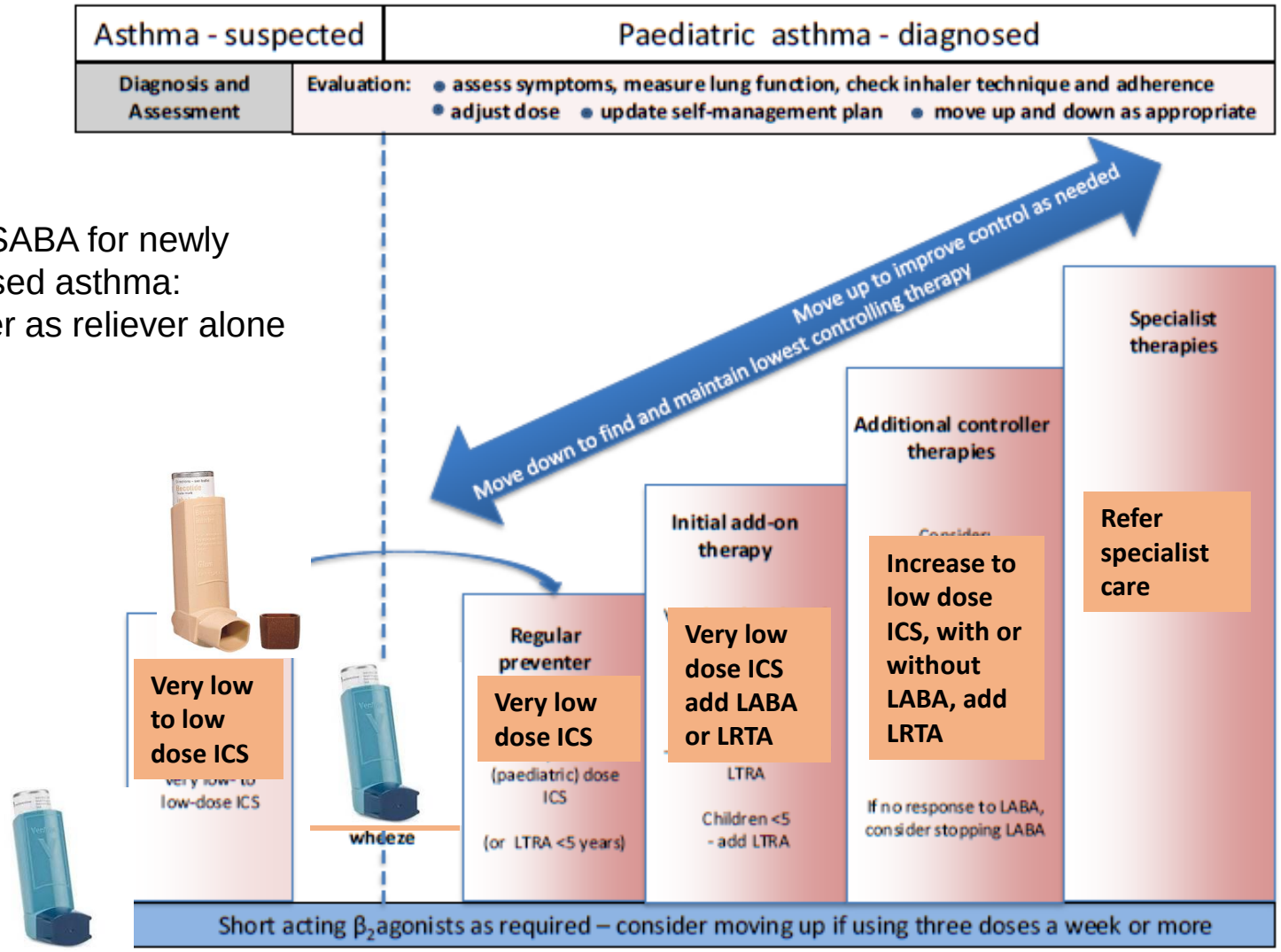


Classification of β_2-Agonists

- Short-Acting
  - Salbutamol
  - Levalbuterol
  - Terbutaline
- Long-Acting
  - Salmeterol
  - Formoterol
- Ultra-Long-Acting
  - Vilanterol
  - Indacaterol
  - Olodaterol

β_2-Agonist	Onset	Maximum bronchodilation	Duration
Salbutamol	2-3 mins	15 mins	3 – 6 hours
Salmeterol	15-20 mins	30 mins	12 hours
Formoterol	1-3 mins	10-15 mins	12 hours
Vilanterol	5 -10 mins	22 hours	48 – 72 hours

NICE: SABA for newly diagnosed asthma: consider as reliever alone



GINA 2019: a fundamental change in asthma management

Treatment of asthma with short-acting bronchodilators alone is no longer recommended for adults and adolescents

For safety, GINA no longer recommends treatment of asthma in adolescents and adults with SABA alone. Instead, to reduce their risk of serious exacerbations, all adults and adolescents with asthma should receive either symptom-driven (in mild asthma) or daily inhaled corticosteroid (ICS)-containing treatment.

GINA April 2019
Reddel ERJ 2019

About the GINA strategy

- The GINA report is not a guideline, but an integrated evidence-based strategy focusing on translation into clinical practice
- Rapid review of the evidence
- Recommendations are framed, not as answers to isolated questions, but as part of an integrated strategy, in relation to:
  - The GINA goals of preventing asthma deaths and exacerbations, as well as improving symptom control
  - Current understanding of underlying disease processes
  - Human behaviour (of health professionals and patients/carers)
  - Implementation in clinical practice
  - Global variation in populations, health systems and medication access

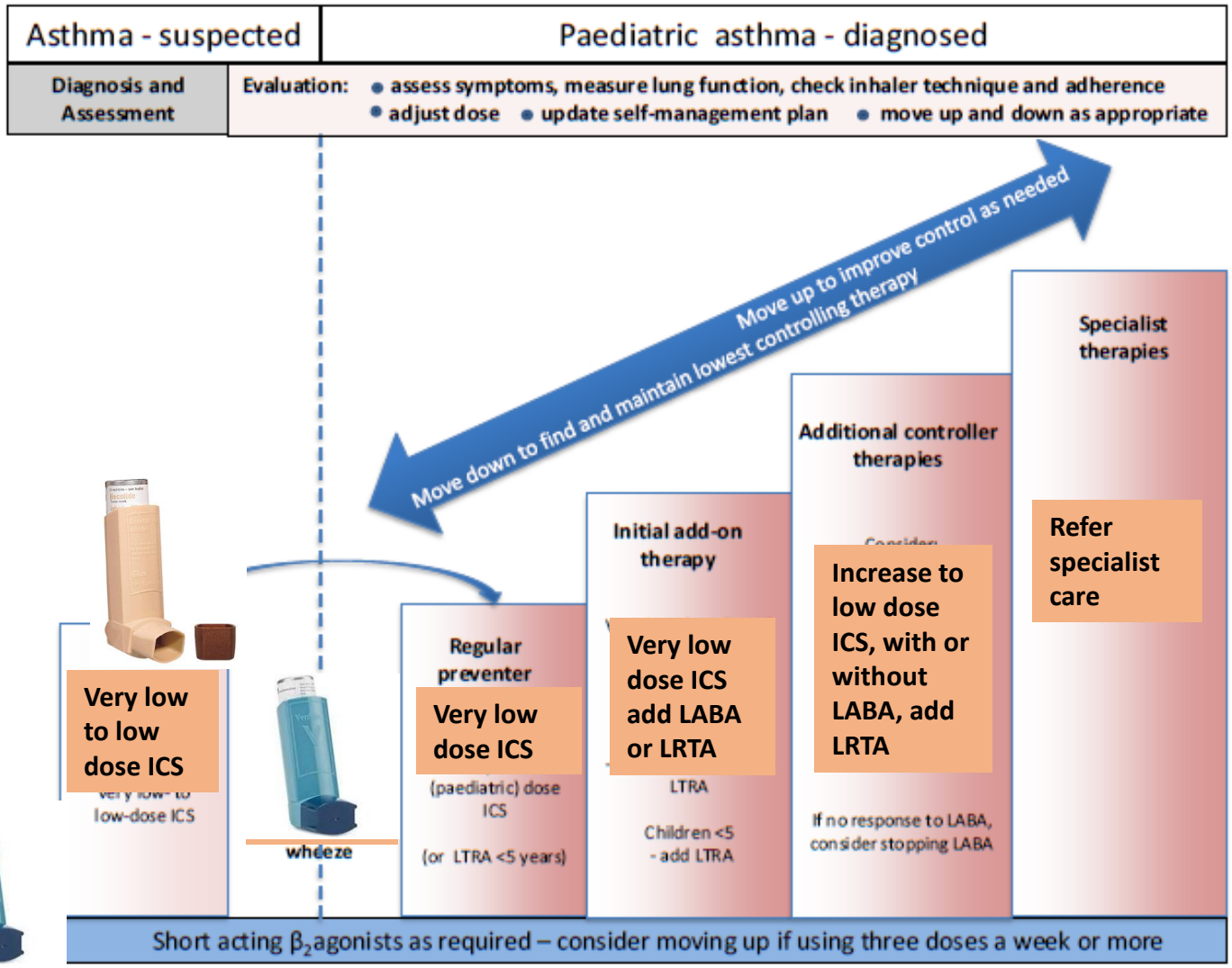
GINA 2019 – Landmark Changes in Asthma Management

- For ***safety*** reasons, GINA no longer recommends SABA only treatment at Step 1 in adults and adolescents
- Based on evidence that SABA-only treatment increases the risk of severe exacerbations
- Adding any ICS significantly reduces the risk
- All adults and adolescents with asthma should receive ICS containing controller treatment
- This is a population-level risk reduction strategy
  - The aim is to reduce the probability of serious adverse outcomes at population level

Concerns About the Management of Mild Asthma

- Patients with mild asthma comprise 50 – 75% of asthma population
- These patients with apparently mild asthma are at risk of serious adverse events
  - 30–37% of adults with acute asthma
  - 16% of patients with near-fatal asthma
  - 15–20% of adults dying of asthma
- Inhaled SABA has been first-line treatment for asthma for 60 years
  - This dates from an era when asthma was thought to be a disease of bronchoconstriction
  - Patient satisfaction with, and reliance on, SABA treatment is reinforced by its rapid relief of symptoms, its prominence in ED and hospital management of exacerbations and low cost
  - Starting treatment with SABA trains the patient to regard it as their primary asthma treatment
- Poor adherence is a modifiable risk factor for asthma attacks

Dusser D, Allergy 2007;62:591-604.
Reddel HK BMJ open 2017;7:e016688.
Hancox RJ, Respir Med 2000;94:767-71.
Aldridge R, Am J Respir Crit Care Med 2000;161:1459-64.
Stanford R, Annals of Allergy, Asthma & Immunology 2012;109:403-7.
Suissa S, Am J Respir Crit Care Med 1994;149:604-10.


Asthma - suspected
Paediatric asthma - diagnosed
Diagnosis and Assessment
Evaluation:
assess symptoms, measure lung function, check inhaler technique and adherence
adjust dose
update self-management plan
move up and down as appropriate
Move up to improve control as needed
Move down to find and maintain lowest controlling therapy
Specialist therapies
Additional controller therapies
Initial add-on therapy
Regular preventer
Very low to low dose ICS
low-dose ICS
wheeze
Very low dose ICS
(paediatric) dose ICS
(or LTRA <5 years)
Very low dose ICS add LABA or LRTA
LTRA
Children <5 - add LTRA
Increase to low dose ICS, with or without LABA, add LRTA
If no response to LABA, consider stopping LABA
Refer specialist care
Short acting β2agonists as required – consider moving up if using three doses a week or more

Risks of SABA Only Treatment and Overuse

- Higher use of SABA is associated with adverse clinical outcomes
  - Dispensing of ≥3 canisters per year (average 1.7 puffs/day) is associated with higher risk of emergency department presentations
  - Dispensing of ≥12 canisters per year is associated with higher risk of death
    - Discordance between ICS and SABA?
    - Indicative of poor control?
    - Polymorphisms in β2 adrenoreceptor gene?

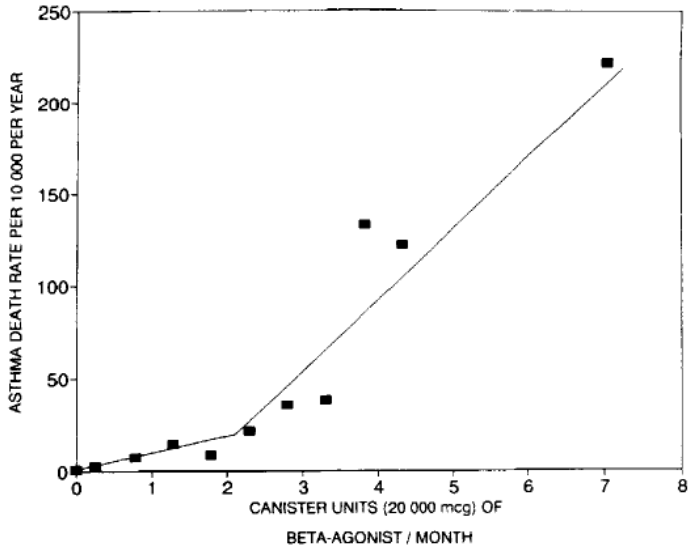
NB: 12 inhalers per year = 6 puffs per day, every day

- Regular or frequent use of SABA, even for 1-2 weeks is associated with adverse effects
  - b-receptor downregulation, decreased bronchoprotection, rebound hyperresponsiveness, decreased bronchodilator response
  - Increased allergic response, and increased eosinophilic airway inflammation
  - Inducement of proinflammatory pathways (RV and IL-6)

Hancox, Respir Med 2000
Aldridge, AJRCCM 2000
Stanford, AAAI 2012
Suissa, AJRCCM 1994

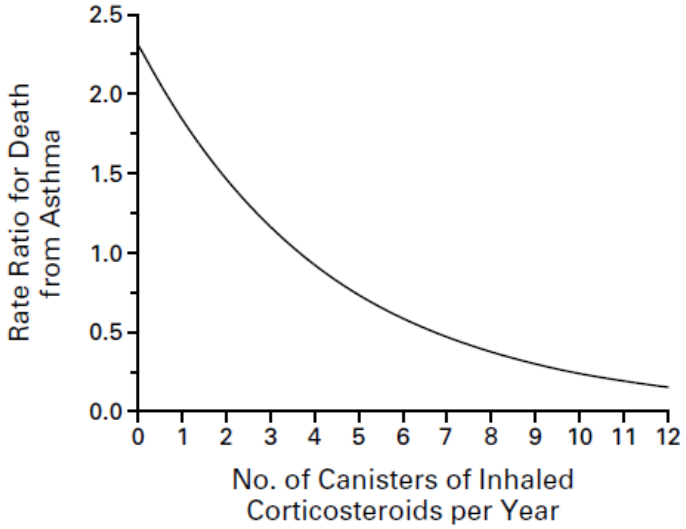
Patel M, Clin Exp Allergy 2013; 43:1144–1151.
Johnston SL, Thorax 2009; 64:739–741.
Edwards MR, J Biol Chem 2007; 282:15366–15375. 52.
Turner S, J Allergy Clin Immunol 2016; 138:107.e5–113.e5.

Increased use of SABA associated with increased risk of death



Suissa AJRCCM, 1994:149;604-610

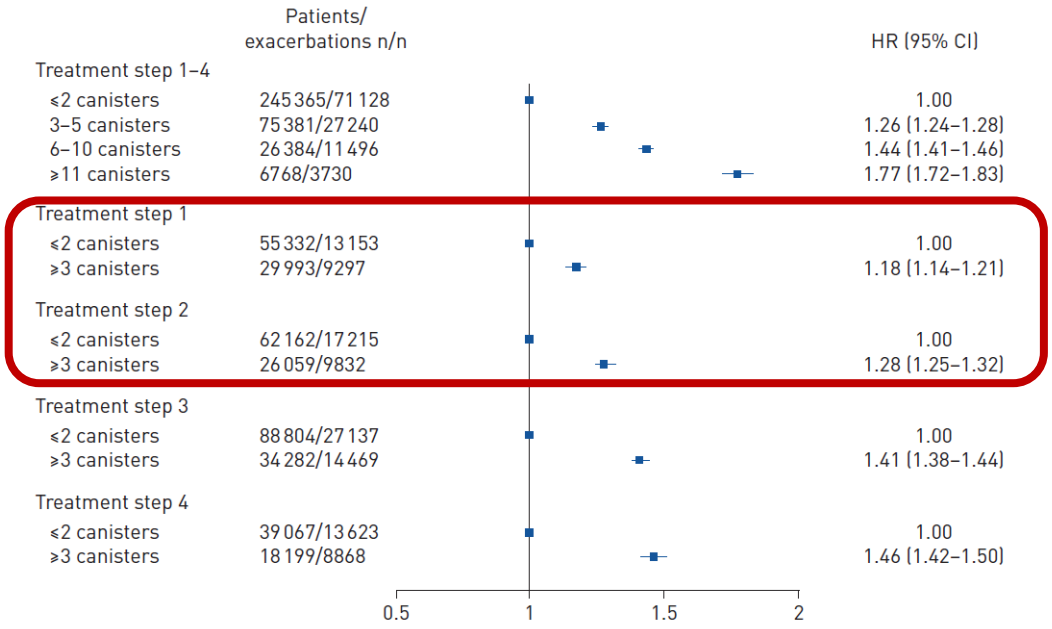
Increased use of ICS associated with decreased risk of death



Suissa NEJM,2000:343;332-326

Short Acting Beta Agonist Overuse

- Linkage of data from Swedish national registries, 365 324 asthma patients aged 12 – 45 years
- SABA overuse, collection of ≥3 SABA canisters per year (30% of patients)
- Increasing number of SABA inhalers, increased risk of an asthma attack and asthma related death



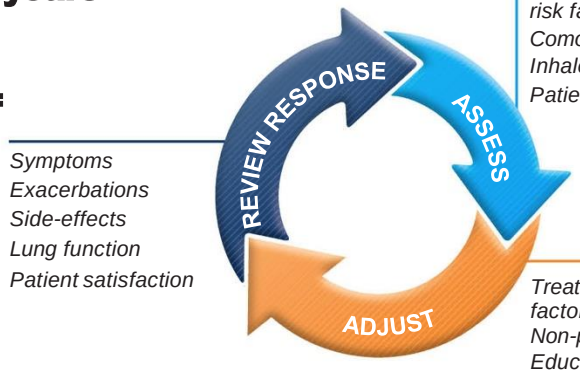
Nwaru, Eur Respir J 2020; 55: 1901872

Box 3-5A

Adults & adolescents 12+ years

2019

Personalized asthma management:
Assess, Adjust, Review response



Confirmation of diagnosis if necessary
Symptom control & modifiable risk factors (including lung function)
Comorbidities
Inhaler technique & adherence
Patient goals

Symptoms
Exacerbations
Side-effects
Lung function
Patient satisfaction

Treatment of modifiable risk factors & comorbidities
Non-pharmacological strategies
Education & skills training
Asthma medications

Asthma medication options:
Adjust treatment up and down for individual patient needs

	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
PREFERRED CONTROLLER to prevent exacerbations and control symptoms	As-needed low dose ICS-formoterol *	Daily low dose inhaled corticosteroid (ICS), or as-needed low dose ICS-formoterol *	Low dose ICS-LABA	Medium dose ICS-LABA	High dose ICS-LABA Refer for phenotypic assessment ± add-on therapy, e.g.tiotropium, anti-IgE, anti-IL5/5R, anti-IL4R
Other controller options	*Low dose ICS taken whenever SABA is taken †*	*Leukotriene receptor antagonist (LTRA), or low dose ICS taken whenever SABA taken †*	*Medium dose ICS, or low dose ICS+LTRA #*	*High dose ICS, add-on tiotropium, or add-on LTRA #*	*Add low dose OCS, but consider side-effects*
PREFERRED RELIEVER	As-needed low dose ICS-formoterol *		As-needed low dose ICS-formoterol ‡		
Other reliever option	*As-needed short-acting β_2 -agonist (SABA)*				

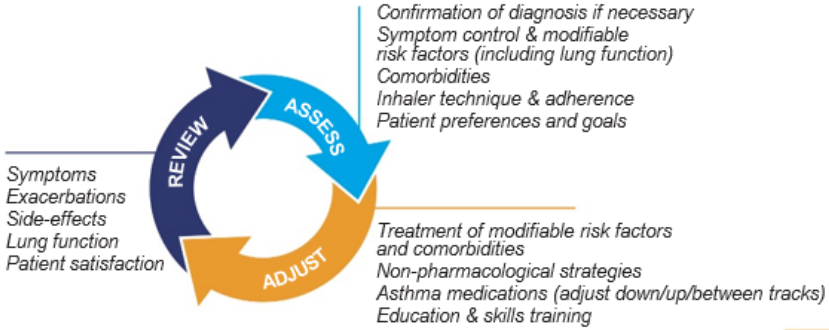
* Off-label; data only with budesonide-formoterol (bud-form)
† Off-label; separate or combination ICS and SABA inhalers
‡ Low-dose ICS-form is the reliever for patients prescribed bud-form or BDP-form maintenance and reliever therapy
# Consider adding HDM SLIT for sensitized patients with allergic rhinitis and FEV >70% predicted

GINA 2021 Update

- For clarity, the GINA treatment figure now shows two ‘tracks’, based on evidence about outcomes with the two reliever choices across asthma severity
- **Track 1, with low dose ICS-formoterol as the reliever, is the preferred approach**
  - Using ICS-formoterol as reliever reduces the risk of exacerbations compared with using
    a SABA reliever, with similar symptom control and similar lung function
- **Track 2, with SABA as the reliever, is an alternative approach**
  - Use this if Track 1 is not possible, or is not preferred by a patient with no exacerbations on their current controller therapy
  - Before considering a regimen with SABA reliever, consider whether the patient is likely to be adherent with daily controller – if not, they will be exposed to the risks of SABA-only treatment
- Treatment may be stepped up or down within a track using the same reliever at each step, or switched between tracks, according to the patient’s needs and preferences

Adults & adolescents 12+ years

Personalized asthma management
Assess, Adjust, Review
for individual patient needs



CONTROLLER and **PREFERRED RELIEVER** (Track 1). Using ICS-formoterol as reliever reduces the risk of exacerbations compared with using a SABA reliever

STEPS 1 – 2	STEP 3	STEP 4	STEP 5
As-needed low dose ICS-formoterol	Low dose maintenance ICS-formoterol	Medium dose maintenance ICS-formoterol	Add-on LAMA Refer for phenotypic assessment ± anti-IgE, anti-IL5/5R, anti-IL4R Consider high dose ICS-formoterol
RELIEVER: As-needed low-dose ICS-formoterol			

CONTROLLER and **ALTERNATIVE RELIEVER** (Track 2). Before considering a regimen with SABA reliever, check if the patient is likely to be adherent with daily controller

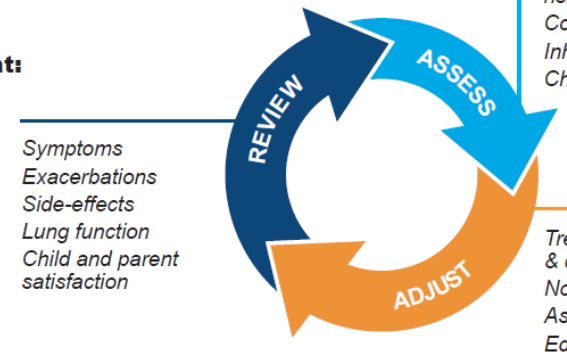
STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
Take ICS whenever SABA taken	Low dose maintenance ICS	Low dose maintenance ICS-LABA	Medium/high dose maintenance ICS-LABA	Add-on LAMA Refer for phenotypic assessment ± anti-IgE, anti-IL5/5R, anti-IL4R Consider high dose ICS-LABA
RELIEVER: As-needed short-acting β2-agonist				

Other controller options for either track

	Low dose ICS whenever SABA taken, or daily LTRA, or add HDM SLIT	*Medium dose ICS, or add LTRA, or add HDM SLIT*	*Add LAMA or LTRA, or switch to high dose ICS*	*Add azithromycin (adults) or LTRA; add low dose OCS but consider side-effects*

Children 6-11 years

Personalized asthma management:
Assess, Adjust, Review



Confirmation of diagnosis if necessary
Symptom control & modifiable risk factors (including lung function)
Comorbidities
Inhaler technique & adherence
Child and parent preferences and goals

Symptoms
Exacerbations
Side-effects
Lung function
Child and parent satisfaction

Treatment of modifiable risk factors & comorbidities
Non-pharmacological strategies
Asthma medications (adjust down or up)
Education & skills training

Asthma medication options:
Adjust treatment up and down for individual child's needs

	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
PREFERRED CONTROLLER to prevent exacerbations and control symptoms	Low dose ICS taken whenever SABA taken	Daily low dose inhaled corticosteroid (ICS) (see table of ICS dose ranges for children)	Low dose ICS-LABA, OR medium dose ICS, OR very low dose* ICS-formoterol maintenance and reliever (MART)	Medium dose ICS-LABA, OR low dose† ICS-formoterol maintenance and reliever therapy (MART). Refer for expert advice	Refer for phenotypic assessment ± higher dose ICS-LABA or add-on therapy, e.g. anti-IgE
Other controller options	*Consider daily low dose ICS*	*Daily leukotriene receptor antagonist (LTRA), or low dose ICS taken whenever SABA taken*	*Low dose ICS + LTRA*	*Add tiotropium or add LTRA*	*Add-on anti-IL5, or add-on low dose OCS, but consider side-effects*
RELIEVER	*As-needed short-acting beta2-agonist (or ICS-formoterol reliever for MART as above)*				

**Very low dose: BUD-FORM 100/6 mcg*
†Low dose: BUD-FORM 200/6 mcg (metered doses).

As needed ICS-Formoterol or ICS+SABA (Anti-Inflammatory Reliever Therapy)

Adults and adolescents

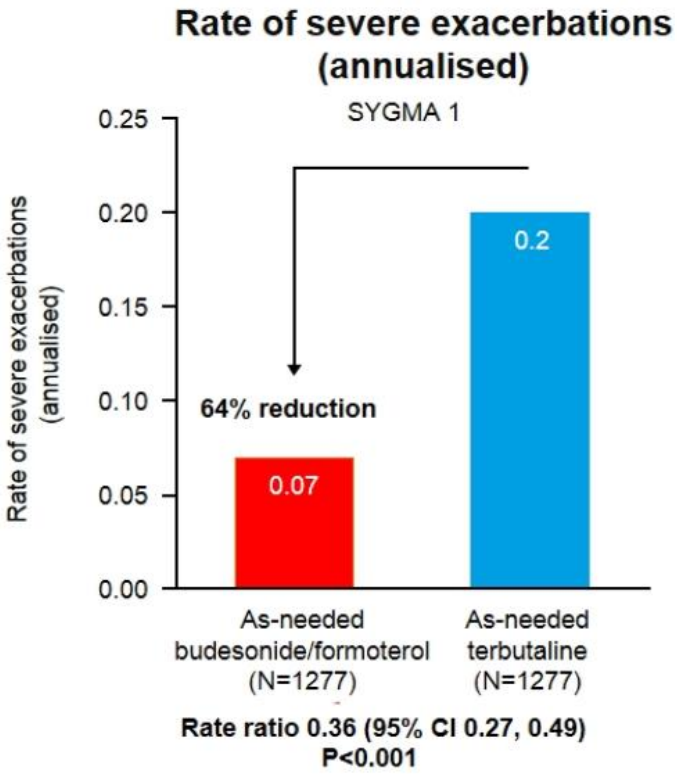
- SYGMA 1
  - 52 week, DB RCT, 3849 participants
  - terbutaline as needed / budesonide-formoterol as needed / budesonide maintenance
- SYGMA 2
  - 52 week, DBRCT, 4215 participants
  - budesonide-formoterol as needed / budesonide maintenance
- NOVEL START (adults only)
  - 52 week open label, parallel group
  - albuterol as needed / budesonide maintenance / budesonide formoterol as needed
- PRACTICAL (adults only)
  - 52 week open label, parallel group
  - ICS-formoterol as needed / budesonide maintenance

Children

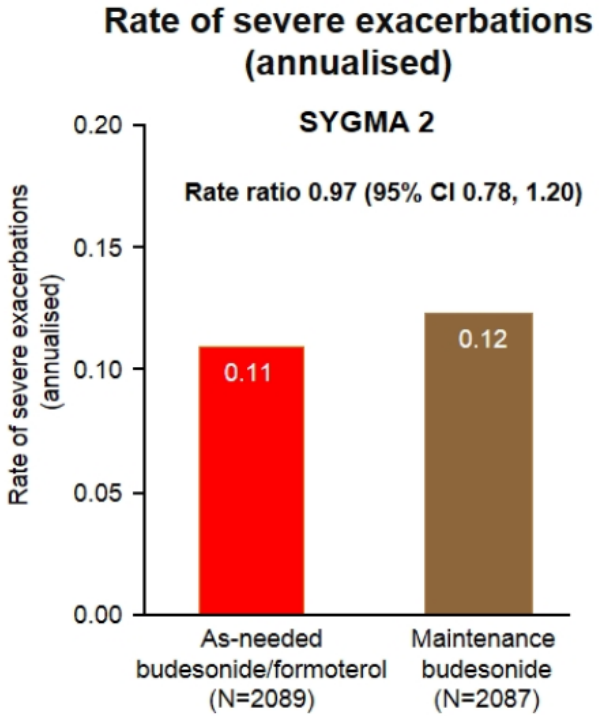
- TREXA
  - 44 week DB RCT
  - Beclomethasone maintenance and rescue / beclomethasone maintenance / beclomethasone reliever / placebo
  - All groups also had albuterol reliever
- ASSIST
  - Open label, pragmatic equivalence trial
  - Beclomethasone maintenance plus albuterol rescue / beclomethasone taken whenever albuterol needed

O'Byrne P, N Engl J Med 2018;378:1865-76
Bateman E, N Engl J Med 2018;378:1877-87
Beasley R, N Engl J Med 2019;380:2020-30
Martinez, Lancet 2011:377;650-57
Sumino, J Allergy Clinic Immunol in Pract: 2019

SYGMA 1 and 2: Results

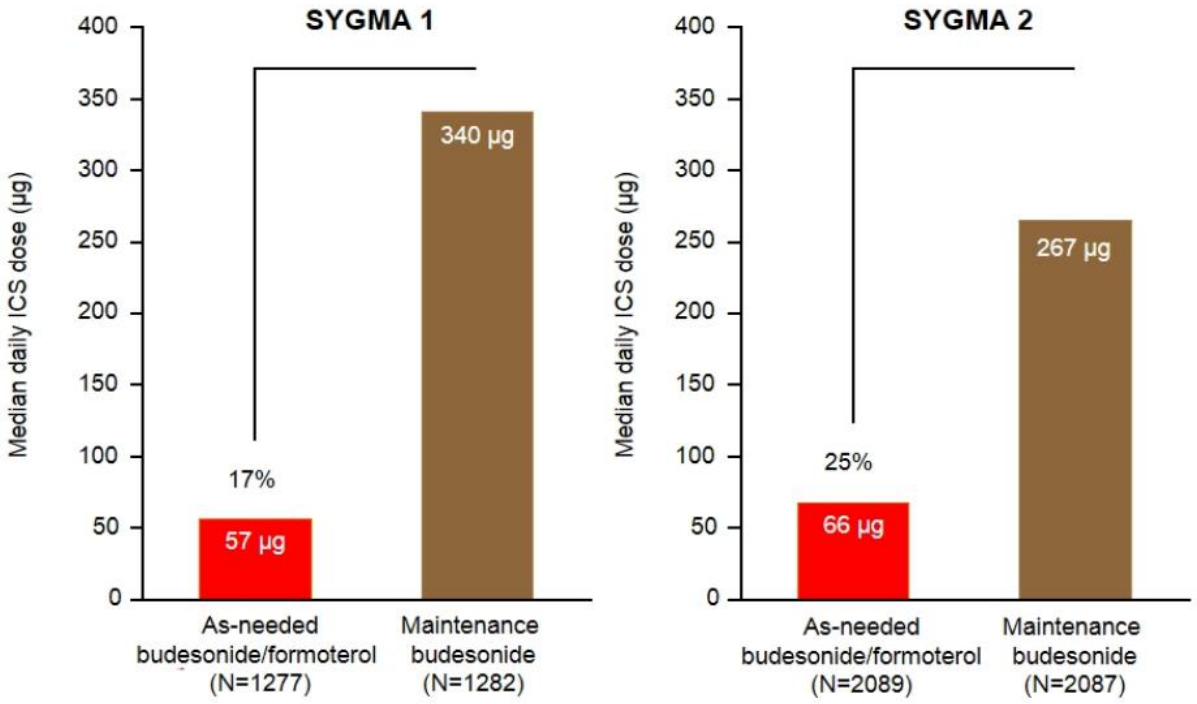


O'Byrne P, N Engl J Med 2018;378:1865-76



Bateman E, N Engl J Med 2018;378:1877-87

ICS Dose


SYGMA 1
Median daily ICS dose (µg)
400
350
300
250
200
150
100
50
0
340 µg
17%
57 µg
As-needed budesonide/formoterol (N=1277)
Maintenance budesonide (N=1282)
SYGMA 2
Median daily ICS dose (µg)
400
350
300
250
200
150
100
50
0
267 µg
25%
66 µg
As-needed budesonide/formoterol (N=2089)
Maintenance budesonide (N=2087)

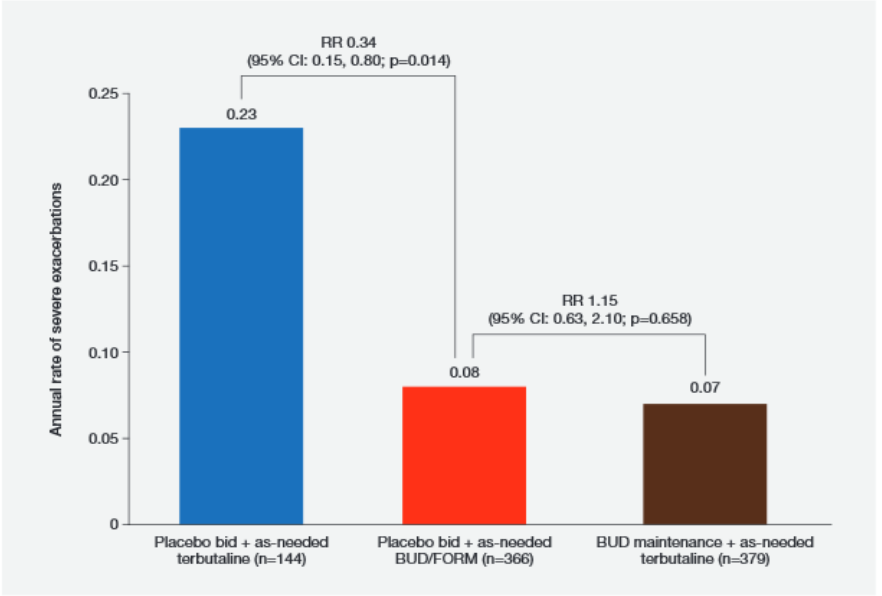
SYGMA 1 and 2 Pooled Adolescent Results

Table 1. Baseline demographics and clinical characteristics: pooled adolescent population from SYGMA 1 and 2

	As-needed terbutaline (n=144)	As-needed BUD/FORM (n=366)	BUD maintenance + as-needed terbutaline (n=379)
Age, years, mean (SD)	13.9 (1.6)	14.2 (1.7)	14.1 (1.7)

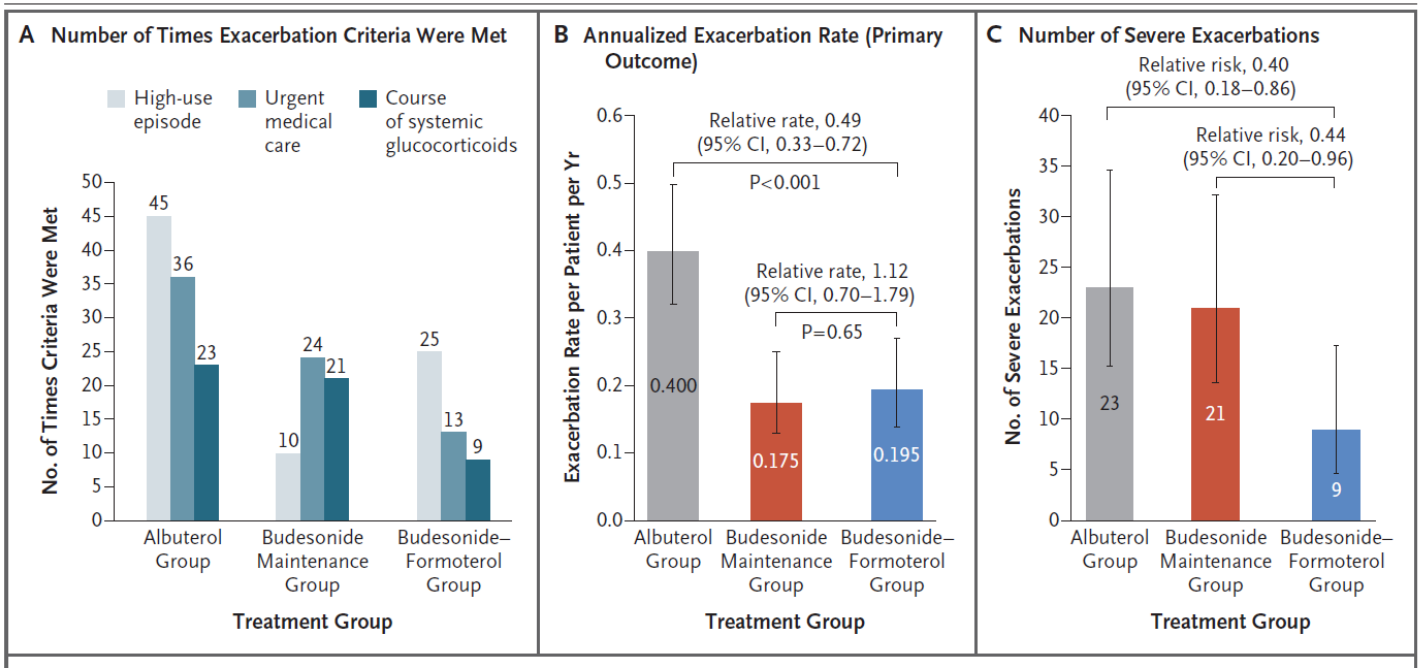
- Annual rate of severe exacerbations significantly lower in BUD/FORM as needed compared to as needed terbutaline
- Exacerbation rate with as needed BUD/FORM was comparable to maintenance BUD

Figure 2. Annual severe exacerbation rate: pooled adolescent population from SYGMA 1 and 2



O'Byrne P, ATS 2019, Poster Discussion
Reddel JACI in Pract 2021 ***In press***

Novel START: Results



Beasley R, N Engl J Med 2019;380:2020-30

TReating children to prevent EXacerbations of Asthma (TREXA)

- Beclomethasone as a rescue treatment for children with well controlled, mild persistent asthma
- 288 children, aged 6 -18 years
- 44 week double blind placebo controlled RCT
- Primary outcome: time to first exacerbation

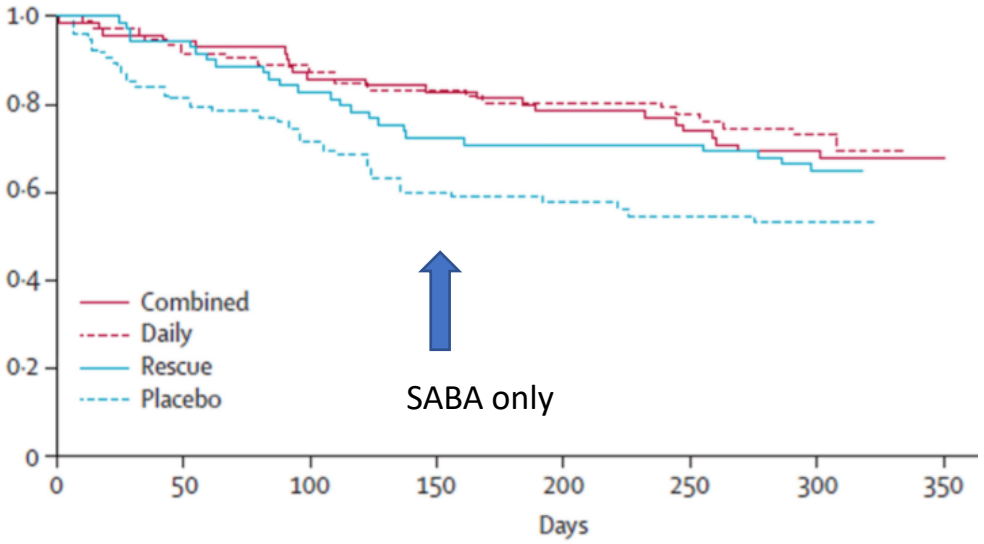
Group	Maintenance	Rescue
Combined	40mcg BDP bd	80mcg BDP + albuterol
Daily	40mcg BDP bd	Placebo plus albuterol
Rescue	Placebo	80mcg BDP + albuterol
Placebo	Placebo	Placebo plus albuterol

3 separate inhalers

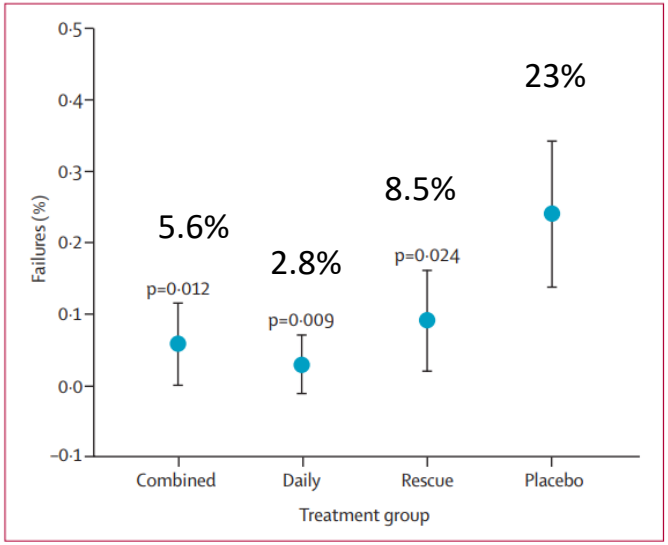
Martinez, Lancet 2011:377;650-57

TREXA: Results

Time to first exacerbation



Treatment Failure

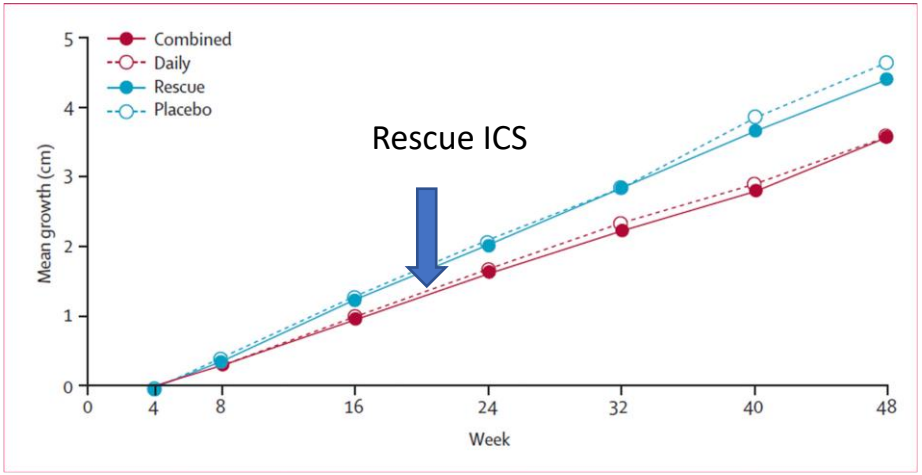


TREXA Results

Summary

- SABA only in children with mild asthma substantially increases the risk of an attack
- Daily ICS most effective in reducing risk of attack
- Exacerbations and treatment failures were less in children treated with rescue ICS compared to SABA only

Linear Growth



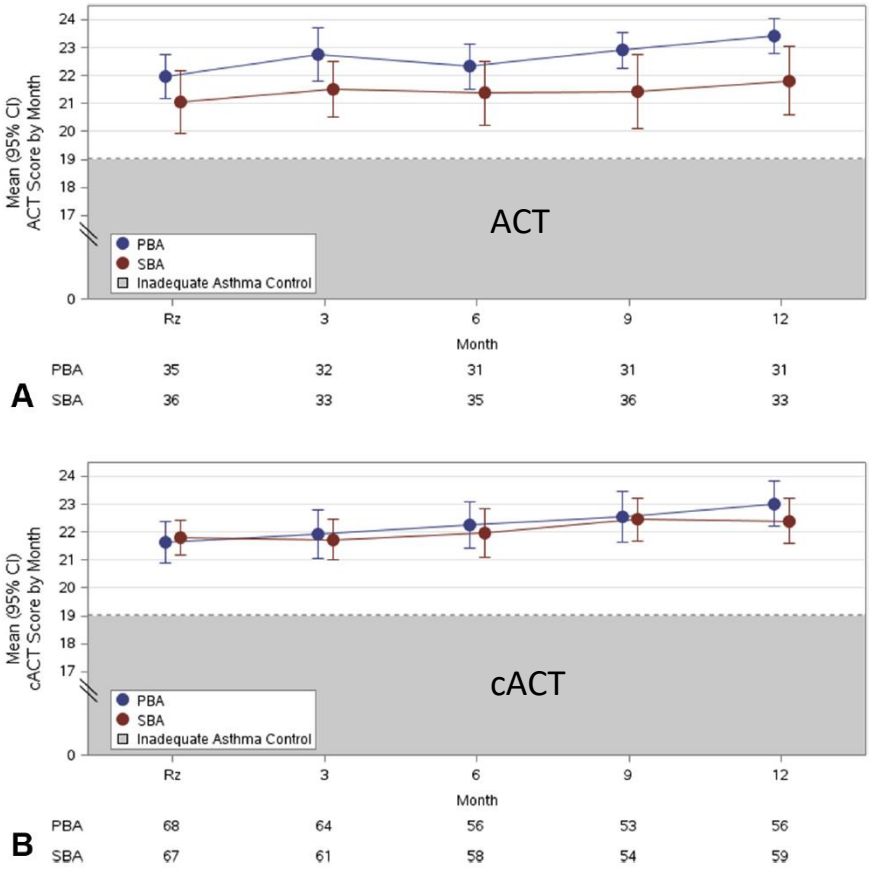
- Rescue ICS avoids side effects including impact on growth seen with daily ICS

Asthma Symptom-Based Adjustment of Inhaled Steroid Therapy in African-American Children (ASIST)

- 206 African American children aged 6 -17 years managed in primary care
- Open label, pragmatic equivalence trial
- Randomised to:
    - Intermittent, symptom based adjustment (SBA): as needed beclomethasone (80mcg) plus albuterol
    - Provider based, guidelines-directed adjustment (PBA): beclomethasone 160mcg/day plus as needed albuterol with subsequent guideline based dose adjustments
- Primary outcome: change in ACT / cACT score

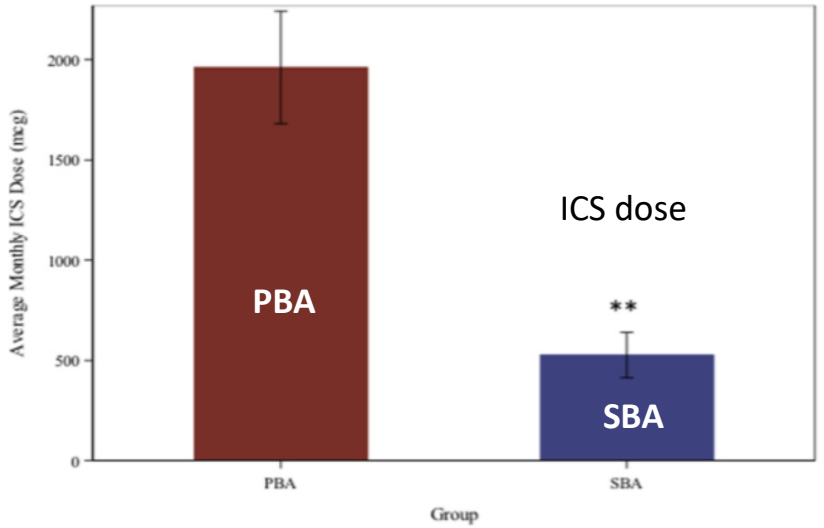
Sumino, J Allergy Clinic Immunol in Pract: 2019

Results



Asthma exacerbations:

- As needed ICS = 19%
- Regular ICS = 23%



Sumino, J Allergy Clinic Immunol in Pract: 2019

ASIST Summary

- In children with good symptom control, control can be maintained with intermittent ICS, with significantly lower ICS exposure
- The study design reflects clinical practice
- Separate ICS and SABA inhalers
- No SABA only arm
- Selective population
- No accurate measure of adherence

Editorial

Is It Time to Admit Defeat on Patient Adherence?

Bruce G. Bender, PhD *Denver, Colo*

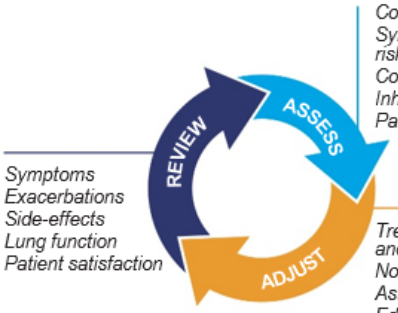
- "*we have 40 years of evidence to conclude that we are unable to bend patient behaviour to comply with …guidelines"*
- *Should we bend the guidelines to fit with patient preferences?*
- More children / carers in the SBA arm felt that they were managing their asthma rather than their primary care giver (SBA 74% vs PBA 44%)

As needed ICS-Formoterol: Take Home messages

- ICS either as needed or taken regularly are superior to as needed SABA
- SABA only treatment and SABA over-use substantially increases the risk of an attack
- Asthma control better with regular ICS compared to as needed ICS-formoterol
- However, exacerbations similar, despite much lower exposure to ICS in the as needed groups
- In children, rescue ICS avoids side effects including impact on growth seen with daily ICS
- Choice of regime will depend on main concerns /risks for the individual patient and likely adherence

Adults & adolescents 12+ years

Personalized asthma management
Assess, Adjust, Review
for individual patient needs



Confirmation of diagnosis if necessary
Symptom control & modifiable risk factors (including lung function)
Comorbidities
Inhaler technique & adherence
Patient preferences and goals

Symptoms
Exacerbations
Side-effects
Lung function
Patient satisfaction

Treatment of modifiable risk factors and comorbidities
Non-pharmacological strategies
Asthma medications (adjust down/up/between tracks)
Education & skills training

CONTROLLER and **PREFERRED RELIEVER** (Track 1). Using ICS-formoterol as reliever reduces the risk of exacerbations compared with using a SABA reliever

STEPS 1 – 2	STEP 3	STEP 4	STEP 5
As-needed low dose ICS-formoterol	Low dose maintenance ICS-formoterol	Medium dose maintenance ICS-formoterol	Add-on LAMA Refer for phenotypic assessment ± anti-IgE, anti-IL5/5R, anti-IL4R Consider high dose ICS-formoterol
RELIEVER: As-needed low-dose ICS-formoterol			

CONTROLLER and **ALTERNATIVE RELIEVER** (Track 2). Before considering a regimen with SABA reliever, check if the patient is likely to be adherent with daily controller

STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
Take ICS whenever SABA taken	Low dose maintenance ICS	Low dose maintenance ICS-LABA	Medium/high dose maintenance ICS-LABA	Add-on LAMA Refer for phenotypic assessment ± anti-IgE, anti-IL5/5R, anti-IL4R Consider high dose ICS-LABA
RELIEVER: As-needed short-acting β2-agonist				

Other controller options for either track

	Low dose ICS whenever SABA taken, or daily LTRA, or add HDM SLIT	*Medium dose ICS, or add LTRA, or add HDM SLIT*	*Add LAMA or LTRA, or switch to high dose ICS*	*Add azithromycin (adults) or LTRA; add low dose OCS but consider side-effects*

MART adolescents

- Post hoc analysis of six double blind RCTs (BUD/FORM MART)

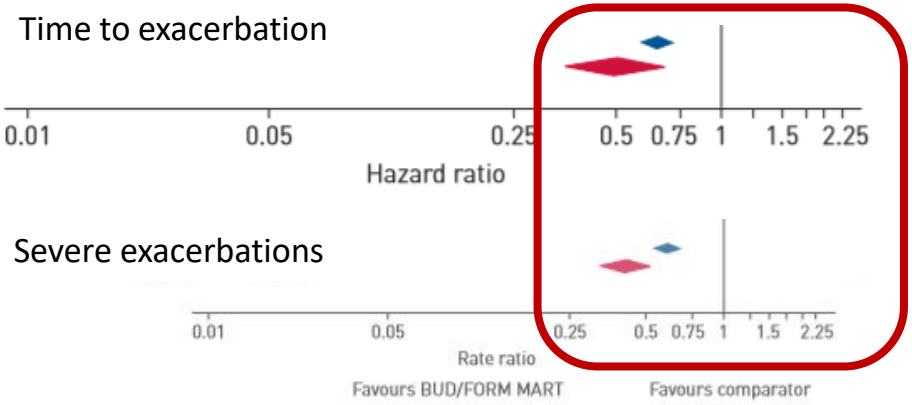
TABLE 2 Demographic and key baseline characteristics of the adolescent population

	Rabe [10]	Scicchitano [11]	O'Byrne [12]	Rabe [13]	Kuna [14]	Bousquet [15]	Overall#
Subjects	109	121	316	354	623	324	1847
Sex							
Male	55 (50.5)	71 (58.7)	185 (58.5)	225 (63.6)	399 (64.0)	202 (62.3)	1137
Female	54 (49.5)	50 (41.3)	131 (41.5)	129 (36.4)	224 (36.0)	122 (37.7)	710
Age years	14 (11–17)	14 (11–17)	14 (12–17)	14 (12–17)	14 (11–17)	14 (12–17)	14 (11–17)

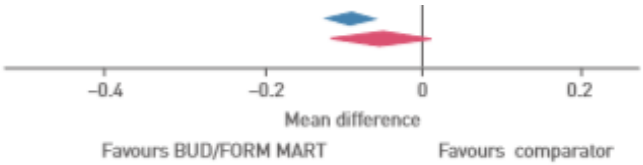
Jorup, Eur Respir J 2018:51:1701688

Pooled Results

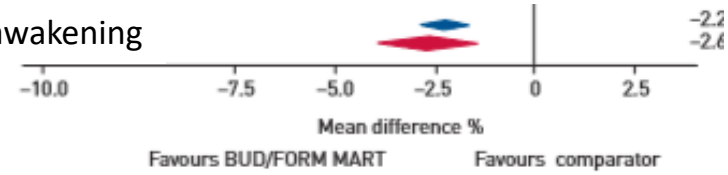
Time to exacerbation



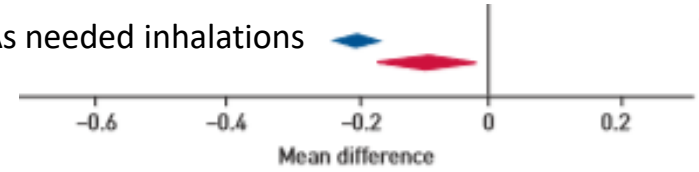
Asthma symptoms



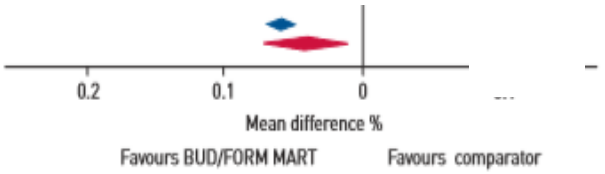
Night time awakening



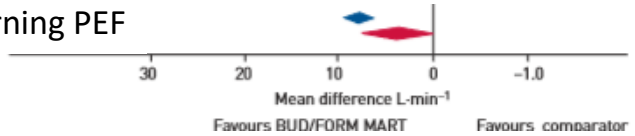
As needed inhalations



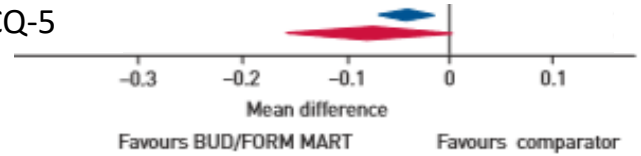
FEV_1



Morning PEF



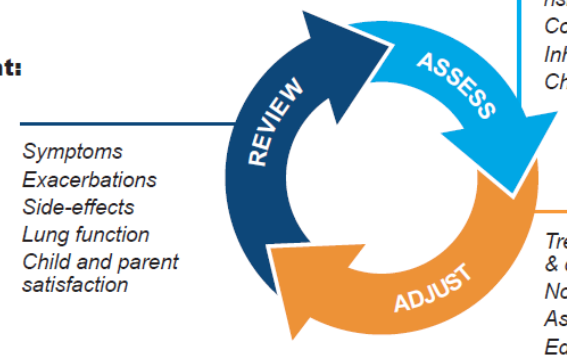
ACQ-5



Jorup, Eur Respir J 2018:51:1701688

Children 6-11 years

Personalized asthma management:
Assess, Adjust, Review



Confirmation of diagnosis if necessary
Symptom control & modifiable risk factors (including lung function)
Comorbidities
Inhaler technique & adherence
Child and parent preferences and goals

Symptoms
Exacerbations
Side-effects
Lung function
Child and parent satisfaction

Treatment of modifiable risk factors & comorbidities
Non-pharmacological strategies
Asthma medications (adjust down or up)
Education & skills training

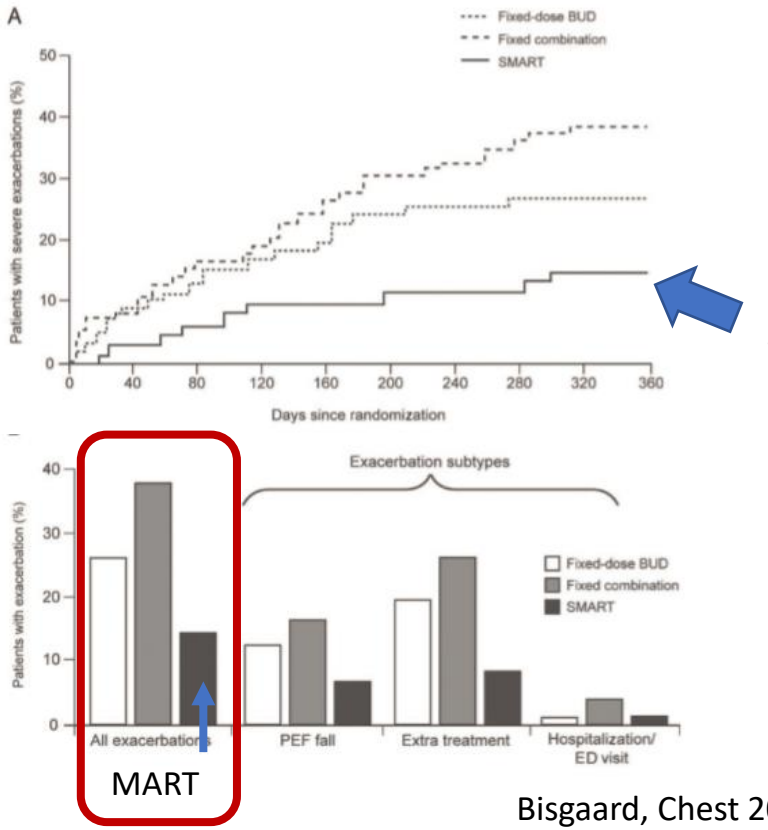
Asthma medication options:
Adjust treatment up and down for individual child's needs

	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
PREFERRED CONTROLLER to prevent exacerbations and control symptoms	Low dose ICS taken whenever SABA taken	Daily low dose inhaled corticosteroid (ICS) (see table of ICS dose ranges for children)	Low dose ICS-LABA, OR medium dose ICS, OR very low dose* ICS-formoterol maintenance and reliever (MART)	Medium dose ICS-LABA, OR low dose† ICS-formoterol maintenance and reliever therapy (MART). Refer for expert advice	Refer for phenotypic assessment ± higher dose ICS-LABA or add-on therapy, e.g. anti-IgE
Other controller options	*Consider daily low dose ICS*	*Daily leukotriene receptor antagonist (LTRA), or low dose ICS taken whenever SABA taken*	*Low dose ICS + LTRA*	*Add tiotropium or add LTRA*	*Add-on anti-IL5, or add-on low dose OCS, but consider side-effects*
RELIEVER	*As-needed short-acting beta2-agonist (or ICS-formoterol reliever for MART as above)*				

**Very low dose: BUD-FORM 100/6 mcg*
†Low dose: BUD-FORM 200/6 mcg (metered doses).

MART: Children 6 - 11years

- 12 month double blind RCT
- 341 children aged 4 -11 years randomised to:
    1. SMART: Budesonide/formoterol 80/4.5mcg once daily maintenance plus additional doses for symptom relief
    2. Fixed combination: 80/4.5mcg once daily
    3. Fixed dose budesonide: 320mcg BUD once daily
- Reduction in exacerbations by 70 -79% compared to ICS and ICS-formoterol



Bisgaard, Chest 2006

Practical Issues

- **Dosing of as needed budesonide-formoterol:**
  - Usual dose 200/6 1 puff whenever needed for symptom relief
  - Maximum daily dose 12 inhalations
  - If ≥8 inhalations / day seek medical advice
  - Maximum 6 inhalations at one time
  - Average use in RCTs: 3-4 doses per week
- **Mouth rinsing**
  - Not needed after as needed doses
- **Can be used pre exercise (Lazarinis Thorax 2014)**
  - Greater reduction in exercise induced bronchoconstriction
- **ICS-formoterol formulations**
  - All evidence is with budesonide-formoterol
  - Other formulations approved for MART
  - ICS-formoterol should not be used as the reliever with other ICS-LABA formulations used for maintenance

Royal Brompton & Harefield NHS
NHS Foundation Trust

My 'SMART' Asthma Plan

Name:	
Issued by:	Date:
My best peak flow is:	

1. My asthma medications:

Name	Strength	Dose	Times

We know it can be difficult to remember your medications. We would recommend the following:

- Take the medications at the same time as another regular routine activity (such as brushing teeth)
- Keep a chart and tick each time the medication is taken (we can give you one of these if you would like)
- An adult should always supervise your medications
- Make sure the medications don't run out (some local pharmacists will collect your repeat prescriptions for you)

2. When my asthma gets worse:

I will know my asthma is getting worse if:

- I have a cough, wheeze, it is hard to breathe or my chest hurts, or
- I am waking up at night because I have asthma,

When this happens: Keep taking your regular asthma medicines as normal

And also take an extra 1 – 2 puffs of your Symbicort

Sit quietly and if you are feeling better continue with normal activities

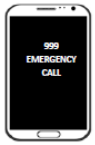
If you are not feeling better, you can take up to ☐ extra puffs of your Symbicort in a day. No more than 6 puffs should be taken on a single occasion

If your asthma symptoms are not improving despite the extra reliever doses you should contact your doctor / asthma nurse

If you need up to 8 Symbicort inhalations (total) in any day, you **must** see your doctor or go to hospital the same day

3. When I have an asthma attack:

I am having an asthma attack if:



- I can't talk or walk easily, or
- I am breathing hard and fast, or
- My symptoms are getting worse quickly
- My extra reliever Symbicort inhalations are not helping

CALL 999 STRAIGHT AWAY

While you are waiting for the ambulance:

Sit upright and stay calm; remember your breathing control exercises

Take 1 inhalation of Symbicort. If there is no improvement after 1 – 3 minutes take another inhalation of Symbicort (up to a maximum of 6 inhalations at one time; or a total of 12 puffs in a day)

If only salbutamol is available, take up 1 to 2 puffs with a spacer, as often as needed (up to 10 puffs every 15 minutes) until help arrives

Conclusion

- There is good evidence in adolescents that ICS-formoterol is an effective reliever (either used as needed or in combination with maintenance ICS-formoterol)
- There is some evidence in younger children that an anti-inflammatory reliever strategy is effective and safe
- Need to be judicious in our use of salbutamol
- SABA only treatment least effective
- Over the past 20 years LABA only treatment has (almost) been removed from asthma management – will SABA only treatment be next…?

Acknowledgements

Joan Bending, Evelyn Bending, Mervyn Stephens and Olive Stephens Memorial Fellowship

SCHWEIZERISCHER NATIONALFONDS ZUR FÖRDERUNG DER WISSENSCHAFTLICHEN FORSCHUNG

U-BIOPRED

Asthma UK Centre for Applied Research

What to include in a post – attack review; where and when should it be held?

Chin Nwokoro, Chair (Consultant Respiratory Paediatrician and Honorary Clinical Senior Lecturer, Barts Health NHS Trust and Queen Mary University of London),

Richard Chavasse, Paediatric respiratory consultant, St George's Hospital London

Carol Stonham, Respiratory Nurse NHS Gloucestershire CCG, Executive chair PCRS

Rob Block, Consultant in Children's & Adolescent Services at Tameside & Glossop Integrated Care NHS Foundation Trust

Oliver Anglin, Clinical Director for CYP Transformation - NHSE (London) & Clinical Lead for Children and Young People - North Central London CCG

#AskAboutAsthma

NHS
Barts Health
NHS Trust

Ask About Asthma

The Case for the 48 hr review

Dr Chinedu Nwokoro

A Case History – 1 - Background

- CJ - 11y obese ♂
- Past Medical History
  - No formal history of wheeze and no personal inhaler at home
  - Some nocturnal cough, occasional use of sister's salbutamol
  - 2m hx vomiting, abdominal pain, frequent micturition – no diagnosis
  - 'GP' has stated that he does not have asthma
- Social
  - Parents separated
  - Maternal mental health problems
  - Lives with dad "too busy" to take him to the GP, despite requests

A Case History – 2 – Admission

- Prodrome
  - No clear viral symptoms, possible runny nose from dusty room
  - Wheezy on school trip, given teacher's salbutamol, used it all in a day
- Admission
  - Next day → admitted DGH wheeze (PEFR 80L/min)
  - Dx viral-induced wheeze → salbutamol, oxygen, prednisolone
  - 2 days inpatient stay
- Discharge
  - RR 31, SpO_2 94% in air, PEFR not measured (at decision to discharge)
  - No ICS prescribed, No OPD arranged, No safety netting
  - Advised: see GP at 7 days or if sx continue "after he has recovered" from this episode

A Case History – 3 – Death

- 3.5 days later → BIBA to tertiary centre after OOH arrest
- In ED – asystole, pH 6.5, pCO2
- Unsuccessful resuscitation
- PM → in keeping with asthma (also hyperkalaemia, rhinovirus NPA)
- Key factor in death:
  - Unrecognised asthma severity
  - Lack of specialist follow up
  - Lack of preventer

  ❖LACK OF GP 48 HR REVIEW❖

The 48 Hour Review - Why

- (Inter)National Guidelines – BTS, GINA, NICE, HLP-LAS
- Confirm that attack has terminated
- Escalate acute treatment (extend OCS/readmit)
- Escalate chronic treatment (increase ICS/confirm OPD f/u)
- Parental education
  - Triggers
  - Risk factors
  - Medication roles (ICS vs beta agonists)
  - Confirm/arrange follow-up
- Would 48hr review have saved CJ???

The 48 Hour Review – Who

- Which Patients?
  - ED attenders
  - Ward attenders
  - LAS patients (not conveyed to hospital)
  - Teleconsults (esp during pandemic)???

- Which Professionals?
  - GPs?
  - Hospital asthma nurses?
  - Community asthma nurses?
  - Pharmacists?????

The 48 Hour Review – How

- How to capture the target patients
  - Legwork? PTWR? Patient Lists? What about those discharged from ED?
  - Hospital electronic record data
    - Coding problems
    - Data lag
    - Weekends?
    - Communicating with GP/community nurses (need to automate the ask), timely and informative discharge summaries
  - Rely on patients to request?

- How to deliver
  - Face 2 face
  - Telephone/video triage
  - Is examination needed?
  - What about PEFR measurement

Outstanding care every time

NHS
St George's University Hospitals
NHS Foundation Trust

48 hour review following an asthma attack

Richard Chavasse, Consultant Respiratory Paediatrician, St George's Hospital, London

Outstanding care every time

St George's University Hospitals NHS Foundation Trust

48 hour review following an asthma attack

Richard Chavasse, Consultant Respiratory Paediatrician, St George's Hospital, London

Who should have a review?

- Everyone

When should they have a review?

- After 48 hours (+/-)
- Usual end of steroids
- Things should be better – if not why not?

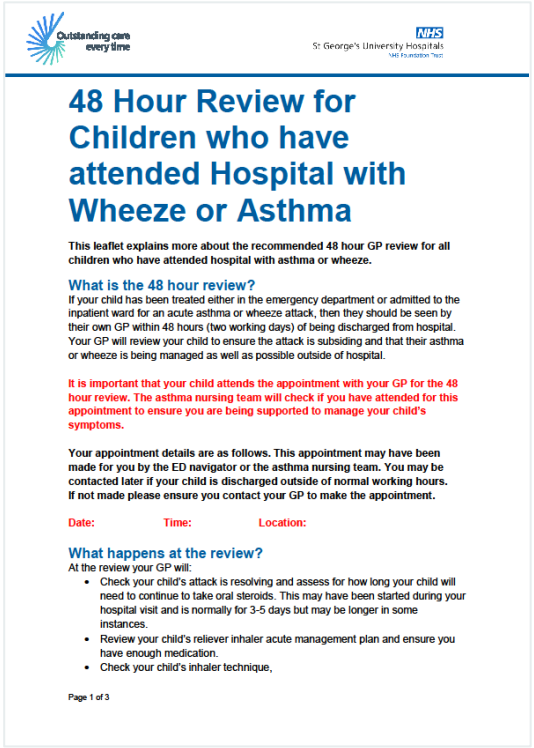
Who should do review?

- Someone trained in CYP asthma
- Preferably their 'own' GP / PN
  - Practice then altered to risk

Why not the secondary care asthma team?

- Better access to family information
- Better access to prescribing information (adherence)
- Ensure CYP is coded and on at risk register for reviews / Flu etc.

That's not to say secondary care team cannot also check up and ensure attack resolution.



Outstanding care every time

St George's University Hospitals NHS Foundation Trust

48 Hour Review for Children who have attended Hospital with Wheeze or Asthma

This leaflet explains more about the recommended 48 hour GP review for all children who have attended hospital with asthma or wheeze.

What is the 48 hour review?

If your child has been treated either in the emergency department or admitted to the inpatient ward for an acute asthma or wheeze attack, then they should be seen by their own GP within 48 hours (two working days) of being discharged from hospital. Your GP will review your child to ensure the attack is subsiding and that their asthma or wheeze is being managed as well as possible outside of hospital.

It is important that your child attends the appointment with your GP for the 48 hour review. The asthma nursing team will check if you have attended for this appointment to ensure you are being supported to manage your child's symptoms.

Your appointment details are as follows. This appointment may have been made for you by the ED navigator or the asthma nursing team. You may be contacted later if your child is discharged outside of normal working hours. If not made please ensure you contact your GP to make the appointment.

Date: Time: Location:

What happens at the review?

At the review your GP will:

- Check your child's attack is resolving and assess for how long your child will need to continue to take oral steroids. This may have been started during your hospital visit and is normally for 3-5 days but may be longer in some instances.
- Review your child's reliever inhaler acute management plan and ensure you have enough medication.
- Check your child's inhaler technique,

Page 1 of 3

What (should) happen(s) at the review?

At the review your GP will (should):

- **Check your child's attack is resolving and assess for how long your child will need to continue to take oral steroids. This may have been started during your hospital visit and is normally for 3-5 days but may be longer in some instances.**
- Review your child's reliever inhaler acute management plan and ensure you have enough medication.
- **Check your child's inhaler technique.**
- Review any controller treatment and record any changes in your child's medical record.
- **Identify and discuss any trigger for the attack.**
- Assess how the attack was managed at home and to work with you as a family so that your child might not need to go to hospital for treatment in the future.
- **Discuss with you if anything else may be having an impact on your child's asthma or wheeze or be happening because of it.**
- Any help with giving up smoking if needed.
- **Update your child's personalised asthma action plan or create one for you.**

@SGHAsthma @SGHResp

Post attack review – who, when, where, what, why.

Carol Stonham MBE

Respiratory Nurse NHS Glos CCG

Executive Chair PCRS

Co-clinical Lead NHSE SW Respiratory Network

Who?

All people with asthma following an acute episode (teachable moment)

By an appropriately trained, competent, confident practitioner – practice nurse, GP, nurse practitioner, specialist nurse, consultant, clinical pharmacist, PA……

When?

- **Subsequent care: follow-up in the community to be arranged within 2 working days plus specialist care according to criteria* within 2 weeks.** National guidance clearly recommends early primary care follow up to improve outcomes. Local discussions may need to be held in order to fit this into local systems and care pathways [1]
- Prior to discharge, follow up should be arranged with the patient's general practitioner or asthma nurse within two working days and with a hospital specialist asthma nurse or respiratory physician at about one month after admission[2].
- more than 15% reattend within two weeks – window of opportunity[2]

1.Improving Outcomes in Asthma. Asthma Care Bundle, BTS, 2017
https://www.brit-thoracic.org.uk/media/70102/bts-asthma-care-bundle-april-2016-v3.pdf [last accessed 17th August 2021]
2. BTS/SIGN 158 British Guideline on the Management of Asthma 2019 https://www.brit-thoracic.org.uk/quality-improvement/guidelines/asthma/ [last accessed 28th October 2020]

Where?

- Determined by severity, social circumstance, availability of appropriately trained practitioners

BUT…

- Needs to be agreed local pathway so that somebody does it.

Which?

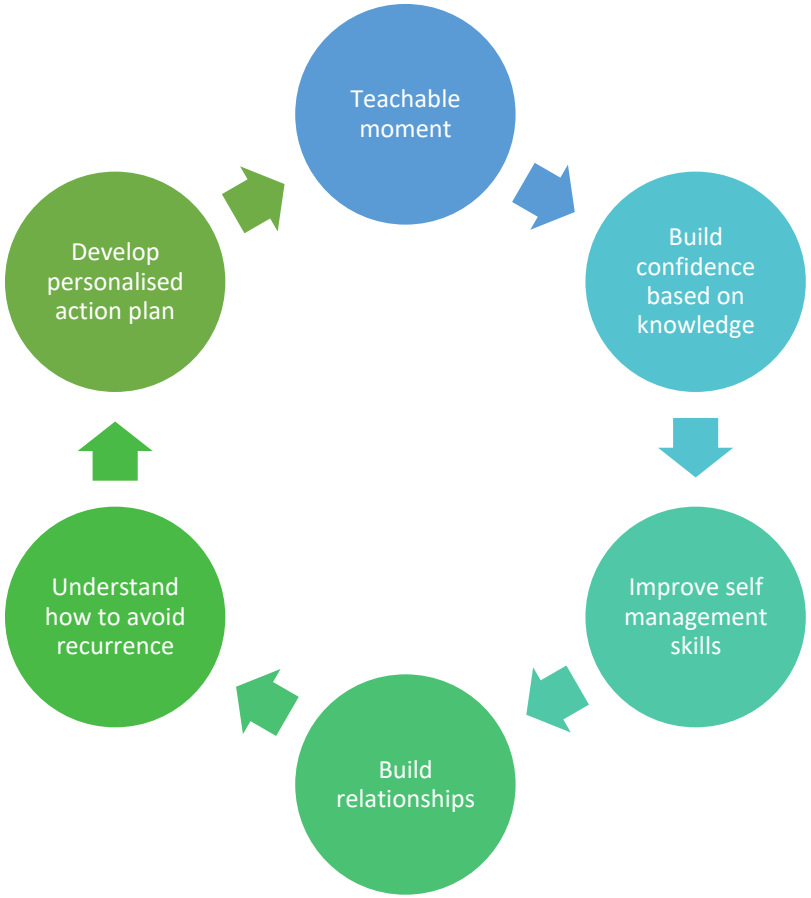
- It depends!!

- Consider:
- The patient (severity, choice, location, familiarity)
- The services (trained competent confident practitioner, appointment availability
- Agreed decision

What?

- Understanding of asthma and medications
- Inhaler technique
- Triggers
- What just happened
- **Personalised** asthma action plan
- Relationship building
- Peak flow/best peak flow
- Tobacco dependency

Why?


Teachable moment
Build confidence based on knowledge
Improve self management skills
Build relationships
Understand how to avoid recurrence
Develop personalised action plan

Next Steps and close

Oliver Anglin, Clinical Director for CYP Transformation - NHSE (London) & Clinical Lead for Children and Young People - North Central London CCG

#AskAboutAsthma

Menti

Please go back onto menti for our final question to you.

Close

Credits for Asthma Rap: Music by Jasper Wilde Published by Key Changes.

Key changes is a charity that supports positive Mental Health through music. It provides music engagement and recovery services in hospitals and the community for young people and adults affected by mental health conditions. It is the world's 1st label dedicated to releasing music from artists with mental health experience.

#AskAboutAsthma