



TARGET

Keep Antibiotics Working

# Managing RTIs in children – what is the evidence?

TARGET Antibiotics Webinar

October 2025

# Introductions – TARGET and RCGP



Dr Donna Lecky



Emily Cooper



Catherine Hayes



Ming Lee



Emily Whitehorne



Julie Brooke



Liam Clayton



Joseph Besford



Camilla Stevenson

# Introductions – Speakers and Panellists



**Dr Conor Jamieson**  
Regional Antimicrobial  
Stewardship Lead (Midlands)

Speaker and panellist



**Dr Alicia Demirjian**  
Consultant in Paediatric Infectious  
Diseases and Immunology

Consultant Epidemiologist

Panellist



**Dr Graham Duce**  
GP, Audlem Medical Practice

Cheshire Place GP AMS  
Lead

Panellist



**Dr Sanjay Patel**  
Consultant in Paediatric  
Diseases and Immunology

Panellist

# Managing RTIs in children – what is the evidence?

**NHS**

England

Presented by:  
Dr Conor Jamieson, Regional Antimicrobial Stewardship  
Lead (Midlands)



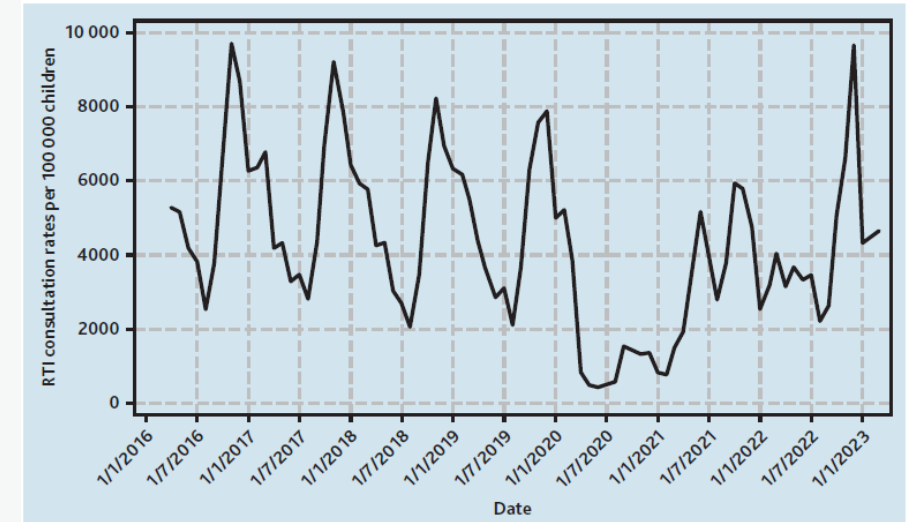
# Overview of this session

- Drivers for healthcare consultations and antibiotic prescribing
- What does the data on antibiotic consumption look like?
- Can antibiotic prescribing safely be reduced in primary care? Does that impact on workload?
- Harms of antibiotics
- Benefits of antibiotics for RTIs
- Two important studies for RTIs in children
- Antibiotic prescribing strategies
- Impact on reconsultation rates
- Useful resources for self-care and safety netting

# **Drivers for healthcare consultations and antibiotic prescribing**

# Burden of children's RTI consultations in primary care

- Children have higher consultation rates for RTI than adults, and most children labelled as having URTI or chest infection are prescribed antibiotics<sup>1</sup>
- In one prospective cohort study, almost 40% of children were prescribed antibiotics for chest infections – extrapolating to national data suggest 2 million prescriptions per annum for coughs, costing about £30m<sup>2</sup>
- Non-quantifiable costs of medicalising illness in the family and wider social networks, more likely to reconsult in the future<sup>3</sup>



GP consultations for respiratory tract infections in children aged <5 years: a retrospective cohort study 2016–2023

Kimberley Foley, Dougal Hargreaves, Alex Bottle, Jennifer K Quint, Azeem Majeed, Sejal Saglani and Sonia Saxena

[British Journal of General Practice 2025](#)

# Why do parents see a healthcare consultation?

It provides a proper 'health-check' and removes any perceived 'health-threat'

- Parents lack confidence to distinguish self-limiting illnesses from serious ones but believe that clinicians can

During a consultation, parents also seek info about:-

- What to look out for / when to seek help
- What they should do to care for their child – including treatment

Parents do not generally seek antibiotics:  
**but they are anxious!**

Low rates of pathology in children (compared to the elderly) but high rates of parental anxiety (resulting in high consultation rates)

# Why do clinicians prescribe antibiotics?

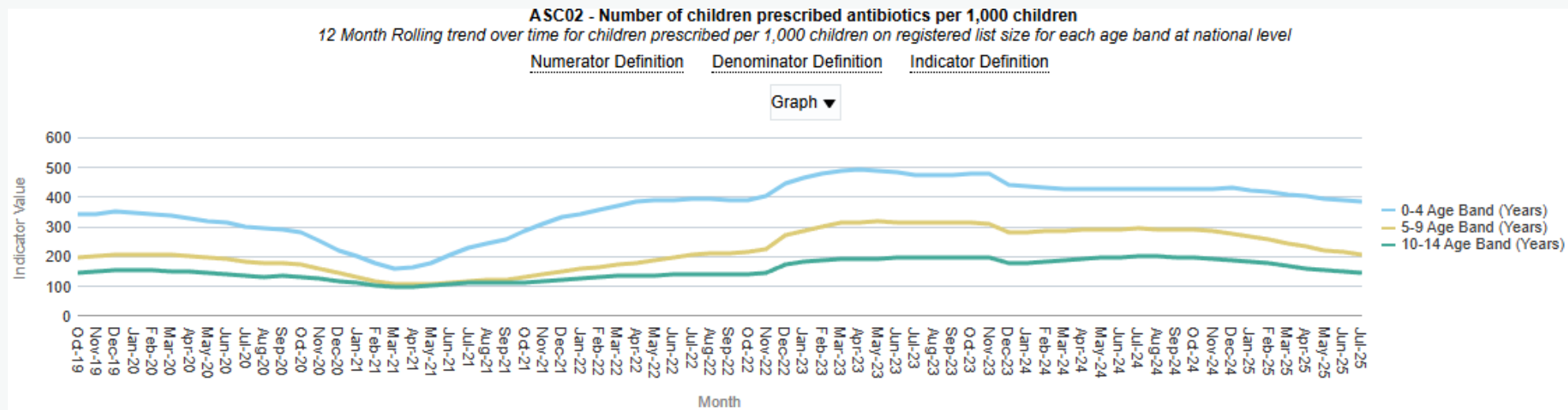
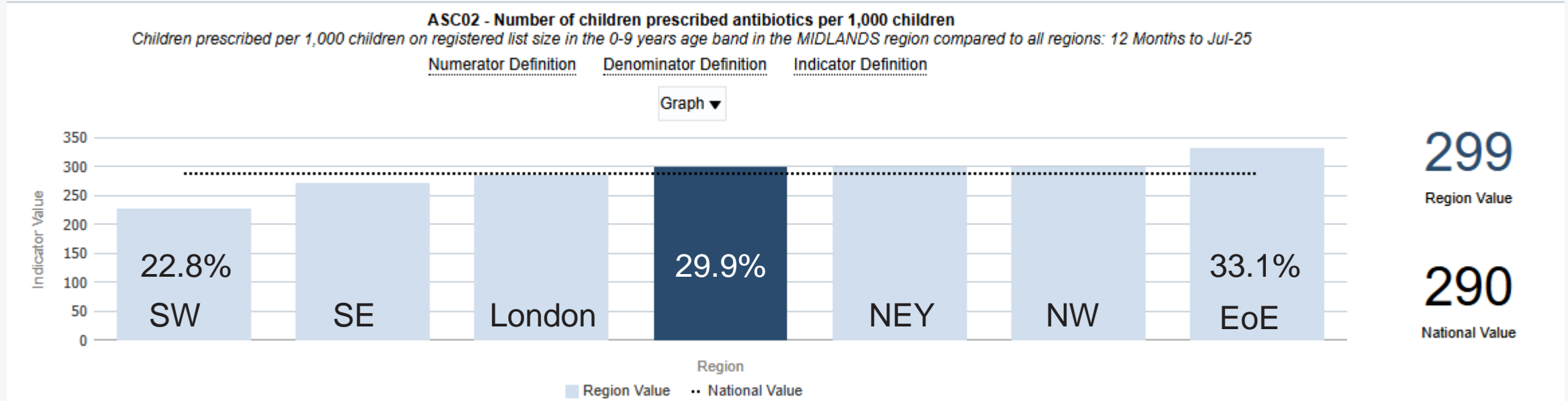
- Belief that bacterial infections require treatment with antibiotics
  - Perceive that antibiotics will expedite recovery from illness and/or reduce the risk of suppurative complications
- Medicolegal
  - Risk aversion
    - Culpability if a child becomes 'septic' / severely unwell
- Belief that parents are seeking antibiotics
  - Path of least resistance!

## Primary care clinician antibiotic prescribing decisions in consultations for children with RTIs:

a qualitative interview study

# Volume of antibiotic prescribing

# Variation between regions in England (prescribing for children aged 0-9 years, 12 month rolling data)



England data

Source: [ePACT2](#)

# Volume of prescribing of antibiotics to children aged 0-14 in England FY 2022-23

5.3 million



Antibiotic prescriptions for children aged 0-14y

48%



Proportion of antibiotic prescriptions that are for children aged 0-4y

49%



Proportion of all children aged 0-4y prescribed an antibiotic

**Is reducing antibiotic prescribing in primary care for RTI safe? Can it reduce workload?**

# Antibiotic prescribing in Primary Care vs expert opinion

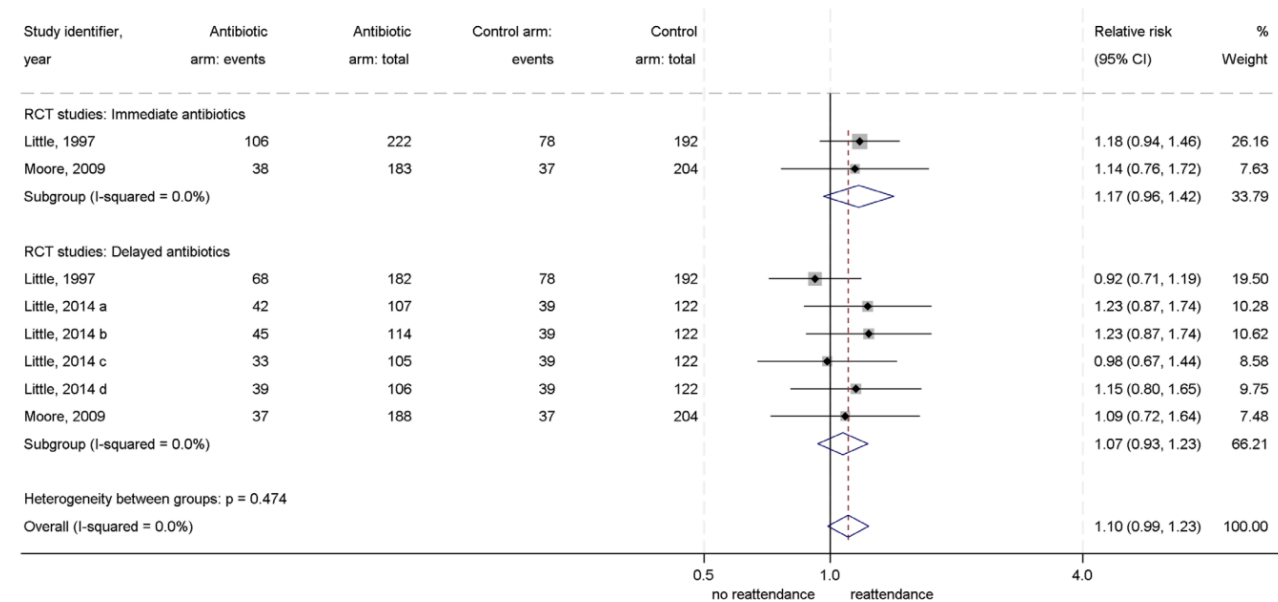
Condition/syndrome	Actual prescription (THIN data)	Ideal prescription: UKHSA EE median (IQ range)	Ideal prescription: ESAC EE acceptable range
Acute cough	40%	10% (6 – 16%)	
Acute bronchitis	92%	13% (6 – 22%)	0 – 30 %
Acute sore throat	60%	13% (7 – 22%)	0 – 20% (tonsillitis)
Acute rhinosinusitis	92%	11% (5 – 18%)	0 – 20%
Acute otitis media 6mo – 2yr 2yr – 18yr	96% 94%	19% (9 – 33%) 17% (8 – 30%)	0 – 20%
URTI	19%		0 – 20%
UTI	94%	75% (61 – 86%)	80 – 100%

# Prescribing and reconsulting for respiratory tract infections

- Systematic review & meta-analysis (3 RCTs, 3 cohort studies) – all in UK primary care
- RCTs: RR of reattendance with antibiotics was **1.10** (95% CI:0.99-1.23)
- Cohort studies: RR was **1.21** (95%CI: 0.94-1.49)
- High certainty evidence that prescribing antibiotics for acute respiratory tract infections increases the frequency of reattendance for similar conditions

## Effects of antibiotic prescribing for respiratory tract infection on future consultations in primary care: a systematic review and meta-analysis

Ibrahim Adamu , Amanda Lambert, Safiyya Bello, Fatima Aminu Abdulmalik, Tom Marshall 



# Antibiotic prescribing for RTI and GP workload

- Patients given antibiotics for sore throat are **40% more likely** to return within 6 weeks and if they have had prior antibiotics are **69% more likely** to consult again for the same condition<sup>1</sup>
- Observational data from 108 GP practices<sup>2</sup>
  - Higher antibiotic prescribing practices – higher rates of consultations
  - Lower antibiotic prescribing practices – lower rates of consultations
- Patients with recent history of antibiotic prescribing were more than **twice as likely** to reconsult in the year following index consultation with acute LRTI<sup>3</sup>

<sup>1</sup>[Little et al BMJ 2009;314:722](#); <sup>2</sup>[Ashworth et al Br J Gen Pract 2005;55:603](#); <sup>3</sup>[Moore et al Br J Gen Pract 2009;59:728](#)

# Is it safe to reduce antibiotic prescribing in primary care?

- Cohort study of 671,830 patients
- 706 general practices, 66.2m person-years of follow up (2002-2017)
- **Probability of sepsis for patient <25 years old was less than 1 in 10,000 consultations**
- Sepsis: NNT for children aged 0-4 to prevent one episode of sepsis:
  - Boys: 29,773
  - Girls: 27,014
- Probability of sepsis greatest for UTI > Skin infections > RTI

## Safety of reducing antibiotic prescribing in primary care: a mixed-methods study

Martin C Gulliford, Judith Charlton, Olga Boiko, Joanne R Winter, Emma Rezel-Potts, Xiaohui Sun, Caroline Burgess, Lisa McDermott, Catey Bunce, James Shearer, Vasa Curcin, Robin Fox, Alastair D Hay, Paul Little, Michael V Moore and Mark Ashworth

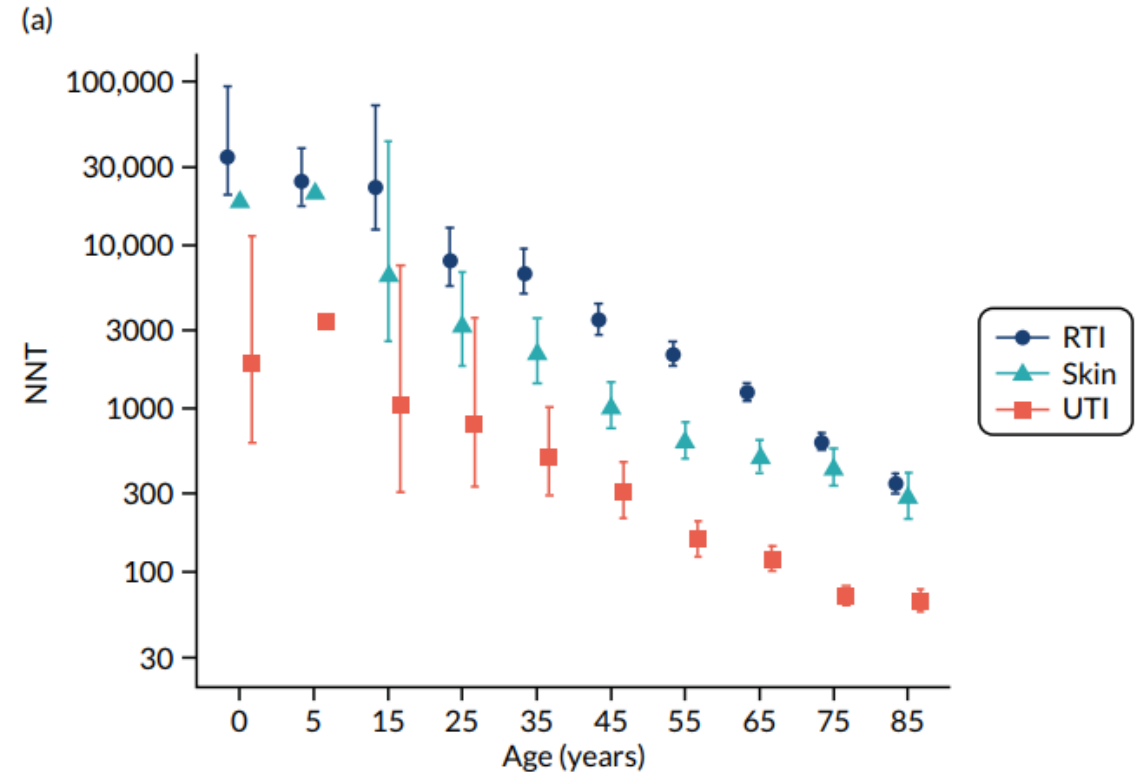


Fig. Number of antibiotic prescriptions required to prevent one sepsis event (i.e. NNT) in male patients

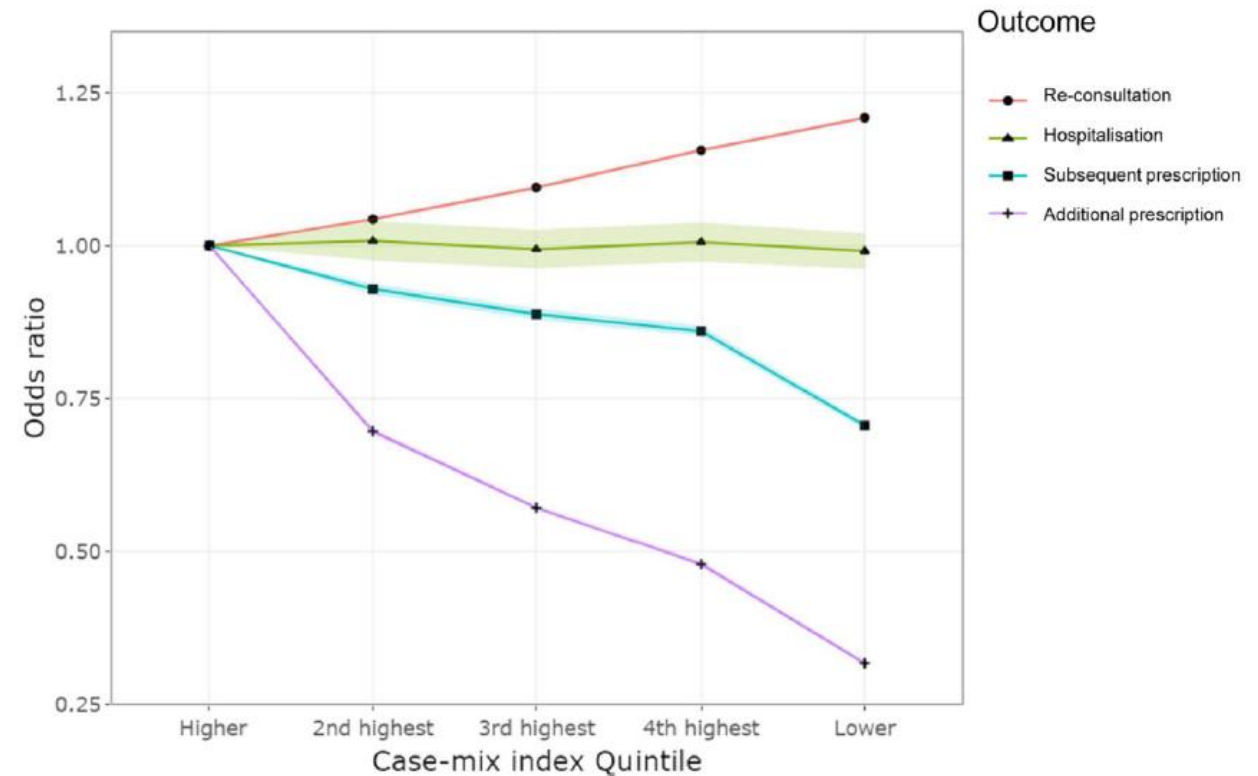
# Is it safe to reduce antibiotic prescribing in primary care?

- 1471 General Practices in England, stratified by prescribing quintile per 1000 RTI-consultations
- No higher risk of hospitalisation (aOR 0.99, CI=0.96-1.02) with lowest prescribing quintile
- Re-consultation rates were higher in lowest prescribing quintile
  - For children  $\leq 5$  yo, OR 1.13 (CI 1.03-1.25)

Infectious Disease Practice

Risk of unintended consequences from lower antibiotic prescribing for respiratory tract infections in primary care

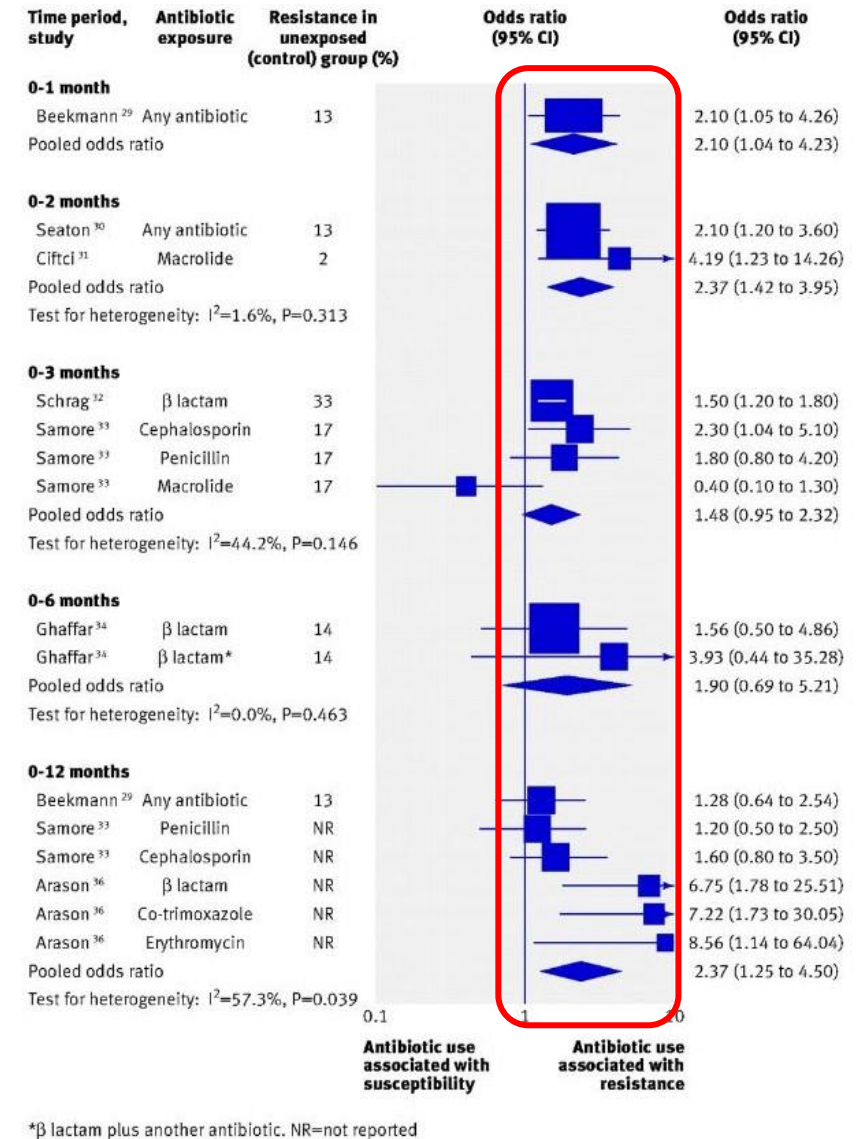
James Stimson <sup>a,\*</sup>, Tricia M. McKeever <sup>b,g</sup>, Emily Agnew <sup>a</sup>, Wei Shen Lim <sup>c,g</sup>, Simon Royal <sup>d</sup>, Puja Myles <sup>e</sup>, Stephanie Evans <sup>a,1</sup>, Julie V. Robotham <sup>a,f,1</sup>



# **Antibiotic prescribing: AMR and harms**

# Prescribing leads to individual patient level resistance

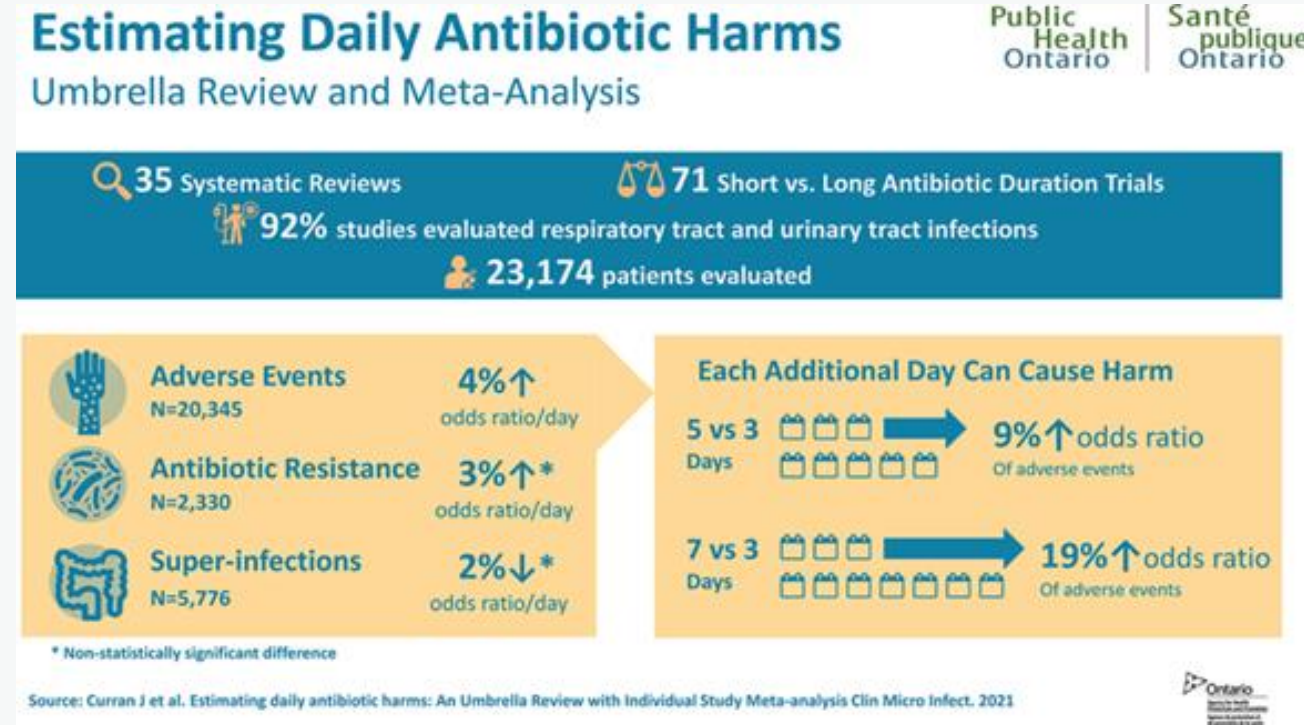
- Two weeks after prescribing amoxicillin to a child in general practice:
  - Less susceptible organism (MIC tripled)
  - Doubled risk of isolating a resistant strain (RR 1.9, 95%CI 1.2-2.9)<sup>1</sup>
- Meta-analysis of 7 studies showed that resistance can persist after prescribing for up to 12 months<sup>2</sup>
  - (OR 2.4, 95% CI: 1.3-4.5)



<sup>1</sup>Chung et al, *BMJ* 2007; **35**:429; <sup>2</sup>Costelloe et al, *BMJ* 2010; **340**:c2096

# Antibiotics can be harmful - Every extra day of treatment matters

- Umbrella review and meta-analysis of systematic reviews of 71 RCTs comparing short and longer courses of antibiotics
- Adults and children, multiple settings but majority community
- **19.9% of patients experienced an adverse drug event**
- Each day of antibiotic therapy associated with a **4% increased odds** of experiencing an ADR
- AMR developed in 10.6% of patients, risk increased by **3%** for every additional day of treatment



# Impact of exposure to antibiotics in early life

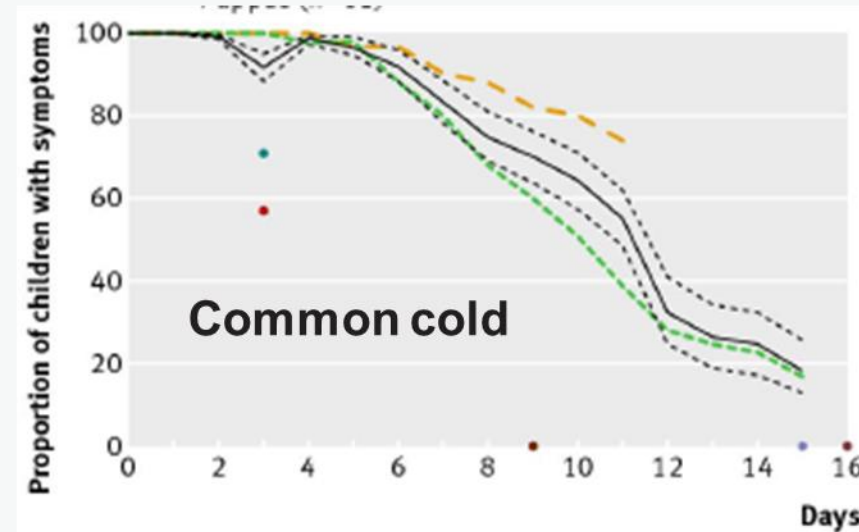
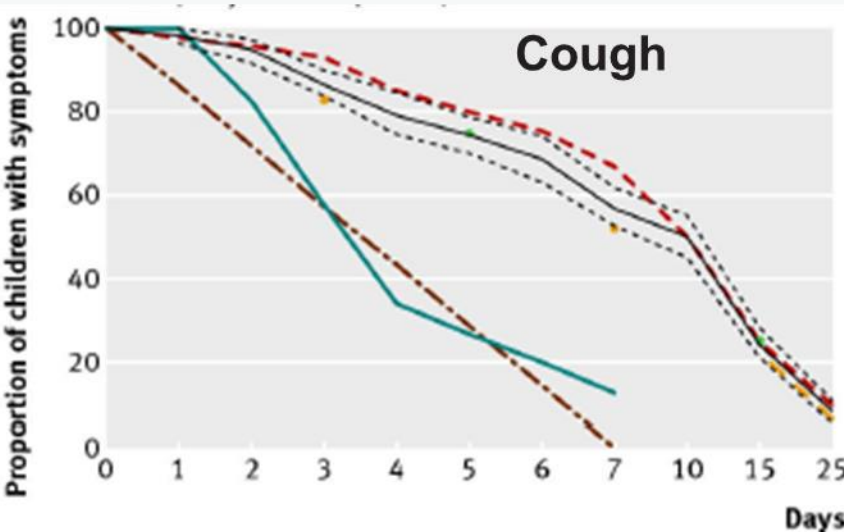
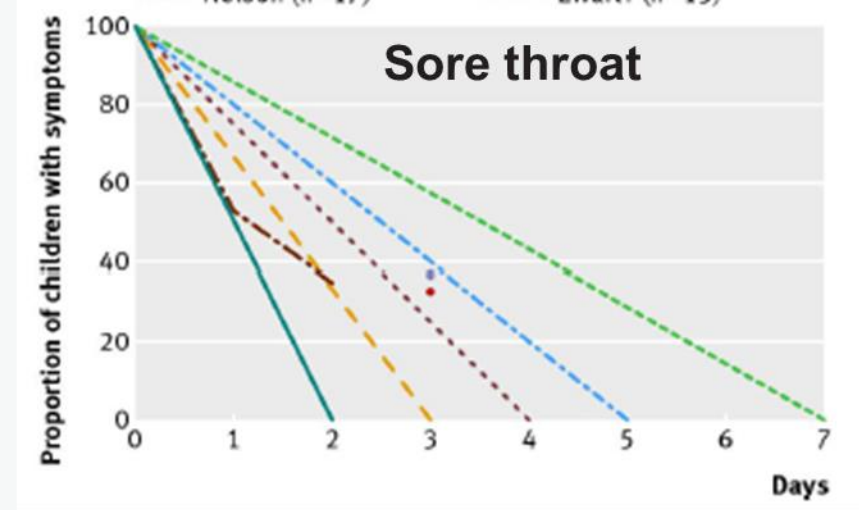
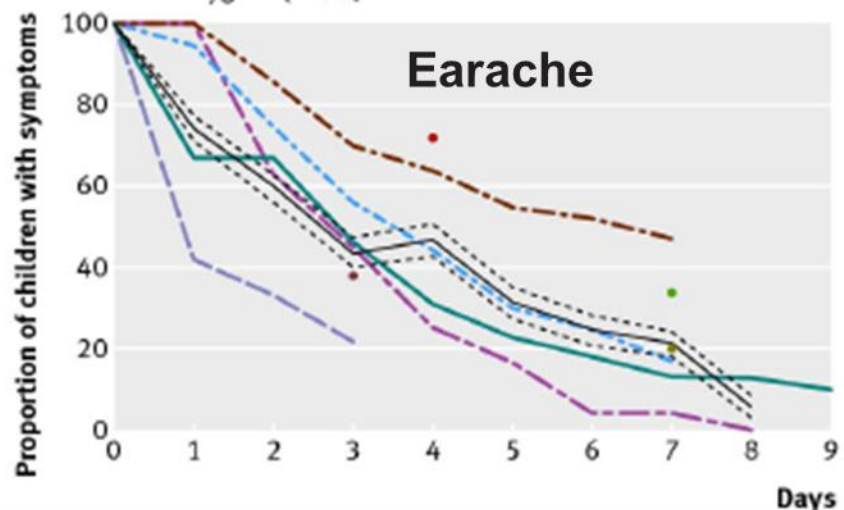
		Hazard ratio/incidence rate ratio (95% CI)				
Country	Sample size	Exposure period	Asthma	Food allergies	Intellectual disability	Obesity
Minnesota, USA	14,572	0-2 years	<b>1.90</b> (1.63-2.23)	1.33 (0.99-1.77)	<b>1.21</b> (1.03-1.43)	<b>1.20</b> (1.10-1.32)
United Kingdom	1 million	0-2 years	<b>1.24</b> (1.22-1.6)	<b>1.33</b> (1.26-1.40)	Dose dependent increased HR	<i>Not studied</i>
Iceland	22,393	During delivery to 1 <sup>st</sup> week of life*	<b>1.91</b> (1.40-2.59)	NS	<i>Not studied</i>	<i>Group II significantly heavier at 1.5 and 4 years</i>

\*3 groups: I: during C-section, II: during vaginal delivery, III: for at least 48h within 1<sup>st</sup> week of life

“..early life microbiome composition is a critical health determinant.... perturbations during key developmental periods can have long term consequences”<sup>1</sup>

**Antibiotics for  
respiratory tract  
infections:  
symptomatic benefit &  
risk of complications**

# Duration of symptoms of RTIs in children



Systematic review of 23 trials and 25 observational studies in children with acute RTIs in primary care/ED

In 90% of children, infection was resolved by:

- Earache: 7-8 days
- Sore throat: 2-7 days
- Croup: 2 days
- Bronchiolitis: 21 days
- Acute cough: 25 days
- Common cold: 15 days
- Unspecified RTI symptoms: 16 days

# How much symptomatic benefit do antibiotics deliver?

	Total Duration untreated	Beneficial effect from antibiotics	NNT for one additional patient to benefit	NNT for one additional adverse effect
Otitis media	4 -12 days	8-12 hours	18	9
Sore throat	8 days	12-18 hours	6-20	15
Sinusitis	12-15 days	24 hours	18	8
Bronchitis	20-22 days	11-24 hours	10-22	24

# Antibiotics and risk of complications

- Retrospective cohort study in 610 UK General Practices – stratified by rate of antibiotic prescriptions for RTI
- 45.5m person-years of follow up between 2005-14
- RTI consultations with antibiotic prescribed
- Outcome: incidence of serious complications
- High prescribing rates not protective against complications
- Reducing prescribing for RTI by 10% for a 7000 patient list size could result in:
  - 1 extra case of pneumonia per year
  - 1 extra case of peritonsillar abscess a decade

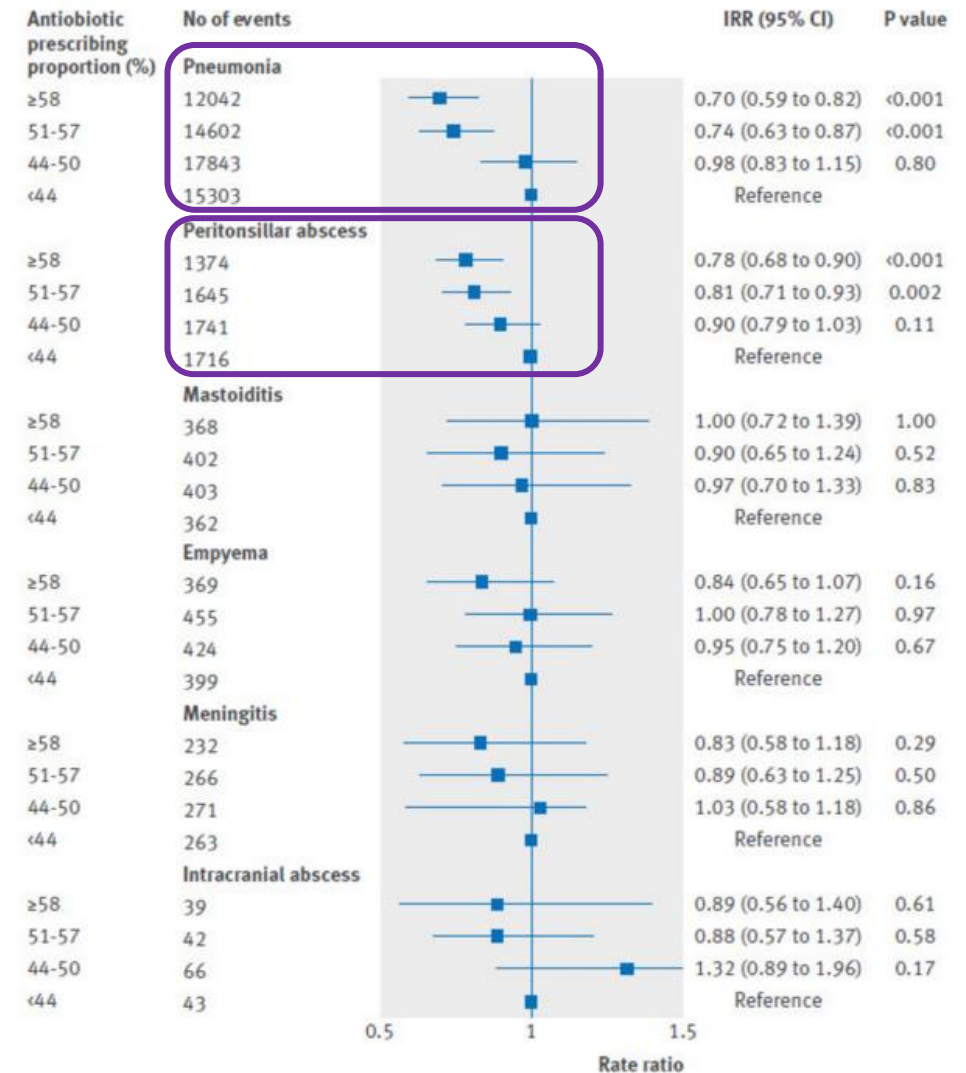
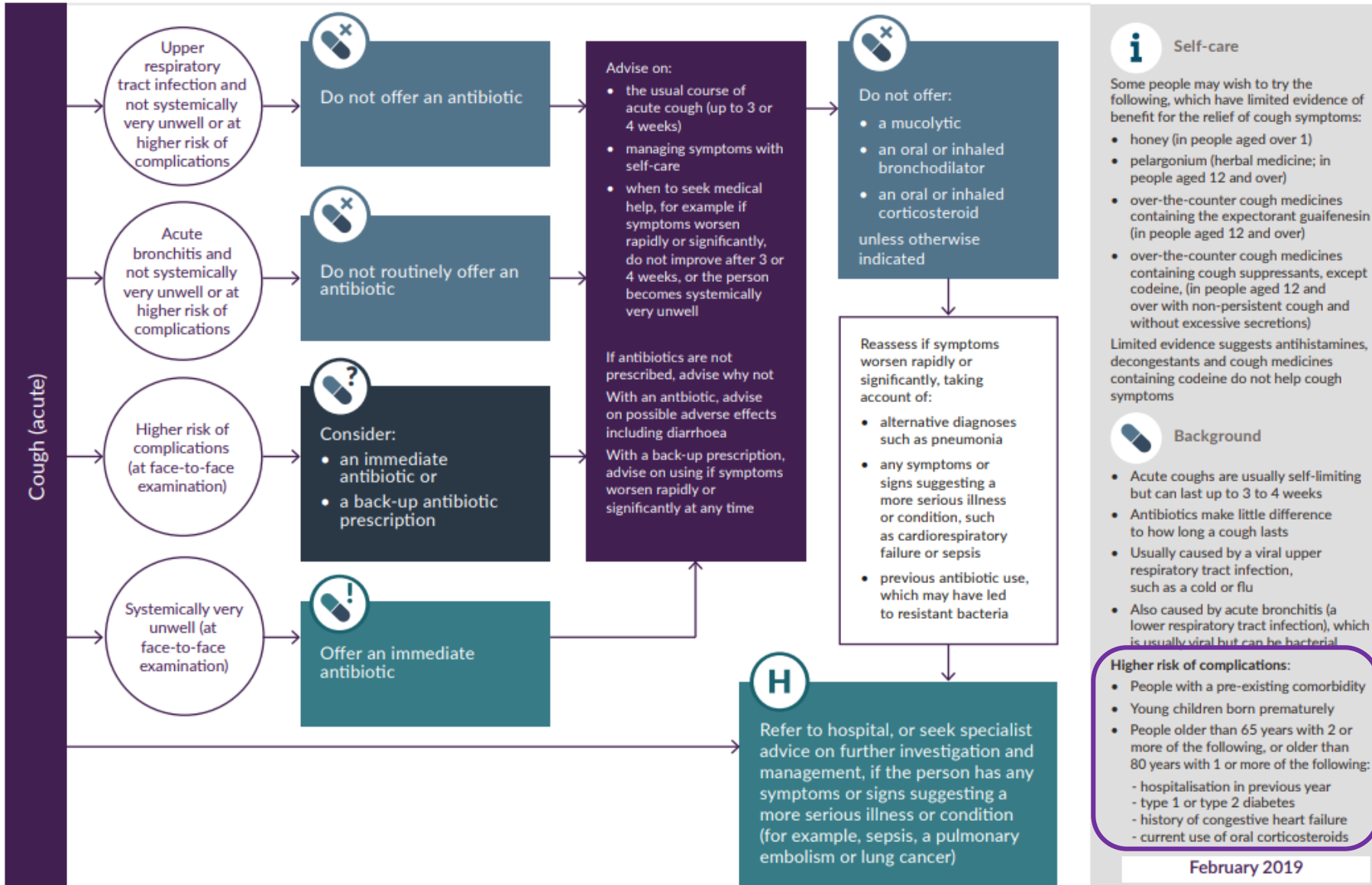


Fig 4 | Fig 4 Association of incidence of infective complications with fourth of antibiotic prescribing proportion. Incidence rate ratios (IRRs) were adjusted for consultation rate for respiratory tract infections, sex, age group, region, deprivation fifth, and clustering by general practice

# NICE guidance on risk of complications

## Cough (acute): antimicrobial prescribing

NICE National Institute for Health and Care Excellence



# Relevant clinical trials & studies for RTIs in children

# STARWAVE trial in brief

- A tool to predict risk of hospitalisation within 30 days for children presenting with acute cough & RTI
- 7 characteristics were independently associated with hospital admission
- Distinguishes between three hospital admission risk strata –
  - very low,
  - normal or
  - high risk

Development and internal validation of a clinical rule to improve antibiotic use in children presenting to primary care with acute respiratory tract infection and cough: a prognostic cohort study

Alastair D Hay, Niamh M Redmond, Sophie Turnbull, Hannah Christensen, Hannah Thornton, Paul Little, Matthew Thompson, Brendan Delaney, Andrew M Lovering, Peter Muir, John P Leeming, Barry Vipond, Beth Stuart, Tim J Peters, Peter S Blair

“Clinical characteristics can distinguish children at very low risk, normal and high risk of future hospital admission for respiratory tract infection and *could be used to reduce antibiotic prescriptions in primary care for children at very low risk*”

# STARWAVE – predicting future hospitalisation among children who have presented in-hours to primary care with acute cough (<28d) and respiratory tract infection

## Seven symptoms and signs:

S	<u>Short</u> duration of illness ( $\leq 3$ days)
T	Parent reported fever in previous 24 hours or <u>temperature</u> $\geq 37.8^{\circ}\text{C}$ at presentation
A	<u>Age</u> <2 years
R	Clinician reported inter/subcostal <u>recession</u>
W	Clinician reported <u>wheeze</u> on auscultation
A	Current diagnosis of <u>asthma</u>
V	Parent reported moderate/severe <u>vomiting</u> in the previous 24 hours

# STARWAVE – predicting future hospitalisation among children who have presented in-hours to primary care with acute cough (<28d) and respiratory tract infection

Score	Risk category	Risk of future admission and suggestion approach to management
0-1	Very low risk (67% of all children)	1:320 risk of future admission – no antibiotic strategy should be considered
2-3	Normal risk (30%)	1:70 risk of future admission – no or back-up antibiotic strategy should be considered
≥4	High risk (~3%)	1:9 risk of future admission – immediate antibiotic + same/next-day follow up

# ARTIC-PC trial in brief

## Antibiotics for lower respiratory tract infection in children presenting in primary care in England (ARTIC PC): a double-blind, randomised, placebo-controlled trial

*Paul Little, Nick A Francis, Beth Stuart, Gilly O'Reilly, Natalie Thompson, Taeko Becque, Alastair D Hay, Kay Wang, Michael Sharland, Anthony Harnden, Guiqing Yao, James Raftery, Shihua Zhu, Joseph Little, Charlotte Hookham, Kate Rowley, Joanne Euden, Kim Harman, Samuel Coenen, Robert C Read, Catherine Woods, Christopher C Butler, Saul N Faust, Geraldine Leydon, Mandy Wan, Kerenza Hood, Jane Whitehurst, Samantha Richards-Hall, Peter Smith, Michael Thomas, Michael Moore, Theo Verheij*

- Children aged 6mo-12yrs with uncomplicated (non-pneumonic) LRTI, randomised to receive amoxicillin or placebo for 7 days
- No difference in outcome for 5 pre-specified clinical subgroups – pts with chest signs, fever, physician rating of unwell, sputum or chest rattle, short of breath

Amoxicillin for uncomplicated chest infections is **unlikely to be clinically effective** overall or for key subgroups in whom antibiotics are commonly prescribed

Unless pneumonia is suspected, **clinicians should provide safety-netting advice but not prescribe antibiotics** for most children presenting with chest infections

# So what do we know now?



- Antibiotics are associated with quite a lot of harms
- RTI symptoms can last for quite a while – important to communicate this to parents/carers
- The majority of children with acute RTI and cough are very low risk for deterioration – using STARWAVE could help to identify this cohort
- Antibiotics make little difference to uncomplicated chest infections – unless pneumonia is suspected, consider a no-antibiotic strategy with safety netting advice
- In the next section, we will look at the impact of communication and ways to have a successful consultation that supports no-antibiotic and back-up antibiotic strategies

# **Evidence for different prescribing strategies**

# Conclusion from systematic review of *immediate vs delayed vs no antibiotics* for respiratory infections

	No antibiotics	Delayed antibiotics		Delayed antibiotics	Immediate antibiotics
Antibiotic use	Lowest use with no antibiotics			Lower use with delayed antibiotics	
Patient satisfaction	Favours delayed antibiotics			No difference	
Clinical outcomes (various)	Mostly no difference			No difference	
Duration of clinical outcomes	Mostly no difference			Mostly no difference*	
Reconsultation rate	No difference			No difference	

\*" The only differences were small and favoured *immediate* antibiotics for relieving pain, fever and runny nose for sore throat; and pain and feeling unwell for middle ear infections"

# What can aid a 'No antibiotic' strategy?

- Having a satisfactory consultation
- Promoting self care & safety netting with patient information leaflets & resources
  - e.g. TARGET leaflets, CHICO leaflet, Healthier Together website
- Coding provision of self care & safety netting advice (e.g. leaflet)

# Evidence for impact of communication in acute cough in general practice in brief

- Communication skills training and use of patient information leaflet halved antibiotic prescribing compared to usual care for LRTI
- Using the enhanced communications skills did not increase consultation time

Effect of point of care testing for C reactive protein and training in communication skills on antibiotic use in lower respiratory tract infections: cluster randomised trial

Jochen W L Cals, general practitioner trainee and researcher,<sup>1</sup> Christopher C Butler, professor of primary care medicine,<sup>2</sup> Rogier M Hopstaken, general practitioner and researcher,<sup>1,3</sup> Kerenza Hood, reader in statistics,<sup>2,4</sup> Geert-Jan Dinant, professor of general practice<sup>1</sup>

Care for LRTI	Antibiotics prescribed
Usual care	67%
Communication skills and leaflet	33%
CRP to aid diagnosis	39%
Both CRP & communication	23%

# Satisfactory consultations: How?

## Key elements of effective consultations (CHESTSSS)

<b>C:</b> Ask specifically about concerns	<b>‘What are the things you are most worried about?’</b>
<b>H:</b> Discuss <b>history and exam</b>	While doing an examination provide ‘no problem’ commentary ‘Your heart rate is normal, your temperature isn’t raised’
<b>E:</b> Ask specifically about expectations	<b>How do you think I could most help you today?’ or ‘How do you feel about antibiotics?’</b>
<b>S:</b> Provide non-serious explanation for <b>symptoms</b>	‘Your body produces phlegm as a <b>normal reaction</b> to inflammation in your airways. The phlegm catches particles and helps keep your lungs clear.’
<b>T:</b> Be specific about illness <b>timeline</b> /usual course	<b>‘A typical cough can take 3-4 weeks to clear completely.’</b>
<b>S:</b> Explain <b>shortcomings</b> of antibiotics	Antibiotics <b>don’t help with pain</b> but <b>side effects</b> , such as diarrhoea, nausea and rash, can be <b>experienced by up to 1 in 10 people.</b> ’
<b>S:</b> <b>Self-care</b> advice	<b>‘Pain in the chest or throat is normal due to inflammation, you can take paracetamol, and/or ibuprofen, which will help the pain and soothe the inflammation.’</b>
<b>S:</b> <b>Safety-netting</b> advice	Provide patients with specific <b>information on red-flag symptoms</b> and when they should seek further help

# Promoting self care & safety netting using patient information leaflets and resources

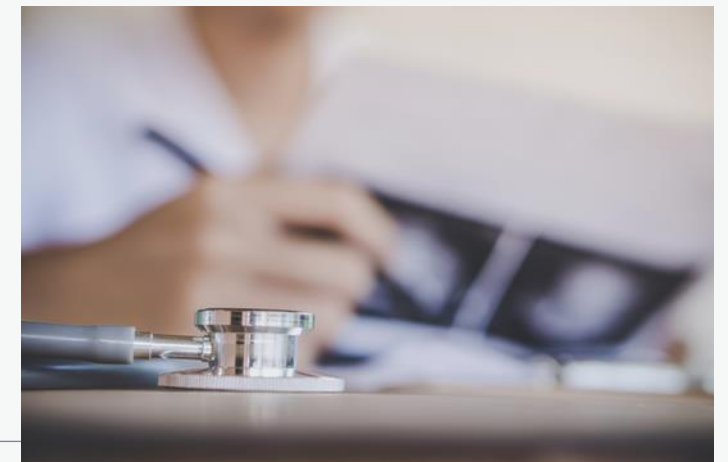
- Supports your verbal advice & helps patients remember it
- Addresses patient concerns
- Empowers patients to self-manage
- Improves patient recall
- Improves patient satisfaction
- Standardises advice given by different prescribers

## Printed leaflets:

- Use patient leaflets **interactively** – not as a parting gift
- **Personalise** leaflet by drawing attention to the parts relevant to the patient

## Electronic leaflets/resources:

- Send via AccuRx or from within EMIS (email/text)
- Available in multiple languages



**I'm not sure... what  
about a back-up  
antibiotic strategy?**

# I'm not sure if the patient needs antibiotics!

- Consider a back-up prescription...
- Why?
  - Patients are **still satisfied** – no difference to immediate antibiotics (86% vs 91% immediate)<sup>1</sup>
  - Reduce use of antibiotics (30% vs 93% immediate)<sup>1</sup>
  - Useful if unsure whether immediate antibiotic is needed
  - **No difference in adverse events** compared to immediate antibiotics
  - **No difference in re-consultation rates** compared to immediate antibiotics

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<sup>1</sup>[Spurling et al, Cochrane Database Syst Rev 2023;10:CD004417](#)

# Reconsultation rates – backup vs immediate

## 7.1.3 Reconsultation rate: delayed (all strategies) versus immediate antibiotics

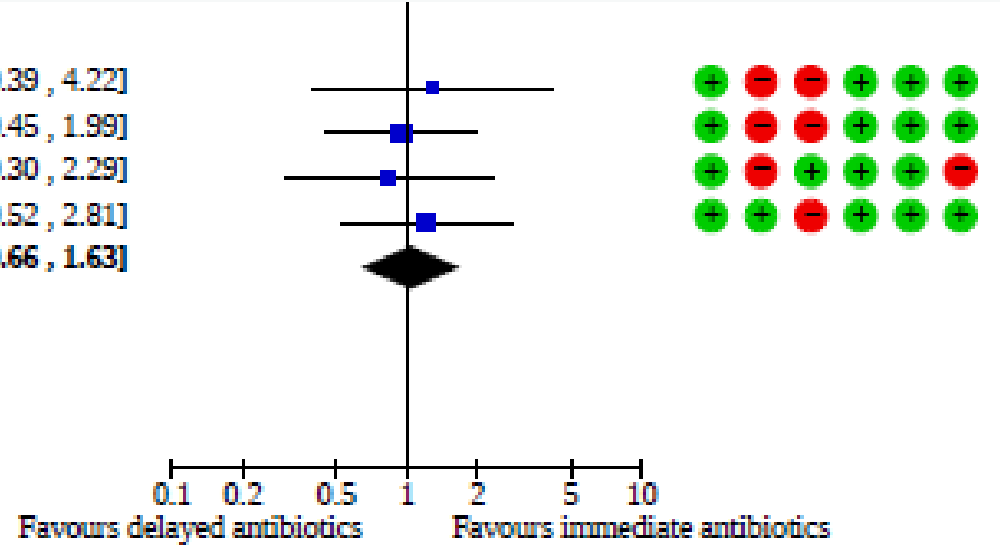
De la Poza Abad 2016	10	198	4	101	14.5%	1.29 [0.39 , 4.22]
Mas-Dalmau 2021	15	146	16	148	36.8%	0.94 [0.45 , 1.99]
Fichichero 1987	8	55	10	59	19.9%	0.83 [0.30 , 2.29]
Spiro 2006	13	132	11	133	28.8%	1.21 [0.52 , 2.81]
<b>Subtotal (95% CI)</b>		<b>531</b>		<b>441</b>	<b>100.0%</b>	<b>1.04 [0.66 , 1.63]</b>

Total events: 46 (delayed) / 41 (immediate)

Heterogeneity:  $\tau^2 = 0.00$ ;  $\text{Chi}^2 = 0.50$ ,  $\text{df} = 3$  ( $P = 0.92$ );  $I^2 = 0\%$

Test for overall effect:  $Z = 0.15$  ( $P = 0.88$ )

Test for subgroup differences:  $\text{Chi}^2 = 0.00$ ,  $\text{df} = 2$  ( $P < 0.000001$ ),  $I^2 = 0\%$



Remember to code your use of backup antibiotic prescriptions

SNOMED code	Definition
1065591000000109	Delayed prescription given (situation)
248041000000103	Patient advised to delay filling of prescription (situation)
967191000000104	Provision of Treating Your Infection self-care patient leaflet with back-up antibiotic prescription issued (procedure)

**Nope, my patient needs  
immediate antibiotics...**

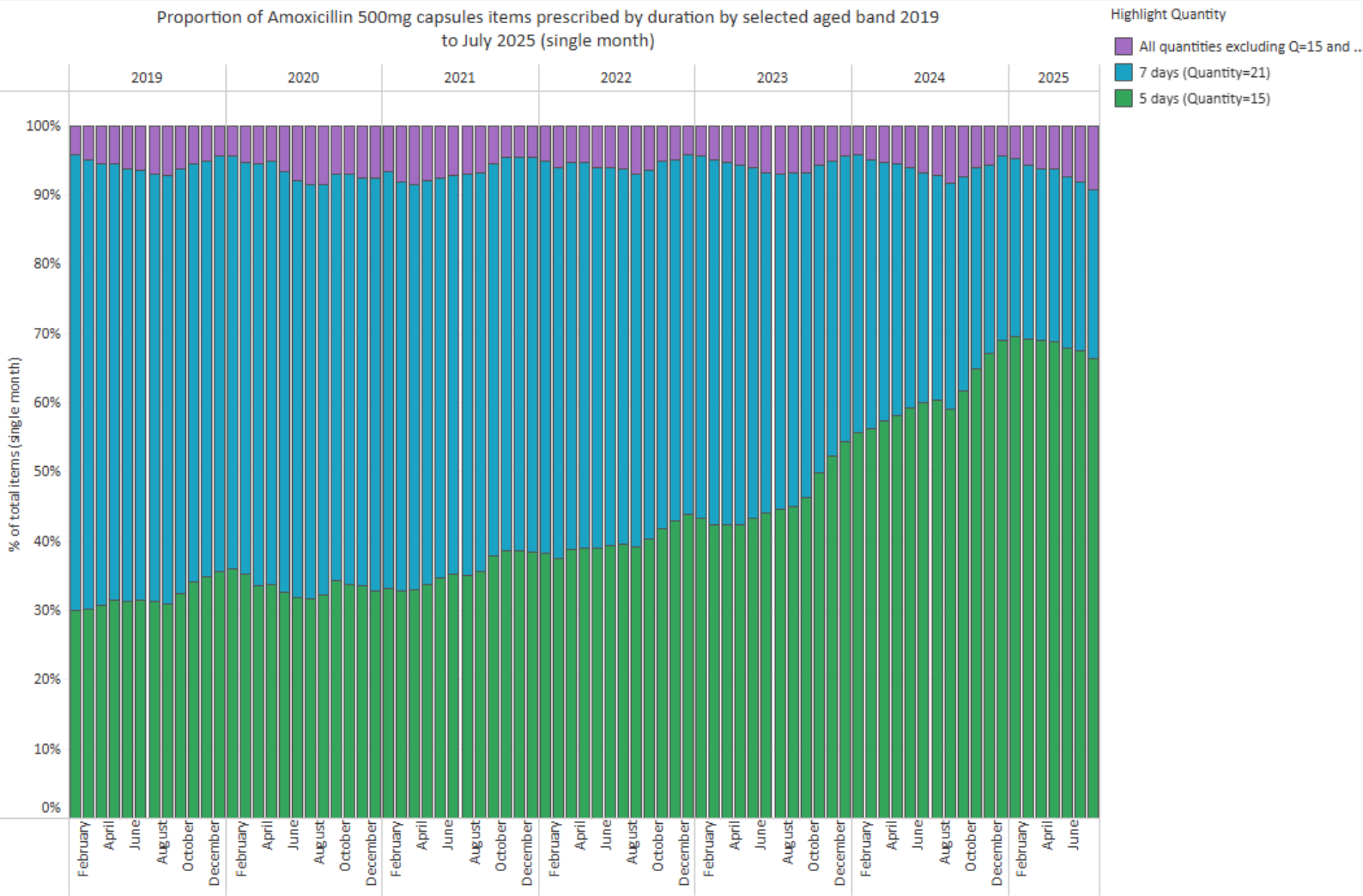


# **My patient needs immediate antibiotics!**

Ensure the right choice and duration... follow local/national guidelines



# 5-day prescribing of amoxicillin capsules 500 mg on FP10



Proportion of 5-day amoxicillin courses ~66% in England

NICE guidelines for RTI recommend **5 days treatment** with antibiotics

# Only 5 days for RTIs? My patients need longer....

## Community acquired pneumonia – evidence for short courses

- Multiple studies in children show non-inferiority of 3-5 days of treatment ([SCOUT-CAP trial](#), [CAP-IT trial](#), [MASCOT trial](#), [Greenberg et al 2014](#), [SAFER trial](#))
- Updated [NICE guidance for community acquired pneumonia](#) now advises 3 days of antibiotics for children aged 3 months - 11 years with non-severe community acquired pneumonia without complications or underlying disease

1.6.4 Offer a 3-day course of antibiotics for babies and children aged 3 months (corrected gestational age) to 11 years with non-severe community-acquired pneumonia without complications or underlying disease. See [recommendations 1.10.2 to 1.10.4 for information and advice for parents and carers](#). [2025]

# **Antibiotic prescribing & reconsultation rates**

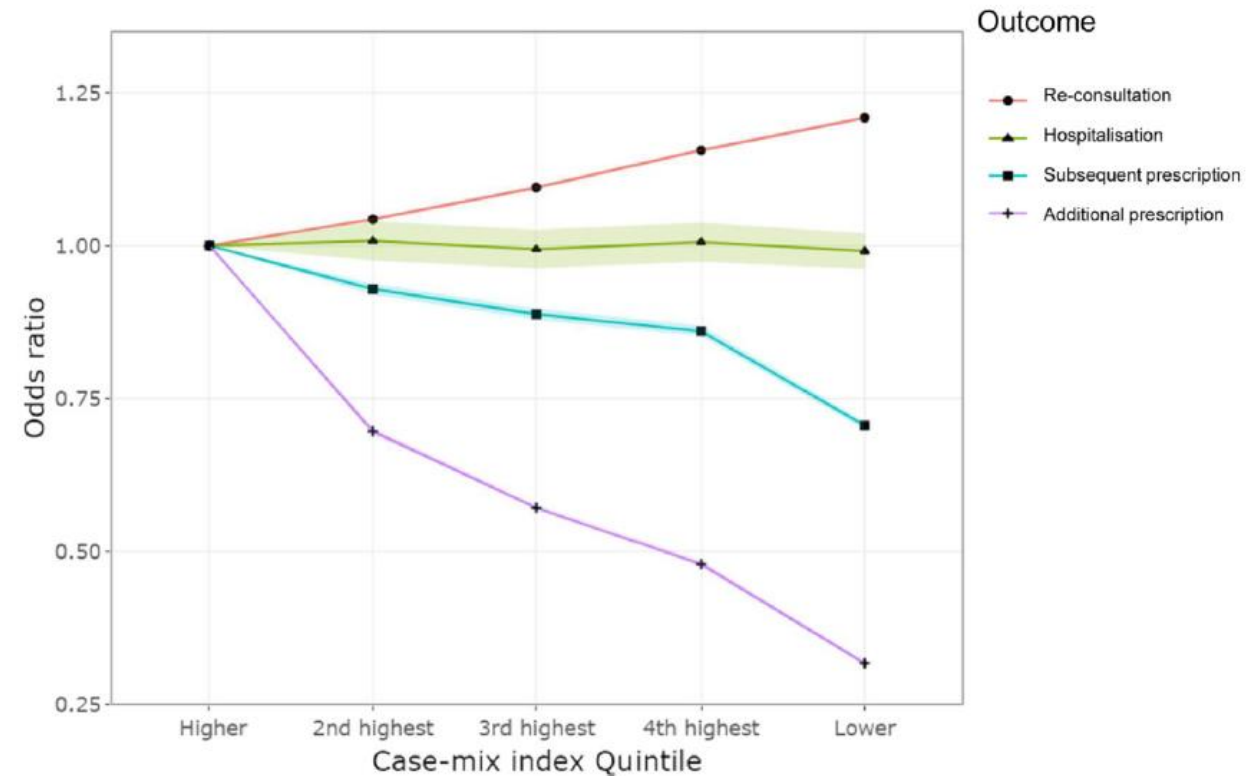
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  - For children  $\leq 5$  yo, OR 1.13 (CI 1.03-1.25)

Infectious Disease Practice

Risk of unintended consequences from lower antibiotic prescribing for respiratory tract infections in primary care

James Stimson<sup>a,\*</sup>, Tricia M. McKeever<sup>b,g</sup>, Emily Agnew<sup>a</sup>, Wei Shen Lim<sup>c,g</sup>, Simon Royal<sup>d</sup>, Puja Myles<sup>e</sup>, Stephanie Evans<sup>a,1</sup>, Julie V. Robotham<sup>a,f,1</sup>



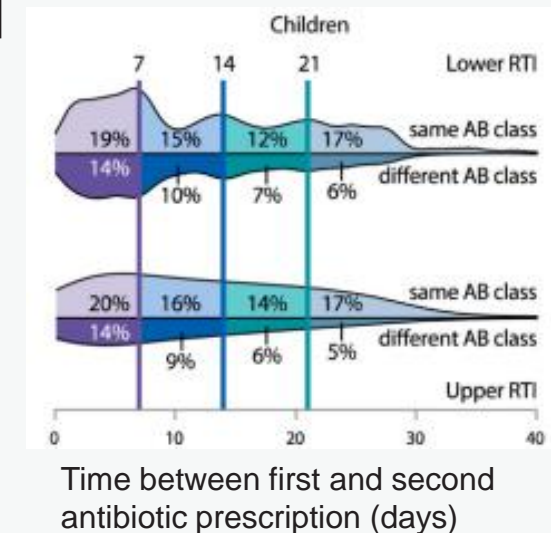
# Within-episode repeat antibiotic prescriptions (WERP) for RTI in brief

Infectious Disease Practice

Within-episode repeat antibiotic prescriptions in patients with respiratory tract infections: A population-based cohort study

Arief Lalmohamed<sup>a,b,\*</sup>, Roderick P. Venekamp<sup>c</sup>, Albert Bolhuis<sup>d</sup>, Patrick C. Souverein<sup>b</sup>, Janneke H.H.M. van de Wijgert<sup>c</sup>, Martin C. Gulliford<sup>e</sup>, Alastair D. Hay<sup>f</sup>

- In this trial, around 10% of children who had consulted for RTI (upper or lower) and were prescribed antibiotics, reconsulted and received a second course within 28 days
- Median was 10 days after initial prescription
- **Take home messages:**
  - when abx prescribed, clinicians should emphasise a single treatment course is likely to be microbiologically adequate
  - Remind parents/carers of the natural history of RTI longer than abx course, persisting symptoms unlikely to require WERP in the absence of deterioration



# **Useful resources for self care & safety netting**



# Safety netting advice

## Systematic review & network meta-analysis

- Compared to usual care:
  - Leaflets may reduce antibiotic prescribing, antibiotic consumption and return visits
  - Effect greater if combined with verbal safety netting advice
- Videos & websites offering safety netting advice may increase parental knowledge and parental satisfaction

# TARGET: Patient Information Leaflets Treating Your Infection RTI Leaflet (suitable for children)

## TREATING YOUR RESPIRATORY TRACT INFECTION (RTI)



### Your infection

- Middle-ear infection
- Sore throat
- Sinusitis
- Common cold
- Cough or bronchitis
- Other infection .....

### Most are better by

- 7 to 8 days
- 7 to 8 days
- 14 to 21 days
- 14 days
- 3 to 4 weeks
- Days .....

### When to get help

If any of the below apply to you or your child, get an urgent assessment from a healthcare professional. If your child is under the age of 5, go to A&E immediately or call 999.

- Your skin is very cold or has a strange colour, or you develop an unusual rash
- You have new feelings of confusion or drowsiness or have slurred speech
- You have difficulty breathing. Signs that suggest breathing problems include:
  - breathing quickly
  - turning blue around the lips and the skin below the mouth
  - skin between or above the ribs getting sucked or pulled in with every breath

If you (or your child) have any of the following symptoms, are getting worse or are sicker than you would expect (even if your temperature falls), trust your instincts and get medical advice urgently from NHS 111 or your GP.

- You develop a severe headache and are sick
- You have a red, swollen tongue
- You have redness, swelling and pain around the eyes or the ears
- You develop chest pain
- You have difficulty swallowing or are drooling
- You cough up blood
- You are peeing very little, or not at all
- You are feeling a lot worse
- Your child has a middle-ear infection and fluid is coming out of their ears or they have new deafness

### Less serious signs that can usually wait until you visit a pharmacist or your next available appointment

- You are not starting to improve a little by the time given in the 'Most are better by' column in the table above
- You have mild side effects such as diarrhoea. Get advice from a healthcare professional if concerned

### How to look after yourself and your family

- Have plenty of rest
  - Drink enough fluids to avoid feeling thirsty
  - Ask your local pharmacist to recommend medicines to help reduce your symptoms or pain (or both)
  - Fever is a sign your body is fighting the infection. It usually gets better by itself in most cases. You can use paracetamol if you (or your child) are uncomfortable because of a fever
  - Use a tissue to cover coughs and sneezes and wash your hands with soap to help prevent spreading infection to your family, friends and other people
- Never share antibiotics and always return any unused antibiotics to a pharmacy for them to dispose of safely.**

### Back-up antibiotic collection

Back-up antibiotic prescription to be collected after ..... days from / / only if you are not starting to feel a little better or you feel worse.

- Colds, most coughs, sinusitis, ear infections, sore throats, and other infections often get better without antibiotics, as your body can usually fight these infections on its own

If you need antibiotics, take them exactly as prescribed. Never save them for later and do not share them with others. For more information, visit: [www.antibioticguardian.com](http://www.antibioticguardian.com).

### Why it is important to take antibiotics as prescribed

Taking any antibiotics makes bacteria that live inside your body more resistant. This means that antibiotics may not work when you really need them.

Antibiotics can cause side effects such as rashes, thrush, stomach pains, diarrhoea, reactions to sunlight, other symptoms, or being sick if you drink alcohol with the antibiotic metronidazole.

Keep Antibiotics Working

Includes information on the usual duration of illness

- How to self-care
- Safety netting information
- Back up antibiotic prescription
- Antimicrobial resistance

# TARGET: Patient Information Leaflets

## Pictorial leaflets



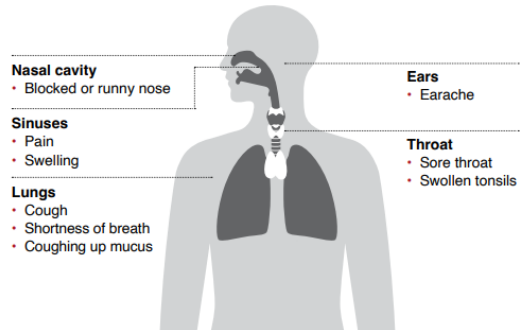
### RESPIRATORY TRACT INFECTION

A step-by-step guide on how to manage your infection

#### What is an RTI?







A respiratory tract infection (RTI) occurs in the upper or lower respiratory tract, causing symptoms. A RTI is usually caused by a virus, but can sometimes be bacterial.

#### What are some common symptoms of an RTI?











### 1 Help yourself to feel better

Whatever your infection, you can do the following to help.

 Take paracetamol to reduce pain. Always follow the instructions on the packet.	 Ask your pharmacist for advice on reducing your symptoms.
 Get plenty of rest until you feel better.	 Drink enough fluids to avoid feeling thirsty.
 Use tissues when you sneeze to help stop infections spreading.	 Wash your hands regularly and after using tissues.

For more information, visit the NHS website at [www.nhs.uk](http://www.nhs.uk). Most common infections get better without antibiotics. Find out how you can make better use of antibiotics at [www.antibioticguardian.com](http://www.antibioticguardian.com).






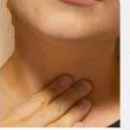
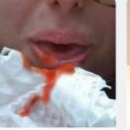

### 2 Check how long your symptoms last

 <b>Earache</b> Most get better by 7 to 8 days	
 <b>Sore throat</b> Most get better by 7 to 8 days	
 <b>Cold</b> Most get better by 14 days	
 <b>Cough</b> Most get better by 3 to 4 weeks	





If you are not starting to improve a little by the times given above, visit a pharmacist or contact your GP practice. If you are feeling a lot worse, phone NHS 111 or NHS 24 (see step 4)

### 3 Look out for serious symptoms

If you have an infection and develop any of the symptoms below, you should see a doctor urgently. Ring your GP practice or call NHS 111 or NHS 24.

 <b>Severe headache</b>	 <b>Very cold skin</b>	 <b>Trouble breathing</b>	 <b>Feeling confused</b>
 <b>Chest pain</b>	 <b>Problems swallowing</b>	 <b>Coughing blood</b>	 <b>Feeling a lot worse</b>

### 4 Where to get help

 CALL 111 when it's best urgent than 999	 NHS 111 Wales	 NHS 24 CALL 111	 Northern Ireland Contact your GP practice HSC Public Health Agency
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If you have an **emergency**, call 999 immediately.

# Sending TARGET Information Leaflets via AccuRx

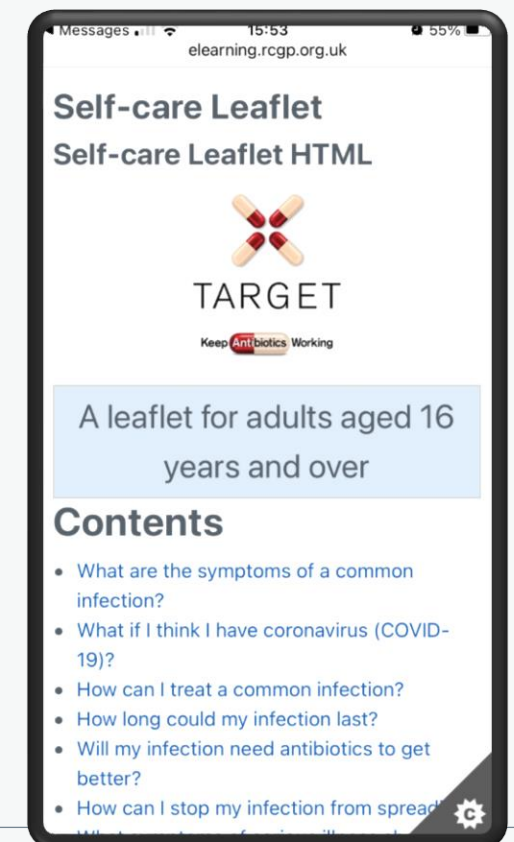
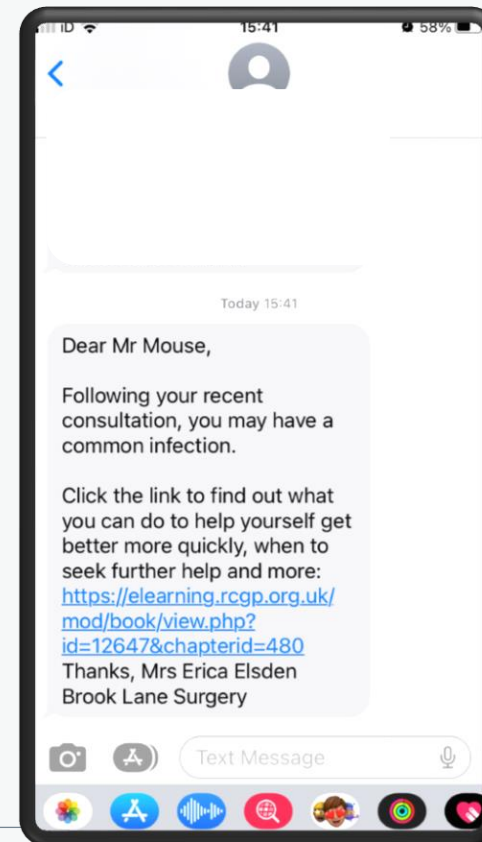
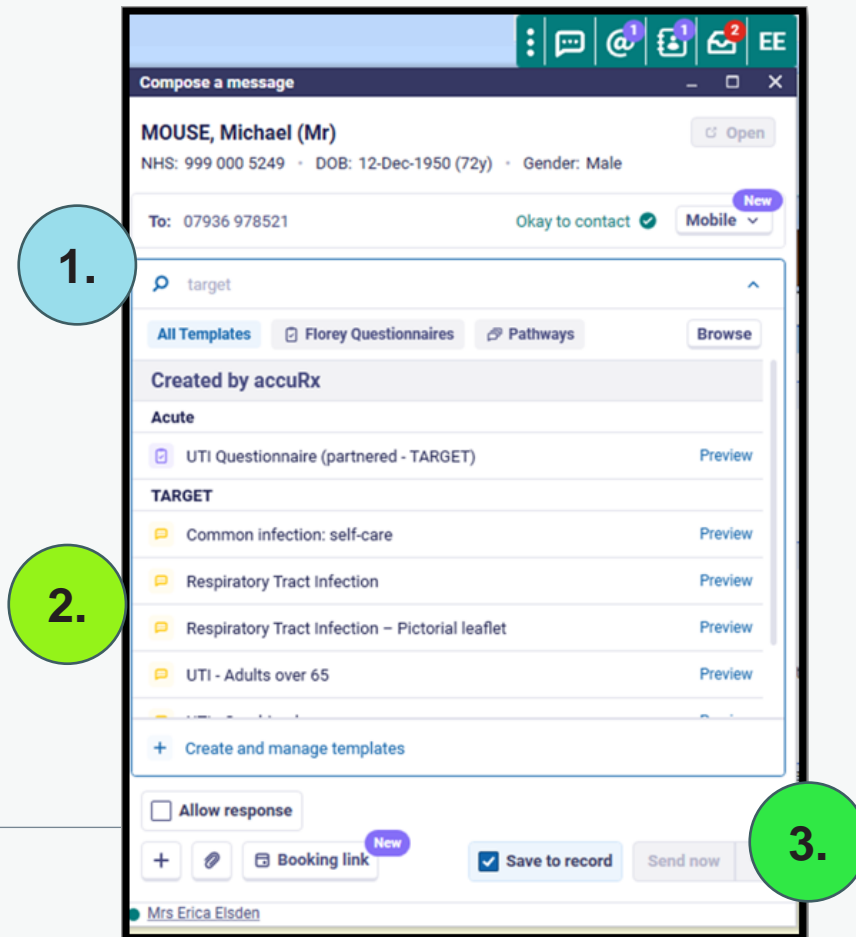
1. In the accuRx message template search bar, type "target"

2. Click on the desired TARGET patient leaflet

3. Press 'Send Now'

4. The patient will receive a link to the chosen patient leaflet

5. The link will bring the patient to the leaflet on the TARGET website



# Children with coughs (Polar bear) leaflet

## Caring for children with **COUGHS**



This leaflet contains information about how to look after a child who has a cough (not due to asthma).  
For more detail see [www.bristol.ac.uk/child-cough](http://www.bristol.ac.uk/child-cough)



### COUGH

Coughs can last for 3-4 weeks and make your child feel quite unwell but will still get better by themselves.

'Noisy chests' or 'chesty coughs' are quite common when young children catch a cold and are not necessarily a sign of a 'chest infection'.

Healthy children typically get a cough 7-10 times a year and this is not a sign that there is anything wrong with their immune system.

© University of Bristol

### DISTURBED SLEEP

Coughs will often wake your child in the night. When the child lies down, more of the mucus from the nose and throat runs downwards and your child coughs more to clear it.

Coughing is part of the body's defence system which helps keep the lungs clear and fight the illness. Unfortunately this can wake the child in the night but does not mean the illness is more severe.

**For children over 1 year**, a spoon of honey (perhaps in a warm drink) half an hour before bed may help them to wake less often.

**For children over 2 years**, vapour rubs (containing camphor, menthol and/or eucalyptus) may help children sleep better.



### FEVER/HIGH TEMPERATURE

**In children, a temperature of over 37.5°C is considered a fever.**

Fever is a normal response to illness and does not harm children. It may even help to fight illness.

Children with a high temperature may be more likely to have a more severe illness, although most do not. Occasionally a child may have a fit. This shouldn't cause harm and treating the fever doesn't prevent it.

It is safe to use child paracetamol and ibuprofen to manage children's fever (and pain) for as long as needed. Follow the dosage on the bottle.

### DRINKING/EATING LESS

Children often eat and drink less when they have normal childhood illnesses. Most children can go a few days without eating much and this will not affect their longer term growth and development.

**All children need to drink regularly to avoid becoming dehydrated, especially if they are vomiting.**

**To help prevent dehydration, encourage your child to have sips of water.**



# Healthier Together website

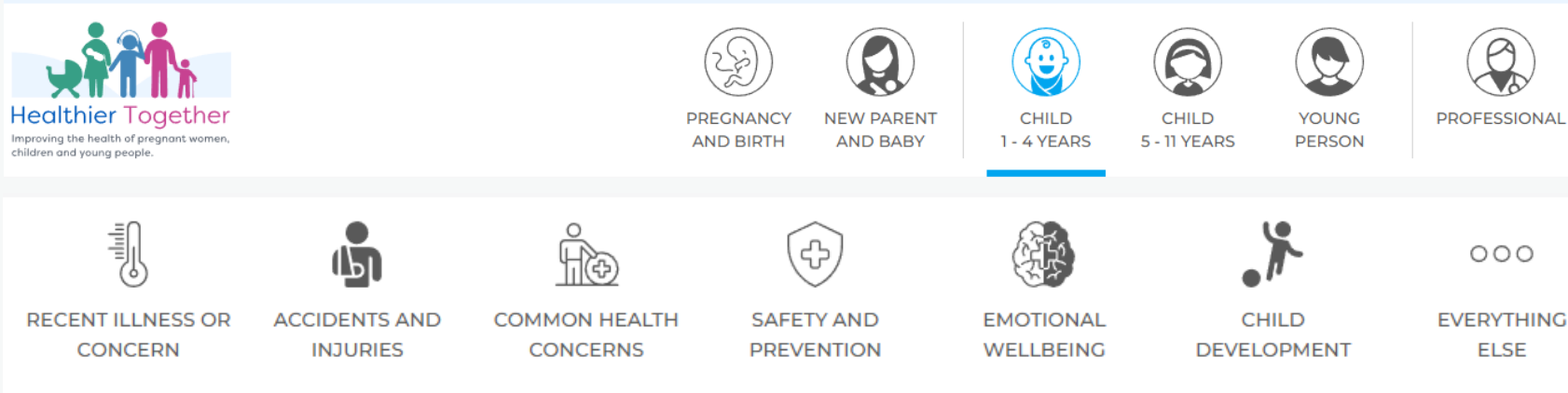


Integrated website for parents/carers & young people as well as healthcare professionals

Resources for HCPs  
Safety netting & parent information sheets  
Education and training resources

Parent information sheets on:

- Bronchiolitis
- Cough/colds (under 1's and over 1's)
- Otitis media
- Rhinosinusitis
- Tonsillitis/sore throat



Child 1 - 4 Years > Recent Illness or Concern

## Fever / High Temperature

Fever is very common in children and can happen when your child has an infection. Most children get better quickly with no treatment.

### When should you worry?

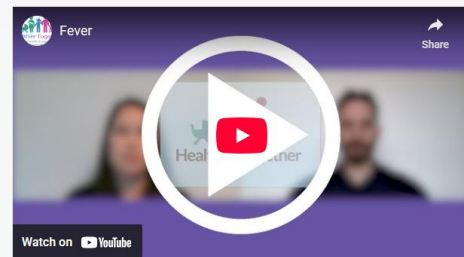
**RED**

**If your child has any of the following:**

- Is under 3 months of age with a temperature more than 38°C or under 36°C (unless fever in the 48 hours following vaccinations and no other red or amber features)
- Breathing very fast, too breathless to talk, eat or drink

**You need urgent help.**

Go to the nearest [Hospital Emergency \(A&E\) Department](#) or [call 999](#) - consider using 'What 3 words' to best describe location to ambulance service



**Fever / High Temperature**  
Watch a local GP and health visitor talking about what they would look out for in a child with a fever.  
9m 57s

# Take home messages

- The demand for antibiotics for RTIs seems unrelenting – we need to get better at managing that
- Key actions:
  - Effective/successful consultations that address parent/carer concerns and expectations
  - Communicate and be explicit about the expected duration of symptoms (how long it will take 90% of children to feel better)
  - Provide verbal and written safety netting advice
  - Signpost to Healthier Together website for additional support
  - Make sure the whole team is taking the same approach

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## Thank You



[@nhsengland](https://twitter.com/nhsengland)



[company/nhsengland](https://www.linkedin.com/company/nhsengland)



[england.nhs.uk](https://www.england.nhs.uk)



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Keep Antibiotics Working

# Feedback and upcoming events

**Please complete the feedback survey and let us know what topic you would like next!**

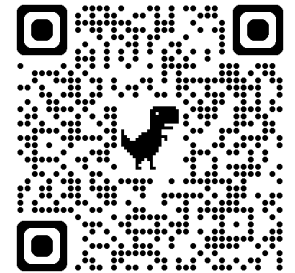
Sign up for our next webinars or recommend to colleagues:

**From guidance to practice: managing paediatric RTIs through clinical scenarios**

Wednesday 21 January | 2026 18:30 - 19:30 | Online

**Clinical decision making for skin infections: from Group A Strep to insect bites**

Tuesday 17 March 2026 2026 | 18:30 - 19:30 | Online



All webinars are recorded and published on the toolkit after the event.

Visit [www.rcgp.org.uk/TARGETantibiotics](http://www.rcgp.org.uk/TARGETantibiotics) to find out more and sign up to our contact list



TARGET

Keep Antibiotics Working

# Panel discussion