Ambulatory OPAT in paediatrics: same but different?

2017 National OPAT conference

11th December 2017

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Sheffield Children's Hospital

Sheffield Children's NHS
NHS Foundation Trust

Overview

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- P-OPAT: the story so far
- Our experience in Sheffield
- Tertiary OPAT v ambulatory OPAT
- What next?

P-OPAT: the story so far

- Management of children with IV therapy at home first described in 1974
  - E.g. Cystic Fibrosis
- OPAT widely used in adult practice
- Paediatrics slow to catch on!
  - Often ad hoc arrangements for ambulating children on IVAB
  - Lack robust clinical governance systems and benchmarking of outcomes
    - AMBULATORY OPAT but BADLY!

P-OPAT: the national picture

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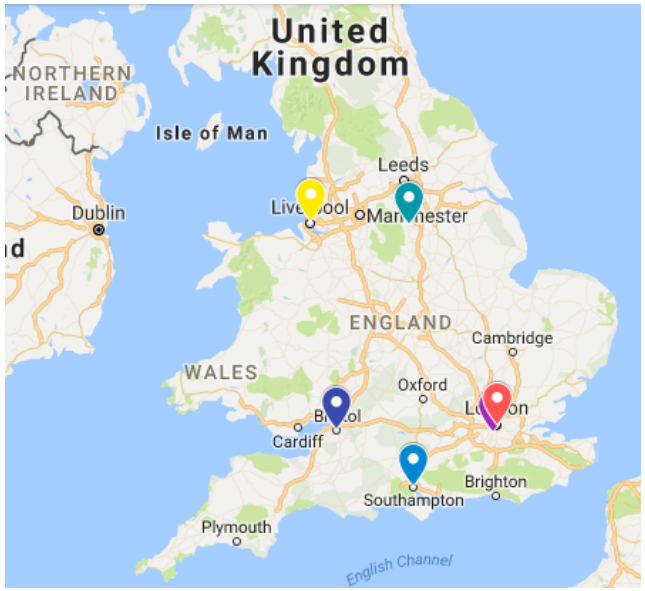
Evelina London Children's Hospital

- Rolling out since 2012
- 6 centres
  - Variety of models
- Paediatric OPAT network



P-OPAT centres in the UK

P-OPAT: the national picture

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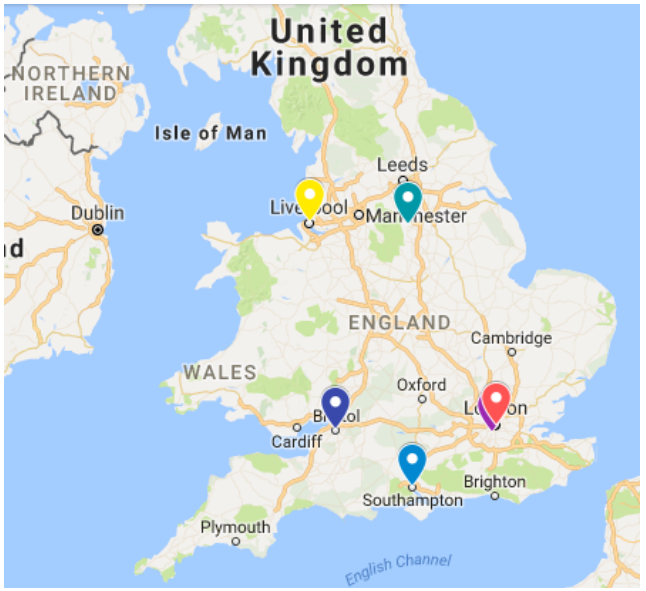

P-OPAT centres in the UK

J Antimicrob Chemother 2015; **70**: 360–373
doi:10.1093/jac/dku401 Advance Access publication 19 October 2014

Journal of Antimicrobial Chemotherapy

Good practice recommendations for paediatric outpatient parenteral antibiotic therapy (p-OPAT) in the UK: a consensus statement

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- Routine data collection and benchmarking
- Clear antimicrobial stewardship

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- Robust clinical governance
- Routine data collection and benchmarking
- Clear antimicrobial stewardship

- All tertiary children's hospitals
- Focus on tertiary OPAT

Good practice recommendations (2014)

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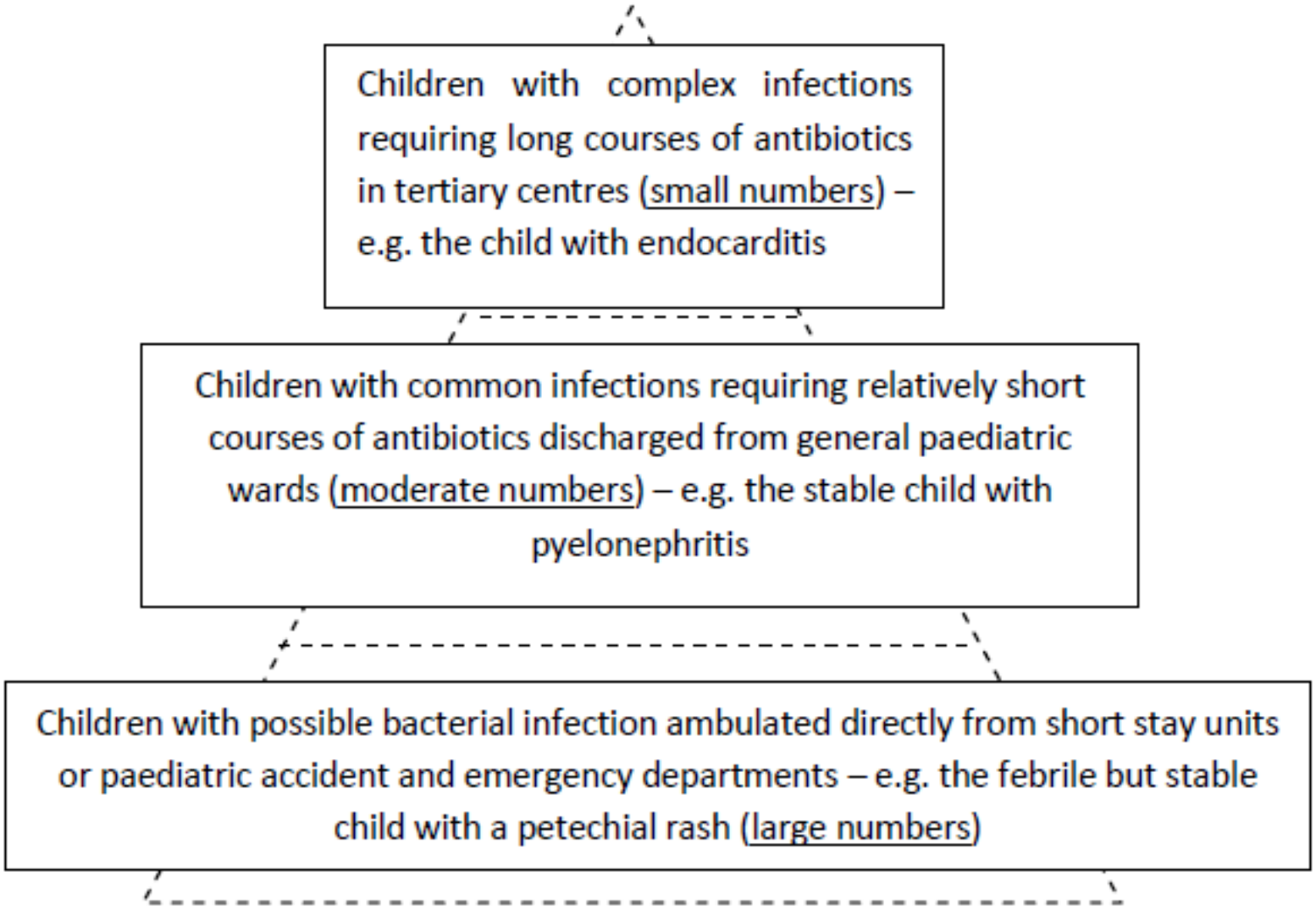
Figure 1. Spectrum of patients to whom p-OPAT services can be delivered.



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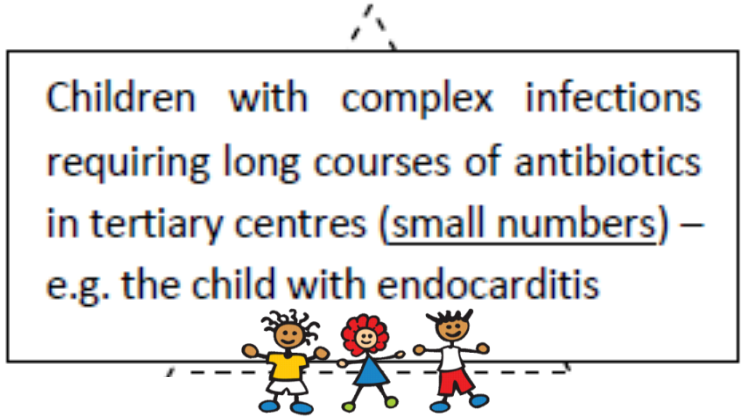

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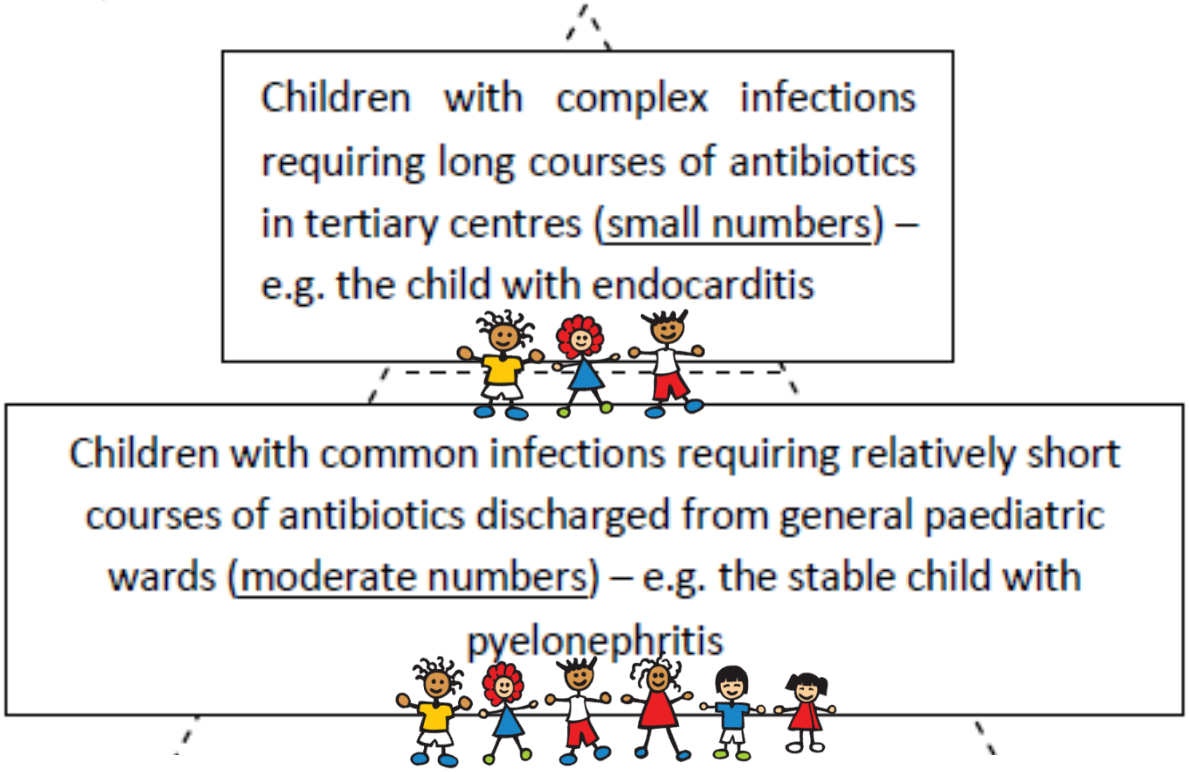

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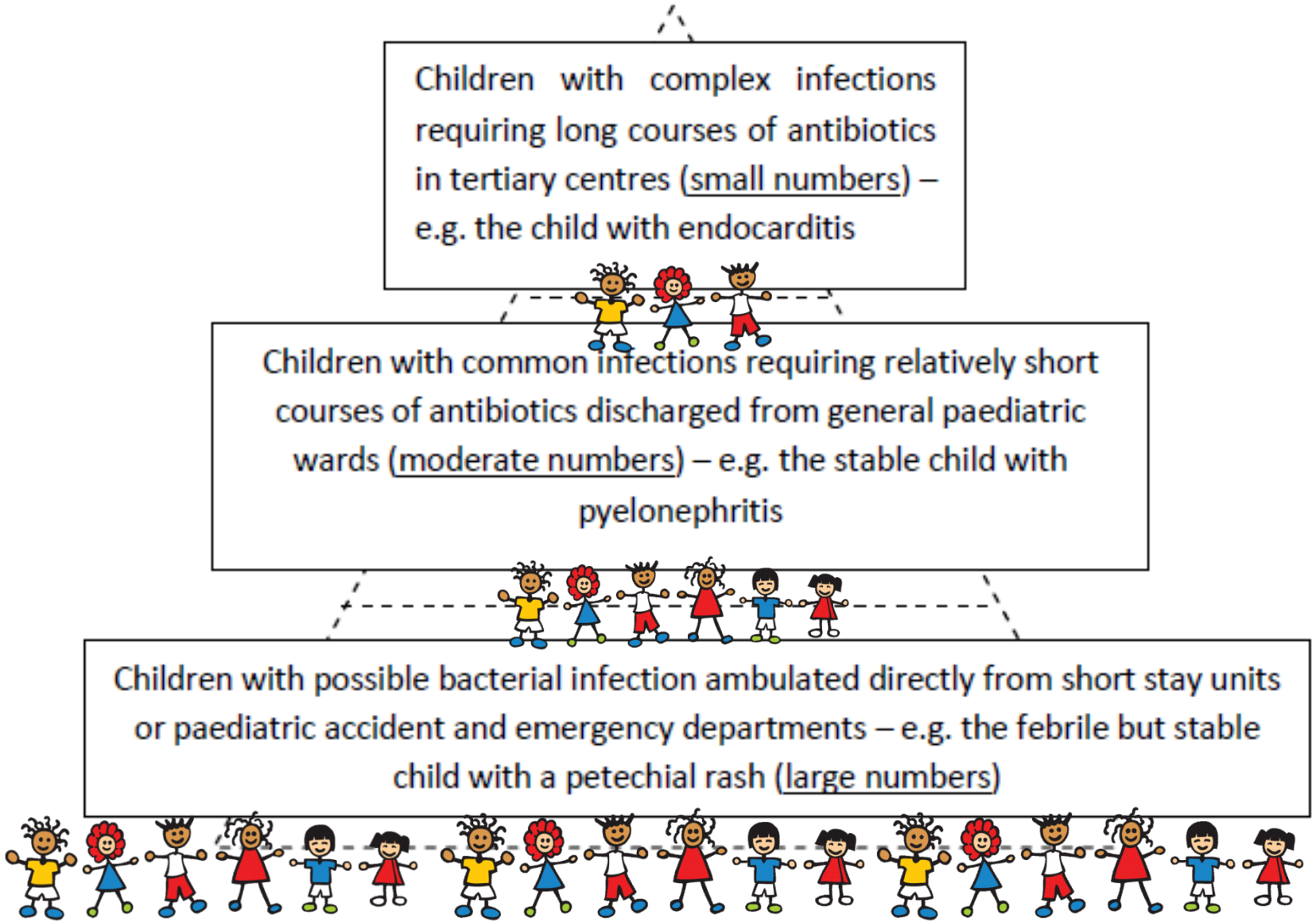

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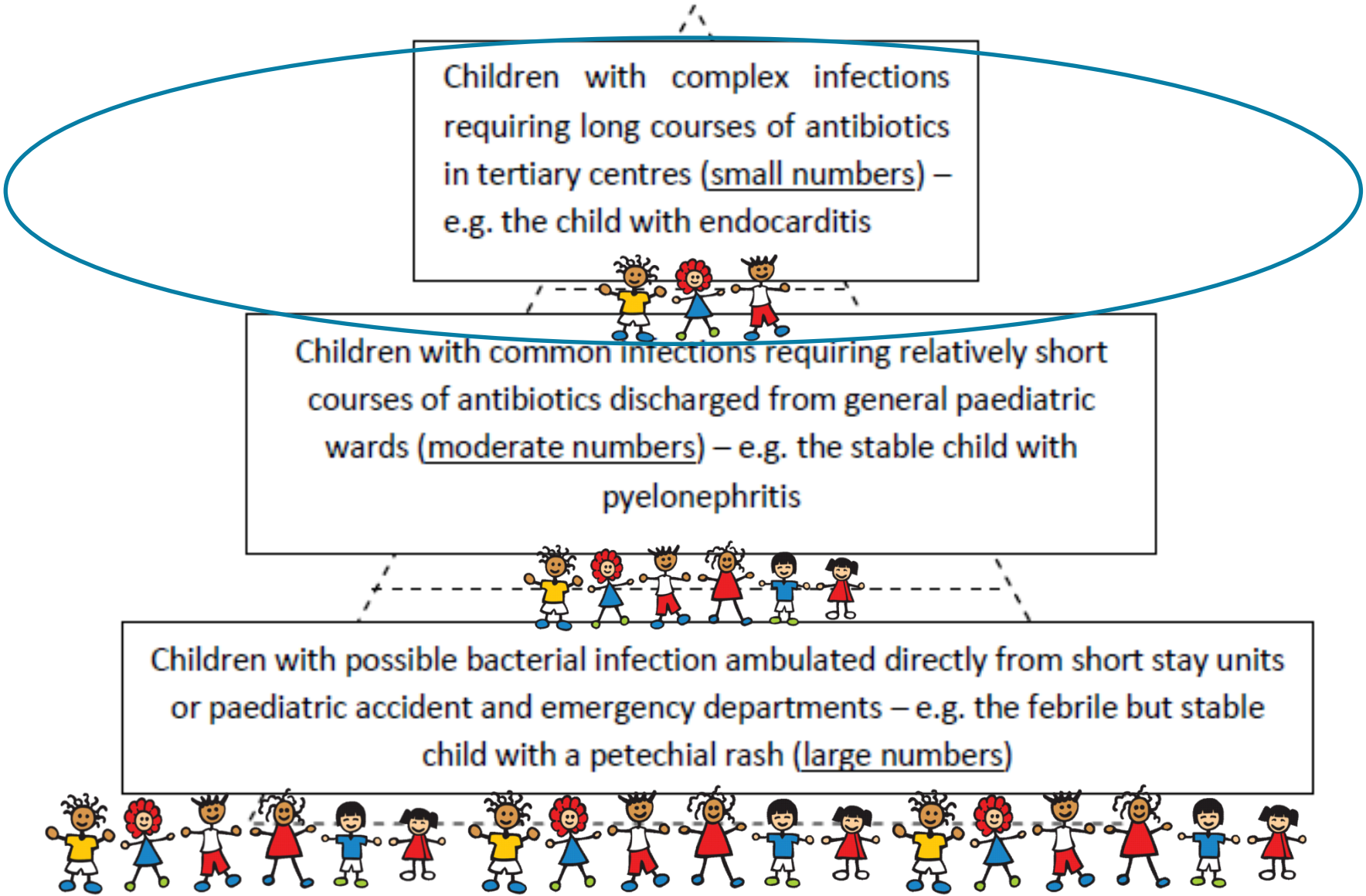

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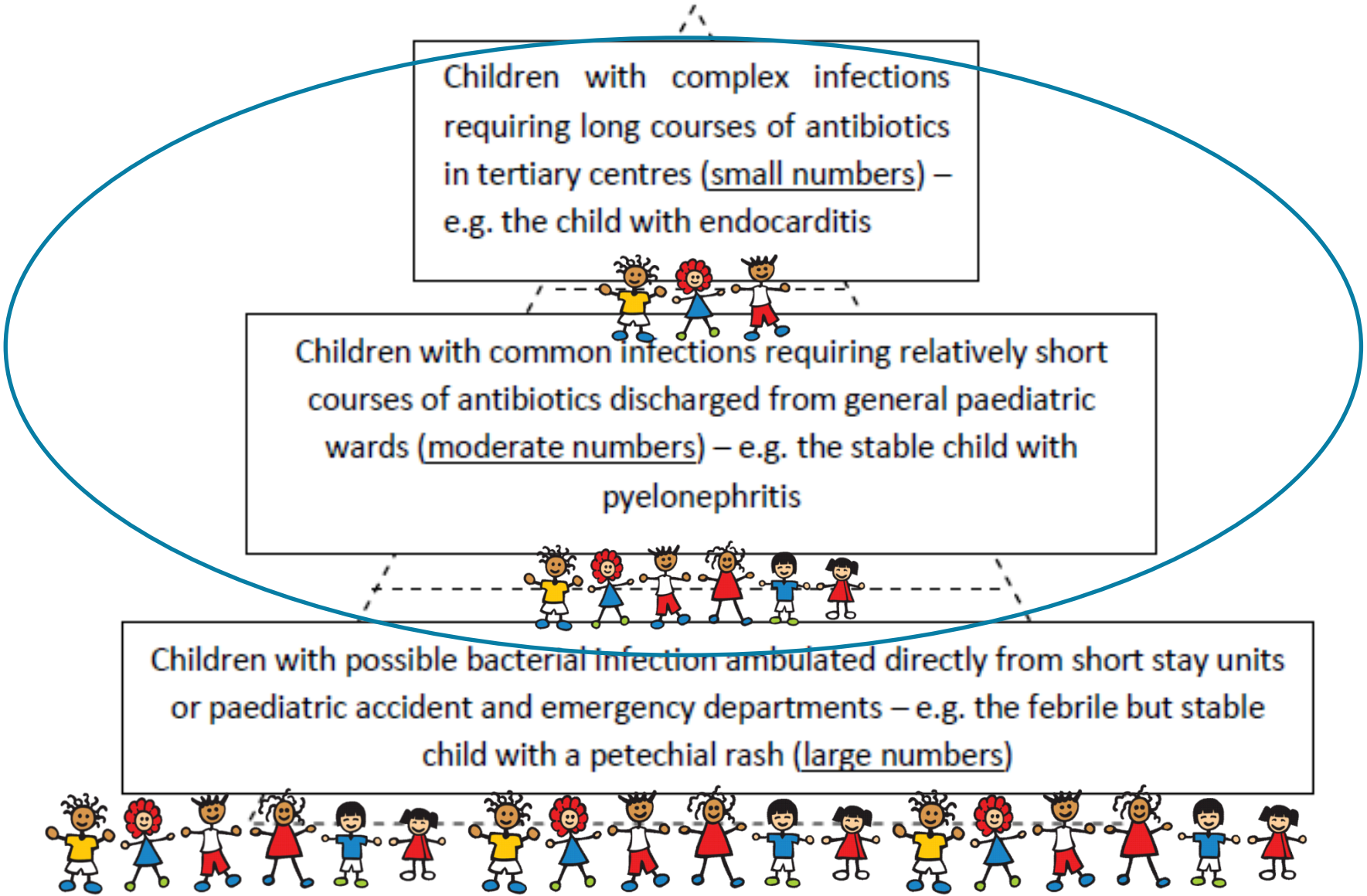

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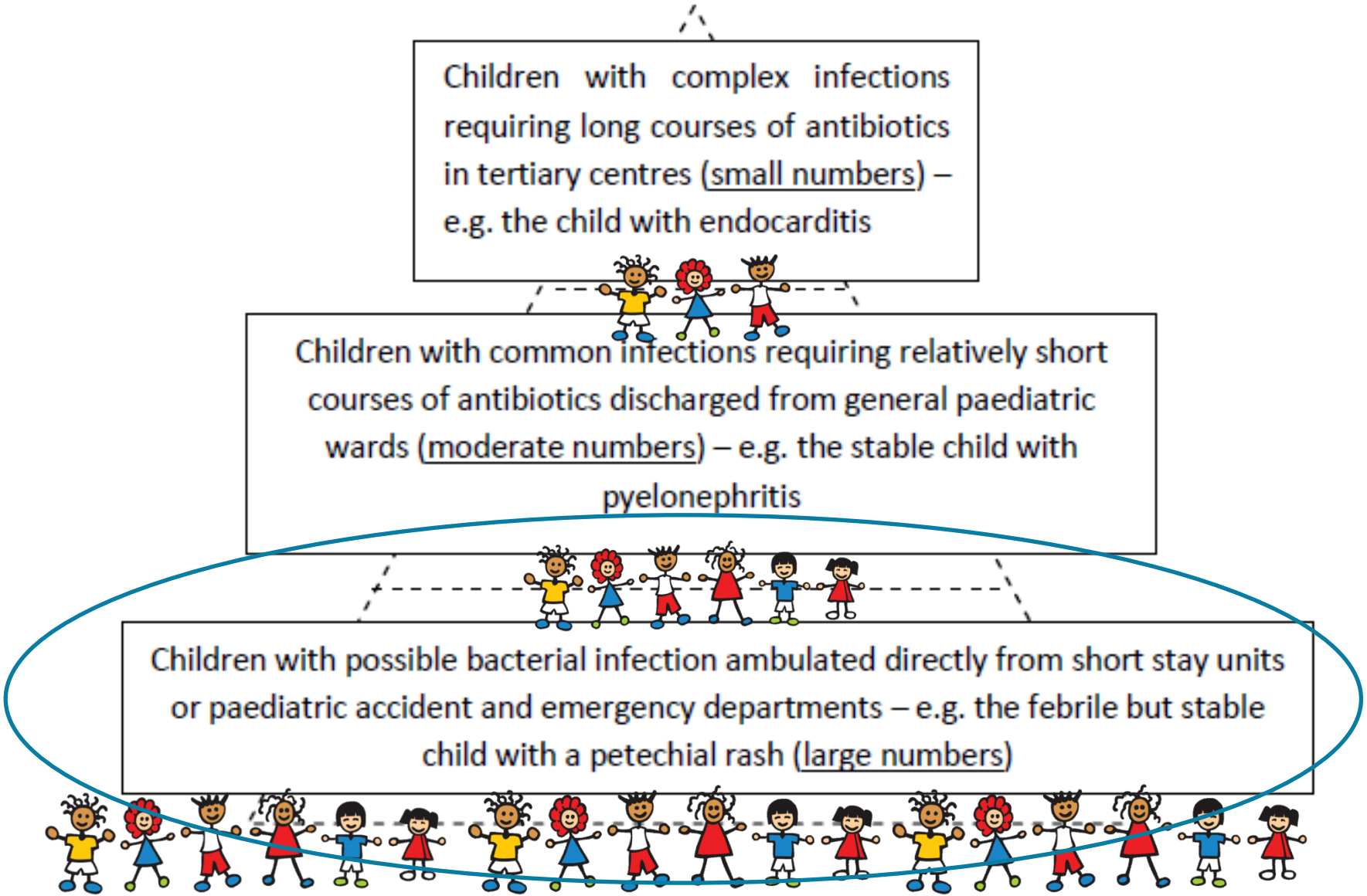

Our experience in Sheffield

Our experience in Sheffield

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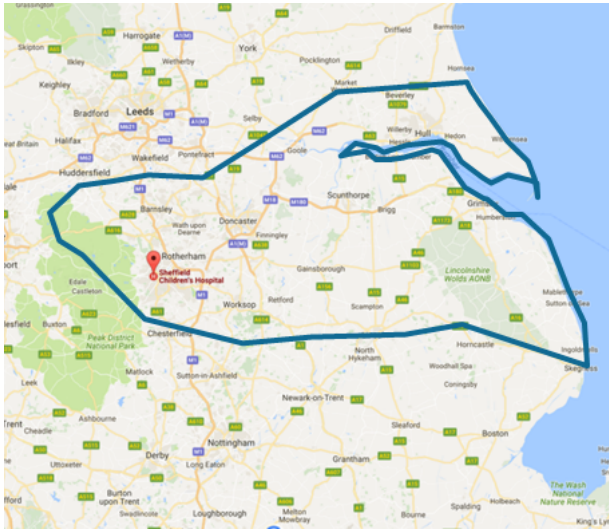
- Sheffield Children's Hospital
  - One of only 4 children's hospital trusts
  - ~160 beds
  - Covers South Yorkshire & Humber
  - Population 600,000
  - Gastro, resp, ID, dermatology, ENT, neurology, neurosurgery, orthopaedics, general paediatrics
  - Currently no community nursing team



Area covered by SCH

P-OPAT at SCH

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- Launched in June 2016
- Hybrid model
  - OPAT infusion lounge (7 days, 8am-8pm)
  - IVAB delivered by OPAT nurses at home
  - Parents trained to give IVAB

  - Weekly virtual ward round
    - Pharmacy, micro, nurses, paediatricians

  - Decision to accept made by OPAT team
  - Remain under joint care with referring team

  - AMBULATORY OPAT (<5 days)
  - TERTIARY OPAT (>/= 5 days)

OPAT lounge

OPAT team

How does the service work?

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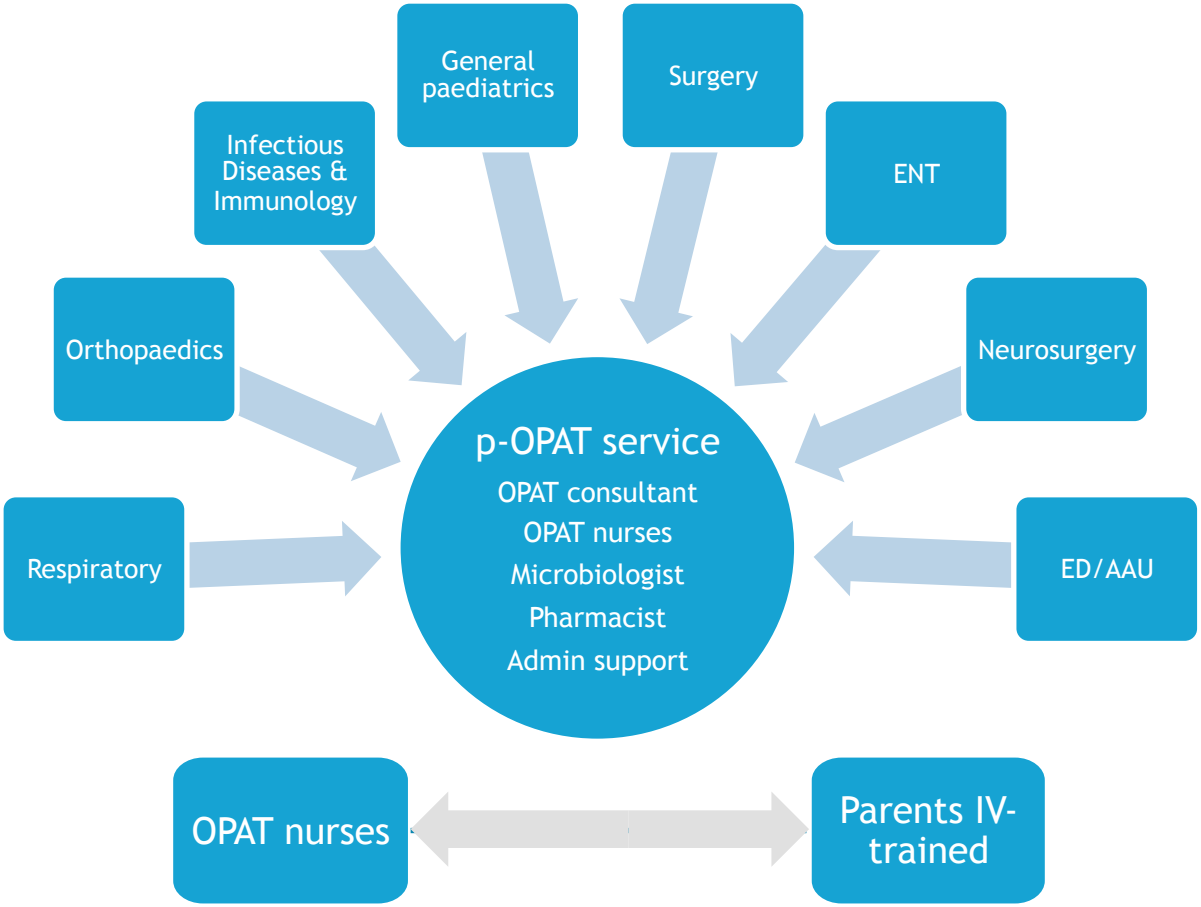

Number of patients Nov 16-Oct 17

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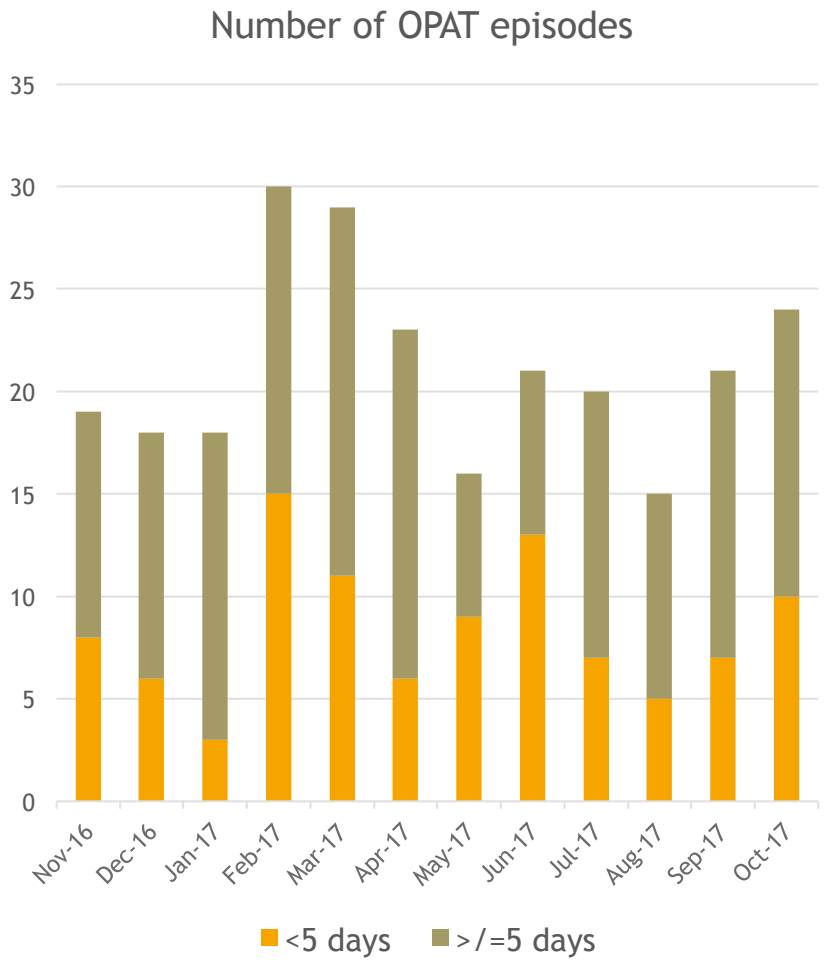
- Number of patients
  - 254 OPAT episodes
- Number of OPAT days
  - 2112



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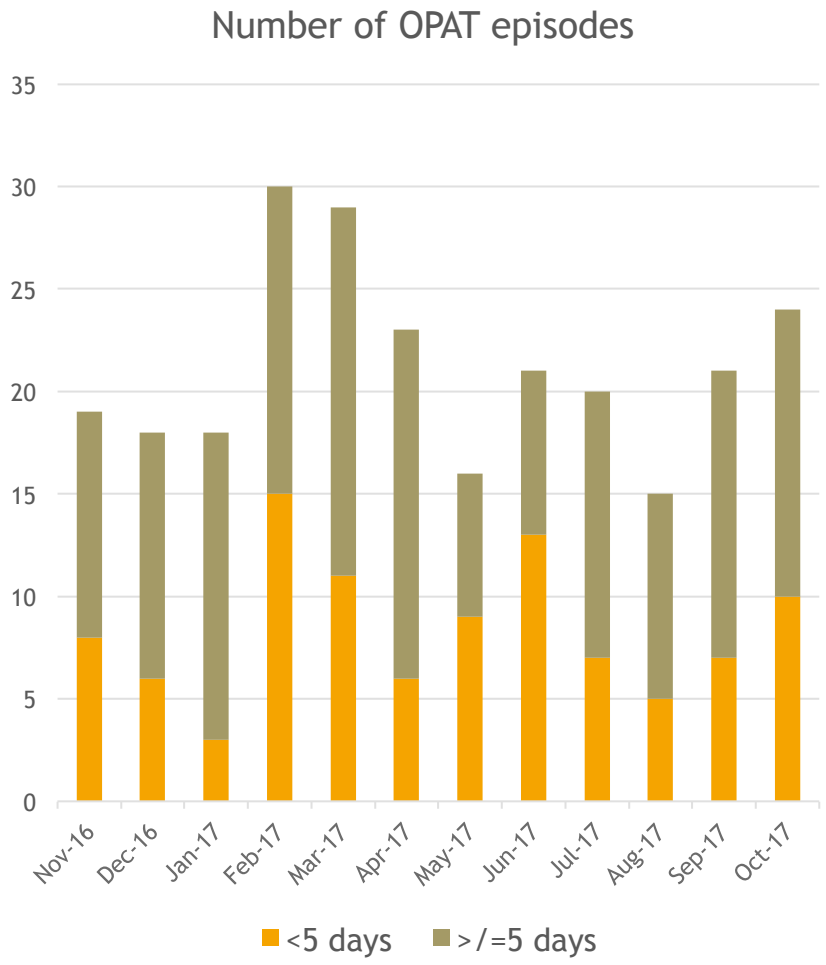
- Ambulatory OPAT (<5days)
  - 100 OPAT episodes
  - 232 OPAT days
- Tertiary OPAT (>/=5 days)
  - 154 OPAT episodes
  - 1880 OPAT days



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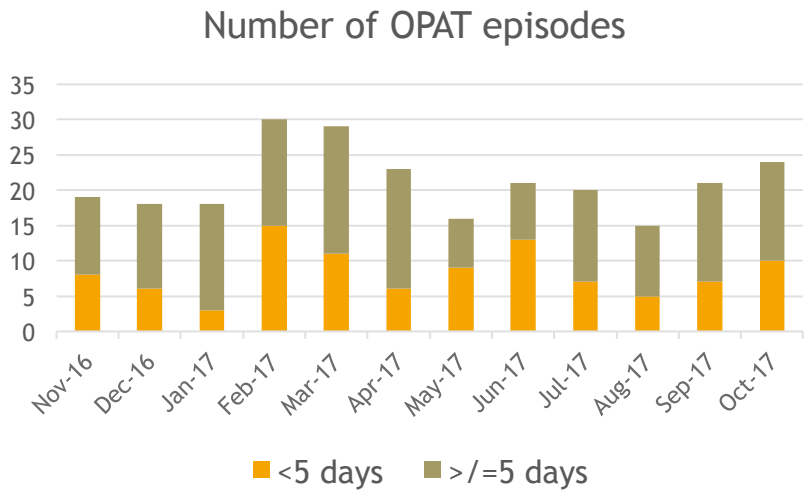

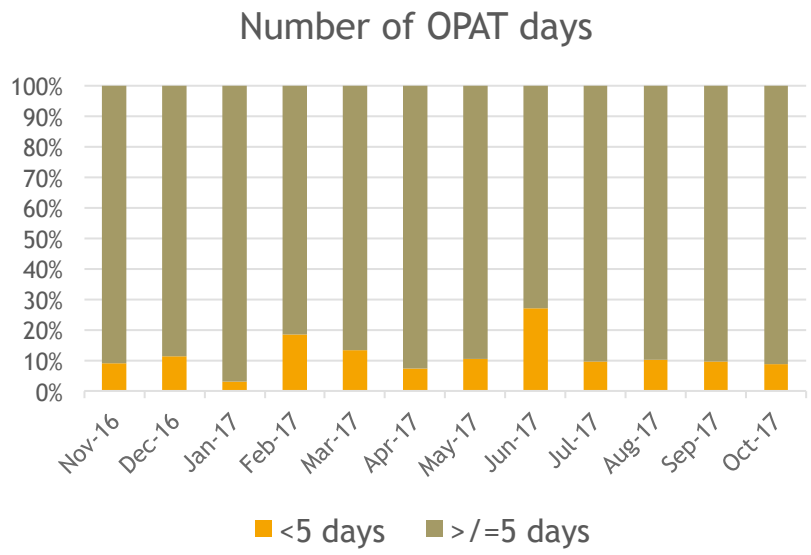

Ambulatory v tertiary OPAT by diagnosis

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Tertiary OPAT	Ambulatory OPAT
Bronchiectasis (non-CF)	UTI/pyelonephritis
Bone and joint infections	Presumed meningitis (viral illness)
Intra-abdominal abscess	Petechial rash
Meningitis	Pneumonia
Empyema	Lymphadenitis
Brain abscess	Periorbital cellulitis
Mastoiditis	

Outcomes

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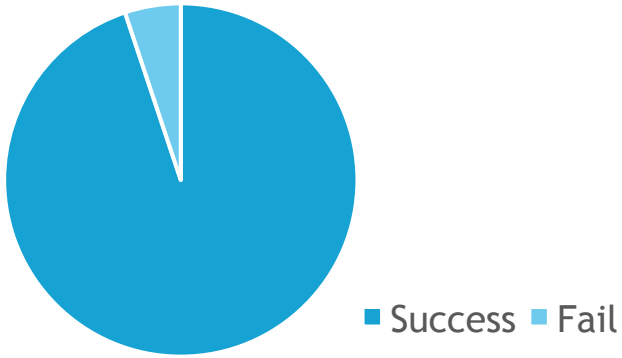
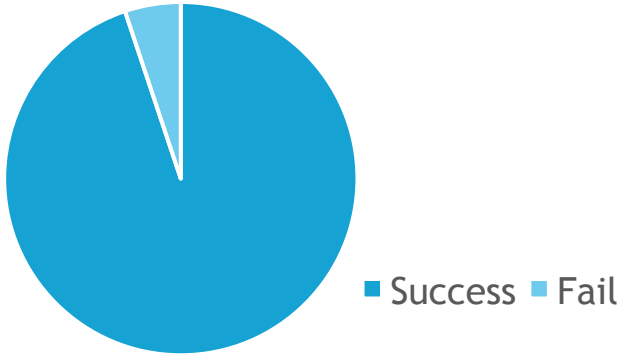


Patient outcome



OPAT outcome

- Reason for failure
  - Worsening condition (9)
  - Readmission due to unrelated condition (2)
    - Leukaemia
    - High ammonia
  - Drug reaction (1)
  - Line infection (1)

- All tertiary OPAT patients

Ambulatory P-OPAT

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- Large numbers of patients, small number of days
- Overall improving flow of patients

- High patient/family satisfaction

- Primarily reduction in bed days not admission avoidance

Could ambulatory P-OPAT be rolled out into DGHs?

The national agenda

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NHS

The national agenda

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- Financial savings
- Reducing inpatient stays
- Ambulating patients
- Delivering care closer to home
- Expanding community nursing teams
- Integrating services within the community

The national agenda

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- Financial savings
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What about the challenges?

Ambulatory P-OPAT in DGHs

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Is it safe?

What about AMS?

Change in mindset

Logistically too difficult
- Cannulas
- Chasing results
- Home care too slow

We do that anyway!

Would it work in Sheffield?

DGHs covered by SCH

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- All 6 DGHs have their own CCN teams

DGHs covered by SCH

P-OPAT in DGHs

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- Brief survey of 6 DGHs
  - Phone-call to modern matron
  - All 6 have children's community nursing teams

P-OPAT in DGHs

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- Brief survey of 6 DGHs
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	Barnsley	Rotherham	Doncaster	Scunthorpe Grimsby	Chesterfield
Days per week	5	7	5	7	7
Hours	8.30–5	8–6	8–6	8.30–6	8–8

P-OPAT in DGHs

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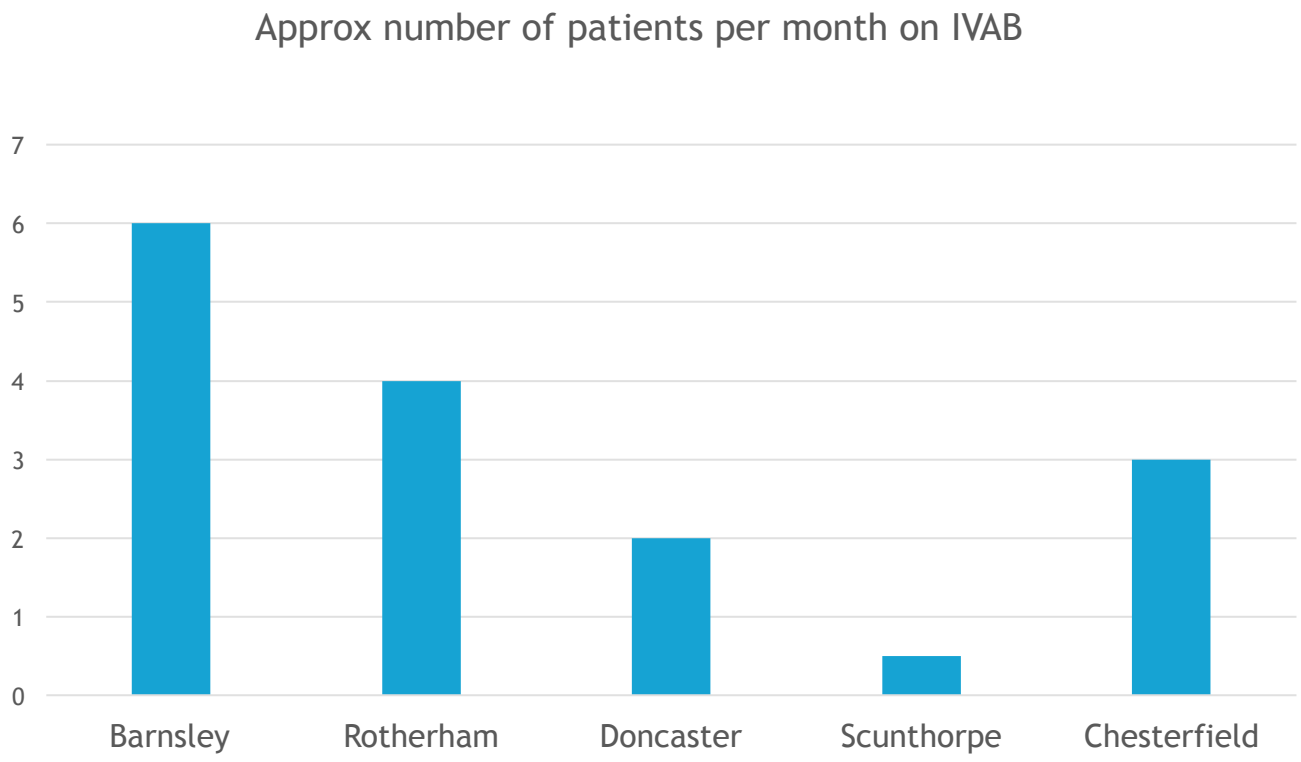
- All have CCNs who can give IVAB



P-OPAT in DGHs

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	Barnsley	Rotherham	Doncaster	Scunthorpe Grimsby	Chesterfield
Number of Daily Doses	OD	OD	OD	BD	OD

P-OPAT in DGHs

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Number of Daily Doses	OD	OD	OD	BD	OD
Adverse events	CAU	CAU	CAU	Ward	CAU

P-OPAT in DGHs

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Number of Daily Doses	OD	OD	OD	BD	OD
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Response to infection	?	?	End of treatment	?	End of treatment

P-OPAT in DGHs

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Number of Daily Doses	OD	OD	OD	BD	OD
Adverse events	CAU	CAU	CAU	Ward	CAU
Response to infection	?	?	End of treatment	?	End of treatment

- No clear pathway to assess response to infection or management of adverse events

P-OPAT in DGHs

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	Barnsley	Rotherham	Doncaster	Scunthorpe Grimsby	Chesterfield
Start smart then focus	No	No	No	No	No

P-OPAT in DGHs

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	Barnsley	Rotherham	Doncaster	Scunthorpe Grimsby	Chesterfield
Start smart then focus	No	No	No	No	No
Willing to consider developing OPAT service	Yes	Yes	Yes	Yes	No

Ambulatory P-OPAT in DGHs

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What do you really need to look after children with infections?

What do you really need?

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1. Knowledge about children
2. Knowledge about infections
3. Knowledge about antibiotics

What do you really need?

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1. Knowledge about children
2. Knowledge about infections
3. Knowledge about antibiotics
4. Less important (perhaps)
   - Monitoring
   - Resistance data
   - Drug interactions
   - IV access

What do you really need?

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1. Risk management

    - Early recognition and management of children who deteriorate at home
        - Clinical responsibility
        - Communication
        - Readmission pathway

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2. Clinical effectiveness
   - Benchmarking outcomes against others
   - Parent satisfaction

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1. Risk management
   - Early recognition and management of children who deteriorate at home
     - Clinical responsibility
     - Communication
     - Readmission pathway
2. Clinical effectiveness
   - Benchmarking outcomes against others
   - Parent satisfaction

YOU ALREADY DO THIS!!

What shall we do next?

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- OPAT service already running in DGH
  - Explore with paediatric colleagues
  - Explore with management, e.g. acute care network
  - Link in with children's community nursing teams

What shall we do next?

Sheffield Children's NHS
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- OPAT service already running in DGH
  - Explore with paediatric colleagues
  - Explore with management, e.g. acute care network
  - Link in with children's community nursing teams

- P-OPAT service in tertiary children's hospital
  - Explore with DGH paediatric colleagues
  - Explore with management, e.g. acute care network
  - Further develop link with CCNs

What's next for P-OPAT?

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- Explore options for working with DGHs
  - Share knowledge and skills
  - Safeguard AMS/patient safety
- Can we tap into the 'admission avoidance market'?
  - Periorbital cellulitis
  - Well child, petechial rash
  - Pyelonephritis
- Will that come with the push for more ambulatory services nationally?

Thank you

- Thank you to all the P-OPAT team in Sheffield