



Carer- administered p-OPAT

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Introduction

Carer-administered pOPAT

Definition - “administration of IV antimicrobials by the carer at home, following training by a competent member of the p-OPAT team,”¹

- Highly cost effective compared to nurse administered OPAT²



1. Patel S et al. Good practice recommendations for paediatric outpatient parenteral antibiotic therapy (p-OPAT) in the UK: a consensus statement. J Antimicrob Chemother. 2015 Feb;70(2):360-73.
2. Minton J et al. The Community IntraVenous Antibiotic Study (CIVAS): a mixed-methods evaluation of patient preferences for and cost-effectiveness of different service models for delivering outpatient parenteral antimicrobial therapy. Southampton (UK): NIHR Journals Library; 2017 Feb.

Service evaluation aims

- To compare outcomes of tertiary pOPAT episodes involving carer-administered pOPAT to those involving nurse administered pOPAT

Patient Cohort Overview

Data collected on all p-OPAT episodes between Jan 2022 – Dec 2023 (n=136)

45 episodes of carer-administered OPAT (30 patients)

- median age=12yrs (interquartile range=11)

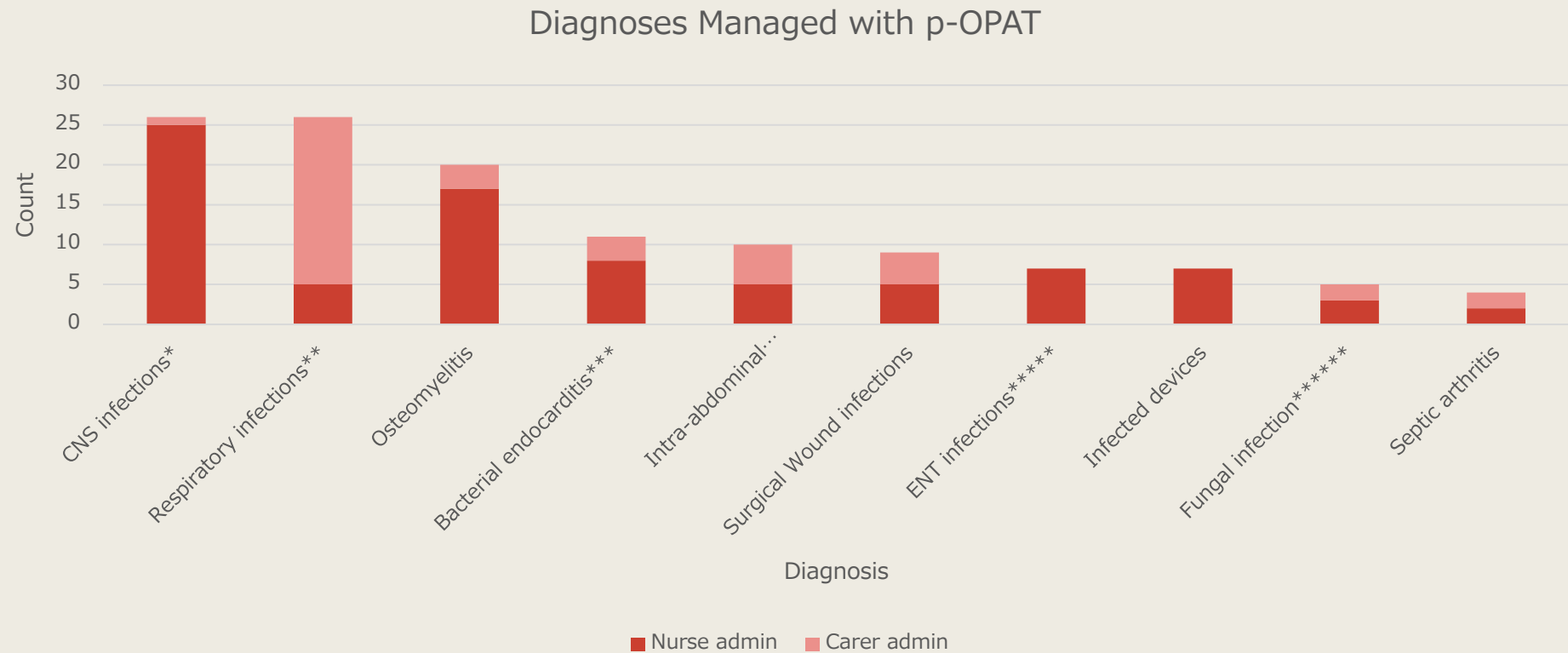
91 episodes of nurse administered pOPAT (91 patients)

- median age=7yrs (interquartile range=9)

Practical aspects of parent-administered pOPAT

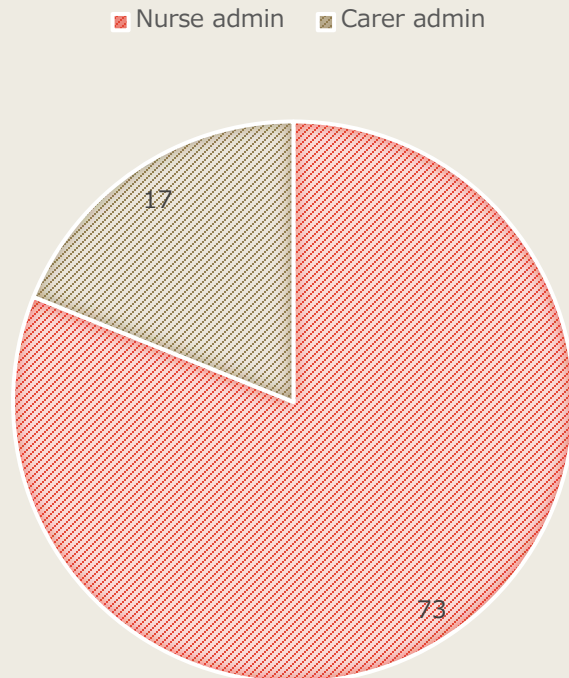
- Assessing eligibility for parent-administered pOPAT
- Choice of IV access
- Ensuring parent competencies (drug administration)
- Maintaining clinical oversight (in absence of daily nurse review)

Pathologies managed within p-OPAT service (Jan 2022-Dec 2023)

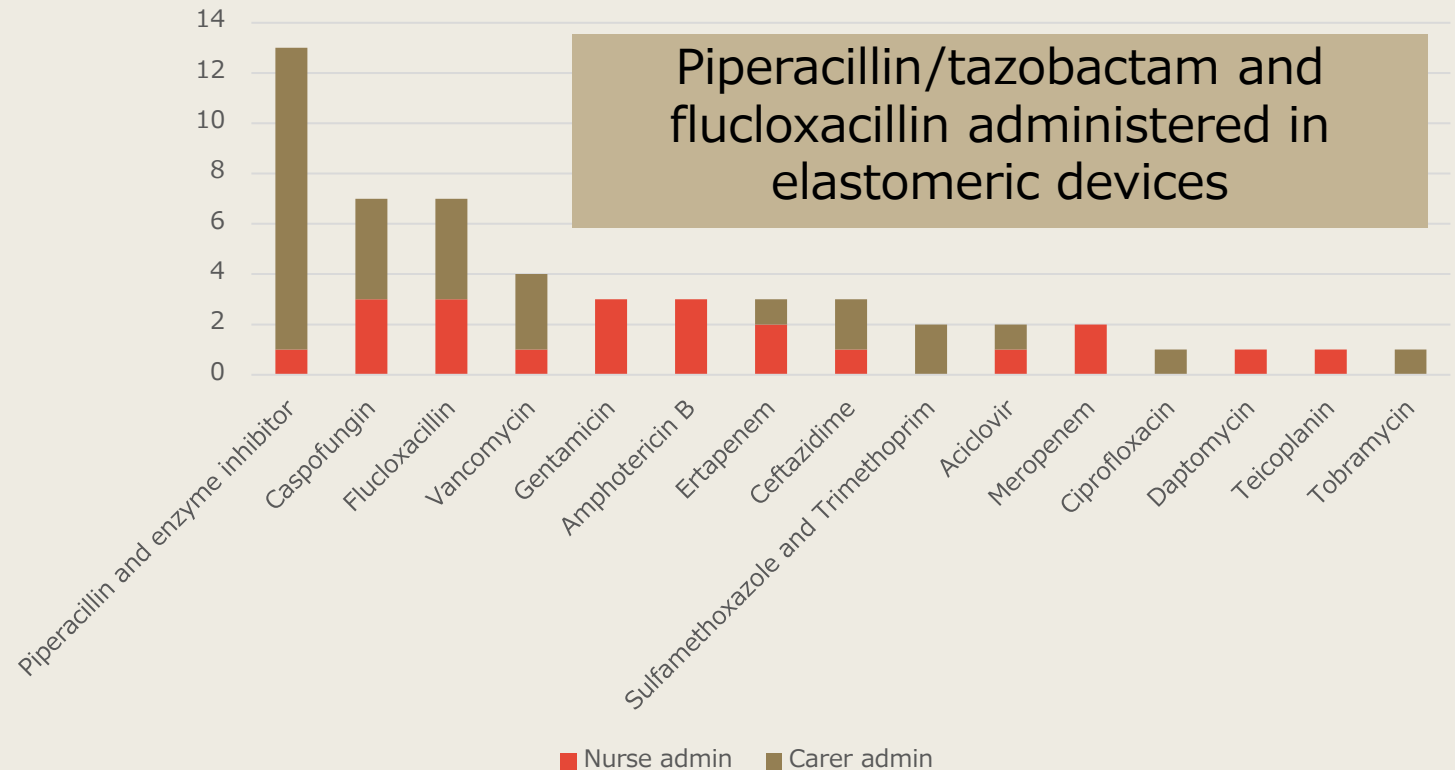


Results - prescribing data (n=136)

CEFTRIAXONE USE (N=90)



Other IV antimicrobials used



Outcome Data

Treatment aim

cure

improvement

palliation

OPAT outcome

treatment aim

attained—uncomplicated

treatment aim

attained—complicated

treatment aim not attained

indeterminate

death

To complete an agreed OPAT duration of therapy on either intravenous and/or complicated oral antimicrobials^a with **no** requirement for long-term antimicrobial therapy.

To complete an agreed OPAT duration of therapy on either intravenous and/or complicated oral antimicrobials (a) as part of an agreed surgical infection management plan with further surgery planned or (b) where there is a requirement for subsequent long-term or an extended course of oral suppressive antimicrobial therapy, or (c) where potentially infective prosthetic material is still *in situ*.

To undertake a course of OPAT on either intravenous and/or complicated oral antimicrobials where there are agreed ceilings of care due to comorbidities, with death being the likely outcome.

Completed OPAT therapy as per treatment aim with:

- **no** unplanned changes in antimicrobial agent.
- **no** adverse events.
- **no** planned or unplanned readmission related to the current OPAT episode.
- **no** readmission of ≥ 24 h for unrelated event (i.e. day case/overnight stay for another medical problem allowed).

Completed OPAT therapy as per treatment aim but **with** one or more of the following:

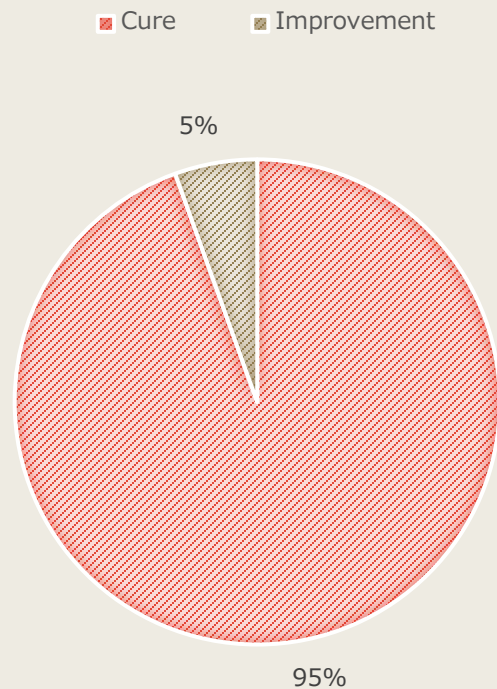
- unplanned changes in antimicrobial agent.
- any adverse event including readmission for < 24 h related to the current OPAT episode.
- failure to complete planned OPAT therapy for any reason other than readmission due to unrelated event.
- worsening of infection requiring readmission.
- readmission for ≥ 24 h for any cause related to OPAT, including adverse events.

Readmission for ≥ 24 h due to unrelated event.

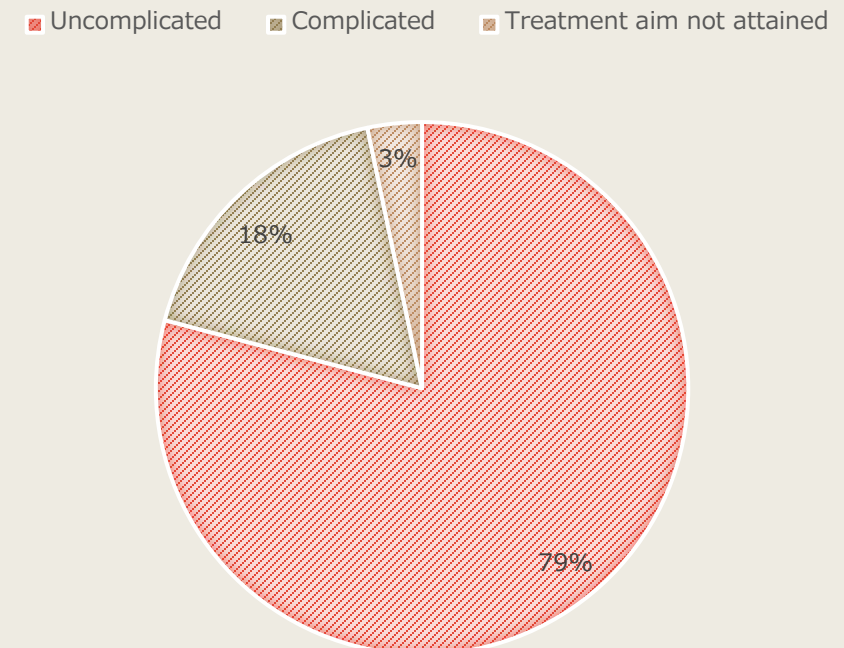
Death due to any cause, except palliation.

Nurse administered pOPAT

NURSE ADMINISTERED AIMS FOR P-OPAT

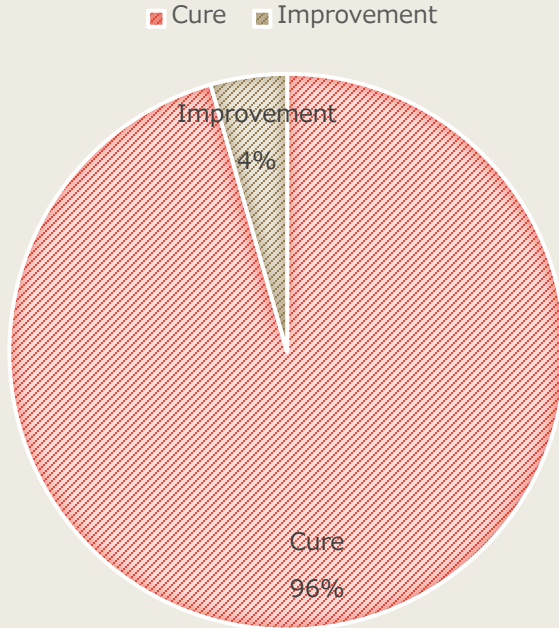


NURSE ADMINISTERED OUTCOMES OF P-OPAT

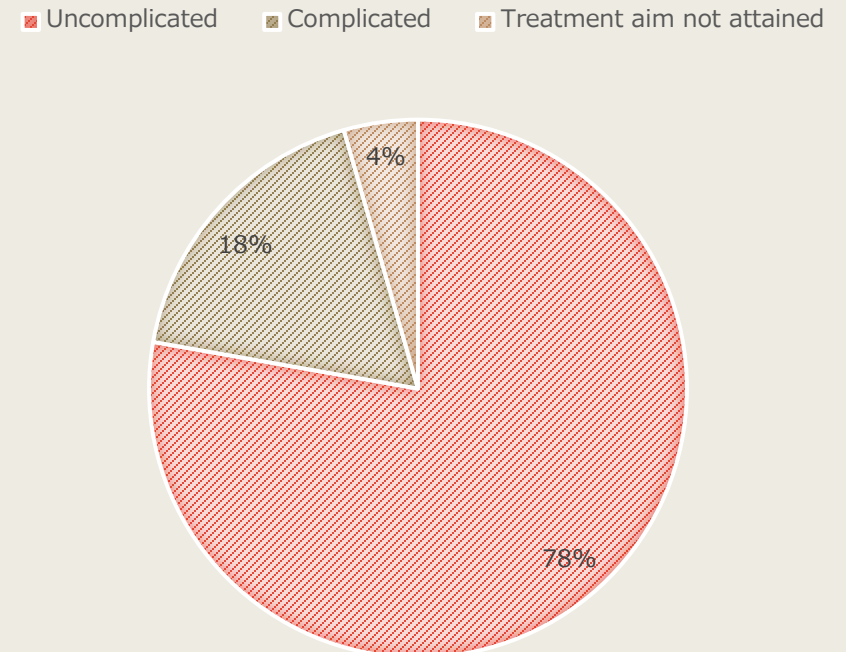


Carer-administered pOPAT

CARER ADMINISTERED AIMS FOR P-OPAT

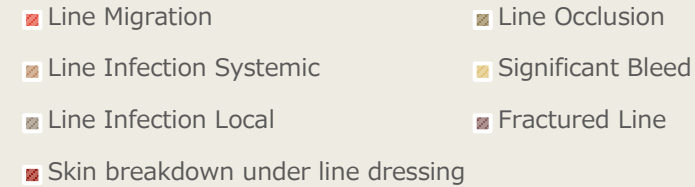


CARER ADMINISTERED OUTCOMES OF P-OPAT



ADVERSE LINE EVENTS IN NURSE ADMINISTERED P-OPAT

Line data



20 line-related adverse events
across 91 p-OPAT episodes
(22.0%):

Line migration: 10

Line occlusion: 3

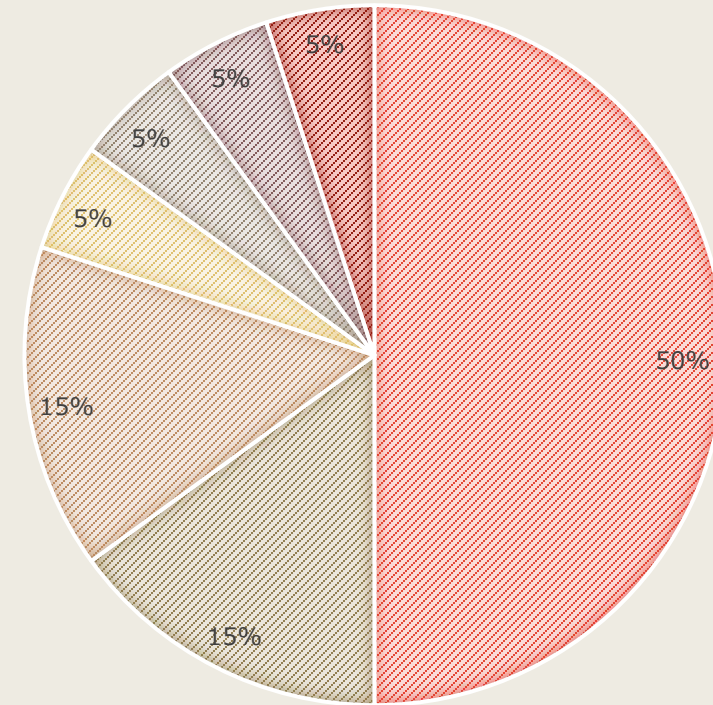
Line infection systemic: 3

Line infection local: 1

Skin breakdown under dressing: 1

Significant bleed: 1

Fractured line: 1



Line data

ADVERSE LINE EVENTS IN CARER ADMINISTERED P-OPAT

Line Migration Line Infection Systemic Line Infection Local Line Occlusion

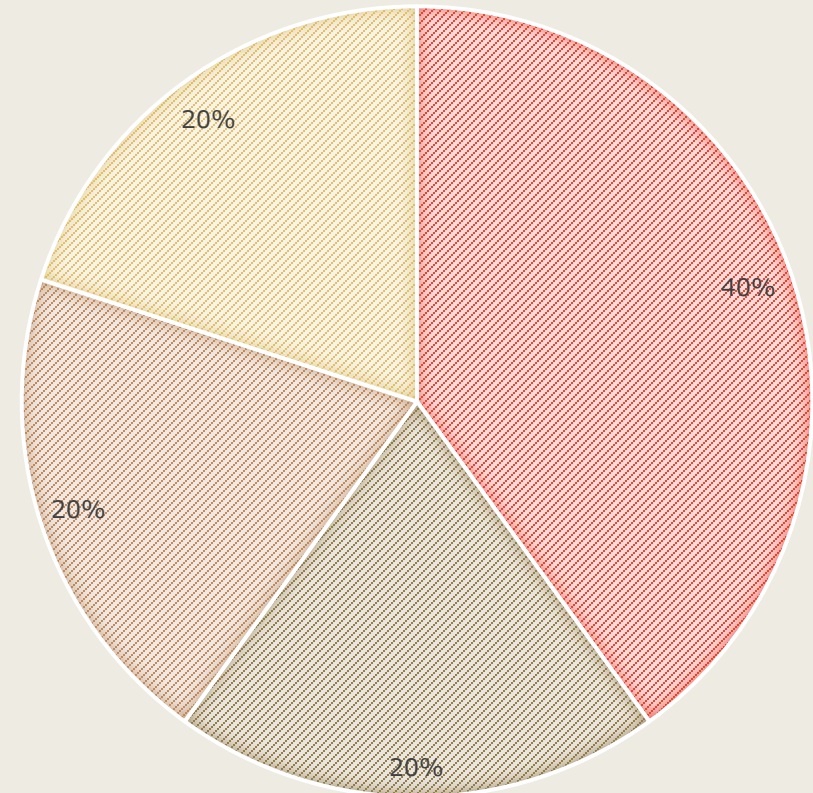
5 line-related adverse events
across 45 p-OPAT episodes
(11.1%):

Line migration: 2

Line infection systemic: 1

Line infection local: 1

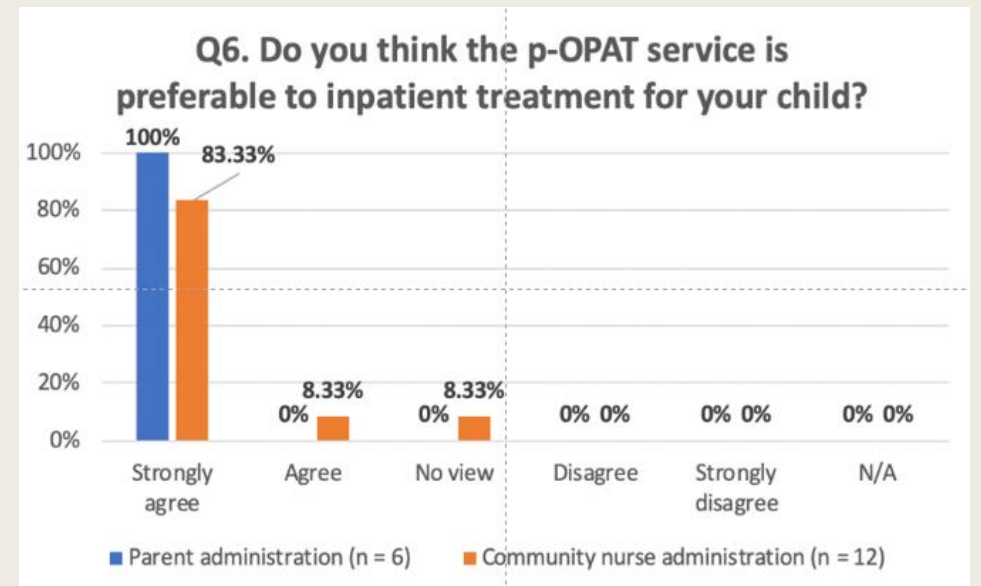
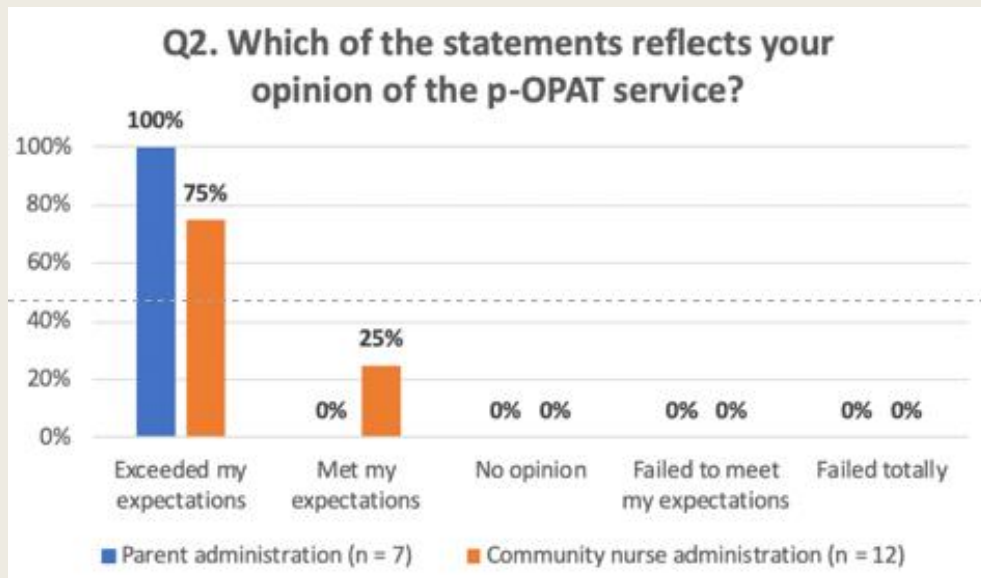
Line occlusion: 1



Acceptability - carer feedback

19 questionnaires analysed

- 7 carers who self-administered
- 12 parents who used community nurse visits



Thanks to Tara Percival, medical student, Southampton

Acceptability - carer feedback

Semi-structured interviews

10 carers interviewed

- 5 who self-administered
- 5 who used community nurse visits

Themes from carer-administration group

Theme	Subtheme
Parents felt in control of their child's health	Happy with level of hygiene that could be provided from home
Happy with level and amount of training they received prior to discharge	Found leaflet and information to take home useful for reference
Parents were happy to self-administer when first offered to them	Happy to self-administer to allow their child to return home quickly
	Felt confident with expectations in order to self-administer

Thanks to Tara Percival, medical student, Southampton

Conclusion

- Carer-administered OPAT was equivocal to nurse administered OPAT with regards to safety and acceptability.
- Within a robust and safe OPAT service with clear clinical governance structures, based on the OPAT good practice guidelines, as used within our service.
- Although our sample sizes for both cohorts were small our data demonstrated fewer adverse line events in the carer-administered cohort versus the nurse-administered cohort.
- Carer-administered OPAT is highly acceptable to parents (note: only eligible patients offered this option).
- Highly cost effective compared to nurse administered pOPAT.
- **This is promising for the concept of parent administration in p-OPAT going forwards although larger studies should be done to reinforce these findings.**