Outpatient parenteral antimicrobial therapy (OPAT) – do we have the capacity?

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NHS 10-year plan – Fit for the future

Moving from: Hospital to community, Analogue to Digital, Treating sickness to prevention

Deliver the UK AMR National action plan 2024-29

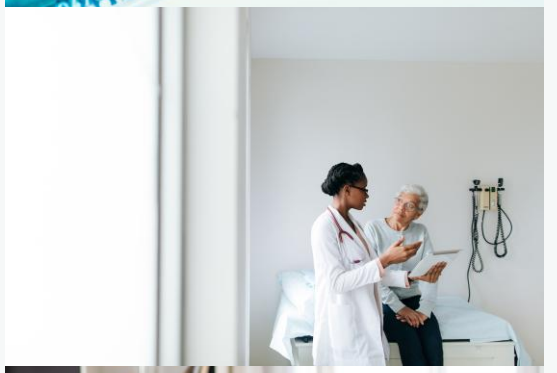
- Selecting the most appropriate route of administration is vital to ensure infection is treated effectively whilst not putting patients at risk from unnecessary IV or parenteral routes of administration.
- Ensure equitable access to out-patient antimicrobial therapy (OPAT) services is also important to optimise the efficient use of NHS resources and reduce the risk of a prolonged hospital stay

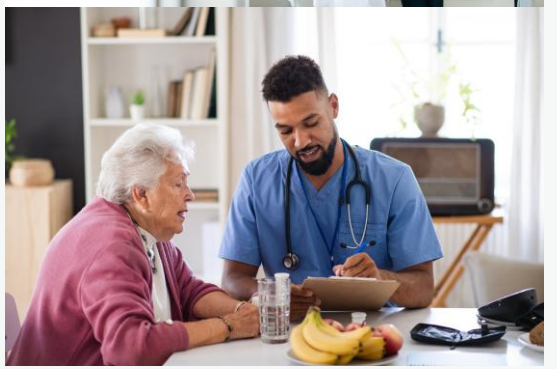
What is OPAT?

Why is it important?

What is OPAT?

- A means of administering intravenous antimicrobials in non-acute settings
    - To facilitate timely discharge
    - To prevent admission to an acute setting
- Models of OPAT delivery vary
    - Clinic visits – hospital or community setting
    - Home visits – OPAT nurse, district nurse, private nurse
    - Self administration – patient or parent/carer





Why?

- Clinical need to continue intravenous treatment
- Failure of oral treatment or no suitable oral treatment option due to resistance

- OPAT is recommended as a treatment option in national AMS guidance 'Start Smart then Focus' when reviewing antimicrobial treatment at 48-72 hours

- UK AMR National Action Plan 2024-29:

'Ensuring equitable access to OPAT services is also important, to optimise the efficient use of NHS resources and reduce the risk of a prolonged hospital stay'

- NHS 10 year plan

What are the benefits?

- Clinically effective and safe for a wide range of infectious conditions including endocarditis, bone & joint infections, cellulitis, UTI[1]
- Comparable to inpatient care for mortality, treatment failure & adverse events[1]
- Cost effective compared to equivalent inpatient stay – 39% of cost[2]
    - More granular analysis by Scottish Health Technology Group showed that cost effectiveness varies by OPAT service model – between 23 and 56% of equivalent inpatient stay[3]
- High patient satisfaction with OPAT services, lower rate of HCAIs[1]
- Organisational benefits – improved patient flow & elective capacity[1]

[1]Durojaiye et al, 2025; [2]Durojaiye et al, 2018; [3]Dimitrova et al, 2021

Location and activity of OPAT services in England in FY2020-21

Figure 6. Total number of OPAT treatment days per region

(1st April 2020 to 31st March 2021)

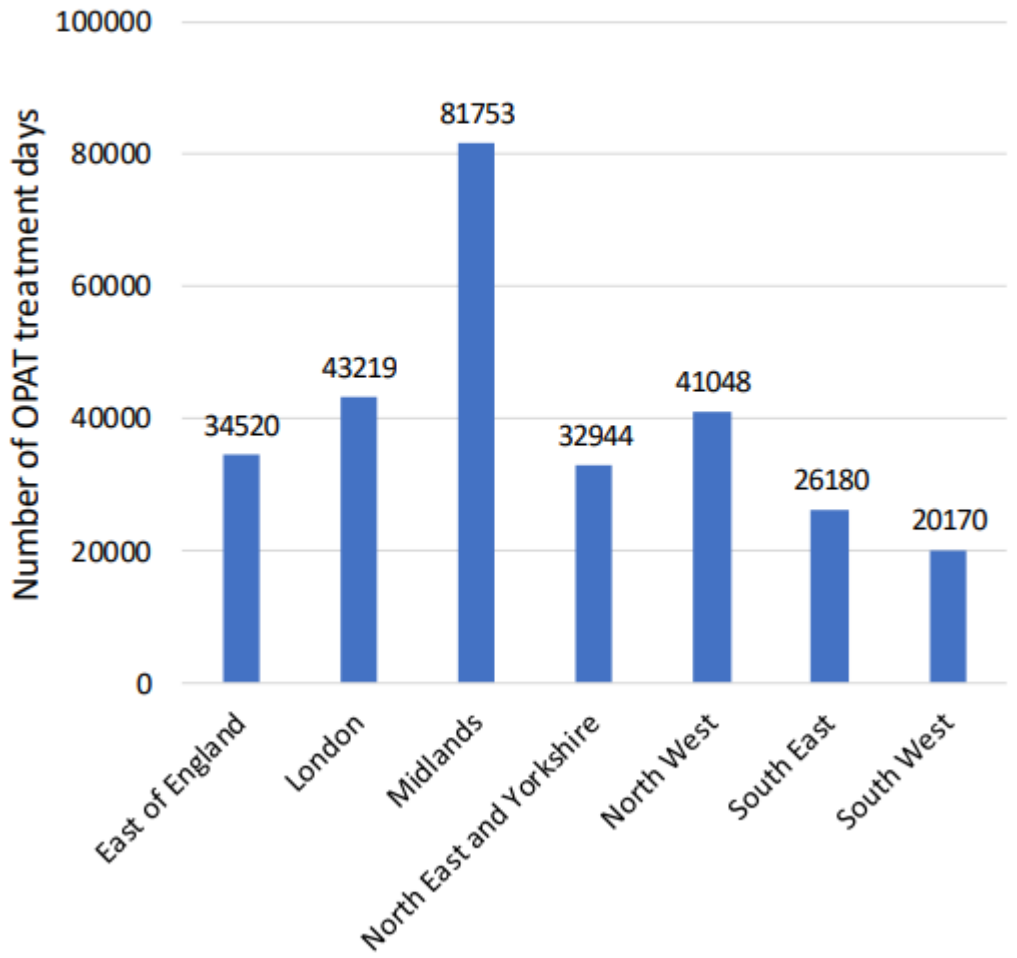


Figure 1. OPAT services available across England

Numbers in the circles indicate the number of OPAT services in close proximity

Source: [The Provision of OPAT services in NHS Trusts in England]

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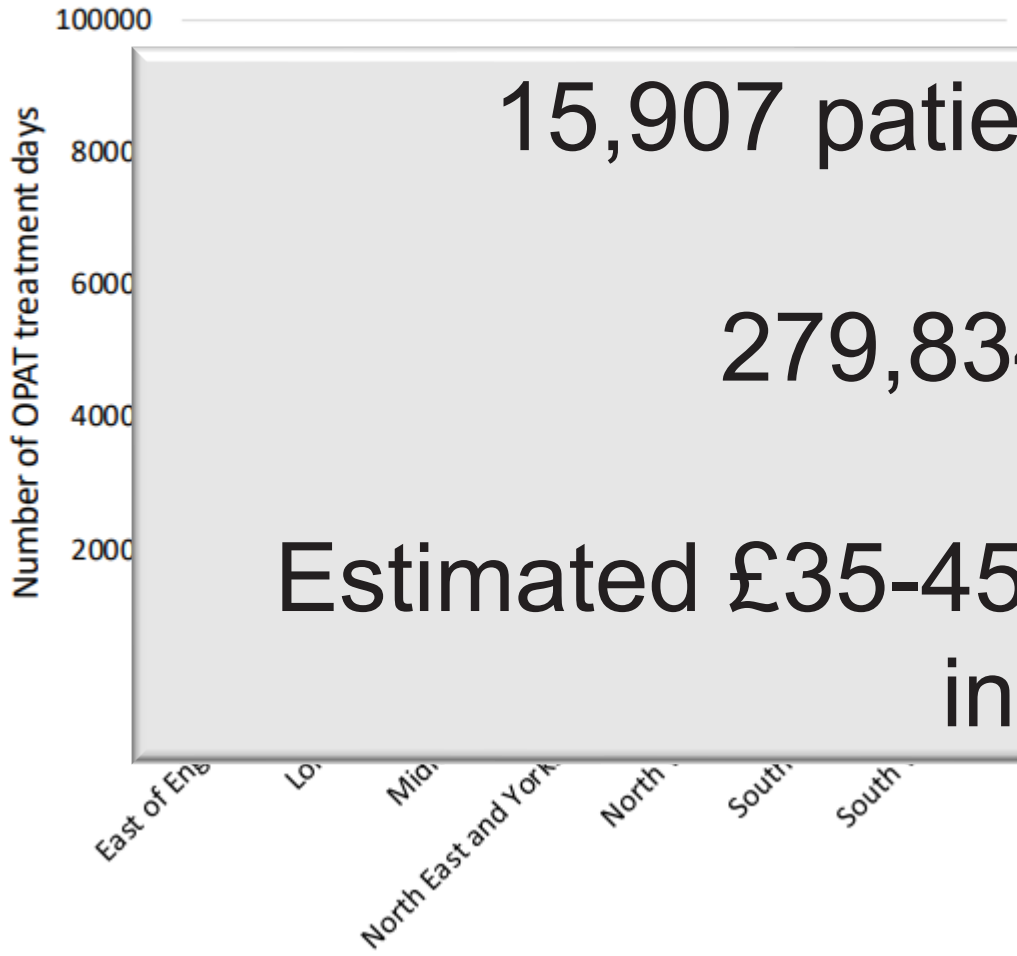

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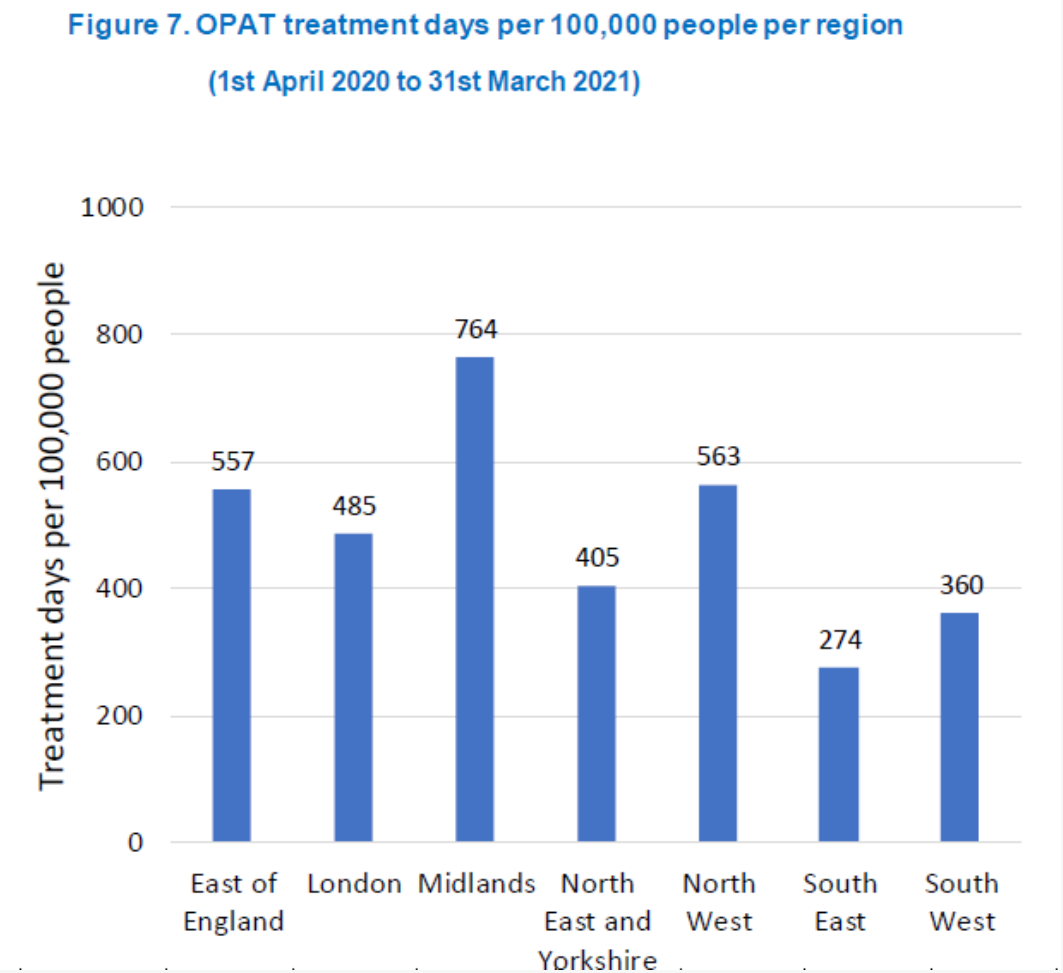
15,907 patients treated in England

279,834 treatment days

Estimated £35-45m cost saving compared to inpatient stay

Location and activity of OPAT services in England in FY2020-21



Scaling the activity of the Midlands region (treatment days per 100,000 population) to other regions would result in

- 8,580 more patients being treated
- 150,927 additional OPAT treatment days
- £19-24m additional savings

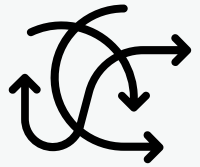
Potential for recurring savings due to OPAT services of £54-69m per annum

Source: The Provision of OPAT services in NHS Trusts in England

Adult OPAT use	Total patient	Total OPAT tx	Mean OPAT duration
Ceftriaxone	12 424 episodes	157 873 days	12.7 days
Teicoplanin	4510	101 194	22.4
Ertapenem	3008	57 917	19.3
Piperacillin/tazobactam	1618	22 461	13.9
Ceftazidime	1308	20 978	16
Daptomycin	1125	27 366	24.3
Meropenem	1016	21 112	20.8
Flucloxacillin	651	13 449	20.7
Linezolid	250	5 436	21.7
Tobramycin	231	2 671	11.6
Amikacin	173	4 449	25.7
Dalbavancin	173	2 667	15.4
Gentamicin	168	1 323	7.9
Tigecycline	145	5 279	36.4
Colistin	98	1 438	14.7
Vancomycin	62	1 515	24.4
Aztreonam	57	807	14.2
Benzylpenicillin	46	966	21
Temocillin	44	426	9.7

New OPAT Point Prevalence Survey (PPS) starting in London then rolling out to the UK

Challenges & complexities of OPAT



- Health inequalities – variation in patient groups able to access OPAT, geographic variation
- Capacity – within OPAT services, within commercial compounders and NHS aseptic labs, workforce
- Patient complexity – increasing co-morbidities, resistant organisms
- Antimicrobial stewardship issues – convenient once daily broad spectrum agents vs less convenient narrow spectrum agents; timely IVOS, complexity of CoPAT (complex oral-parenteral antimicrobial therapy)
- Overlap/integration with Virtual Wards, Hospital@home, Same Day Emergency Care, neighbourhood health teams

Challenges around aseptically prepared ready to administer preparations

- Limited capacity within NHS aseptic laboratories and commercial compounders to fill & supply ready to administer elastomeric devices for OPAT
- Drug stability is challenging – beta-lactam antibiotics have variable stability
- Buffered citrate saline used for flucloxacillin and piperacillin/tazobactam
    - No suitable NHS product available so imported from Italy
- Some services utilise ‘fresh-filled’ devices without buffer – unclear if robust risk assessments undertaken where stability data doesn’t meet NHS Yellow Cover Document standard
- Preparation of elastomeric devices in near-patient settings by nursing staff

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Guidance to integrated care boards and providers on developing outpatient parenteral antimicrobial therapy (OPAT) services

Document first published: 3 April 2025
Page updated: 4 April 2025
Topic: Integrated care
Publication type: Guidance

Outpatient parenteral antimicrobial therapy (OPAT) services provide intravenous antimicrobial treatment outside hospitals, administered by healthcare professionals or patients/carers.

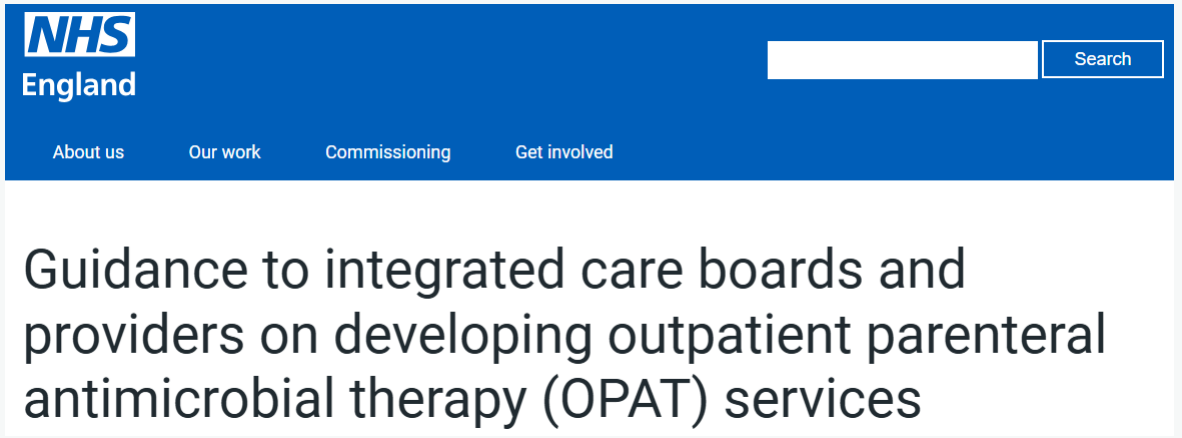
This guidance covers how they improve NHS productivity by supporting service recovery, integrating with home-based care initiatives, reducing hospital stays, improving patient flow, addressing antimicrobial resistance, reducing health inequalities, and enabling patients to resume normal activities sooner.

Available on NHS England website

Development of the guidance

- Follows on from national landscape survey of OPAT in England in 2022 – identified a need to develop a commissioning guidance as only 30% of OPAT services were commissioned by CCGs
- AMR programme funded British Society for Antimicrobial Chemotherapy to produce a business case template; BSAC lead a UK-wide OPAT Initiative
- Main body of the guidance drafted by APMO team
- Support from Head of Standard contract and ‘Who Pays?’ team for contractual elements
- Feedback from ICB chief pharmacists, ICB commissioners and OPAT pharmacists, review by AMR Programme and ISM leads on draft versions

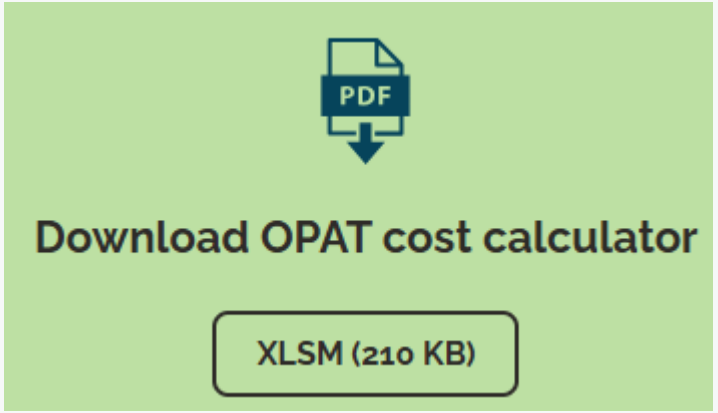
What does it say?



- Benefits of OPAT
- OPAT service models
- Implementing or expanding an existing OPAT service – procurement & contractual considerations
- Appendix 1: preparing a business case (downloadable template) & SWOT risk scoring template
- Appendix 2: writing an OPAT service specification
- Appendix 3: applicable service standards – includes BSAC Good Practice Recommendations, drug stability considerations

Appendix 1: Business case template

- Strategic case, economic case, financial case, management case
- Stakeholder analysis, SWOT analysis of different service models
- Link to interactive cost calculator hosted on SHTG website



Appendix 2: OPAT service specification - practicalities

- References BSAC Good Practice Recommendations
- Description and scope of the OPAT service – overlap with VWs/H@H, accessibility and equality
- Staffing & clinical governance
- Referral and selection criteria, patient assessment & management processes
- Treatment regimens, monitoring & follow up, documentation & reporting and benchmarking

Do we have the capacity to support OPAT roll out?

How best to support the growth of OPAT services?

Could OPAT capacity reduce or remain stable?

More studies of Initial IV then oral for chronic infections

eg OVIVA (7 days IV then oral in bone & joint infections), POET (partial oral vs IV AB left-sided endocarditis with G+ve infections), DAIR to stop (6 as good as12 weeks antibiotics for chronic prosthetic joint infections), SOLARIO trial (7 days vs long course in orthopaedics),

More evidence for weekly infusions eg dalbavancin (Gram positive infections including endocarditis), rezafungin (aspergillosis or probable invasive infections, possibly prophylaxis in time)

Newer oral carbapenems to replace ertapenem eg sulopenem USA and tebipenem (soon to be licensed in USA).

Ready to use products eg B.Braun Duplex range of cephalosporins and meropenem

Bacteriophages introduction could reduce course length when proven

OPAT in Liverpool.

Reducing Acute Length of Stay is a key driver for quality and safety in patient management.

Lack of OPAT capacity and coverage was identified as a cause of prolonged length of stay within LUHFT in externally commissioned review and has been highlighted as a key area to address within Liverpool Integrated Health and Social Care Programme.

The review identified that up to 22% of LUHFT inpatients are ‘receiving IV antibiotics’ as their sole criteria to reside.

Filling Elastomeric Pump Devices

Considering the Challenges.

- Facility Capacity.
- Manpower Capacity / Training Capacity.
- Clarity on Requirement & Target population.
- Access to Product Development & Test capability (stability & sterility).
- Automated Aseptic Filling.
- Assurance on Components / Consumables.
- Assurance on source ingredients / raw materials.
- Production schedule capacity (separation for cross contamination).
- Postproduction assurance & testing. (shelf-life limitations).
- Packing, Storage and Distribution.
- Integrated Health Care delivery.

Automated filling .. Smaller Scale.


NaCl 0,9%
Linked vigo
Vigo


ENVAIR
Clean Air & Containment
4 GLOVE RAPID GASSING ISOLATOR
PART OF ENVAIR TECHNOLOGY
W09624
ISOLATOR NOT CLEAN -
DO NOT COMMENCE PRODUCTION


USB1
USB3
USB2
USB4
CLIMET
CI-S904

Thank you