

# Dalbavancin for *routine* OPAT –Expensive? Can we afford?

Title: Cost-effectiveness analysis of dalbavancin in an acute district hospital in UK  
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RES-359

## Background

Dalbavancin<sup>1</sup> is a new semisynthetic lipoglycopeptide which is widely used in OPAT settings to prevent hospital admission and facilitate early hospital discharge. Its unique mode of delivery makes it ideal for a particular type of patients (eg. non-compliance, PWID or difficulty with vascular access). However it is often treated as a ***last resort*** of antibiotic due to its high cost<sup>1</sup>. This study is to analyse whether dalbavancin is a cost-effective drug from the health-economic perspective.

## Methods

The reasons for dalbavancin prescriptions and length of course were analysed retrospectively in terms of the appropriateness of the purpose. The healthcare cost was compared between inpatient settings and OPAT with dalbavancin.

## Results

Sixty-three patients were prescribed dalbavancin in the study period; forty-one patients (65%) received dalbavancin either in OPAT or Day Case Units (Figure 1). 53 patients (84%) used dalbavancin for unlicensed indications and 20 patients (32%) started without identifiable causative pathogens. In total 104 treatments were delivered and the course duration (1-4 doses) varied against indications. Bone and Joint Infections were the most common users (20,32%) followed by osteomyelitis (9,14%) and septic arthritis (8,13%) respectively (Figure 2). The total drug expenditure on dalbavancin was £187,052.76; of which £122,690.50 (66%) was spent in OPAT. However, if the forty-one patients were treated as inpatients, it would cost the health authority 4 times as much in budget per week; ie. £348,013.33 according to the cost-model of a 7-day inpatient stay comparing with OPAT setting<sup>2,3</sup> (Figure 3).

Figure 1. Demographics of the Dalbavancin Prescriptions During The Study Period (11 months) at the Acute District Hospital in UK

Total number of patients (N):	63
Number of OPAT* patients:	41 (65%)
• Number of patients in Day Case units	15 (24%)
OPAT* = discharge hospital within 24hours or no hospital admission	
Number of Inpatients#:	22 (35%)
Inpatients# = stay in hospital > 24hours	
Number of patients starting dalbavancin due to other reasons (eg. no cannula access, ADR of other antibiotics): Note: except PWID	5 (8%)
Number of PWID patients:	10 (16%)

Figure 2. The indications, dosage and number of courses of dalbavancin use during the study period

Infection Types	Number of patients	Number of Empirical Use of dalbavancin	Dosage and Number of courses received by the patients (pt)
SSTIs	7	3	5pts- 1500mg stat; 1pt- 1500mg x 2; 1 pt – 500mg x 2
Discitis	4	3	1 pt – 1500mg stat; 3 pts – 1500mg x 2
Osteomyelitis	9	3	3 pts – 1500mg stat; 6 pts – 1500mg x 2
Septic arthritis	8	1	4 pts – 1500mg stat; 4 pts – 1500mg x2
Bone and Joint Infections	20	5	5 pts – 1500mg stat; 13 pts – 1500mg x 2; 1 pt (infected dislocated R THR with open relocation, debridement and insertion of stimulant beads) – 1500mg x 3 on D1, D8, wk4; 1pt (infected L TKR) – 1500mg x 4 on D1, D8, wk4 and wk5
Abscess (groin, liver, spine)	3	1	3 pts – 1500mg x 2
Endocarditis	4	1	2 pts – 1500mg stat; 2 pts – 1500mg x 2
Diabetic foot infection	2	0	1 pt – 1500mg stat; 1 pt – 1500mg x 2
Septicaemia/ bacteraemia	2	0	1 pt – 1500mg stat; 1 pt (renal impairment)- 750mg D1 then 375mg D8
CAP	1	1	1 pt – 1000mg stat
Sacral and leg ulcers	3	2	3 pts -1500mg stat
Total:	63	20 (32%)	26 patients received 1 course, 35 patients received 2 courses 1 patient received 3 courses, 1 patient received 4 courses

Figure 3. The Healthcare Cost between inpatient and OPAT settings for a 7-day treatment

OPAT with Dalbavancin = 24% of Inpatient Cost

	Inpatient Stay (7-day treatment)	OPAT with Dalbavancin
Medicine Cost (Conventional daily antibiotic treatment vs dalbavancin)	£1,420.00	£2,011.32
Infusion material costs (e.g. diluents, disposable infusion pumps, consumables such as venflon cannula)	£171.19	£12.00
Nursing costs (Agenda for change NHS Pay Bands 2024/25 for a band 6 nurse)	£60.93	£13.79
Hospital Bed-Day Costs (NHS Tariff 2023/25)	£6,832.00	£0.00
Blood analyses	£4.00	£4.00
Grand Total	£8,488.13	£2,041.11

## Conclusions

The study demonstrated a significant cost reduction in dalbavancin use in OPAT compared with the hospital stay with daily intravenous antibiotic. Dalbavancin treatment has recently been extended widely to other unlicensed indications especially in orthopaedic infections which are often hard to treat and require prolonged hospital stay if there are no suitable oral antibiotics. Dalbavancin provides an alternative antibiotic option to facilitate hospital discharge, reducing the need for intravenous vascular access facilities and reducing the risk of injection site infections. Moreover it does not incur the high operational cost such as overheads and staffing to run a daily outpatient intravenous antibiotic therapy service.

1) BNF - Xydalba  
(<https://bnf.nice.org.uk/drugs/dalbavancin/medicinal-forms/>)  
2) 2023/25 NHS Payment Scheme  
(<https://www.england.nhs.uk/publication/2023-25-nhs-payment-scheme/>)  
3) Agenda for Change NHS Pay Bands 2024/25  
(<https://nursingnotes.co.uk/agenda-for-change-nhs-pay-bands/>)

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