

Project Definitions

Clinical failure: Readmission or death due to worsening infection or readmission secondary to adverse drug reaction to antibiotic therapy within 90 d from first dose of medication. Clinical failures did not include readmissions unrelated to OPAT including comorbidities or elective procedures.

Therapy complication (adverse drug reaction or line complication) included the following:

Nephrotoxicity (increase in SCr > 0.5 mg/dL from baseline or a doubling of baseline SCr); neutropenia (neutrophils < 500/mL); thrombocytopenia (platelets < 100,000/mL); eosinophilia ($\geq 15\%$); elevation of CPK 10 x ULN; clinician documentation of development of a drug allergy; infusion-related reactions; *Clostridioides difficile* colitis infections.

Intravenous line complications were assessed and included the following:

Venous thrombosis, phlebitis, local inflammation, PICC infection, PICC replacement not otherwise indicated.

Cost Estimates

Cost estimates were obtained from several sources. Costs associated with clinical failure were obtained through national VA data and published literature. Drug and supply acquisition costs were obtained from the pharmacoeconomics pharmacist using distributor data (McKesson Corporation, accessed 2022). Costs associated with administration of medications through OPAT were obtained through OPAT pharmacist best faith estimate and literature estimates, setting of care costs (inpatient, CLC, SNF/Rehab, OPAT) were obtained through available national VA data as well as the literature, and cost of home health was obtained from literature sources (See below). To aid in calculation of human resources cost for OPAT-related visits, time spent for each OPAT visit (pharmacist, pharmacy technicians, and nurses) was obtained from OPAT pharmacist (See below). All cost estimates have been adjusted for inflation to 2022 dollars using an inflation calculator.^a

Data Collection Form

A list of patients who received oritavancin, dalbavancin, daptomycin, or vancomycin and their dates of therapy initiation was generated by the OPAT pharmacist with assistance from informatics pharmacist.

Patient-specific information collected from electronic health record: Age; sex; weight; drug administered; concomitant antibiotic given; infection type; culture results; medication administration dates; duration of total antimicrobial therapy; duration of therapy with drug of interest; No. and amount (mg) of doses delivered; No. and nature of intravenous line complications; No. and nature of documented adverse drug reaction from antibiotic therapy; No. OPAT visits; No. and nature of clinical failures; No. readmissions (within 90 d of first dose of drug related to infections); No. readmissions during treatment for infection-related diagnosis; documentation of inability to self-administer or comply with traditional OPAT; presence of OPAT or infectious disease consult; No. type of laboratory value drawn for therapeutic drug monitoring; hospital stay location (ward); hospital stay duration; presence and duration of home health nurse to help administer medication; presence of a third party (eg, Coram to provide OPAT therapy); postdischarge stay location and duration; and readmission length of stay and location.

^aCoinNews Media Group Company. US Inflation Calculator. Accessed May 9, 2025. <https://www.usinflationcalculator.com/>

Preliminary Estimation of Cost for Inpatient, Rehabilitation, Nursing Home Settings¹⁵

Location/type of care	2022 hospitalization cost/d, \$ ^a
Inpatient medicine	4802
Rehabilitation	3986
Nursing home	1890

^aCosts from 2020 applied to 2021 and 2022 to exclude confounding for COVID-19 hospitalization costs, which include overhead.

Clinical Failure Cost Estimate

Cause for readmission	Cost/d, \$
Infection related	4802 (same for inpatient medicine)
Adverse drug reaction related	4802 (same for inpatient medicine)
Discharge to skilled nursing facility	1890
Discharge to rehabilitation facility	3986

Therapy Complication Preliminary Cost Estimate^{16,17}

Medical resource	Cost, \$
Visit type	
VA physician	159
Outpatient infusion	189 ^a
Emergency room	820 ^a
Cost calculation for PICC complications	
Alteplase: Cathflo	95 per 2 mg vial
Average PICC complication cost ¹⁷	325 ^a

^aCosts obtained adjusted for inflation to 2022 dollars.

Estimated Cost for Medication Acquisition and Administration

Criteria	Cost
Medication	2022 acquisition cost, \$
Oritavancin	338/400 mg vial
Dalbavancin	1021/500 mg vial
Daptomycin	30/500 mg vial
Vancomycin	2/per 1000 mg vial
Human resources ^a	Annual salary estimation, \$
OPAT pharmacist	119,041
OPAT nurse	85,000
Pharmacy technician	36,070
Estimated HH/d cost ¹⁸	338/patient/d ^b
Supplies needed for administration ^c	Supply costs during therapy (wk 1-8), \$ ^b
Vancomycin (3 doses/d OPAT RN)	47, 95, 141, 190, 237, 285, 332, 380
Vancomycin (3 doses/d with HH nurse)	76, 153, 229, 305, 381, 458, 534, 610
Vancomycin (2 doses/d with HH nurse)	97, 195, 292, 329, 486, 584, 681, 778
Vancomycin (2 doses/d OPAT RN)	34, 68, 103, 137, 171, 205, 240, 274
Vancomycin (1 dose/d with HH nurse)	72, 145, 217, 290, 362, 435, 507, 580
Vancomycin (1 dose/d with OPAT RN)	22, 44, 64, 87, 109, 131, 153, 175
Daptomycin (1 dose/d with OPAT RN)	22, 44, 64, 87, 109, 131, 153, 175
Daptomycin (1 dose/d with HH nurse)	72, 145, 217, 290, 362, 435, 507, 580
Oritavancin/dalbavancin (1 dose/wk)	2, 5, 7, 10, 14, 16, 19
Laboratory monitoring	Cost, \$ ^b
Chem 8 ¹⁷	77/level
CPK	77
Vancomycin trough ¹⁷	59/level
Complete blood count	77
Erythrocyte sedimentation rate	77
C-reactive protein	77

^aCalculated using salary information and time spent for treatment.

^bCosts obtained adjusted for inflation to 2022.

^cSupplies and medications provided by VA if patient has a HH nurse helping administer the medication.

Time Spent for Outpatient Parenteral Antimicrobial Therapy Visits

Medication	Registered nurse, h	Pharmacy technician, h	Pharmacist, h
Oritavancin	Initial: 3.5 Follow-up: 3.5	0.5	Initial: 0.5 Follow-up: 1.0
Dalbavancin	Initial: 1.0 Follow-up: 1.0	0.5	Initial: 0.5 Follow-up: 1.0
Vancomycin	Initial: 2.0 Follow-up: 1.5	2.0	Initial: 2.0 Follow-up: 3.0
Daptomycin	Initial: 2.0 Follow-up: 1.0	1.0	Initial: 2.0 Follow-up: 1.0

Abbreviations: CLC, community living center; CPK, creatinine phosphokinase; HH, home health; OPAT, outpatient parenteral antimicrobial therapy; PICC, peripherally inserted central catheter; RN, registered nurse; SCR, serum creatinine; SNF, skilled nursing facility; ULN, upper limit of normal range; VA, US Department of Veterans Affairs.