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ORIGINAL RESEARCH



Clinical use of dalbavancin in Canada: the CLEAR study final results

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ABSTRACT

Background: The CLEAR (Canadian Leadership on Antimicrobial Real-life usage) registry collected data on 160 Canadian patients who received dalbavancin between January 2023 and December 2025.

Research design and methods: Clinicians used the web-based research data management program REDCapTM to enter patient information into the CLEAR registry.

Results: Dalbavancin was most frequently prescribed for acute bacterial skin and skin structure infections (55.6% of patients) and bone/joint infections (24.4%). Methicillin-resistant *Staphylococcus aureus* (MRSA) (55.6%) and methicillin-susceptible *S. aureus* (MSSA) (14.4%) were the most common pathogens treated. Dalbavancin treatment was most frequently initiated on a hospital ward (55.0%) or in the emergency department (26.9%). Dalbavancin therapy was chosen because it was a single-dose treatment (71.4%) or facilitated hospital discharge (16.9%) and was primarily administered without other antimicrobial agents (83.1%) as a single 1500 mg dose (63.0%). Microbiological success (pathogen eradicated/presumed eradicated) and clinical success (cure and/or improvement) rates were 93.8% (106/113) and 86.4% (89/103), respectively, for patients with known outcomes. One adverse event (hypersensitivity) was reported.

Conclusions: Dalbavancin has established itself as a unique and useful antimicrobial in Canada. CLEAR registry data confirm previously published peer-reviewed studies describing the efficacy and safety of dalbavancin in the treatment of various infections.

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1. Introduction

Many reviews detail dalbavancin as a lipoglycopeptide with bactericidal activity against Gram-positive cocci, including methicillin-resistant *Staphylococcus aureus* (MRSA), methicillin-resistant *Staphylococcus epidermidis* (MRSE), penicillin-resistant *Streptococcus pneumoniae*, and VanB/C vancomycin-resistant *Enterococcus* (VRE) spp. [1–5]. Against MRSA, dalbavancin displays both excellent *in vitro* microbiological activity (susceptibility ~100%) and very high pharmacodynamic target attainment [3,5–8]. Dalbavancin has been used worldwide to treat patients with FDA (United States Food and Drug Administration), EMA (European Medicines Agency), and Health Canada approved (on-label) indications such as acute bacterial skin and skin structure infections (ABSSSI) as well as off-label infections including bacteremia, endocarditis, bone/joint infection, device-related infection, peritonitis, and acute bacterial prostatitis [9–38]. Dalbavancin dosing recommendations based on clinical

experience treating patients with on-label and off-label infections is published [39–47].

Antimicrobial resistant pathogens, including MRSA continue to increase worldwide [48–50]. One response to the issue of increasing antimicrobial resistance is the development of new antimicrobial agents [51–57]. Frequently, when new antimicrobial agents are approved by a government agency and introduced into a market, they are used primarily, at least initially, by infectious diseases/medical microbiology specialists for the approved (on-label) indication(s) as well as for off-label indications [58,59]. Commonly, there is limited data sharing between clinicians as to why they chose to use a new antimicrobial agent (i.e. because of clinical failure, antimicrobial resistance, or toxicity considerations), the types of infections treated, and how the antimicrobial was employed in their practice (i.e. dosage regimen, duration of therapy, as monotherapy or in combination with one or more other antimicrobials).

The CLEAR (Canadian LEadership on Antimicrobial Real-life usage) national usage registry platform was launched by the Canadian Antimicrobial Resistance Alliance (CARA; <http://www.can-r.ca/index.php>) in 2019 to assess why and how newer Health Canada-approved intravenous antimicrobials were being used by Canadian infectious diseases/medical microbiology specialists [58,59]. In this paper, we summarize the final results of the CLEAR registry clinical use study of dalbavancin in Canadian patients which accumulated questionnaires from 1 January 2023 to 31 December 2025. In addition, we reviewed currently published literature discussing the use of dalbavancin to treat infections.

2. Patients and methods

A dalbavancin usage questionnaire was developed with the input of infectious disease/medical microbiology specialists (physicians and pharmacists) across Canada. The CLEAR registry protocol/questionnaire was submitted, reviewed, and received Human Ethics Committee approval (HS22785-H2019:156) at the University of Manitoba (Winnipeg, Canada). The ethics committee deemed that consent from individual participants was not required as no patient identifiers were requested or recorded. Using the web-based research data management program, REDCap™ (Research Electronic Data Capture) [60], clinicians (physicians and clinical pharmacists) responded directly to the questionnaire online starting 1 January 2023. The REDCap™ online survey (<https://rcsurvey.radyfhs.umanitoba.ca/surveys/?s=TPMWJX98HL>) was distributed via e-mail to >500 CLEAR participants across Canada (members of the Association of Medical Microbiology and Infectious Diseases Canada [AMMI] and Canadian Society of Hospital Pharmacists [CSHP]). Participation in the CLEAR registry is voluntary. Every 3 to 4 months, clinicians were sent an e-mail encouraging their voluntary participation in the CLEAR survey. A series of drop-down menus and short answer questions allowed for rapid (~3 minutes) completion of the survey. We previously reported data on the first 40 CLEAR dalbavancin patient surveys (questionnaires received from 1 January 2023 to 15 April 2024) [61]. Results for all 160 CLEAR dalbavancin surveys received from 1 January 2023 to 31 December 2025 are presented here.

3. Results

3.1. Patient demographics and clinician responders

One-hundred and sixty dalbavancin usage questionnaires were completed as of 31 December 2025. By Canadian geographical region, 62.5% of patients treated were from central Canada (Ontario, Quebec), 26.3% were from western Canada (British Columbia, Saskatchewan, Manitoba), and 11.2% were from eastern Canada (New Brunswick, Newfoundland, Prince Edward Island). Most patients (85.0%) treated were aged 18 to 64 years; the remaining 15.0% of patients were aged ≥65 years. Responders to the survey were primarily clinicians from large tertiary-care institutions in major Canadian cities. The responders were clinical pharmacists (60.0%) and medical microbiology/infectious diseases specialists (40.0%).

3.2. Therapeutic use of Dalbavancin

Dalbavancin was used to treat ABSSSI (55.6% of patients), bone and joint infections (24.4%), bacteremia (source not identified) (13.1%), endocarditis (6.3%), and device-related infections (0.6%) (Table 1). Fifty-three (33.1%) of the 160 patients had bacteremia (both source identified and source not identified patients) and 1.9% started or completed their therapy in an intensive care unit (ICU). Dalbavancin was used as directed (non-empiric) therapy in 81.3% of patients. Specific pathogens (identified from specimen culture) treated with dalbavancin included MRSA (55.6%), MSSA (14.4%), mixed infection with either MRSA or MSSA and *Streptococcus* spp. (10.6%), *Streptococcus* spp. (5.8%), methicillin-resistant *Staphylococcus epidermidis* (MRSE) (1.9%), *Enterococcus faecium* (1.3%) (neither isolate was VRE), *Corynebacterium* spp. (1.3%) and *Enterococcus faecalis* (0.6%). Dalbavancin treatment was initiated because it was a single dose (71.4%), it facilitated hospital discharge (16.9%), there was clinical failure of previous antimicrobial therapy (5.2%), there were adverse effects/intolerance associated with use of previous antimicrobial agents (5.2%), or there was resistance to initially prescribed antimicrobial agents (1.3%) (Table 2). Antimicrobial susceptibility testing with dalbavancin was performed in 6.9% of cases. Known antimicrobial susceptibility testing methods were disk diffusion ($n=5$) and Etest (bioMérieux) ($n=2$). None of the isolates tested were reported to be resistant to dalbavancin.

3.3. Dosage and administration

Dalbavancin therapy was initiated on a hospital ward (55.0%), in the emergency department (26.9%), in an outpatient parenteral antimicrobial therapy (OPAT) clinic (16.9%), or in an infectious diseases/cellulitis clinic (1.3%). The most common dalbavancin dosages prescribed for all treated infections were: 1500 mg as a single dose (63.0%), 1500 mg day 1 and 1500 mg day 8 (25.0%), 1500 mg day 1 and 1000 mg 2 weeks later (3.2%), and 1000 mg single dose (2.5%) (Table 3). Dalbavancin was administered using a short infusion of 15 minutes to 1 hour, consistent with the manufacturer's instructions, in 96.3% of cases. Dalbavancin was used as monotherapy in 83.1% of cases. When used in combination, dalbavancin was most frequently administered with amoxicillin/clavulanate or metronidazole or trimethoprim/sulfamethoxazole.

Table 1. Infections treated with dalbavancin in 160 patients.

Infection treated	% of 160 patients
Acute bacterial skin or skin structure infection	55.6
Bone and joint infection	24.4
Bacteremia (source not identified)	13.1
Endocarditis	6.3
Device-related infection	0.6

Table 2. Reasons for initiating dalbavancin treatment in 160 patients.

Reason	% of 160 patients
Convenience of single dose treatment	71.4
To facilitate hospital discharge	16.9
Clinical failure of previous antimicrobial therapy	5.2
Adverse effects/intolerance associated with use of previous antimicrobial agents	5.2
Resistance to initially prescribed antimicrobial agents	1.3

Table 3. Dalbavancin dose and infusion time used in 160 patients.

Dalbavancin dose	% of 160 patients
1500 mg single dose	63.0
1500 mg day 1 and 1500 mg day 8	25.0
1500 mg day 1 and 1000 mg 2 weeks later	3.2
1000 mg single dose	2.5
1000 mg day 1 and 500 mg day 8	1.9
1500 mg day 1 and 1000 mg 2 weeks later × 2	1.3
1125 mg single dose	1.3
1500 mg per week × 6 weeks	0.6
500 mg weekly × 6 months	0.6
1500 mg day 1 and 500 mg day 8	0.6
Dalbavancin infusion time	
Short (15 minutes to 1 hour)	96.3
Prolonged (≥2 hours)	0
Unknown	3.7

The most common dalbavancin dosages prescribed for patients with ABSSSI were 1500 mg as a single dose (78.8%) and 1500 mg day 1 and 1500 mg day 8 (13.6%) (Table 4). The most common dalbavancin dosages prescribed for patients with bone and joint infections were 1500 mg day 1 and 1500 mg day 8 (48.6%) and 1500 mg as a single dose (38.5%) (Table 5). The most common dalbavancin dosages prescribed for patients with bacteremia (source not identified) were 1500 mg as a single dose (52.4%) and 1500 mg day 1 and 1500 mg day 8 (33.3%) (Table 6).

3.4. Microbiological and clinical outcomes

Dalbavancin microbiological success was defined as eradication or presumed eradication of the pathogen. Presumed eradication included patients that clinically improved or no longer showed signs of infection, even if a definitive laboratory culture was not available. Dalbavancin achieved

microbiological success in 93.8% (106/113) of evaluable cases; microbiological outcomes were unknown for 47 patients (Table 7).

Seven patients were classified as dalbavancin microbiological failures due to bacterial persistence which was determined by the treating clinician and reported as lack of microbiological eradication at the site of infection. The 7 patients with bacterial persistence had ABSSSI ($n = 3$), bone and joint infections ($n = 3$), and device-related infection ($n = 1$). None of the 7 patients had bacteremia and none were treated in an ICU. The 3 ABSSSIs and three bone and joint infections were caused by MRSA or were mixed infections with MRSA or MSSA and *Streptococcus* spp. The device-related infection was caused by MRSE. All 7 patients with persistent infection received dalbavancin alone, except a single patient who received dalbavancin with metronidazole. Regarding dalbavancin dosing in the 7 patients, the 3 patients with ABSSSI received a single 1500 mg dose, while of the 3 patients with bone and joint infections, 2 patients received 1500 mg on day 1 followed by 1500 mg on day 8. The patient with the device-related infection also received 1500 mg on day 1 followed by 1500 mg on day 8. Clinical outcomes in these 7 patients included improvement in 1 and clinical failure in 2 patients with bone and joint infections, clinical failure in all 3 patients with ABSSSI, and clinical improvement in the patient with a device-related infection.

Dalbavancin clinical success was defined as cure or improvement in evaluable cases. Although using a single composite end point, combining cure and improvement into clinical success is common for acute bacterial infections, we acknowledge that for chronic infections such as osteomyelitis or prosthetic joint infections, where improvement may simply reflect ongoing disease control rather than infection resolution, a single composite endpoint may not be the best endpoint, however, for comparative purposes, we chose to define clinical success in an identical fashion for all infections. Dalbavancin achieved clinical success in 86.4% (89/103) of all evaluable cases; clinical outcomes were unknown for 57 patients (Table 8). Clinical failure occurred in 14 patients. Of the 14 patients, 10 had ABSSSI and 4 had bone and joint infections. None of the 14 patients were treated in the ICU and only one had bacteremia. Of the 4 patients with bone and joint infections, 1 was caused by MRSA and 3 were mixed infections with MRSA or MSSA and *Streptococcus* spp. Of the 10 patients with ABSSSI, 9 were caused by MRSA and one was a mixed infection with MRSA and *Streptococcus* spp. Two of the 14 patients with clinical failure received dalbavancin in combination with metronidazole; all other patients received dalbavancin alone. Two patients with bone and joint infections received 1500 mg as a single dose, 1 received 1500 mg on day 1 followed by 1500 mg on day 8, and received 1500 mg on day 1 followed by 500 mg on day 8. Of the 10 patients with ABSSSI, 9 received 1500 mg as a single dose and one received 1500 mg on day 1 followed by 1500 mg on day 8. Microbiological outcomes were known in 7 of the 14 patients deemed clinical failures and included 5 patients classified as persistent infection, 1 patient classified as eradicated, and 1 patient classified as presumed eradicated. Mortality from infection was 0%.

Table 4. Dalbavancin dose used in 89 patients with ABSSSI.

Dalbavancin dose	% of 89 patients
1500 mg single dose	78.8
1500 mg day 1 and 1500 mg day 8	13.6
1000 mg single dose	3.4
1500 mg day 1 and 1000 mg 2 weeks later	2.2
1000 mg day 1 and 500 mg day 8	2.2

Table 5. Dalbavancin dose used in 39 patients with bone and joint infections.

Dalbavancin dose	% of 39 patients
1500 mg day 1 and 1500 mg day 8	48.6
1500 mg single dose	38.5
1500 mg day 1 and 1000 mg 2 weeks later	5.1
1000 mg day 1 and 500 mg day 8	2.6
1500 mg day 1 and 1000 mg 2 weeks later × 2	2.6
1500 mg per week × 6 weeks	2.6

Table 6. Dalbavancin dose used in 21 patients with bloodstream/vascular infections.

Dalbavancin dose	% of 21 patients
1500 mg single dose	52.4
1500 mg day 1 and 1500 mg day 8	33.3
1125 mg single dose	9.5
500 mg weekly × 6 months	4.8

Table 7. Microbiological outcome and microbiological success in patients treated with dalbavancin.

Microbiological outcome	% of 160 patients
Presumed eradication	51.2
Eradication	15.0
Persistence	4.4
Unknown	29.4
Microbiological success	% of 113 patients with known microbiological outcome
Yes	93.8
No	6.2

Clinical success occurred in 83.6% of evaluable cases in patients with ABSSSI, 86.7% of evaluable cases in patients with bone and joint infections and 93.3% of evaluable cases in patients with bacteremia (source not identified) (Table 9).

3.5. Adverse effects

Only one (0.6%) patient reported an adverse event. It was a hypersensitivity reaction reported as 'redness/itchiness on the whole body' which occurred 2-weeks post dalbavancin administration.

4. Discussion

Our study shows that in Canada, dalbavancin has been administered as both directed and empiric treatment for a variety of on-label and off-label infections, including ABSSSI, bone and joint infections, bacteremia (source not identified), endocarditis, and device-related infections (Table 1) with clinical success rates of >80% for ABSSSI, bone and joint infections, and bacteremia (source not identified) (Tables 7-9). Our usage and outcome data are consistent with previously published data from other countries [9-38]. For example, Darlow et al. reported on the use of dalbavancin for 95 patients in Liverpool, United Kingdom (30 with bone and joint infection, 27 with *S. aureus* bacteraemia, 24 with ABSSSI, and 13 with infective endocarditis) from September 2020 to April 2024

[18]. Clinical success rates for bone and joint infections, *S. aureus* bacteraemia, and ABSSSI were >90% while endocarditis was 61.5%. In another study, Parutti et al. reported >80% clinical success for on-label and off-label use of dalbavancin for infections in 100 patients that included bone and prosthetic infections (57%), ABSSSI (22%), and cardiovascular infections (19%) in Italy [30]. In another Italian study, Tordi et al. performed a retrospective, observational, multicentre study that enrolled consecutive patients treated with dalbavancin from January 2017 to May 2024 [21]. Of the 281 patients treated, dalbavancin was used for on-label infections in 57.6% and off-label infections in 42.6%. Off-label infections included 29 cases of osteomyelitis and 25 cases of prosthetic joint infection. The researchers reported therapeutic success rates of 82.7% for on-label and 84.0% for off-label infections.

It should be mentioned that our study describing dalbavancin effectiveness versus a variety of infections (acute bacterial skin and skin structure infections, osteoarticular infections, bacteremia, endocarditis and device-related infections) is aware that these different infections vary considerably in terms of clinical complexity, expected duration of therapy, need for source control and outcome assessment. Thus, our registry captures overall prescribing practice reflecting real-world utilization rather than providing comparable effectiveness data across these very different clinical syndromes. In addition, we report that on-label use of dalbavancin for ABSSSI represented 55.6% of all usage while off-label usage represented 44.4% of usage (Table 1). Although the reasons for clinical usage of new IV antimicrobials such as dalbavancin can vary for on-label and off-label infections, we did not report a difference in clinical outcomes between on-label and off-label indications (Table 9).

We report that in Canada, dalbavancin is administered to treat infections caused by a variety of Gram-positive pathogens, including MRSA, MSSA, mixed infections with staphylococci and streptococci, *Streptococcus* spp. infections as well as infections caused by MRSE, vancomycin-susceptible *E. faecium* or *E. faecalis* and *Corynebacterium* spp. This usage is consistent with previously published data from other countries [9-38].

Our study also determined that the two most common reasons for clinicians initiating dalbavancin treatment were because of the convenience of single dose therapy and to facilitate hospital discharge (Table 2). Reasons for choosing dalbavancin included not wanting to use multiple daily doses of vancomycin in the emergency department, the logistics of administering intravenous antibiotics in the outpatient setting, no OPAT options, worry about patient adherence to oral antibiotic therapy, and patients with 'psychosocial barriers to usual care' (i.e. intravenous drug use with/without difficulty obtaining intravenous line access, mental health, homelessness). In addition, dalbavancin was frequently used to facilitate

Table 8. Clinical outcome and success in patients treated with dalbavancin.

Clinical outcome	% of 160 patients
Improvement	25.6
Cure	30.0
Failure	8.8
Unknown	35.6
Clinical success	% of 103 patients with known clinical outcome ^a
Yes	86.4
No	13.6

^aDeath due to infection 0%.

Table 9. Clinical outcomes and success in patients with various infections treated with dalbavancin.

Infection type	Improvement %	Cure %	Failure %	Unknown %	Clinical success %
ABSSSI	23.6	28.1	10.1	38.2	83.6
Bone/joint	30.8	35.8	10.3	23.1	86.7
Bacteremia	23.8	42.8	4.8	28.6	93.3

discharge from the emergency department or to initiate or facilitate early discharge from the hospital setting. The convenient usage of dalbavancin for the above reasons has been well documented [16–20,22].

In this study, we report that a variety of dalbavancin dosing regimens were used by clinicians although the two most common regimens were a 1500 mg single dose and 1500 mg day 1 and 1500 day 8 (Table 3) as reported by other investigators [14–20]. These two dosing regimens were also the most common dalbavancin regimens used to treat ABSSSI, bone and joint infections, and bacteremia (source not identified) (Tables 4–6).

The optimal dosage regimen of dalbavancin has been a subject of extensive investigation with researchers using therapeutic drug monitoring (TDM) and pharmacokinetic/pharmacodynamic (PK/PD) modeling [39–47]. Baiardi et al. used Monte Carlo simulations of plasma disposition to determine the multidose dalbavancin regimen associated with a 90% target attainment of 100% $fT > 4 \times \text{MIC}$ [44]. Their model showed that two 1500 mg dalbavancin doses administered 7 days apart (i.e. 1500 mg day 1 and 1500 mg day 8) resulted in an optimal probability of target attainment $> 90\%$ of 100% $fT > 4 \times \text{MIC}$ up to 5, 4, and 3 weeks in patients weighing from 40 to 80 kg, 80 to 120 kg, and 120 to 200 kg, respectively. These data led to their conclusion that two 1500 mg dalbavancin doses administered 7 days apart are a valuable initial dosing strategy for patients of all weight classes with creatinine clearance of > 30 ml/minute. Monino-Dominguez et al. reviewed clinical studies related to the pharmacokinetics of dalbavancin and the use of TDM in complex infections requiring prolonged regimens [42]. Most studies focused on osteoarticular infections treated with dalbavancin using 1500 mg on day 1 and 1500 mg on day 8 followed by dose adjustments based on plasma concentration monitoring. The most common PK/PD parameters were trough concentrations > 8 ug/ml and an area under the curve of > 111 ug/h/ml [42]. They concluded that the use of TDM in dalbavancin dosing optimizes the treatment of complex chronic infections by adjusting dosing intervals and maintaining adequate therapeutic concentrations for extended periods.

In the current study, we only identified one (0.6%) patient that reported an adverse event, a hypersensitivity reaction reported as ‘redness/itchiness on the whole body’ which occurred 2-weeks post dalbavancin administration. It should be stated in the study that adverse events were voluntarily reported by participating clinicians and patients which may result in underreporting. However, the good safety profile of dalbavancin when treating various infections has been well documented by others as well [9–38]. For example, Turner et al. compared the safety of dalbavancin to ‘standard therapy’ (cefazolin or antistaphylococcal penicillin if methicillin susceptible; vancomycin or daptomycin if methicillin resistant) for treatment of complicated *S. aureus* bacteremia in the DOTS study [15]. These researchers reported that adverse events leading to treatment discontinuation were numerically more frequent with standard therapy (12 of 100) than with dalbavancin (3 of 100). Reported adverse events associated with dalbavancin included transient rash or pruritus, transient mild

elevation in aspartate or alanine aminotransferases and one case of infusion reaction (consisting of transient fever, rigors, tachycardia, palmar rash, acute renal injury, and aspartate or alanine aminotransferase elevations) [15]. In another study of 52 inpatients, Polega et al. reported elevated transaminases in six patients during dalbavancin therapy, of whom three were receiving additional antimicrobial therapy [22]. Elevations in alkaline phosphatase were also noted in two patients with both patients receiving concomitant doxycycline during the period in which abnormal labs were recorded. Acute kidney injury occurred in two patients, one had a history of type 2 diabetes with concomitant stage 3 chronic kidney disease, while the other had a prolonged ICU stay due to septic shock and experienced kidney injury during this hospitalization which had been improving until the administration of dalbavancin.

All patients treated in our study were adults; however, the efficacy and safety of dalbavancin have also been demonstrated in pediatric patients [62–64]. Caseli et al. performed a systematic review of dalbavancin in treating on-label and off-label indications in pediatric patients. Nine studies were included in their review [63]. The most treated infections were ABSSSI, bone and joint infections, and central-line associated bloodstream infections. These researchers reported clinical success rates $> 90\%$ for all infections treated along with a low rate of adverse events and that dalbavancin offered the opportunity to minimize duration of hospital stay [63].

Although using dalbavancin as single dose therapy, or in two or more doses for deep-seated infections, is associated with high drug acquisition costs, cost effectiveness studies consistently show dalbavancin to be cost-effective for a healthcare system because it shortens emergency department stays, reduces hospital admissions, and facilitates early hospital discharge [20,21,65–68]. Azamgarthi et al. described the treatment of 39 patients with dalbavancin in the United Kingdom and France, primarily for prosthetic joint infections and septic arthritis [20]. ‘Necessity group’ patients, received dalbavancin due to poor adherence or lack of OPAT options. In this group, the use of dalbavancin resulted in a median cost saving of GBP 8894 per patient and a median of 31 inpatient days were avoided. In the same study, ‘convenience group’ patients received dalbavancin to avoid OPAT. In this group, dalbavancin use lowered the median treatment cost by GBP 2445 compared to OPAT and saved a median of 31 inpatient bed days. In another study, Raja et al. performed a budget-impact analysis and real-world assessment of dalbavancin cost and reimbursement data, and modeled drug acquisition cost-avoidance compared to daptomycin and oral linezolid in outpatient and emergency department patients in a US hospital [65]. Treatment of 88 patients, primarily with ABSSSI, diabetic foot infections, and osteomyelitis, resulted in approximately USD \$3500 savings per patient when treated with dalbavancin compared to the other two agents. Hanks et al. performed a single-center, retrospective, cost minimization analysis that compared treatment with oritavancin or dalbavancin to vancomycin or daptomycin [66]. Of the 55 patients included in their analysis, 22 received oritavancin, 15 received dalbavancin, 10 received vancomycin, and 8 received daptomycin. The mean cost of therapy per patient receiving oritavancin, dalbavancin, vancomycin, and daptomycin was USD \$35,630, \$59,612,

\$73,333, and \$73,708, respectively. Scortochini et al. estimated direct and indirect healthcare costs for patients hospitalized with ABSSSI and treated with dalbavancin or another lipoglycopeptide or glycopeptide in 16 centers in Italy and Greece [67]. These researchers reported an overall cost of 14,817 Euros for ABSSSI management in the dalbavancin group (of which 9,040 Euros were due to hospitalization costs) compared to 17,274 Euros for patients treated with a lipoglycopeptide or glycopeptide (of which 13,177 Euros were spent on hospitalization costs).

The CLEAR study on dalbavancin use in Canada has the following limitations. We have only reported our experience with 160 patient treatment surveys which provide data on a relatively small number of patients, especially for certain infection types (e.g. endocarditis, device-related infections). All clinician reports of dalbavancin use to treat patients are voluntary. Whether this voluntary data submission is more likely to have clinicians report clinical successes or failures is unknown. Although duplicate patient cases are possible, they are very unlikely as all submitted patient cases were closely reviewed to ensure that submission date, patient age, sex, submitting clinician, infection treated, and pathogen treated were unique. Because this is a descriptive study, allowing clinicians to rapidly within 2–3 minutes enter patient information using a point and click fashion the CLEAR registry, is limited to the clinical information available. We acknowledge that having additional clinical information regarding patient management would be of value. We analyzed our data set using only descriptive analysis as limited patient information data were available. Lastly, microbiological and clinical outcomes of all patients were not known, as some patients were lost to follow up. This is an important limitation as our findings are not representative of the 29.4% of patients for whom microbiological outcome was unknown and for the 35.6% of patients for whom clinical outcomes were not known. We believe that these missing outcomes are reflective of real-world clinical practice patterns following dalbavancin administration often in patients with challenging issues of homelessness, intravenous drug usage and mental health.

5. Conclusions

We provide final results of the national CLEAR registry describing the clinical use of dalbavancin in Canada. In Canada, dalbavancin demonstrates high microbiological and clinical success (for patients with known microbiological and clinical outcomes) with an excellent safety profile when used as both directed and empiric therapy. We report that dalbavancin therapy in Canadian patients is supporting simplified care pathways and facilitating early hospital discharge. This study also provides emerging real-world evidence of dalbavancin's use for pathogen-appropriate deep-seated infections, including endocarditis and bone and joint infections.

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Author contributions

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The CLEAR registry protocol/questionnaire was submitted, reviewed, and received Human Ethics Committee approval (HS22785-H2019:156) at the University of Manitoba (Winnipeg, Canada). The ethics committee deemed that consent from individual participants was not required as no patient identifiers were requested or recorded.

Reviewer disclosures

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Data availability statement

Data is available upon reasonable request to the corresponding author.

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