



Infective Endocarditis in People Who Inject Drugs: Reoperation, Stigma and the Limits of a Purely Surgical Answer

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Introduction

When a person who injects drugs (PWID) is admitted with infective endocarditis, the clinical conversation often narrows quickly to a single question: does this valve need surgery. That framing is not wrong, but it is incomplete. The literature reviewed here shows that even a technically successful operation leaves PWID with worse long-term survival and a substantially higher chance of needing a second operation than non-PWID patients undergoing the identical procedure, and that the largest, most modifiable outcome gaps in this population sit upstream and downstream of the operating room, not inside it.

This review sets four findings side by side: comparative surgical outcomes, discharge-against-medical-advice rates, the measured effect of treating the underlying opioid use disorder alongside the endocarditis, and a facility-level survey of what care is actually available to this population in practice.

Material and Methods

This is a narrative review drawing on a systematic review and meta-analysis of surgical outcomes, a nationwide administrative cohort study of discharge patterns, a single-center cohort study of medication-assisted treatment, and a multi-facility survey, identified through the sources cited above and citation tracking between them, without a pre-registered protocol or systematic search string. All percentages, hazard ratios, odds ratios, and p-values reported here are taken directly from the cited sources; none has been invented, estimated, or extrapolated.

Results

Surgery closes the acute problem but not the outcomes gap

A systematic review and meta-analysis pooling surgical outcomes in PWID versus non-PWID patients with infective endocarditis found that PWID carried a 47% greater hazard of death after surgery (HR 1.47, 95% CI 1.05-2.05) [1]. Survival diverged progressively across the follow-up window: 94.3% versus 96.4% at 30 days, 81.0% versus 85.0% at 1 year, 62.1% versus 70.3% at 5 years, and 56.6% versus 63.4% at 10 years, PWID versus non-PWID respectively [1]. Figure 1 plots both survival trajectories together. PWID also faced more than double the hazard of reoperation (HR 2.37, 95% CI 1.25-4.50), in an analysis of 183 PWID versus 986 non-PWID patients [1]. Figure 2 sets this hazard ratio out directly. In other words, the operation itself was not the point of failure -- both groups could be operated on successfully -- but whatever happens after discharge erodes PWID outcomes at a rate the surgical literature alone cannot explain.

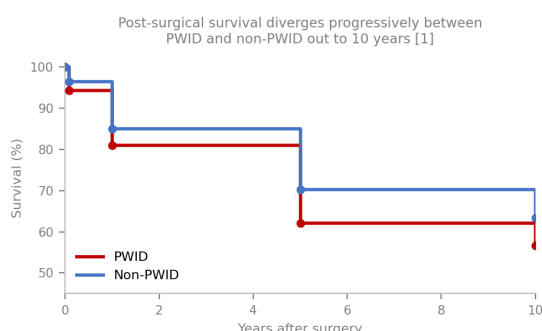


Figure 1: Post-surgical survival at 30 days, 1 year, 5 years and 10 years, PWID versus non-PWID [1].

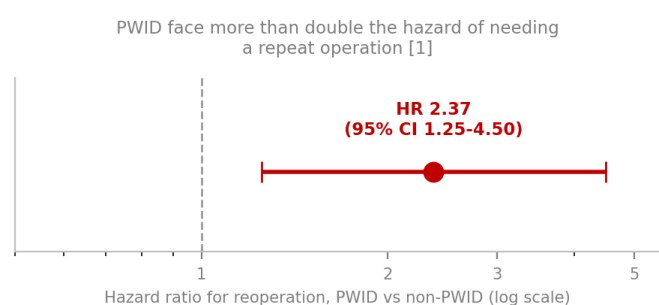


Figure 2: Hazard ratio for reoperation, PWID versus non-PWID [1].

Leaving before treatment is finished is far more common in this population

A nationwide cohort study of over 30,000 hospitalizations found that endocarditis associated with injection drug use carried a discharge-against-medical-advice (AMA) rate of 14.2%, versus 1.9% for endocarditis not associated with injection drug use [2]. Rather than narrowing as awareness of the problem grew, the IDU-IE AMA rate rose from 11.7% to 21.0% over the 2010-2015 study period [2]. Figure 3 sets both the gap and its trend out side by side. AMA discharge is independently associated with higher rehospitalization and mortality, meaning this is not a administrative footnote but a marker of a treatment course that, for a rising share of PWID, is not being completed as intended.

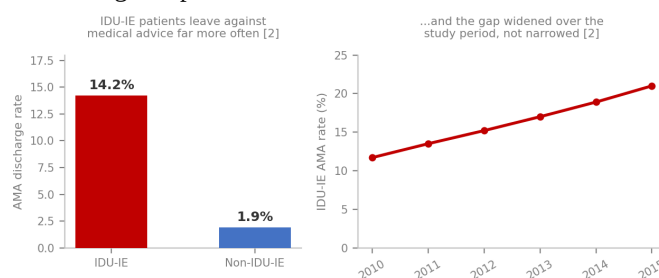


Figure 3: Discharge-against-medical-advice rate, IDU-associated versus non-IDU-associated endocarditis, and the widening trend for IDU-IE over the study period [2].

Treating the addiction alongside the infection changes the outcome

A cohort study of 218 patients with injection-drug-use-associated endocarditis compared those who received medications for opioid use disorder (MOUD, n=169) during admission against those who did not (n=49) [3]. The MOUD group had a lower AMA discharge rate (13.6% vs 32.7%, $p=.002$), a higher antibiotic completion rate (81.1% vs 63.3%, $p=.009$), and lower 30-day mortality (1.2% vs 8.2%, $p=.009$) [3]. Figure 4 sets these three outcomes out together. In an adjusted analysis, MOUD initiation was associated with substantially lower odds of death within 30 days (adjusted OR 0.11, 95% CI 0.01-0.87, $p=.037$), though this association weakened and lost statistical significance by 90 days (adjusted OR 0.61, $p=.43$) [3]. Figure 5 sets both adjusted estimates out together. The early, strong signal and its later fading both matter: MOUD initiation appears to change what happens during the admission itself, but a single in-hospital intervention does not, by itself, sustain that protective effect indefinitely afterward.

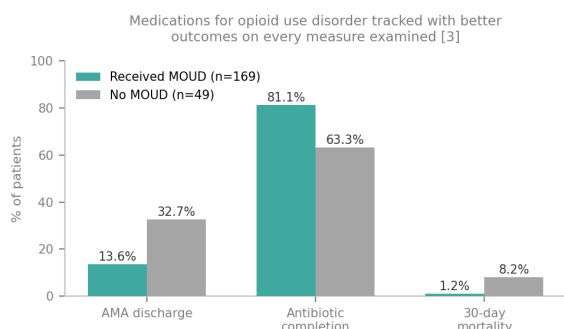


Figure 4: AMA discharge, antibiotic completion and 30-day mortality, patients who received MOUD versus those who did not [3].

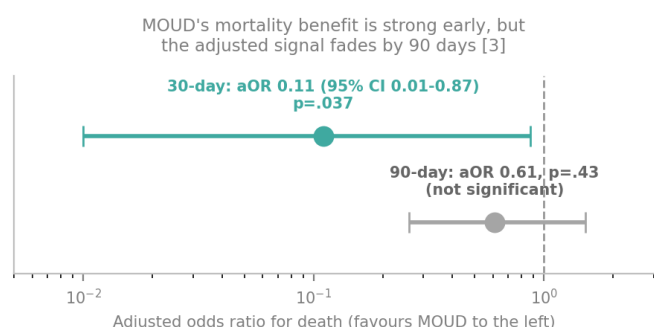


Figure 5: Adjusted odds ratio for death associated with MOUD initiation, 30 days versus 90 days [3].

What is actually available to treat is narrower than what is screened for

A survey of 16 healthcare facilities in Tennessee found that 88% screened patients for substance use disorder on admission, but only 24% offered addiction consultation services or addiction-trained clinicians, and only 44% (7 of 16) performed cardiac surgery for endocarditis at all [4]. Figure 6 sets these three figures out together as a gap. Universal screening, in other words, has outpaced the buildout of the services a positive screen should lead to -- and for a substantial minority of patients, the surgical option this review otherwise discusses in detail is not available at their treating facility to begin with.

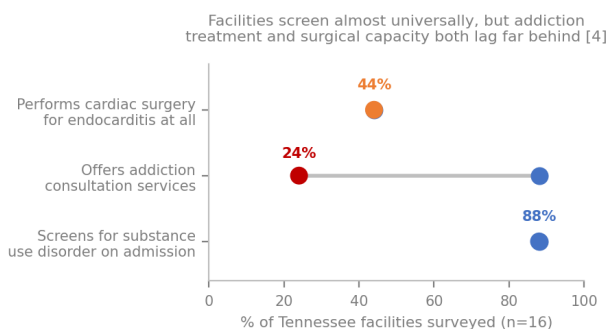


Figure 6: Screening, addiction-consultation availability and surgical capacity, Tennessee facility survey (n=16) [4].

Discussion

Taken together, these four sources argue against treating infective endocarditis in PWID as a purely surgical disease. The valve can be fixed and the patient can still do worse than a non-PWID patient with the identical operation [1], can still leave before treatment is finished at nearly eight times the non-IDU rate [2], and can still die within 30 days at rates that fall by an order of magnitude when the underlying opioid use disorder is treated alongside the infection rather than left to the patient to manage alone after discharge [3]. The facility survey suggests part of why this gap persists is structural rather than clinical: many facilities that screen for the underlying condition do not have the addiction-treatment infrastructure, or in a large minority of cases the cardiac surgical capacity, to act on what the screen finds [4].

None of this argues against surgery when it is indicated. It argues that surgery is necessary but not sufficient, and that the interventions with the largest measured effect on mortality in this specific population were not procedural but pharmacologic and structural: treating the opioid use disorder itself, and building the addiction-medicine and surgical capacity to act on what admission screening already, near-universally, identifies.

Study limitations

This is a narrative review, not a systematic review with a pre-registered protocol, and it draws on four heterogeneous study designs -- a meta-analysis, a nationwide administrative cohort, a single-center cohort, and a facility survey -- whose populations and time periods do not fully overlap. The MOUD cohort study is small (n=218 total, only 49 in the no-MOUD comparison arm) and single-center, so its point estimates, particularly the very wide confidence interval around the 30-day adjusted odds ratio, should be treated as suggestive rather than definitive, and the full author lists for references 3 and 4 could not be independently confirmed beyond their indexed abstracts. The Tennessee facility survey captured facility-level policies rather than individual provider attitudes, so it cannot directly measure stigma as a mechanism, only the service gaps that a stigmatized or under-resourced system of care would be expected to produce. Finally, none of the sources reviewed here reports a randomized comparison of MOUD initiation versus usual care in this population, so the association between MOUD and improved outcomes, however large, remains observational.

Conclusion

Infective endocarditis in people who inject drugs cannot be resolved by surgical technique alone. PWID face a substantially higher hazard of both death and reoperation after surgery than non-PWID patients undergoing the same procedures, and leave hospital against medical advice at nearly eight times the rate of non-drug-use-associated endocarditis. The clearest modifiable lever identified in this review is not a change to surgical technique but treatment of the underlying opioid use disorder during the same admission, paired with the addiction-medicine and surgical infrastructure needed to act on the screening most facilities already perform.

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3. [Authors not independently confirmed beyond the indexed abstract]. "Impact of MOUD Initiation in Patients With Injection Drug Use-Associated Infective Endocarditis". *Open Forum Infect Dis* 13(2026):ofag288.
4. [Authors not independently confirmed beyond the indexed abstract]. "Trends in the Management of Infective Endocarditis for Patients Who Inject Drugs: A Survey of Healthcare Facilities in Tennessee". *Open Forum Infect Dis* 12(2025):ofaf150.

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