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Rethinking Home-Based Outpatient Parenteral Antibiotic Therapy for Persons Who Inject Drugs: An Opportunity for Change in the Time of COVID-19

Raagini Jawa, M.D., M.P.H.[1,2], **Hallie Rozansky, M.D.**[2], **Dylan Clemens, P.A.**[1], **Maura Fagan, M.D.**[1], **Alexander Y. Walley, M.D., M.Sc.**[2]

[1]Section of Infectious Disease, Department of Medicine, Boston Medical Center, Boston, MA USA

[2]Grayken Center for Addiction, Clinical Addiction Research and Education Unit, Section of General Internal Medicine, Department of Medicine, Boston Medical Center, Boston, MA USA

Abstract

Outpatient parenteral antibiotic therapy (OPAT) refers to the monitored provision of intravenous antibiotics for complicated infections outside of a hospital setting, typically in a rehabilitation facility, an infusion center, or the home. Home-based OPAT allows for safe completion of prolonged courses of therapy while decreasing costs to the healthcare system, minimizing the risk of hospital-related infectious exposures for patients, and permitting patients to recover in a familiar environment. Amidst the COVID-19 pandemic, during which nursing facilities have been at the center of many outbreaks of the SARS-CoV-2 virus, completion of antimicrobial therapy in the home is an even more appealing option. Persons who inject drugs (PWID) frequently present with infectious complications of their injection drug use which require long courses of parenteral therapy. However, these individuals are frequently excluded from home-based OPAT on the basis of their addiction history. This commentary describes perceived challenges to establishing home-based OPAT for PWID, discusses ways in which this is discriminatory and unsupported by available data, highlights ways in which the COVID-19 pandemic has accentuated inequities in care, and proposes a multidisciplinary approach championed by Addiction specialists to increasing implementation of OPAT for appropriate patients with substance use disorders.

Keywords

COVID-19; harm reduction; homelessness; social-distancing; substance use disorders; OPAT; endocarditis

As the United States experiences an epidemic of opioid use disorder and injection drug use, people who inject drugs (PWID) are suffering rising rates of invasive bacterial infections requiring prolonged antibiotic therapy. Individuals who are candidates for receiving long-

*Corresponding Author: Raagini Jawa MD MPH, 801 Massachusetts Ave, 2nd floor, Boston, MA 02118, Phone: 603-966-8608, Fax: NA, raagini.jawa@bmc.org.

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term antibiotics outside the hospital, known as outpatient-based parenteral antibiotic therapy (OPAT), are often assigned an Infectious Disease specialist who works with home health agencies, infusion centers and nursing facilities to coordinate care. The most common means of administering OPAT is via home infusion therapy, a well-established, cost-effective, and safe practice, which often excludes PWID solely on the basis of their substance use disorder (SUD) diagnosis. PWID often face discrimination when it comes to arranging for home OPAT; despite having no other acute skilled care needs, these patients may be required to remain in inpatient units or transferred to skilled nursing facilities, to complete their intravenous (IV) antibiotic treatments.[1,2]

Though provision of discriminatory medical care based on a history of SUD is a violation of the Americans with Disabilities Act (ADA), it remains a widespread practice. In 2020, the U.S. Attorney General's Office successfully sued a major operator of skilled nursing facilities in Massachusetts who was denying care to patients on the basis of their OUD. Reasons to exclude PWID from home-based OPAT range from the lack of programmatic support to concerns about misuse of the peripherally inserted central catheter (PICC) (Table 1). However, when centers have included PWID in OPAT programs, the concerns driving these barriers have typically not been realized. One study that included only 15 PWID found increased complications rates (a composite outcome of occlusion, accidental dislodgement, thrombosis, leaking, pain, bleeding, and infection) among PWID compared to non-PWID receiving OPAT.[3] However, in several other studies with more PWID, both antibiotic completion and excess complications rates have been similar or better for those receiving OPAT than those of patients who were kept in hospital or transferred to skilled nursing facilities.[4–6] In a study by Price et al., though three patients (15% of study population) relapsed during their OPAT course, none of them used the PICC line for drug administration, confirmed by examination of the PICC and lack of line complications.[7] Another study demonstrated no significant differences in line manipulation between housed PWID and housed persons who did not inject drugs.[4] For PWID with a safe home environment, being forced to remain in an institutional setting, especially during the COVID pandemic, is likely to increase the risk that they will self-discharge before completing their antibiotic treatment and does not add any appreciable benefit to their care or outcomes.

In response to the current COVID-19 pandemic, OPAT services have been adapted and enhanced by incorporating telemedicine visits and providing antibiotic treatment to patients in their own homes to limit unnecessary exposure and comply with public health recommendations.[8] Similarly, Addiction specialists have adapted to comply with social distancing via increased use of telemedicine, deployment of virtual support meetings, and SAMHSA expansion of take-home medications for MOUD. However, PWID who require OPAT lie at the intersection of both fields, and have not benefited from the same nuanced care delivery and flexibility.

We are concerned because the pandemic has caused interruptions in addiction treatment, heightened socioeconomic stressors, and disrupted access to sterile injection equipment,[9] making PWID increasingly vulnerable to bacterial infections requiring long-term antibiotics. Avoidable, weeks-long placement in a hospital or skilled nursing facility puts PWID at risk to exposure to SARS-CoV-2 infection[10] and other nosocomial infections. People with SUDs

are already at elevated risk of mortality from COVID-19 due to high rates of co-morbid respiratory disease, hypertension, and diabetes.[11]

Now, especially during the pandemic, we have an opportunity to address this care inequity and develop non-discriminatory practices to provide home OPAT for PWID who qualify. We therefore propose that addiction specialists should advocate for equitable medical care for patients who use substances and collaborate with hospital care teams to develop a pre-specified, standardized list of criteria to guide decisions as to when to offer patients home OPAT. Proposed criteria, some of which have been developed and are in use at successful programs,[6,7,12] are included in Table 2.

Given the syndemics of substance use and infectious complications of use, many national societies focused on infectious diseases– including the National Institutes of Health, Infectious Disease Society of America, HIV Medicine Association, and National Academies of Sciences, Engineering, and Medicine – along with experts in these fields, have advocated for a concerted, interdisciplinary Addiction-Infectious Diseases treatment approach.[2,13,14] Similar attention and engagement is needed from the Addiction Medicine community. The COVID-19 pandemic has further exacerbated and highlighted discrepancies in care and has created an urgent need to reconsider current practices. As Addiction specialists, our current public health crisis compels us to advocate for equitable care for some of our most vulnerable patients. Let us harness the momentum COVID has afforded to healthcare delivery systems to combat discriminatory practices and bridge systemic barriers in order to provide equitable, evidence-based home OPAT for PWID.

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TABLE 1:

Previously Cited Barriers to Home-Based OPAT for PWID*

Socioeconomic factors (stable housing, transportation, living with responsible adult who can support infusions)
Risk of misusing PICC line
Lack of tamper-evident mechanism
Willingness of ID physician to follow the patient as an outpatient
Risk of incomplete antibiotic course
Requirement of behavioral contract
Need for mental health or substance use disorder treatment
Lack of data on outcomes for OPAT in PWID
Risk of being sued
Inadequate Medicare coverage for non-homebound patients[15]
Lack of existing models and guidance or research

*Table adapted from Fanucchi et al., 2016

TABLE 2:

Proposed Criteria for Consideration of Home-Based OPAT for PWID

- Optimization of treatment for SUD while hospitalized, as determined by Addiction specialists
- Direct collaboration between Addiction specialists and Infectious Disease specialists to ensure integrated continuity of care for the patient's infection and substance use disorder
- Engagement of a longitudinal care navigator or case manager to facilitate the patient's transition to outpatient care post discharge
- Safe and stable housing, ideally with engagement of live-in and/or local supports who can also help with infusions and social support
- Willingness of patient to engage in close follow-up with Addiction and Infectious Disease teams; this may include video tele-visits to assess integrity of PICC lines and close collaboration with visiting nurse agencies