We Thought We Created a Safety Net. We Were Wrong

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When it comes to delivering healthcare to underserved populations, we can learn a lot from the business world, especially competitive global markets. Many American corporations such as Boeing, Coca-Cola, and Disney have successfully “gone global” by taking aspects of their uniquely American products and adapting them to the distinct culture and needs of an overseas consumer. But others have tried and failed. For example, Walmart has struggled to enter European markets, despite success in Canada, India, and China [1]. Experts blame cultural differences, a lack of local market research, and limited employee and customer engagement [2]. And the hospitality industry is similar; many otherwise successful American hotel chains, such as the Dream Hotel Group, have not been able to cross international borders successfully [3]. The common theme: When industries fail to query and incorporate the specific needs of a foreign audience, they risk launching a misguided product that sits on the shelf.

Like free markets, most of us deliver and consume medical services in health systems where patients have autonomy.

Fortunately, shared decision-making between a patient and provider has replaced the paternalistic doctor model. Increasingly, hospitals and clinics rely on the patient perspective to build patient care facilities and even virtual platforms that are responsive to the health and wellness needs of our communities.

So it may come as a surprise that some patients, up to 30% of hospitalized persons who inject drugs (PWID), leave prematurely before their treatment is complete [4]. Patient directed discharge (PDD), also known as “against medical advice” (AMA), is especially problematic for PWID with severe infections that require medications and procedures only performed in a hospital setting. And beyond infection, PDD is independently associated with death [5, 6]. How is it possible that in 2020, lifesaving care delivered in hospitals across the US can literally bring patients back from death, and yet PWID with severe infections—a young population with unsurpassed morbidity and mortality—prefer to return home, potentially to die?

In this issue of *Clinical Infectious Diseases*, Serota and colleagues describe the burden of injection-related infections on Florida hospitals [7]. The authors illustrate the dangerous trend of stimulants and opioid polysubstance use, which has grown in popularity in Florida and nationally, ushering in a deadly “fourth wave” of the opioid epidemic. With it, hospitalizations of PWID are on the rise, leading to nearly 23,000 admissions to Florida hospitals over a 2-year period (2016–2017).

The authors conclude that polysubstance use with stimulants plus opioids portends a more vulnerable phenotype relative to opioids alone: They are younger, uninsured, and with higher rates of endocarditis (16%). In addition, they are less likely to receive complete care because 1 in 4 left prematurely via PDD, compared to 15% overall. And those with endocarditis, the most lethal injection related infection, also were more likely to leave via PDD relative to other infections, regardless of their drug of choice.

These grim findings highlight a missed opportunity and an ill-informed hospital experience less tenable than the infection itself. When it comes to the hospital care of PWID, we thought we created a safety net; but we were wrong. In fact, most of us never asked.

Hospitals have capitalized on the opportunity to engage with PWID by designing directed services such as interdisciplinary Endocarditis teams and Addiction Medicine—ID co-management teams, to name a few. Many PWID require prolonged hospitalization for complex infections (from 15–38 days) allowing a range of addiction, mental health, and case management interventions [8–10]. Hospital-based models of care have successfully improved length of stay, linkage to medication for opioid use disorder (MOUD), and reduced re-admissions [9, 11]. But one hospital metric has been hard to budge: Reducing PDD / AMA rates. In hindsight, this challenge is predictable because these models beg the

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question: Is the hospital an acceptable environment for persons with substance use disorder, especially when many experience stigma and withdrawal soon after admission [12–15]?

Actually, most US hospitals are in no way created for patient-centered care of PWID [13, 14]. From the time patients enter our Emergency Departments, they are often met by providers and staff with stigma towards substance use and little knowledge in addiction treatment. Because most staff are well versed in infections, antibiotics are frequently started on arrival, yet treatment of substance withdrawal and/or infection-related pain may be delayed for hours or days, if administered at all, unless and until an expert can address substance use. Imagine if we withheld insulin from our patients with diabetes until an endocrinologist could evaluate them? But we don't because treating hyperglycemia is an essential skill taught across specialties, unlike addiction.

In addition to untrained staff, many hospitals still approach substance use as a moral failing rather than a medical condition. Consequently, many PWID do

not receive early and aggressive treatment for illicit drug use or complications [16]. Yet, Addiction Medicine consultation improves not only antibiotic completion and use of MOUD but also reduces re-admissions and PDD [9, 17]. And early initiation of buprenorphine also reduces overdose rates [18]. How different would our care be if we expected all hospitals to provide timely assessment of withdrawal and buprenorphine induction, much like pathologists must complete timely biopsy reports?

When it comes to the most vulnerable group who use stimulants, we must address the elephant in the hospital room: There is no FDA-approved pharmacotherapy for stimulant use disorder. Our notion of the hospital as treatment center developed in recent years around the “Medication First” model, in which MOUD is the cornerstone of OUD care. However, when the substance is not limited to opioids, patients are limited to nonpharmacologic options. As providers, we are then challenged to address cravings, withdrawal, pain, and stigma that force many to leave without treatment.

The findings by Serota and colleagues call for a new model, a Patient First model, regardless of the drug of choice. For those with stimulant use disorder, this may include a peer recovery coach, counseling, and intensive case management, in addition to Addiction Medicine consultation. But we cannot decide for them just like McDonald's cannot offer an American menu to Chinese consumers.

Simply put, hospitals must understand first, and then adapt to the unique needs of PWID if we want to treat our most difficult-to-retain patients.

In the business world, a “customer centric” model has been shown to more successfully engage customers. This model emphasizes customer-focused leadership, understanding the customer, designing the experience, empowering the front lines, and measuring the right metrics before gathering feedback that drives continuous improvement [19].

These same principles, when applied to patient care, can help us engage and serve hard-to-reach populations (Figure 1). Similar to the corporate world, we must identify patient-centered leadership such as physician, nurse, and pharmacy

Figure 1. Patient centricity model for the care of persons with substance use disorders (adapted from the customer centricity model).

champions committed to improve outcomes in PWID. We must engage our patients, do our own market research and design a hospital experience that facilitates safe, evidence-based care. To create a culture of support, we must educate frontline workers on stigma and substance use, and empower them as essential members of the treatment team. We can no longer rely on traditional metrics, but we have to measure what matters for PWID. PDD, addiction consultation, and MOUD use are all salient addiction outcomes and also key variables in predicting infection control (e.g, antibiotic completion, re-admissions). Finally, we must iteratively assess these metrics in order to foster continuous improvement and create a culture that promotes healing.

We have much to learn from Coca-Cola to help our patients with coke, opioid, stimulant, and other substance use disorders.

Notes

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References

1. Corstjens M. Retail doesn't cross borders: here's why and what to do about it. 2012. Available at: <https://hbr.org/2012/04/retail-doesnt-cross-borders-heres-why-and-what-to-do-about-it>. Accessed 8 August 2020.
2. Commisceo Global. International retail and cross cultural issues. Available at: <https://commisceo-global.com/blog/international-retail-and-cross-cultural-issues#C1>. Accessed 8 August 2020.
3. Hamdi R. Why did U.S.-based dream hotels drop its Asia expansion? Available at: <https://skift.com/2019/12/23/why-did-u-s-based-dream-hotels-drop-its-asia-expansion/>. Accessed 8 August 2020.
4. Ti L, Li L. Leaving the hospital against medical advice among people who use illicit drugs: a systematic review. *Am J Public Health* 2015; 105:e53–9.
5. Choi M, Kim H, Qian H, Palepu A. Readmission rates of patients discharged against medical advice: a matched cohort study. *PLoS One* 2011; 6:e24459.
6. Yong TY, Fok JS, Hakendorf P, Ben-Tovim D, Thompson CH, Li JY. Characteristics and outcomes of discharges against medical advice among hospitalised patients. *Intern Med J* 2013; 43:798–802.
7. Serota D, Bartholomew T, Tookes H. Evaluating differences in opioid and stimulant use-associated infectious disease hospitalizations in Florida, 2016–2017. *Clin Infect Dis* 2020.
8. Monteiro J, Phillips KT, Herman DS, et al. Self-treatment of skin infections by people who inject drugs. *Drug Alcohol Depend* 2020; 206:107695.
9. Marks LR, Munigala S, Warren DK, Liang SY, Schwarz ES, Durkin MJ. Addiction medicine consultations reduce readmission rates for patients with serious infections from opioid use disorder. *Clin Infect Dis* 2019; 68:1935–7.

10. Fanucchi LC, Lofwall MR, Nuzzo PA, Walsh SL. In-hospital illicit drug use, substance use disorders, and acceptance of residential treatment in a prospective pilot needs assessment of hospitalized adults with severe infections from injecting drugs. *J Subst Abuse Treat* 2018; 92:64–9.
11. Eaton EF, Mathews, RE, Lane, PS, et al. A 9-point risk assessment for patients who inject drugs and require intravenous antibiotics: focusing inpatient resources on patients at greatest risk of ongoing drug use. *Clin Inf Dis* 2019; 68:1041–3.
12. Eaton EF, Westfall AO, McCleskey B, et al. In-hospital illicit drug use and patient-directed discharge: barriers to care for patients with injection-related infections. *Open Forum Infect Dis* 2020; 7:ofaa074.
13. McNeil R, Small W, Wood E, Kerr T. Hospitals as a “risk environment”: an ethno-epidemiological study of voluntary and involuntary discharge from hospital against medical advice among people who inject drugs. *Soc Sci Med* 2014; 105:59–66.
14. Simon R, Snow R, Wakeman S. Understanding why patients with substance use disorders leave the hospital against medical advice: a qualitative study. *Substance Abuse* 2019; 1–7. Available at: <https://doi.org/10.1080/08897077.2019.1671942>.
15. Muncan B, Walters SM, Ezell J, Ompad DC. “They look at us like junkies”: influences of drug use stigma on the healthcare engagement of people who inject drugs in New York City. *Harm Reduct J* 2020; 17:53.
16. Wakeman SE, Rich JD. Barriers to medications for addiction treatment: how stigma kills. *Subst Use Misuse* 2018; 53:330–3.
17. Wakeman SE, Metlay JP, Chang Y, Herman GE, Rigotti NA. Inpatient addiction consultation for hospitalized patients increases post-discharge abstinence and reduces addiction severity. *J Gen Intern Med* 2017; 32:909–16.
18. Barocas JA, Morgan JR, Wang J, McLoone D, Wurcel A, Stein MD. Outcomes associated with medications for opioid use disorder among persons hospitalized for infective endocarditis. *Clin Infect Dis* 2020; ciaa062. Available at: <https://doi.org/10.1093/cid/ciaa062>.
19. Hughes C. Customer-centricity: embedding it into your organisation's DNA. 2020. Available at: https://www2.deloitte.com/content/dam/Deloitte/ie/Documents/Strategy/2014_customer_centricity_deloitte_ireland.pdf. Accessed 12 August 2020.