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Transposing the Adverse Social Dynamics of Adolescent Substance Use Disorders Into More Effective Treatment and Clinician Resilience

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ABSTRACT

As the American opioid epidemic continues to spiral out of control and our medical model remains unable to reverse the staggering trends, this article seeks to broaden clinician understanding of adolescents with substance use disorders by discussing adverse causative social–psychological dynamics: the marginalization of today's youth, decline of institutions of community and faith, and the burden of childhood trauma. The article then offers a holistic, multilevel model of substance use disorder treatment that recognizes and remediates these adverse dynamics in order to improve treatment outcomes and enhance clinician resilience.

KEYWORDS

Adolescents; opioids; social dynamics; recovery capital; adverse childhood experiences; holistic treatment; clinician resilience

Health care professionals are looking for guidance on how to more effectively treat adolescents with substance use disorders in ways that enhance their own resilience. As part of our ongoing work, the first two authors delivered a Hospital Grand Rounds and facilitated a community dialogue at the University of Cincinnati Children's Hospital in April 2017. The purpose was to develop an interprofessional community dialogue with health providers and family members of young people struggling with substance use, particularly involving opioids. The opioid problem is especially severe in Cincinnati's Hamilton County, where the numbers of overdose deaths tend to be among the highest in Ohio. Cincinnati, as part of the Ohio River Valley region, is located at the epicenter of our national opioid overdose crisis

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(Dwyer-Lindgren et al., 2018; Quinones, 2016). The sense of despair is widespread, but there are many opportunities for constructive engagement.

Drawing on our previous experience, as well as our empirical research on adolescent recovery (Lee et al., 2017; Post, 1992), the authors advanced the following objectives at the Cincinnati dialogue, which are further developed in this article:

(1) To offer a comprehensive perspective on the modern cultural, familial, social, and spiritual conditions giving rise to an epidemic of substance use disorders in adolescents.
(2) To discuss perspectives on how professionals, families, and communities can be helped in coping with the losses this epidemic imposes and to consider the opportunities that exist for posttraumatic growth through generative, compassionate actions.
(3) To suggest plausible models of prevention and intervention for adolescents based on the most current research and the grass-roots wisdom of affected families and professionals.

It was clear that the group was interested in a model of treatment that would take into account the sociological underpinnings of the opioid epidemic in youth and generate suggestions for reversing these dynamics. This conversation was consistent with others that have expressed interest in developing an inventory of the ways in which health care professionals might interact with the wider community in order to facilitate such an approach and thereby encourage hope for the future.

After the Cincinnati dialogue, a group of senior scholars across disciplines, as well as emerging leaders among medical school students, convened to respond to the request for an integrated, sociologically informed model of care. Building on ongoing interprofessional conversations about these issues, this article has two goals: (1) to explain the adverse multilevel dynamics that underlie adolescent opioid misuse; and (2) to offer a holistic treatment model that takes these multilevel dynamics into account, in the service of improving clinical outcomes and clinician resilience. With an estimated 75,000 deaths due to synthetic opioids like fentanyl and from heroin in 2018, how can front-line clinicians sustain hope and well-being, especially when emotionally distressed by adolescent deaths daily (Buchman & Ho, 2014)?

Adverse social dynamics affecting adolescents

Dynamic 1: the decline of meaning and community and the rise of edgework

Medical studies of opioid use disorders tend to fixate on individuals: their demographics, comorbidities, history of substance use disorders (SUDs), and associated forms of delinquency. These aspects are important, but clinicians who are feeling helpless before the adolescent opioid epidemic can benefit from understanding the macrolevel social dynamics of the crisis. Today's youth are witness to the demise of the grand narratives that once gave life a sense of coherence, meaning, and purpose. Social trends have left adolescents culturally adrift: the decline of institutional legitimacy and concurrent glorification of oppositional subcultures; the breakdown of social bonds between individual and community, resulting in fragmented social identity; and a proliferation of consumerism and technology that has corroded the sense of community. As youth isolate themselves and retreat into private (and often virtual) worlds, they grow alienated from others, leading to a paucity of the rich relationships that earlier generations enjoyed (Hari, 2018; Johnson, Pagano, Lee, & Post, 2018; Putnam, 2000; Quinones, 2016; Smith, 2017).

Although disadvantaged groups may feel liberated by aspects of the cultural upheaval of recent decades, the darker side of this social progression has flooded emergency rooms with disaffected youths both materially privileged yet marginalized. In the 1960s, 86% of college freshmen stated that "developing a meaningful life philosophy" was a top priority; today, that same motivation is now at 40%, replaced by "being well off financially" (Smith, 2017, p. 6). The American Freshman survey has shown that many of today's most educated youths have deemphasized the search for meaning: Only 20% of today's youth have a "fully developed, pro-social purpose that they were actively working toward," with even more (25%) "disengaged, expressing virtually no purpose" (Smith, 2017, p. 78). In other words, eight out of 10 young people today lack the cornerstone of purpose, leaving them susceptible to substance use disorders.

As Jung (1933, p. 225) suggested, "A psychoneurosis must be understood as the suffering of a human being who has not discovered what life means … and it is only the meaningful that sets us free." Meaning is derived from a deep feeling of belonging, the ability to tell a coherent and satisfying life story as part of a larger narrative, and an overarching sense that one has a purpose that is helpful to others (Post, 2017; Smith, 2017). Such larger narratives have weakened under a regime of deconstruction. In Lyotard's (1979/1984, p. xxiv) famous words, the ascendant postmodern worldview exhibits an "incredulity toward all meta-narratives" (see also Anderson, 1990, p. 3). This perspective erodes the legitimacy of the societal institutions that

have historically provided meaning and order, including structures of law, government, education, and organized religion (Glanzer, Hill, & Johnson, 2017). Previous eras derived a common sense of identity and purpose from a single source of authority (e.g., elders in a tribe, shared religious beliefs), which the postmodern era has compromised. The withering of these socially unifying narratives—and the underlying faith in science, social progress, or religion that they express—represents an absence of bedrock truth. This void promotes existential despair, a macrolevel dynamic perhaps not immediately apparent in cases of opioid overdoses and other "deaths of despair" (Case & Deaton, 2017; Dwyer-Lindgren et al., 2018).

As these shared sources of authority have crumbled, community-oriented behavior has simultaneously diminished. Reductions in local civic engagement reflect a powerful shift in our cultural priorities: "Without at first noticing, we have been pulled apart from one another and our communities over the last third of the [20th] century" (Putnam, 2000, p. 27). Weakened community relations adversely affect our existential well-being, particularly as the concurrent drop in participation with voluntary organizations suggests that the sense of meaning derived from such activities has also diminished. Putnam (2000, p. 61) noted that "local clubs and organizations of all sorts fell by more than half in the last several decades of the twentieth century." At the same time, young people have been plagued by increased rates of child abuse and violence, as well as decreased levels of religious activity, social connectedness, and volunteerism (Johnson et al., 2018; Pagano, Wang, Rowles, Lee, & Johnson, 2015).

The cumulative effect of these developments is best captured by the sociologist Emile Durkheim's (1951) classic term *anomie*: a breakdown in social bonds and moral values that leaves people in despair and without direction. A "malady of infiniteness" ensues, in which the unbridled freedom from social constraint might seem desirable, but it produces "pessimism," a lack of deep purpose, and despair (Durkheim, 2002, p. 43). Too much choice in an "info-glut culture" can lead to numbness (Gerber, 2014, p. 64). People may also be surrounded by others, including many social media "friends," but still feel lonely because they do not really matter to each other and feel unmoored from society. Overcoming this loneliness requires that a person "share something with the other person, or the group, that is meaningful to *both* of you" (Hari, 2018, p. 83). Without this, meaning withers and self-harm flourishes (Smith, 2017); isolated youth turn away from pro-social, community-oriented behaviors and fill the void with drugs.

Our context is perhaps best revealed by research on the upside of natural disasters, which paradoxically help us overcome the "social disaster" (Solnit, 2009, p. 3) of modern life. Decades of empirical study confirm that although people are often disconnected and alienated from each other, frequently along social class, race/ethnic, age, and gender lines, during many

catastrophic natural disasters they have pulled together and these demographic differences become secondary to more fundamental concerns. When people truly need each other, the malady of the infinite gives way to a single, focused goal: survival. Despite death and deprivation, this natural "hell" is transformed into a social "paradise of unbroken solidarities" (Solnit, 2009, p. 3) that releases altruism, connectedness, and a strong sense of purpose. When the natural disaster ends, some people are "reluctant to leave" (Solnit, 2009, p. 4) because they do not want to return to the social disaster of normal (anomic) human relations. This same dynamic helps explain why materialistically successful countries with the highest rates of "happiness" and personal security also have the highest rates of suicide and have more generally "made despair a reality," in contrast with comparatively impoverished countries where "sacred canopies and existential urgency almost guarantee a meaningful life" (Froese, 2016, pp. 46, 54; Smith, 2017). In the struggle to survive, connections to both vertical (higher power) and horizontal (other people) "significant others" are quite strong and a sense of purpose prevails. Similarly deep social solidarity and unity of purpose exist among soldiers in combat situations, which helps account for why people paradoxically look back on natural disasters, war, and other situations of extreme deprivation and existential threat with fondness and even longing (Junger, 2011). A peculiar social practice has arisen to create such conditions in the safe and "liberated," but relatively lonely and meaningless, social contexts that prevail in many Western, industrialized societies.

The rise of edgework

In a world stripped of meaning and purpose, one sees the rise of *edgework*: that is, activities that involve a "clearly observable threat to one's physical or mental well-being or one's sense of an ordered existence" but are nevertheless self-selected by an individual as a means of self-transcendence (Lyng, 1990, p. 857). The corrosion of meaning and the unraveling of grand narratives have become fused with the expectation that it is the individual's responsibility to create a sincere sense of purpose. In this context, if youths feel that their lives are routinized, hypercontrolled by others, and ultimately meaningless because of the "dehumanizing" (Lyng, 1990, p. 868) processes described in the preceding, edgework offers a chance at significance, euphoria, and a sense of personal control at a deeply meaningful level. Pushing the boundaries of what the human body can endure without debilitating injury or death becomes a sensible solution to what seem like intractable problems and is often experienced as intensely pleasurable. Although these activities may initially seem unconnected, ultra-marathoners (who often run 100 or more miles), free climbers (who climb to high altitudes without safety ropes), and drug users are all engaging in edgework in the sense of "negotiating the boundary between life and death" (Lyng, 1990, p. 855). Controversially, there are some who

interpret certain aspects of the culture of anorexia nervosa through the lens of edgework, particularly the "euphoria" experienced during bouts of starvation, which is described by those who experience it as "addictive," as well as the sense of control they attempt to regain over what they describe as "chaotic lives" (Gailey, 2009, pp. 98, 104).

By attempting to push the boundaries of what the human body can endure without debilitating consequence, adolescents have found a "sensible" solution to what seem to be intractable social problems. But as the saying goes: If you keep pushing the edge, eventually you will find it—in the form of youthful overdose and accidental deaths. In a sense, adolescents are not facing a completely new problem, although the forces shaping it have dramatically expanded. Nietzsche, commenting on the assault on the young that he found in his own time (the late 19th century) that resulted from a "massive influx" of "surprising, barbaric, and violent" images, suggested that the "youthful soul can save itself only by taking recourse in premeditated stupidity" (quoted in Gerber, 2014, p. 63). This stupidity can take the form of numbness, and indeed the assault of images presented to youths on smartphones and computer screens today far surpasses what Nietzsche could have imagined being available in his day, or the attempt to escape this "anesthetized" (Gerber, 2014, p. 63) state through the transcendent excitement of edgework. When placed in this anomic context, it is understandable that, in Reith's words (2005, pp. 204, 242), "the quest for heroin is the quest for a meaningful life" and drug use, like all other forms of edgework, becomes an attempt to facilitate the "realization of the self and the pursuit of authenticity." Dangerous forms of edgework (such as substance misuse) that promise transcendence may be especially alluring for adolescents who have come of age in the current social context, particularly for those who have had significant experiences of disconnection, normlessness, loneliness, lack of purpose, anxiety, and depression (Johnson et al., 2018; Pagano et al., 2015).

Disengagement from communities of service and spirituality

Although millions of American youth still participate in programs designed to build character and promote positive youth development (e.g., YMCA, Big Brothers/Big Sisters, Girl Scouts, and Boy Scouts), the number participating continues to shrink (Jang, Johnson, & Kim, 2012). This decline in youth engagement is part of the confluence of adverse trends including an increase in social isolation, narcissism, egocentric thinking, and substance use disorders (Carter, Johnson, Exline, Post, & Pagano, 2012; Johnson et al., 2018). Adolescents have also experienced a corresponding decrease in religious attendance, participation in youth groups, and other religious practices outside the home (Lee, Veta, Johnson, & Pagano, 2014). In the context of edgework, waning youth participation in religious and community organizations is particularly tragic, since a growing body of evidence indicates that

such participation has a beneficial impact on development and enhances social capital (Champine et al., 2016; Putnam & Feldstein, 2004). A brief review of studies of youth reveals what is at stake.

Data from the National Longitudinal Study of Adolescent Health suggest that religiousness prevents the initiation of marijuana use, which may explain the reduced rates of substance use disorders in populations of committed religious orientation (Ulmer, Desmond, Jang, & Johnson, 2012). In light of declining social capital and the loss of purpose and meaning, religious affiliation seems to provide its congregations the same sense of significance, euphoria, and control that drug users are pursuing through substance use. Reduced drug use rates of Black youths compared to White youths could partially be explained by differences in extent of religious involvement (Jang & Johnson, 2010). Adolescents who decrease their religious engagement become more likely to initiate marijuana use, and to persistently use marijuana, than adolescents who are stable in their religious involvement (Ulmer et al., 2012). Furthermore, Miller (2015) finds that children who have a positive, active relationship to spirituality are 40% less likely to use and misuse substances, 60% less likely to be depressed as teenagers, and 80% less likely to have dangerous or unprotected sex (see also Lee et al. [2017] on the development of spiritual virtue among youths in recovery). Although the presence of spiritual and religious influences can provide meaning and order to a life, their absence leaves an individual vulnerable to destructive social influences and drugs.

Dynamic 2: the lifelong burden of adverse childhood experiences (ACEs)

While childhood experiences have a lifelong impact on health and quality of life, adverse childhood experiences (ACEs) in particular have been found to be a major determinant of future mortality. The research on ACEs describes how various types of abuse, neglect, and trauma relate to reduced health and well-being later in life. In a study that examined more than 17,000 people who participated in a medical evaluation and completed surveys about their childhood experiences, current health status, and behaviors, ACEs were found to have an unequivocal impact on public health (Felitti et al., 1998). More than half of the individuals who responded to the survey reported at least one early traumatic experience, with more trauma corresponding to greater risks of destructive behavior and illicit substance use, psychological issues, and reduced life expectancy.

The same quantitative relationship was found between the number of ACEs reported on the survey and the number of negative health outcomes experienced in later life, including heart disease, cancer, and skeletal fractures. Some of the more salient outcomes and risk behaviors included depression, suicide attempts, alcoholism, and drug use (Campbell, Walker, & Egede, 2016), with those reporting four or more types of childhood exposure possessing a 4- to 12-fold increase in these same health risks (Felitti et al., 1998). Further, a recent meta-

analysis investigating ACEs and their impact on health found that, when compared against populations reporting no ACEs, the highest odds ratios for individuals with four or more ACEs were for depression, sexually transmitted diseases (STDs), problematic alcohol use, problematic drug use, violence victimization, violence perpetration, and suicide (Hughes, Lowey, Quigg, & Bellis, 2016). If early childhood experiences affect later health outcomes, then implementation of prevention (and treatment) programs for at-risk children and families must be a high priority for policymakers. These findings also highlight the importance of resiliency (e.g., the brain's plasticity and the body's ability to heal), which can be promoted by incorporating trauma-informed care into health systems (Leitch, 2017).

ACEs and substance use treatment

Felitti et al. (1998) published groundbreaking research on childhood abuse, neglect, and household dysfunction in relation to illicit drug use drawing on data from the Adverse Childhood Experiences Study, in which they redefined the conceptualization of substance use disorders by relating these problems to ACE categories (see also Dube et al., 2003). The research on the associations between childhood adversity and such disorders corroborates the findings from the initial ACEs study: Individuals with childhood trauma suffer from more chronic pain and may be more likely to become psychologically dependent on prescription drugs, leading to misuse. Further, individuals who experienced five or more traumatic events are three times more likely to misuse prescription pain medications and other illicit drugs. The realization that approximately two-thirds of people with substance use disorders (Dube et al., 2003) suffer ACEs should temper the tendency to judge and label these patients as "difficult."

A model of care that counters adverse social dynamics to improve adolescent outcomes and clinician resilience

How then can this information on social dynamics be used to develop treatment models that serve patients and families more effectively, and to enhance clinician efficacy and well-being? By offering several innovations in response to these questions, clinicians may be provided with realistic hope and resilience in the face of a virtual tidal wave. Because the diverse sources of the problem—including the macrolevel void of meaning, the mesolevel decline of local community institutions, and the microlevel experience of ACEs—operate at multiple levels, including the individual, family, community, and broader society, a holistic, multilevel model guides the discussion that follows. This approach represents an understanding of "recovery capital" that is enriched by attention to these dynamics. This incorporates the sum of personal, social, and community resources that enable an individual to initiate and maintain recovery, as well as how these factors may influence

and even predict wellbeing (Best, Irving, Collinson, Andersson, & Edwards, 2017; Best & Laudet, 2010; Cano, Best, Edwards, & Lehman, 2017). This stands in stark contrast to the dominant substance use disorder care method and recognizes that these forms of capital are likely to be depleted in relevant populations.

As a starting point, physicians might profitably employ the technique of social identity mapping to encourage adolescent patients to physically and visually map the size and supportiveness of their social networks, and to examine how consistent these relationships are with their recovery pathway (Best et al., 2017). Not only can this practice offer a snapshot of the deleterious and beneficial influences in an individual's life, but it may also provide additional opportunities to assertively connect patients to the resources that offer them the greatest potential benefit. By supplementing this tactic with a second technique, asset-based community development, health care professionals can assist their patients in locating people and organizations that are conducive to sustained recovery. Establishing social networks that promote wellness and engagement with the community can help patients to find meaningful relationships and identities that are protective (Bliuc, Best, Iqbal, & Upton, 2017).

In broadening the dialogue on recovery to reconsider identity and connectedness, the recovery capital model highlights how SUDs are not simply psychiatric in nature; they also include societal and community elements. The relationship between these variables can help physicians to empower their patients and achieve better health outcomes (Best et al., 2017). Significantly, recovery capital has been found to increase with duration of treatment, as individuals find new meaningful activities and address unmet needs (Bliuc et al., 2017; Cano et al., 2017). By individually assessing patients using this framework, clinicians can monitor the progress of treatment and customize therapies that have greater probabilities of success.

Innovation 1: facilitate patient volunteering

The first innovation is directed to the individual patient. To enhance the efficacy of their opioid treatment plans, hospitals should consider starting a Narcotics Anonymous (NA) chapter on-site, while also making referrals to organized volunteerism more broadly (Post, 2017). Inspired by the insights of Carl Jung, Alcoholics Anonymous (AA) recognized (in the 1930s) both the spiritual void that fostered substance misuse and the spiritual virtues that might combat it. The essence of the 12-Step approach is "love and service," realized through a spiritual awakening connected to benevolent outreach to others (Lee et al., 2017). Empirical research has strongly supported the perspective that such approaches can nurture spiritual health and promote

sobriety during recovery (Lee et al., 2017, 2014). Other studies have linked spiritual experiences with prosocial helping, which is at the heart of AA's 12th Step (Lee et al., 2014).

This altruism appears especially beneficial for individuals who have experienced a loss of meaning or identity, leading Post (2017) to suggest prescribing volunteerism at sustainable levels (roughly 2 hours per week). The good news for the opioid crisis is that NA makes this fundamentally spiritual process available to fellow sufferers without financial cost, and even the most "defiant" youths with substance issues, who may present as especially difficult to treat when they are encountered by clinicians, turn out to be highly motivated to change their behavior and engage in love and service (Lee et al., 2017). Like AA, NA is a spiritual program that aims at enhancing the vertical connection to a higher power (as defined by the individual, including, for nontheists, the "Good Orderly Discipline" of the 12 Steps, or "G.O.D."), as well as horizontal connections to others. This restoration of connection is meaningful and leads to a clarified sense of life purpose: helping and connecting more profoundly with fellow sufferers, perhaps even following the will of one's higher power out of self-centeredness and into a broader concern with the welfare of others. This is a crucial transformation in an era when the grand narratives that once provided meaning and purpose have much less force for adolescents and loneliness and anxiety among them are pervasive (Johnson et al., 2018; Pagano et al., 2015). As one *AA Grapevine* (2003) guidebook to "spiritual awakening" explains metaphorically, the old sailor does not know what the wind is, but he can raise a sail to harness its power. Similarly, the youth who starts on the 12-Step path may not know much about a higher power, but can tap into a positive, healing energy just like the old sailor.

Participation in altruism, especially as part of a broader path of spiritual awakening, can help restore some of the enchantment and wonder that make life so meaningful for much of the world's population, but that has been missing for many youths dealing with substance use disorders. It reverses the classic dynamic that writers like Friedrich Schiller and Max Weber termed the "disenchantment of the world" (Gerth & Mills, 1946, p. 51). More generally, truly helping a fellow sufferer is itself a deeply meaningful experience because it fosters a particularly strong type of social connection, signified by the Japanese word *kizuna*, which captures the enduring bonds that are "formed when people go through difficult times and overcome hardships together" (Inoue, 2015, p. 112). Adolescents have few structured opportunities to develop such deep bonds, but 12-Step helping offers a great deal of social support for this practice, which is especially important in light of the epidemic of youthful social anxiety (Pagano et al., 2015). Many of the harmful dynamics

identified in the first section of this article can be countered by involvement in prosocial acts of kindness and compassion. NA is freely available at a time when therapeutic programming for youths is in short supply in light of growing demand. It places youths in the active role of helping others. Recent research suggests that for adolescents in recovery, it is indeed better for them to give than to receive (Johnson et al., 2018).

Innovation 2: use trauma-responsive approaches, motivational enhancement, and cognitive-behavioral therapy

In the context of clinical care, ACE scores offer significant insight into a person's health status and ability to cope with life (Stevens, 2017). This approach acknowledges the important implications of childhood experiences and integrates ACE assessments into opioid treatment practice. It also helps to build rapport and empathy with patients by promoting understanding of how their early experience impacts their current health status. From this perspective, SUDs may be recognized as "ritualized compulsive comfort-seeking," with one ACE study demonstrating that 1,100 of 1,200 patients with such disorders have had at least three exposures to trauma, further supporting the view that SUDs are a response to childhood traumatic stress and adversity (Stevens, 2017). Childhood adversity and poor health are among many factors resulting in cumulative disadvantage and high mortality (Case & Deaton, 2017), so treatment approaches that are trauma responsive are essential.

Recovery-oriented systems of care can be understood as including several elements, such as longitudinal involvement, integration of medical services, and inclusion of families and peer support networks (Sheedy & Whitter, 2009). Interventions that have been found to be effective include (a) cognitive-behavioral therapy (CBT), which can help those with SUDs to recognize stimuli that trigger cravings, and to develop alternate strategies to deal with intrusive thoughts; (b) motivational enhancement therapy (MET), an adaptation of motivational interviewing; and (3) 12-Step programs, which help to develop social networks that support recovery and provide support with high-stress situations that can result in relapse (Ball et al., 2007; Johnson et al., 2018; Sheedy & Whitter, 2009).

Innovation 3: enhance meaning and motivation for clinicians and patients

Many of today's traumatized and alienated adolescents are attempting to fill an existential and communal void with substance misuse. Therefore, it is helpful to build meaning and purpose in adolescents. Although educational attainment might otherwise tend to mitigate the factors that cause SUDs, it is also evident that a college education is often corrosive to the grand narratives

that traditionally gave life meaning and students a sense of purpose (Glanzer et al., 2017). Despite this situation, health care workers with the appropriate skill set can help youths reconnect with motivation, purpose, and meaning.

A highly useful technique to enhance meaning during the course of treatment is motivational interviewing (MI) (Miller & Rollnick, 2013). MI is an individual-centered approach that helps to strengthen motivation and commitment by using acceptance and compassion (known as MI Spirit) to elicit and explore reasons for change and ambivalence. It involves four processes: *engaging* (establishing a collaborative partnership with clients struggling with drug and alcohol issues), *focusing* (maintaining a specific direction in the conversation about change), *evoking* (eliciting the client's own motivations for change), and *planning* (committing to change and formulating a plan of action; Miller & Rollnick, 2013). There is ample evidence for using MI to increase motivation and adherence to other interventions (e.g., CBT), and as an intervention for many behavioral health problems (including substance misuse). A systematic review and meta-analysis revealed that in 80% of studies, psychologists and physicians reported positive clinical outcomes when using MI (Rubak, Sandbaek, Lauritzen, & Christensen, 2005); a second meta-analysis supported these findings in cases targeting substance use, health-related behaviors, and treatment engagement (Lundahl, Kunz, Brownell, Tollefson, & Burke, 2010); and a third meta-analysis reported improvement in substance use outcomes in 67% of studies involving young people (Barnett, Sussman, Smith, Rohrbach, & Spruijt-Metz, 2012).

A group-level intervention that broadens the search for meaning and motivation to include clinicians is the utilization of interprofessional clinician reflection groups, particularly in general medical centers. This may strengthen the compassion practices of the clinical team, such as help offering, celebrating, and collective decision making (Lilius, Worline, Dutton, Kanov, & Maitlis, 2011; Nolan, Diefendorff, Erickson, & Lee, 2019). This is especially important for health care workers who deal with adolescents, given that the experience of secondary trauma can be particularly high when it is young lives that are cut short by overdoses. In dealing with themes of hope, empathy, meaning, and respect in providing care, reflection groups have been demonstrated as highly effective in promoting clinician well-being, enhancing meaning, and preventing burnout (West et al., 2014). Longitudinal data have even shown these effects lasting at least 12 months post intervention (Shanafelt, Bradley, Wipf, & Back, 2002; West et al., 2014). Reflective groups allow for processing of the emotionally salient aspects of clinical practice and for relationship building (Brock & Stock, 1989; Lown & Manning, 2010). They are common in substance use treatment centers, but less so in general medical settings that also encounter these issues.

Innovation 4: local community dialogues to combat the crisis

Although the adolescent SUD crisis has threatened to overwhelm the resilience capacities of clinical professionals, they can gain a sense of efficacy by contributing to broader sociocultural solutions by promoting social activism in health care systems and the community at large. Such efforts shift the focus from the clinical team to the broader interorganizational network. The process of implementing social change at this level offers many possible roles in which treatment providers can offer their strengths and expertise (Anderson, 2012, p. 191), improving treatment outcomes through community partnership and ameliorating any perceived sense of helplessness toward the epidemic. By connecting health care providers with others in the local community, a heightened sense of agency and effectiveness may develop, while the tragic circumstances surrounding the epidemic may loosen the insularity of group boundaries and unexpectedly lead to the development of new relationships. Through enabling community members to cultivate local solutions to shared issues, professionals can serve as catalysts for such discussions of how to rebuild the community and foster grass-roots activism (Stringer, 1996, p. 23).

Community dialogues on how to combat this crisis should involve interorganizational networks of health care professionals, voluntary associations, schools, and faith communities. Both clinicians and health administrators can help to enhance a sense of agency, deepen connectivity with social entrepreneurs offering new perspectives and solutions, and encourage the development of an optimistic vision of social change. The burden of the epidemic is not on clinicians alone; rather, such a "top-down" model must be avoided in favor of a grass-roots approach, by "building the capacity of community residents to define their own issues, gather the resources to address those issues, and go to work solving them" (Stoecker, 2013, p. 49). Resources for early prevention, screening, and education programs (e.g., Screening, Brief Intervention and Referral to Treatment; the Good Behavior Game; and the Strengthening Families Program: For Parents and Youth 10–14; Frakt, 2017) could help to empower local communities to develop more effective approaches to the problem. These methods improve parenting skills on how to prevent potential substance misuse by children and to identify and deter potential opioid misuse while they are still young. Clinicians could play a leadership role in such local community dialogues.

Innovation 5: the treatment center as a site for education on prescription practices

Treatment specialists can become advocates for protective prescriptive practices and take on an educational and leadership role across health care

systems and beyond the local community. Through engaging in advocacy and education at the societal level, the clinical site could serve to bring clinicians of various specialties together to present and discuss their approaches to pain management that minimize SUDs with one another and in dialogue with the broader community of concerned citizens and patients. Such efforts involve participants from beyond the local community and the clinician's interorganizational network, to include national thought leaders and change agents.

Physicians should know that the practice of prescribing unnecessarily large quantities of opioids, especially for acute pain management (i.e., post-surgery), may needlessly subject patients and other members of the household to the potential for misuse of these drugs. For instance, providing 2 months of opioids for what should normally be a 2-week recovery indicates to patients that they may—and perhaps should—continue taking their medication, rather than attempt to reduce or forego intake. Excessive quantities of these medications further their susceptibility for misuse by family members or friends with access. Given the known risks, both patients and prescribers now need to treat long-term opioid use as a potential source of an SUD, developing in some cases in just a matter of weeks (Coe & Walsh, 2015). Short-term prescriptions, given for 1 week at a time, can help to curtail opioid misuse. Yet patients often leave the hospital with more prescription pain medications than they need for longer than necessary. For a standard laparoscopic cholecystectomy, patients can leave the hospital with only non-opioid alternatives or up to five opioid tablets, but may be given as many as 60 (Darke, 2011).

Conclusions

We have discussed some of the individual and social dynamics that have shaped adolescent substance use disorders, with particular emphasis on the opioid crisis. Clinicians may be most familiar with the individual-level issues, such as ACEs, but those who also appreciate the macrolevel shifts may be in a better position to set aside harsh moral judgment of the patient and contribute to effective individual, community, and societal solutions. After all, as our culture "traded floorspace for friends" and "stuff for connections" we have inadvertently created "one of the loneliest societies there has ever been" (Hari, 2015). This requires a compassionate response, for young patients and for those who care for them as well. We have offered a holistic, multilevel model of care to help health care workers and others in their interorganizational network more effectively address these dynamics.

In this concluding section, we offer some reflections on the current state of SUD education within medical schools, because bias and lack of education continue to represent major barriers to effective treatment within our health

care system. Our discussion of this issue has been enhanced by our medical student co-authors. A systematic review of treatment found that health care providers are more likely to hold negative attitudes toward patients with SUDs, misattribute other illnesses to manifestations of their substance usage, and report feeling unwilling or unable to empathize with patients who use illicit drugs (van Boekel, Brouwers, van Weeghel, & Garretsen, 2013). These biases may translate to reduced time with patients and less regard for their well-being, a finding that is exacerbated by the fact that most professionals felt that they held insufficient levels of knowledge or experience to adequately manage the complexities of SUDs. On the other hand, the same review found that psychologists, social workers, and professionals in SUD services had the highest regard for this patient population; additional education and training were found to further reduce negative attitudes. Such training should be integrated into the medical curriculum and address the following:

- Substance use disorders are inherited as a polygenic trait.
- Medical institutions should foster an appreciation of how genetic factors interact with social and family history to shape the potential for SUDs.
- Understanding SUDs as a disease process along with its neural networks.
- Inclusion of visits to treatment programs and recovery groups.
- Deepen understanding of SUD pathophysiology and social determinants.

As the opioid epidemic spirals out of control, many clinicians continue to feel powerless. The crisis is beyond the scope of the medical model; it will require not only adjusting our methodology, but developing a new and much broader conception of treatment itself that addresses adverse social dynamics. With effort, we can learn to reverse the loss of individual, social, and community "recovery capital" plaguing our society. Health care environments are only the beginning of the clinical encounter. It is essential that we help substance misusing adolescents to connect with psychosocial support groups and identify community resources to nurture recovery. Further, we must incorporate an understanding of the psychological and spiritual needs of patients, as these are affected by broader social dynamics. ACE assessments in treating the whole patient are helpful. We invite national dialogue on these issues to improve clinician efficacy and resilience.

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References

AA Grapevine. (2003). *Spiritual awakenings: Journeys of the spirit from the pages of the AA Grapevine*. New York, NY: Author.

Anderson, D. L. (2012). *Organizational development: The process of leading organizational change*. Los Angeles, CA: Sage.

Anderson, W. T. (1990). *Reality isn't what it used to be: Theatrical politics, ready-to-wear religion, global myths, primitive chic, and other wonders of the postmodern world*. New York, NY: HarperSanFrancisco.

Ball, S. A., Martino, S., Nich, C., Frankforter, T. L., Van Horn, D., Crits-Christoph, P., … Carroll, K. M. (2007). Site matters: Multisite randomized trial of motivational enhancement therapy in community drug abuse clinics. *Journal of Consulting and Clinical Psychology*, *75*, 556–567. doi:10.1037/0022-006X.75.4.556

Barnett, E., Sussman, S., Smith, C., Rohrbach, L. A., & Spruijt-Metz, D. (2012). Motivational interviewing for adolescent substance use: A review of the literature. *Addictive Behavior*, *37*, 1325–1334. doi:10.1016/j.addbeh.2012.07.001

Best, D., Irving, J., Collinson, B., Andersson, C., & Edwards, M. (2017). Recovery networks and community connections: Identifying connection needs and community linkage opportunities in early recovery populations. *Alcoholism Treatment Quarterly*, *35*, 2–15. doi:10.1080/07347324.2016.1256718

Best, D., & Laudet, A. (2010). *The potential of recovery capital*. London, England: Royal Society for the encouragement of Arts, Manufactures and Commerce.

Bliuc, A. M., Best, D., Iqbal, M., & Upton, K. (2017). Building addiction recovery capital through online participation in a recovery community. *Social Science & Medicine*, *193*, 110–117. doi:10.1016/j.socscimed.2017.09.050

Brock, C. D., & Stock, R. D. (1989). A survey of Balint group activities in US family practice residency programs. *Family Medicine*, *22*, 33–37.

Buchman, D. Z., & Ho, A. (2014). What's trust got to do with it? Revisiting opioid contracts. *Journal of Medical Ethics*, *40*, 673–677. doi:10.1136/medethics-2013-101320

Campbell, J. A., Walker, R. J., & Egede, L. E. (2016). Associations between adverse childhood experiences, high-risk behaviors, and morbidity in adulthood. *American Journal of Preventive Medicine*, *50*, 344–352. doi:10.1016/j.amepre.2015.07.022

Cano, I., Best, D., Edwards, M., & Lehman, J. (2017). Recovery capital pathways: Modeling the components of recovery wellbeing. *Drug and Alcohol Dependence*, *181*, 11–19. doi:10.1016/j.drugalcdep.2017.09.002

Carter, R. R., Johnson, S. M., Exline, J. J., Post, S. G., & Pagano, M. E. (2012). Addiction and generation me: Narcissistic and prosocial behaviors of adolescents with substance dependency disorder in comparison to normative adolescents. *Alcoholism Treatment Quarterly*, *30*, 163–178. doi:10.1080/07347324.2012.663286

Case, A., & Deaton, A. (2017). Mortality and morbidity in the 21st century. *Brookings Papers on Economic Activity*, 397–476. doi: 10.1353/eca.2017.0005

Champine, R. E., Wang, J., Ferris, K. A., Hershberry, K. E., Johnson, B. R., & Lerner, R. M. (2016). Exploring the out-of-school time program ecology of boy scouts. *Research in Human Development*, *13*, 97–110. doi:10.1080/15427609.2016.1165487

Coe, M. A., & Walsh, S. L. (2015). Distribution of naloxone for overdose prevention to chronic pain patients. *Preventive Medicine*, *80*, 41–43. doi:10.1016/j.ypmed.2015.05.016

Darke, S. (2011). Oxycodone poisoning: Not just the 'usual suspects'. *Addiction*, *106*, 1035–1036. doi:10.1111/j.1360-0443.2011.03395.x

Dube, S. R., Feletti, V. J., Dong, M., Chapman, D. P., Giles, W. H., & Anda, R. F. (2003). Childhood abuse, neglect, and household dysfunction and the risk of illicit drug use: The adverse childhood experiences study. *Pediatrics*, *111*, 564–572.

Durkheim, E. (1951[1897]). *Suicide: A study in sociology*. New York, NY: Free Press.

Durkheim, E. (2002[1925]). *Moral education*. New York, NY: Dover.

Dwyer-Lindgren, L., Bertozzi-Villa, A., Stubbs, R. W., Morozoff, C., Shirude, S., Unützer, J., … Murray, C. J. L. (2018). Trends and patterns of geographic variation in mortality from substance use disorders and intentional injuries among U.S. counties, 1980-2014. *JAMA*, *319*, 1013–1023. doi:10.1001/jama.2018.0900

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., … Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine*, *14*, 245–258.

Frakt, A. (2017, November 28). Where is the prevention in the President's opioid report? *The New York Times*, p. A15.

Froese, P. (2016). *On purpose: How we create the meaning of life*. New York, NY: Oxford.

Gailey, J. A. (2009). "Starving is the most fun a girl can have": The pro-ana subculture as edgework. *Critical Criminology*, *17*, 93–108. doi:10.1007/s10612-009-9074-z

Gerber, S. (2014). *Visions of vocation: Common grace for the common good*. Downers Grove, IL: IVP.

Gerth, H. H., & Mills, C. W. (1946). *From max weber: Essays in sociology*. New York, NY: Oxford.

Glanzer, P., Hill, J., & Johnson, B. R. (2017). *The Quest for purpose: The collegiate search for a meaningful life*. New York, NY: SUNY Press.

Hari, J. (2015). *Everything you think you know about addiction is wrong*. TEDGlobalLondon. Retrieved from https://www.ted.com/talks/johann_hari_everything_you_think_you_know_about_addiction_is_wrong?language=en

Hari, J. (2018). *Lost connections: Uncovering the real causes of depression—And the unexpected solutions*. New York, NY: Bloomsbury.

Hughes, K., Lowey, H., Quigg, Z., & Bellis, M. A. (2016). Relationships between adverse childhood experiences and adult mental well-being: Results from an English national household survey. *BMC Public Health*, *16*, 222. doi:10.1186/s12889-016-2906-3

Inoue, N. (2015). *Beyond actions: Psychology of action research for mindful educational improvement*. New York, NY: Peter Lang.

Jang, S. J., & Johnson, B. R. (2010). Religion, race, and drug use among American youth. *Interdisciplinary Journal of Research on Religion*, *6*, 1–22.

Jang, S. J., Johnson, B. R., & Kim, Y. I. (2012). *Eagle Scouts: Merit beyond the badge*. Special Report, Program on Prosocial Behavior. Institute for Studies of Religion, Waco, TX: Baylor University.

Johnson, B. R., Pagano, M. E., Lee, M. T., & Post, S. G. (2018). Alone on the inside: The impact of social isolation and helping others on AOD use and criminal activity. *Youth & Society*, *50*, 529–550. doi:10.1177/0044118X15617400

Jung, C. G. (1933). *Modern man in search of a soul*. New York, NY: Harcourt.

Junger, S. (2011, July 20). *We must understand many troops miss war*. National Public Radio interview. Retrieved from https://www.npr.org/2011/07/20/138548989/junger-we-must-understand-many-troops-miss-war

Lee, M. T., Pagano, M. E., Johnson, B. R., Post, S. G., Leibowitz, G. S., & Dudash, M. (2017). From defiance to reliance: Spiritual virtue as a pathway towards desistence, humility, and recovery among juvenile offenders. *Spirituality in Clinical Practice*, *4*, 161–175. doi:10.1037/scp0000144

Lee, M. T., Veta, P. S., Johnson, B. R., & Pagano, M. E. (2014). Daily spiritual experiences and adolescent treatment response. *Alcoholism Treatment Quarterly*, *32*, 271–298. doi:10.1080/07347324.2014.907029

Leitch, L. (2017). Action steps using ACEs and trauma-informed care: A resilience model. *Health & Justice*, *5*, 5. doi:10.1186/s40352-017-0050-5

Lilius, J. M., Worline, M. C., Dutton, J. E., Kanov, J. M., & Maitlis, S. (2011). Understanding compassion capability. *Human Relations*, *64*, 873–899. doi:10.1177/0018726710396250

Lown, B. A., & Manning, C. F. (2010). The Schwartz center rounds: Evaluation of an interdisciplinary approach to enhancing patient-centered communication, teamwork, and provider support. *Academic Medicine*, *85*, 1073–1081. doi:10.1097/ACM.0b013e3181dbf741

Lundahl, B. W., Kunz, C., Brownell, C., Tollefson, D., & Burke, B. L. (2010). A meta-analysis of motivational interviewing: Twenty-five years of empirical studies. *Research on Social Work Practice*, *20*, 137–160. doi:10.1177/1049731509347850

Lyng, S. (1990). Edgework: A social psychological analysis of voluntary risk taking. *American Journal of Sociology*, *95*, 851–886. doi:10.1086/229379

Lyotard, J. (1979/1984). *The post-modern condition: A report on knowledge*. Minneapolis, MN: University of Minnesota.

Miller, L. (2015). *The spiritual child: The new science on parenting for health and lifelong thriving*. New York, NY: St. Martin's Press.

Miller, W. R., & Rollnick, S. (2013). *Applications of motivational interviewing. Motivational interviewing: Helping people change* (3rd ed.). New York, NY: Guilford Press.

Nolan, M. T., Diefendorff, J. M., Erickson, R. J., & Lee, M. T. (2019). *Understanding compassion capability: Compassion climate and worker outcomes*. At the Society for Industrial and Organizational Psychology Conference in Washington, DC, (accepted for presentation in April).

Pagano, M. E., Wang, A. R., Rowles, B. M., Lee, M. T., & Johnson, B. R. (2015). Social anxiety and peer helping in adolescent addiction treatment. *Alcoholism: Clinical and Experimental Research*, *39*, 887–895. doi:10.1111/acer.2015.39.issue-5

Post, S. G. (1992). Grass-roots reflections on substance abuse: A community dialogue approach. *Second Opinion*, *18*, 33–47.

Post, S. G. (2017). Rx it's good to be good (g2bg) 2017 commentary: Prescribing volunteerism for health, happiness, resilience, and longevity. *American Journal of Health Promotion*, *31*, 164–172.

Putnam, R. (2000). *Bowling alone: The collapse and revival of American community*. New York, NY: Simon & Schuster.

Putnam, R. D., & Feldstein, L. M. (2004). *Better together: Restoring the American community*. New York, NY: Simon & Schuster.

Quinones, S. (2016). *Dreamland: The true tale of America's opiate epidemic*. New York, NY: Bloomsbury.

Reith, G. (2005). On the edge: Drugs and the consumption of risk in late modernity. In S. Lyng (Ed.), *Edgework: The sociology of risk-taking* (pp. 227–245). New York, NY: Routledge.

Rubak, S., Sandbaek, A., Lauritzen, T., & Christensen, B. (2005). Motivational interviewing: A systematic review and meta-analysis. *The British Journal of General Practice*, *55*, 305–312.

Shanafelt, T. D., Bradley, K. A., Wipf, J. E., & Back, A. L. (2002). Burnout and self-reported patient care in an internal medicine residency program. *Annals of Internal Medicine*, *136*, 358–367.

Sheedy, C. K., & Whitter, M. (2009). *Guiding principles and elements of recovery-oriented systems of care: What do we know from the research?* (HHS Publication No. (SMA) 09–4439). Rockville, MD: Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration.

Smith, E. E. (2017). *The power of meaning: Crafting a life that matters*. New York, NY: Crown.

Solnit, R. (2009). *A paradise built in hell: The extraordinary communities that arise in disaster*. New York, NY: Penguin.

Stevens, J. E. (2017). Addiction doc says: It's not the drugs. It's the ACEs…adverse childhood experiences. *ACES Too High News*. Retrieved from https://acestoohigh.com/2017/05/02/addiction-doc-says-stop-chasing-the-drug-focus-on-aces-people-can-recover/

Stoecker, R. (2013). *Research methods for community change: A project-based approach*. Los Angeles, CA: Sage.

Stringer, E. T. (1996). *Action research: A handbook for practitioners*. Thousand Oaks, CA: Sage.

Ulmer, J. T., Desmond, S. A., Jang, S. J., & Johnson, B. R. (2012). Religious involvement and dynamics of Marijuana use: Initiation, persistence, and desistence. *Deviant Behavior*, *33*, 448–468. doi:10.1080/01639625.2011.636653

van Boekel, L. C., Brouwers, E. P., van Weeghel, J., & Garretsen, H. F. (2013). Stigma among health professionals towards patients with substance use disorders and its consequences for healthcare delivery: Systematic review. *Drug and Alcohol Dependence*, *131*, 23–35. doi:10.1016/j.drugalcdep.2013.02.018

West, C. P., Dyrbye, L. N., Rabatin, J. T., Call, T. G., Davidson, J. H., Multari, A., … Shanafelt, T. D. (2014). Intervention to promote physician well-being, job satisfaction, and professionalism: A randomized clinical trial. *JAMA Internal Medicine*, *174*, 527–533. doi:10.1001/jamainternmed.2013.14387