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**A Public Health Approach to  
Trauma and Addiction**

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## A Public Health Approach to Trauma and Addiction

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## **Abstract**

The opioid epidemic has devastated communities, cost hundreds of thousands of lives, and stymied containment efforts. This paper argues that understanding the role of trauma in addiction provides a new framework for response. The paper reviews current knowledge about the correlation between exposure to trauma and addiction and about treatment models designed to treat Post Traumatic Stress Disorder (PTSD) and substance use disorders (SUDs). It describes emerging approaches to trauma-informed addiction treatment, including the Medication First model of medication-assisted treatment, and discusses how using a trauma-informed organizational approach can improve care. It suggests that understanding the relationship between trauma and addiction frames addiction as a public health issue requiring integrated prevention and treatment efforts, a coordinated system of services based on social determinants of health, and a lifespan, intergenerational approach. Finally, the paper reviews policy implications of taking a public health approach to addiction.

## **The Intersection of Trauma, Mental Health, and Addiction**

The opioid epidemic has devastated communities, cost hundreds of thousands of lives, and stymied containment efforts. The breadth and depth of the impact has shocked the public and galvanized policymakers to take action with an urgency not seen in previous epidemics. Like many crises that appear to arise unexpectedly, the current epidemic has deep roots.<sup>1</sup> The U.S. leads the world in lifetime prevalence rates of behavioral health disorders: In a study of 17 countries, the World Health Organization found that the U.S. had the highest prevalence rate of “any disorder,” as well as the highest rates of anxiety, mood, and impulse control disorders. For substance use disorders (SUDs), the U.S. ranked second, with a lifetime prevalence rate of almost 15%.

The U.S. has also been hampered by an inconsistent public policy approach to addiction. As a society, we have often considered addiction and mental illness as signs of inherent weakness. One concept that arose from this thinking and that failed remarkably and repeatedly is the abstinence-only approach to risky behaviors. In the 1980s, the “Just Say No to Drugs” campaign, together with mandatory minimum sentences for drug offenses and three-strikes-and-you’re-out felony policies, ushered in almost 40 years of hyper-incarceration, severely harming individuals, families and communities throughout the urban core of our nation. These policies didn’t stop or even decrease substance use disorders.<sup>2</sup> Institutional and procedural racism further compounded bad outcomes. Blacks and Hispanics bore the brunt of these policies during the crack and methamphetamine epidemics, when the only intervention was arrest and incarceration. Treatment programs were extremely limited or non-existent for people with few resources. In contrast, the rapid spread of the current opioid epidemic, as well as its lethal impact on well-resourced white teens and adults in suburban and rural areas, has opened funding streams for treatment unheard of in the past.<sup>3</sup>

The U.S. also has very high rates of violence and adversity. Firearm-related deaths and homicides among young men appear to be significantly higher in the U.S. than in economically comparable countries,<sup>4</sup> and the U.S. incarceration rate is far higher than any other nation. In 2010, child abuse resulted in 1,640 deaths, with 80% of fatalities caused by one or both parents, the second highest rate of the 34 Organization for

Economic Cooperation and Development (OECD) nations.<sup>5</sup> Looking at more general conditions of adversity, the study found the U.S. had the second highest poverty rate in a study of wealthy countries (next to Mexico),<sup>6</sup> and had the greatest inequality of income and wealth in the industrialized world.<sup>7</sup>

These social problems are highly intertwined. Toxic stress and traumatic experiences, especially in childhood, not only disrupt early and later attachments that foster the social-emotional development foundational to societal functioning but also alter the connections between brain cells and flood the body with hormones. Both behavioral responses adaptive to trauma and stress induced biological changes can accumulate over time and alter a child's developmental trajectory, affecting emotional functioning, regulatory capacities, physical health, and educational/vocational performance. These changes, in turn, increase risk for mental health and substance use disorders and additional trauma. Each condition amplifies the others: e.g., mental health problems are often traumatic and can lead to self-medicating with substances, while substance abuse can alter brain chemistry and self-regulation, making mental health symptoms more likely and/or more severe. Both mental health problems and substance abuse increase the subsequent likelihood of being a victim of violence.

It is becoming increasingly clear that the cascade of biological and behavioral risk that follows toxic stress and trauma contributes to a range of social problems across the lifespan.<sup>8</sup> Moreover, the effects of trauma extend beyond the individual to family, friends, and community. Intergenerational transmission of both trauma and substance use have frequently been noted, and the emerging field of epigenetics suggests a potential biological mechanism.<sup>9</sup> Secondary traumatic stress – witnessing or hearing about a traumatic event – can affect a wide circle of relatives, personal friends, caregivers and community members. In some cases, the social transmission of trauma and its consequences acts much like a contagious epidemic.<sup>10</sup>

Understanding the role of trauma in addiction provides a new framework for response. In the past, addictions have been moralized (faith-based-only approaches), criminalized (incarcerate and punish), medicalized (over-emphasis on pharmaceuticals), and commercialized (overly routinized inpatient and outpatient models). An approach to addiction based on the science of trauma could humanize our response by refusing to blame and shame victims, and by raising the bar for treatment from abstinence and survival to recovery and thriving.

Given what we know about the complexity of both causes and consequences of addiction, it no longer makes sense to address the issue in isolation. While some progress has been made in responding to mental health and addiction as co-morbidities, the current crisis calls for a coordinated, trauma-informed, public health response, integrating prevention and treatment across systems, and using the family and community rather than the individual as the primary unit of service.

### **The Opioid Epidemic: A Case Example of Interconnected Causes and Consequences**

The current opioid crisis shares many characteristics with previous drug epidemics, including the methamphetamine crisis in the 1990's and the widespread use of crack cocaine in the 1980s. However, due to its impact of people of all ages, the opioid epidemic provides a particularly good example of the complex causes and consequences

of addiction, and of why our current service delivery systems are failing.

The opioid epidemic, which has been called “the worst man-made epidemic in modern medical history,”<sup>11</sup> has caused over 200,000 deaths and has left millions addicted or dependent. It also has had a devastating impact on children and families. The American Academy of Pediatrics estimates that 8.7 million children in the U.S. have a parent with a substance use disorder, and thousands of babies are born every year having been exposed to opioids in utero.<sup>12</sup> A national study conducted by the federal Department of Health and Human Services found that, in the typical county, a 10% increase in the opioid overdose death rate corresponds to a 4.4% increase in the foster care entry rate, while a 10% increase in drug-related hospitalizations corresponds to a 2.9% increase in foster care entry.<sup>13</sup> Since parental substance abuse, removal from the family, and death of a parent are all traumatic events for children, the long-term impact of this epidemic will be profound.

Research on mortality and morbidity in the U.S. compared to other wealthy countries suggests a link between the opioid epidemic and increasing conditions of adversity. Around the beginning of the 21<sup>st</sup> century, after decades of steady decreases, mortality rates in the U.S. began to rise among non-Hispanic white men with a high school degree or less. So-called “deaths of despair” – from drug overdoses, alcohol-related liver disease, and suicide – showed additional increases. In contrast, mortality rates in other wealthy countries continued to fall. Subsequent analyses suggest that *cumulative disadvantage* – in the labor market, in marriage and family, and in health – may account for the decline.<sup>14</sup> The researchers hypothesize that beginning in the 1970s, working class wages began to decline and, at the same time, the cost of a college education rose. More men dropped out of the workforce, and traditional structures of social and economic support weakened. Fewer working class people married or stayed married. In short, beginning in the 1970s, this demographic group lost not only real wages and job security, but also many of the structures that provide meaning to life – in prevention parlance, the “protective factors” that buffer against the impact of stress and adversity.

This increased vulnerability, coupled with changes in medical practice and in the illicit drug trade, created a “perfect storm” for a drug epidemic. New prescribing practices stemmed from a growing consensus that chronic pain had been insufficiently addressed and that opioids could be used for chronic pain management with minimal risk of addiction. Emerging forms of pharmaceutical marketing contributed to a sharp increase in opioid prescriptions, and the flood of prescription drugs made it easy to access drugs from family and friends.<sup>15</sup> The development of a new, vastly more convenient distribution system for illicit drugs made it easy for people to substitute “black tar heroin” when the supply of prescription opioids dried up or became too costly.<sup>16</sup> These changes helped to put drugs directly in the hands of people trying to cope with physical pain as well as the psychological pain of cumulative disadvantage – people who in earlier eras would not have had easy access to illegal drugs. As a result, the opioid epidemic has affected a wider range of demographic groups than previous epidemics.<sup>17</sup>

The consequences of this epidemic are just as complex as the causes. All substance abuse affects the user’s immediate family, friends and neighborhood. But earlier epidemics tended to concentrate in young and working-age adults. That left other members of the family to step in when necessary, and in particular, to take care of the

children of addicted parents. In the current opioid epidemic, multiple members of the same family, across multiple generations, are often using, and neighbors are likely also to be affected.<sup>18</sup> Child welfare systems are increasingly forced to place children in distant communities, further diminishing the chances of successful reunification. The epidemic also hits economically challenged rural communities particularly hard – those where factories have closed, people struggle to find employment, and the institutions that people depend on have been diminished. Remaining social institutions, including schools and law enforcement, are forced to shoulder an oversized burden.

## **Where are We Now? Current Knowledge**

### Traumatic Exposure and SUDs

The correlation between traumatic exposure in childhood and adult mental health and substance use disorders has long been recognized.<sup>19</sup> The Adverse Childhood Experiences (ACE) study confirmed that link,<sup>20</sup> and subsequent studies have replicated the relationship using large population samples.<sup>21 22 23</sup> Evidence is growing that, across a variety of substances, childhood trauma is associated with behavioral pathways leading to problematic substance use, including early initiation and experimentation, transitioning from experimentation to regular use and risky use, and escalation to heavy use and dependence.<sup>24</sup> Individuals with childhood trauma histories are also more likely to report chronic pain symptoms and to be prescribed prescription pain medications, increasing risk of opioid addiction.<sup>25 26 27</sup>

While fewer studies address the association of adult trauma and SUDs, and there are some inconsistencies in the findings, evidence is emerging to support a significant relationship.<sup>28 29 30</sup> Psychological factors appear to play an important mediating role, particularly co-morbid PTSD. The importance of PTSD in the development of SUDs has been confirmed in multiple studies, across varying substances and trauma types, and using a variety of methodologies.<sup>31 32 33 34</sup>

Several neurobiological systems are affected by early experience in ways that may increase risk for addiction, including the dopamine, oxytocin, glucocorticoid, and immune systems.<sup>35 36</sup> While there remain significant challenges to isolating the biological pathways through which traumatic experiences affect the development and progression of SUDs, a growing understanding of the neurobiology of early life trauma has led some researchers to conclude that childhood adversity is the most critical factor in susceptibility to addiction.<sup>37</sup>

### Trauma and Addiction Treatment

Whatever the specific causal pathways, traumatic experiences including intimate partner violence, homelessness, incarceration, victimization and childhood adversity are very common among people seeking behavioral health treatment.<sup>38</sup> With trauma, mental health, and addiction so closely associated, it would make sense for treatment programs to address all three issues. The first large-scale evaluation of this approach was conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA). A five-year study of women with histories of violence and co-occurring mental health and substance use disorders found that programs integrating trauma into treatment were more helpful than programs treating trauma and behavioral health disorders separately.<sup>39</sup> Since

that time, attention has focused heavily on the co-occurrence of PTSD and substance use. Many integrated treatment models for substance abuse disorders and PTSD have been developed and tested; several have met strict criteria for evidence-based practices.<sup>40 41</sup> While there is far to go, the substance abuse field has been steadily incorporating recognition, awareness, and knowledge about trauma.<sup>42</sup>

It is still debated whether treating the two conditions in an integrated model is more effective than treating them separately but simultaneously; outcome studies paint a complex picture. Najavits and Hien found that most integrated models are more effective with PTSD than with SUD.<sup>43</sup> Several studies have shown that improvement in PTSD is more likely to lead to reduction in substance use than the opposite.<sup>44 45</sup>

A recent review by Bailey, Trevillion and Gilchrest argues that sub-group analysis by gender and trauma type could help explain the findings, since there may be more than one pathway to substance use reduction among women with trauma histories. Bailey and colleagues conclude that integrated treatment models that teach extensive coping skills combined with access to social supports and advocacy may be most effective for women with severe PTSD, for whom symptom stabilization and emotional regulation are key, or for those with ongoing victimization.<sup>46</sup>

## **Trauma-Informed Models and Approaches**

### **Addiction Treatment**

Moving the field forward in SUD treatment will require the adoption of a trauma-informed clinical approach.<sup>47</sup> Providers who see addiction as the result of biology and external circumstances, rather than as a personal failing, are more likely to use language that reduces stigma and promotes resilience and healing. They are more likely to react with compassion if a client is angry, mistrustful, or refuses treatment, and less likely to act in ways that decrease a sense of safety and control. They are more likely to recognize substance use as an effective strategy for coping with chronic pain, depression, and other consequences of trauma. Trauma-informed SUD treatment requires collaborative relationships that support choice and empowerment and a focus on utilizing existing strengths for self-regulation and coping. As a result, clients may be more willing to engage with services, to participate actively in treatment, and to see themselves as capable of recovery and self-management.

Progress in SUD treatment also requires a reset of treatment goals. In every other somatic or mental illness, the goal of treatment does not stop at preservation of life, or even retention in treatment. Rather, the goal is for the patient to flourish – to live a satisfying and productive life. And if medication is required, flourishing implies the lowest effective dose of the safest medication available.<sup>48</sup> Much has been written about the importance of Medication Assisted Treatment (MAT) in addiction treatment, and in particular with opioid use disorder (OUD).<sup>49 50</sup> Medication management is not the treatment goal for MAT, it is a means to an end. The long-term treatment goal is to see the patient thriving.

Concurrent with the changes in goal comes a change in medication management. One example is the [Medication First](#) model of MAT, developed by the state of Missouri in response to funds made available under the 21st Century Cures Act, Pub. L. 144-255.<sup>51</sup>

The approach was modeled on “Housing First,” which holds that providing secure housing without preconditions to people experiencing homelessness can increase chances of success by creating a platform from which to pursue personal goals. Medication First is based on similar principles: that the availability of opioid agonist medication without requirement or restriction can be a starting point from which people with OUD can lead self-determined lives and work towards health and personal goals. In the medication-first model, a person is offered medications upon engagement in treatment—as soon as possible. [In most SUDs](#), but particularly in OUD, altered brain chemistry disrupts the communication pathways between the brain stem and the prefrontal cortex. When the dopamine pathway between these centers is disrupted, the brain stem dominates and drives behaviors through unregulated cravings. Medications help control the cravings, and, in doing so, help the neurotransmitters to normalize and the brain to heal, after which a person can engage more fully in psychotherapy and supportive services that address many of the underlying causes of SUDs, including trauma.

The medication component of treatment depends on several factors—patient choice, access to and availability of medication, patient history (including trauma history; age of onset of substance use; number, potency and frequency of drugs used; somatic and psychiatric co-morbidities; treatment history; social supports), and stage of recovery. Understanding how trauma affects the brain suggests that for those individuals who need and want MAT as part of their treatment plan, trauma history may play a critical role in determining the choice of medication. For patients who do not start using drugs until adulthood and who have good social supports and no trauma history, the goal is protection from relapse while developing needed coping skills, and the antagonist Naltrexone may be the best option. Patients who begin using opioids for pain control, and who have no other risk factors, often fall into this category. Patients who start using substances early, before the brain is mature, and those who have some history of childhood trauma, may have difficulty managing cravings and need time for the brain to heal. The dopamine agonist buprenorphine (BUP) may be the best choice for these patients, along with counseling and supports to address behaviors and mindsets that may have developed from using substances as a means of coping. Patients who have severe and complex trauma histories, poly-drug usage, and a history of failed treatment may require the stronger dopamine push of methadone, along with a more structured treatment and rehabilitation program.<sup>52</sup>

Once cravings are controlled, patients can work with trauma-informed therapists to develop coping skills and increase quality of life, and may be able to slowly taper off the methadone. This tapering can provoke occasional cravings and the possibility of relapse—as in every other chronic condition—but with therapeutic engagement and previous success, each bump on the road is less jarring.

The medication-first approach is a major step forward in trauma-informed SUD response, incorporating brain science into the treatment plan for patients with SUDs. Ensuring that integrated trauma-based addiction therapy and supports are available is an essential next step. Many well-supported treatment models exist. Seeking Safety, emphasizing education and coping skills and designed for flexible implementation, is the most widely studied. Other approaches include Mind-Body Bridging Substance Abuse Program, Beyond Violence, and Sobriety Treatment and Recovery Teams. Gender-based programs



include Healing Trauma: A Brief Intervention for Women, Exploring Trauma: A Brief Intervention for Men, and A Women's Path to Recovery.

While trauma-informed treatment models are available, and some are quite flexible, the lack of fully integrated behavioral health service settings remains a problem. In some geographic regions, the substance use disorder and mental health treatment systems remain separate, although clinicians may cross-refer. Substance use disorder counselors are sometimes considered lower-level clinicians, and screening and assessment for complex morbidities is often inadequate. Moreover, while addiction clinicians may seek out training on trauma through continuing education, few appear to have received trauma training in their formal academic program.<sup>53</sup> These structural issues create barriers to trauma-informed addiction treatment.

In addition, most treatment settings remain focused on treating the person with SUD as an individual. While this made sense when we thought of SUD as a moral failing or genetically-determined biological weakness, it falls short when we consider the role of traumatic experiences in substance use. Trauma very often occurs in the context of relationships, and many of its consequences – attachment difficulties, difficult trusting others, lack of self-esteem – affect the capacity to build and maintain healthy relationships. Many of the promising new approaches emerging in the field today reflect that reality, particular for families with young children.

For example, new efforts to keep women and children together in trauma-informed residential substance abuse treatment programs are proving successful, increasing motivation for the women to address their substance use problems and reducing risk factors for the children.<sup>54</sup> Programs like early childhood courts, which use Parent-Child Psychotherapy as the treatment model, are effective in preventing foster care placements by helping parents to control their substance use and improve their parenting.<sup>55</sup> While intergenerational programs like these are a relatively new development in the addiction field, they hold great promise and could be adapted for a broad range of situations where trauma-related challenges complicate addiction.

### **Organizational and Systems Change**

While treatment models and a clinical approach designed to address the interrelated consequences of trauma, mental health, and addiction are critically important, they are only part of the picture. The behavioral and biological changes resulting from trauma accumulate over time and have long-term consequences for emotional functioning, regulatory capacities, physical health, and successful performance in a variety of domains, including education, parenting, and employment. People with substance use disorders need and use many services and supports in addition to behavioral health. If these service environments do not recognize and know how to respond to the impact of trauma, they may be ineffective or even cause additional harm by re-traumatizing those they serve. Similarly, therapy alone does not eliminate the risk of an organization activating a trauma response and causing harm. Trauma-informed organizational models have been developed to address these more systemic issues.

The term “trauma-informed” was first used to describe the organizational context necessary to respond effectively to violence and trauma in the lives of people with mental health problems.<sup>56</sup> The concept was soon applied across multiple service sectors. Unlike

trauma-based treatments, trauma-informed approaches involve changing the culture and operating norms of an entire organization or setting:

*A program, organization or system is trauma-informed when it realizes the widespread impact of trauma and understands potential paths for recovery; recognizes the signs and symptoms of trauma in clients, families, staff and others involved with the system; responds by fully integrating knowledge about trauma into policies, procedures, and practices; and seeks to actively resist re-traumatization (SAMHSA’s Concept of Trauma and Guidance for a Trauma-Informed Approach).*

This level of organizational change is not easy. In order to assist organizations, SAMHSA has developed six principles and ten organizational domains to guide implementation.<sup>57</sup> Other models have been developed that define different stages of implementation and performance indicators for each stage.<sup>58</sup> Trauma-informed models have been adapted for a variety of specific service settings, including addiction treatment. Trauma-informed practices can lead to greater client and family satisfaction,<sup>59</sup> positive client outcomes,<sup>60</sup> increased hope and optimism,<sup>61</sup> and decreased trauma symptomatology and substance use.<sup>62</sup> Evidence of effectiveness is greatest in systems serving children, such as education and child welfare, where implementation has been most widespread.<sup>63</sup> Nonetheless, applications of trauma-informed models to the opioid crisis are promising.<sup>64</sup>

### **Systems Integration: A Public Health Approach**

Understanding that the roots of addiction often lie in childhood trauma, and that the consequences of addiction extend far beyond the individual, locates this issue squarely in the realm of public health. While new treatment models and organizational approaches are essential, only a systemic, trauma-informed, public health response can ultimately contain the opioid crisis and address widespread behavioral health problems.

Coordinated efforts to reduce community risk factors, increase individual and community resilience, and decrease exposure to traumatic events are needed, in addition to the creation and implementation of a continuum of treatment services.<sup>65</sup> In 2005, building on previous work, growing interest in social determinants of health, and the recovery movement, SAMHSA’s Center for Substance Abuse Treatment convened a National Summit on Recovery. The summit produced a conceptual framework called “Recovery Oriented System of Care” (ROSC), a “coordinated network of community services and supports that is person-centered and builds on the strengths and resiliencies of individuals, families and communities to achieve abstinence and improved health, wellness, and quality of life for those with or at risk of alcohol and drug problems.”<sup>66</sup>

The ROSC model includes elements of prevention, intervention, treatment, and post-treatment supports. It supports alternative, as well as conventional, approaches, views a multi-disciplinary workforce as essential, and treats a substance use disorder like a chronic health condition. The model requires long-term involvement with the health care system and parallel informal networks.

Research supports many of the ROSC principles.<sup>67</sup> The ROSC framework ties together the services and supports proving effective in responding to the opioid epidemic – peer outreach, harm reduction, MAT, overdose prevention, supported housing, addiction

treatment in correctional facilities, and the “Handle with Care” program, where partnerships with police assist schools in responding to trauma. While only a handful of communities have fully implemented the ROSC model, the challenges of the opioid epidemic are moving others in this direction.

Systemic, collaborative change efforts like ROSC can best be mounted on a community-by-community basis. When local agencies come together to solve their collective problems, innovative solutions often emerge. A collective understanding of the science of trauma and adversity appears to strengthen collaboration by establishing a vision, building trust, creating a common language, and conferring a sense of legitimacy.<sup>68</sup> Taking an intergenerational approach pushes this framework another step. The behavioral and biological embedding of trauma creates a “cascade of risk” over the course of a lifetime. Preventing adverse experiences and providing supports to families, from pregnancy through adulthood, will reduce the likelihood of negative outcomes, including engaging in substance abuse.

The “[Two Generation Approach](#)” being promoted by the Aspen Institute builds on this understanding. This approach uses a “whole-family” model which focuses equally on parents and children. Key components include education and employment, early childhood education and development, economic assets, health and well-being, and social capital. The approach explicitly recognizes the health and social consequences of childhood trauma and the role of economic supports and social capital, including connections to one’s neighborhood and community. Similarly, the recent upsurge of interest in developing comprehensive support systems for parents and children in the “first 1,000 days” of life integrate the brain science of trauma into a holistic prevention and resilience-building package designed to improve wellness and reduce negative outcomes.<sup>69</sup> These emerging approaches differ, but they share one thing in common. They recognize that substance abuse is a symptom of a deeper problem, and that preventing and addressing the impact of trauma and adversity are essential first steps in responding to addiction.

## **Conclusion: Policy Implications**

### **Reinvestment in Public Health Infrastructure is Crucial**

Our ability to respond to the opioid epidemic is severely hampered by chronic underfunding of the public health system.<sup>70</sup> We currently spend \$3.5 trillion per year on health care, only 2.6% of which goes to public health.<sup>71</sup> A public health approach to trauma and addiction would require new infrastructure, including data systems, surveillance mechanisms to monitor the occurrence and impact of adversity and trauma, and field research. It would also require an array of policy changes to reduce unnecessary traumatization and to strengthen communities. The “cascade of risk” that accompanies childhood trauma is not solely a product of biology, but also reflects social policies and social norms that ensure that those who are traumatized or marginalized become more so over time.

An effective public health system would also support a balanced portfolio of public education, prevention, resilience building, early intervention, treatment, and ongoing supports. Effective trauma-informed promotion, prevention, intervention and support models exist; what is lacking is the framework to bring them together in the right mix and balance to reflect individual community needs and resources, with appropriate financial mechanisms for sustainability and a social policy context that supports rather than impedes recovery.<sup>72</sup>

### Local Collaboration and Service Integration Efforts Should be Funded

Parallel to the need for investment in public health is the need to invest in community-level coalitions, partnerships, and collaborations. It is now widely recognized that complex problems like the opioid epidemic cannot be solved by one or two sectors alone. The science of trauma and resilience provides a common conceptual basis on which collaboration can flourish, and hundreds of local efforts are being launched across the country to develop “trauma-informed, resilient communities.”<sup>73</sup> Clearly there is motivation and enthusiasm to build more collaborative service structures.

Tools also exist. A number of models for collaboration have been developed,<sup>74</sup> and some local initiatives have been shown to be very effective.<sup>75</sup> The “collective impact” model has been particularly useful, helping coalitions forge a common vision, creating a local “backbone” agency for infrastructure, and emphasizing integrated datasets and collective, rather than sector-based, evaluation and accountability. However, attempts to scale up these approaches often run into policy, regulatory, and financing difficulties at both state and federal levels. Our service systems – and the funding that supports them – were developed during an era when social problems were seen as discrete and unconnected. Barriers to breaking down these “silos” are deeply embedded.

One federal experiment designed to increase local flexibility and decrease administrative burden, called Performance Partnership Pilots for Disconnected Youth, provided waivers of federal, legislative, regulatory, and administrative barriers to allow local communities to pool funds from different federal agencies to address young people who often “fall through the cracks.” While this program did not completely overcome structural barriers to collaboration, all of the first-round pilots involved multiple local partners and demonstrated key features of successful collaboration. Start-up funds were particularly helpful in filling gaps in management and evaluation costs.<sup>76</sup> Significantly more resources need to be invested in exploring effective ways to re-engineer our financial and administrative structures to support effective local coordination.

### Trauma-Informed, Intergenerational Approaches Should be Promoted

Federal and state policymakers are increasingly supportive of trauma-informed programs and intergenerational approaches. In 2017, the National Conference of State Legislatures reported that a total of 46 bills containing the words “adverse childhood experiences” were introduced in state legislatures. (Other trauma-related legislation was not included in the analysis.) Bills addressed a very wide range of concerns. In 2018, the U.S. House

of Representatives and Senate unanimously passed resolutions affirming the importance of trauma-informed approaches, and passed two bills tying funds to the implementation of trauma treatment and prevention: the Families First Prevention Act and the Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment (SUPPORT) for Patients and Communities Act. In an important step towards intergenerational prevention, these bills encouraged the use of funds previously restricted to paying for foster care placements to provide trauma-informed substance abuse and mental health treatment for parents whose children are at risk for foster care placement.

Trauma-informed approaches should ultimately be standard practice in response to addiction and in all health and human services. Unfortunately, most states currently lack the capacity to provide the necessary training and technical assistance, or to determine which providers meet basic criteria, for being “trauma-informed.” As more funds are targeted to trauma interventions, some form of state capacity grants will be critical to moving beyond the meaningless relabeling of old services as “trauma-informed.”

Progress towards the systemic adoption of intergenerational approaches will probably take longer. Innovative programs are beginning to appear, but there have been few efforts to attempt a large-scale merger or even significant coordination of adult and children’s services. Policy guidance is needed to help states and localities consider how best to integrate two systems that have been separate for almost a century.<sup>77</sup>

#### Investment in Trauma-Informed, Integrated Healthcare Should be Encouraged

Primary care has been the principal mental health system for decades, delivering up to 80% of psychiatric care in the United States.<sup>78</sup> Family Medicine has embraced the central role of providing quality behavioral health care. The Accreditation Council on Graduate Medical Education requires significant behavioral training during family medicine residency,<sup>79</sup> and family medicine graduates deliver more behavioral health care than other primary care specialties.<sup>80</sup> Despite this, behavioral health care in primary care clinics has been limited in quality and reach.<sup>81 82</sup>

An alternative strategy has been to encourage the integration of behavioral health professionals into primary care settings.<sup>83</sup> Behavioral health integration has been found to improve patient satisfaction,<sup>84</sup> reduce costs,<sup>85</sup> and improve patient social functioning.<sup>86</sup> However, although the integration of behavioral health services in medicine has been encouraged for decades, it is only recently that the role and impact of mental health providers in healthcare and managed care settings has been increasing.<sup>87</sup> We need to move towards full integration of behavioral health and health care, including universal access to trauma-informed addiction treatment, if we hope to stem the tide of opioid-related SUDs.

#### Workforce Development Efforts Should Address Trauma, Addiction and Mental Health Conditions Simultaneously

Workforce development is key for providing care for patients with SUD now and in the future,<sup>88</sup> and the opioid epidemic has escalated the critical need for workforce development in the prevention and treatment of SUDs.<sup>89</sup> Shortages of access and capacity to care are well-documented.<sup>90</sup> One particular bottleneck to care is a lack of providers of medications to treat opiate use disorder (OUD). Even when prescribers receive training and the waiver for buprenorphine prescribing, the majority of medical providers are still unwilling to treat patients with SUDs, particularly OUDs. Another barrier is the lack of universal access to trauma-informed addictions counselors.

Addiction as a long-term, complex, trauma-related condition requiring the same kind of integrated, team-based and self-management promotion care model used in chronic medical conditions like diabetes.<sup>91</sup> <sup>92</sup> In this model, trauma-informed behavioral health professionals skilled in both mental health and addictions work together with physicians, physician assistants, pharmacists, registered nurses, medical assistants, and other health professionals, in integrated behavioral health care teams.<sup>93</sup> Team-based care is effective in the evaluation and treatment of both trauma and SUDs.<sup>94</sup> Reimbursement structures should promote team-based care, with an emphasis on outpatient care rather than long-term residential care.

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## References

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<sup>1</sup> Blanch, A.K., Shern, D.L., and Steverman, S.M. (2014) *Toxic Stress, Behavioral Health, and the Next Major Era in Public Health*. Mental Health America. Retrieved from [https://www.mentalhealthamerica.net/sites/default/files/Toxic%20Stress%20Final\\_0.pdf](https://www.mentalhealthamerica.net/sites/default/files/Toxic%20Stress%20Final_0.pdf)

<sup>2</sup> "Just Say No," Editors–History Channel.com, May 31, 2017, <https://www.history.com/topics/1980s/just-say-no>

<sup>3</sup> <https://www.chausa.org/publications/health-progress/article/july-august-2019/what's-next-when-'just-say-no'-doesn't-work>

<sup>4</sup> Krug, E.G., Power, K.E and Dahlberg, L.I. (1997) Firearm-related deaths in the United States and 35 other high- and upper-middle-income countries. *International Journal of Epidemiology*, 27(2), 214-221; Fingerhut, L.A. and Kleinman, J.C. (1990) International and interstate comparisons of homicide among young males. *JAMA*, 263(24), 3292-3295.

<sup>5</sup> Administration for Children and Families. (2013). Child maltreatment 2012. U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. Retrieved from <http://www.acf.hhs.gov/programs/cb/research-data-technology/statistics-research/child-maltreatment>

<sup>6</sup> Burtless, G. and Smeeding, T.M. (2007) Poverty, work and policy: The United States in comparative perspective. Testimony at the Committee on Ways and Means, US Congress, February 13, 2007.

<sup>7</sup> Wilkinson, R. and Pickett, K. (2010) *The Spirit Level*. London: Penguin Books.

<sup>8</sup> Hertzman, C. (2013). Biological embedding, life course development and the emergence of a new science. In J. Fielding, R. Brownson and L Green (Eds.). *Annual Review of Public Health*, 14, 1-6.

<sup>9</sup> Cadet, J. L. (2016) Epigenetics of stress, addiction, and resilience: Therapeutic implications. *Mol Neurobiol*, 53:545–560. DOI 10.1007/s12035-014-9040-y

<sup>10</sup> Slutkin, G. (2013) Violence is a contagious disease. Forum on Global Violence Prevention; Board on Global Health; Institute of Medicine; National Research Council. Washington (DC): National Academies Press (US); 2013 Feb 6.

<sup>11</sup> Franklin, G.M. (2015) Reinventing Pain Care: The Antidote to the Worst Man-Made Epidemic in Modern Medical History. CDC webinar retrieved from <https://www.ibiweb.org/wp-content/uploads/2018/01/1-Franklin-Cutting-Edge-Scientific-Research.pdf>

<sup>12</sup> American Academy of Pediatrics. America's opioid crisis: The unseen impact on children. [www.aap.org/OpioidFactSheets](http://www.aap.org/OpioidFactSheets)

<sup>13</sup> Radel, L., Baldwin, M., Crouse, G. et al (2018) Substance use, the opioid epidemic, and the child welfare system: Key findings from a mixed methods study. ASPE Research

---

Brief, Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services.

<https://aspe.hhs.gov/system/files/pdf/258836/SubstanceUseChildWelfareOverview.pdf>

<sup>14</sup> Case, A. and Deaton, A. (2017) Mortality and morbidity in the 21<sup>st</sup> century. *Brookings Pap Econ Act*, 2017:397-476.

<sup>15</sup> Jones, Paulozzi et al, *JAMA Int Med* 2014

<sup>16</sup> Quinones, S. (2015). *Dreamland*. NY: Bloomsbury Press.

<sup>17</sup> Jones, C.M., Logan, J., Gladden, R.M. & Bohm, M.K. (2015) Vital signs: Demographic and substance use trends among heroin users – United States, 2001-2013. *Morbidity and Mortality Weekly Report*, 64(26), 719-725.

<sup>18</sup> Ratel, L., Baldwin, M., Crouse, G., Ghertner, R. and Waters, A. Substance use, the opioid epidemic, and the child welfare system: Key findings from a mixed methods study. U.S. Department of Health and Human Services, ASPE Research Brief. Retrieved from <https://aspe.hhs.gov/pdf-report/substance-use-opioid-epidemic-and-child-welfare-system-key-findings-mixed-methods-study>

<sup>19</sup> Simpson, T.I. and Miller, W.R. (2002) Concomitance between childhood sexual and physical abuse and substance use problems. A review. *Clinical Psychology Review*, 22, 27-77.

<sup>20</sup> Dube, S.R., Felitti, V.J., Dong, M. et al (2003) Childhood abuse, neglect and household dysfunction and the risk of illicit drug use: The Adverse Childhood Experiences study. *Pediatrics*, 111(3), 564-572.

<sup>21</sup> Choi, N., DiNitto, D., Marti, C., & Choi, B. (2017). Association of adverse childhood experiences with lifetime mental and substance use disorders among men and women aged 50 years. *International Psychogeriatrics*, 29(3), 359-372.  
doi:10.1017/S1041610216001800

<sup>22</sup> Quinn, K., Boone, L., Scheidell, J.D et al (2016) The relationships of childhood trauma and adulthood prescription pain reliever misuse and injection drug use. *Drug and Alcohol Dependence*, 169 (1), 190–198.  
<https://doi.org/10.1016/j.drugalcdep.2016.09.021>

<sup>23</sup> Schäfer, I., Pawils, S., Driessen, M., Härter, M. et al (2017). Understanding the role of childhood abuse and neglect as a cause and consequence of substance abuse: the German CANSAS network. *European Journal of Psychotraumatology*, 8(1), 1304114.  
<http://doi.org/10.1080/20008198.2017.1304114>.

<sup>24</sup> Lijffijt M., Hu, K., Swann, A.C. (2014) Stress modulates illness-course of substance use disorders: a translational review. *Front Psychiatry*; 5:83. doi: 10.3389/fpsy.2014.00083. *eCollection 2014*.

<sup>25</sup> Finestone, H.M., Stenn, P., Devies, F., Stalker, C., Fry, R., Koumanis, J. (2000) Chronic pain and healthcare utilization in women with a history of childhood sexual abuse. *Child Abuse and Neglect*, 24, 547 – 556.



- 
- <sup>26</sup> Davis, D.A., Luecken, L.J., & Zautra, A.J. (2005) Are reports of childhood abuse related to the experience of chronic pain in adulthood? A meta-analytic review of the literature. *Clinical Journal of Pain*, 21(5), 398-405.
- <sup>27</sup> Sachs-Ericsson, N., Kendall-Tackett, K., & Hernandez, A. (2007) Child abuse, chronic pain, and depression in the National Comorbidity Study. *Child Abuse & Neglect: The International Journal*, 31(5), 531-547
- <sup>28</sup> Kevorkian, S., Bonn-Miller, M. O., Belendiuk, K., Carney, D. M., Roberson-Nay, R., & Berenz, E. C. (2015). Associations among trauma, posttraumatic stress disorder, cannabis use, and cannabis use disorder in a nationally representative epidemiologic sample. *Psychology of Addictive Behaviors: Journal of the Society of Psychologists in Addictive Behaviors*, 29(3), 633–638. <http://doi.org/10.1037/adb0000110>
- <sup>29</sup> Myers, B., McLaughlin, K. A., Wang, S., Blanco, C., & Stein, D. J. (2014). Associations between childhood adversity, adult stressful life events, and past-year drug use disorders in the National Epidemiological Study of Alcohol and Related Conditions (NESARC). *Psychology of Addictive Behaviors: Journal of the Society of Psychologists in Addictive Behaviors*, 28(4), 1117–1126. <http://doi.org/10.1037/a0037459>
- <sup>30</sup> Walsh, K., Keyes, K. M., Koenen, K. C., & Hasin, D. (2015). Lifetime prevalence of gender-based violence in US women: Associations with mood/anxiety and substance use disorders. *Journal of Psychiatric Research*, 62, 7–13. <http://doi.org/10.1016/j.jpsychires.2015.01.002>
- <sup>31</sup> Walsh, K., Elliott, J. C., Shmulewitz, D., Aharonovich, E. et al (2014). Trauma exposure, posttraumatic stress disorder and risk for alcohol, nicotine, and marijuana dependence in Israel. *Comprehensive Psychiatry*, 55(3), 621–630. <http://doi.org/10.1016/j.comppsy.2013.11.016>
- <sup>32</sup> Ullman, S. E., Relyea, M., Peter-Hagene, L., & Vasquez, A. L. (2013). Trauma histories, substance use coping, PTSD, and problem substance use among sexual assault victims. *Addictive Behaviors*, 38(6), 2219–2223. <http://doi.org/10.1016/j.addbeh.2013.01.027>
- <sup>33</sup> Fareed, A., Eilender P., Haber, M., Bremner, J. et al (2013) Comorbid posttraumatic stress disorder and opiate addiction: A literature review, *Journal of Addictive Diseases*, 32:2, 168-179, DOI: 10.1080/10550887.2013.795467
- <sup>34</sup> Baser, O., Xie, L., Mardekian, J., Schaaf, D., Wang, L. and Joshi, A. V. (2014), Prevalence of Diagnosed Opioid Abuse and its Economic Burden in the Veterans Health Administration. *Pain Pract*, 14: 437–445. doi:10.1111/papr.12097
- <sup>35</sup> Kim, S., Kwok, S., Mayes, L. C., Potenza, M. N., Rutherford, H. J. V. and Strathearn, L. (2017) Early adverse experience and substance addiction: dopamine, oxytocin, and glucocorticoid pathways. *Ann. N.Y. Acad. Sci.*, 1394: 74–91. doi:10.1111/nyas.13140
- <sup>36</sup> Buisman-Pijlman, F.T.A., Sumracki, N.M., Gordon, J.J. et al (2014) Individual differences underlying susceptibility to addiction: Role for the endogenous oxytocin system. *Pharmacology, Biochemistry and Behavior* 119, 22–38
- <sup>37</sup> Mate, G. (2012) Addiction: Childhood Trauma, Stress and the Biology of Addiction. *Journal of Restorative Medicine*, 1 (1), 56-63(8).

- 
- <sup>38</sup> Traumatic Stress and Substance Abuse Problems. International Society for Trauma Stress Studies.  
[https://www.istss.org/ISTSS\\_Main/media/Documents/ISTSS\\_TraumaStressandSubstanceAbuseProb\\_English\\_FNL.pdf](https://www.istss.org/ISTSS_Main/media/Documents/ISTSS_TraumaStressandSubstanceAbuseProb_English_FNL.pdf)
- <sup>39</sup> Morrissey, J.P., Ellis, A.R., Gatz, M et al (2005) Outcomes for women with co-occurring disorders and trauma: Program and person-level effects. *Journal of Substance Abuse Treatment*, 28(2), 121-133.
- <sup>40</sup> Lenz, A.S., Henesy, R. & Callendar, A. (2016) Effectiveness of Seeking Safety for co-occurring Posttraumatic Stress Disorder and substance use. *Journal of Counseling and Development*, 94, 51-61.
- <sup>41</sup> Mills, K.L., Teesson, M., Back, S.E. et al (2012) Integrated exposure-based therapy for co-occurring posttraumatic stress disorder and substance dependence: A randomized control trial. *JAMA*, 308, 690-699.
- <sup>42</sup> Killeen, T.K., Back, S.E. & Brady, K.T. (2015) Implementation of integrated therapies for comorbid post-traumatic stress disorder and substance use disorders in community substance abuse treatment programs, *Drug Alcohol Review*, 34(3), 234-241.
- <sup>43</sup> Najavits L.M. & Hien, D. (2013) Helping vulnerable populations: A comprehensive review of the treatment outcome literature on substance use disorder and PTSD. *Journal of Clinical Psychology, In Session*, 69(5), 433-479.
- <sup>44</sup> Beck, S.E., Brady, K.Y., Sonne, S.C. & Verduin, M.L. (2006) Symptom improvement in co-occurring PTSD and alcohol dependence. *Journal of Nervous and Mental Disease*, 194, 690-669.
- <sup>45</sup> Hien, D.A., Jiang, H., Campbell, A.N.C. et al. (2011) Do treatment improvements in PTSD severity affect substance use outcomes? A secondary analysis from a randomized clinical trial in NIDA's clinical trials network. *American Journal of Psychiatry*, 167, 95-101.
- <sup>46</sup> Bailey, K., Trevillion, K. & Gilchrist, G. (2019) What works for whom and why: A narrative systematic review of interventions for reducing post-traumatic stress disorder and problematic substance use among women with experiences of interpersonal violence. *Journal of Substance Abuse Treatment*, 99, 88-103.
- <sup>47</sup> Nahoo, T., Poole, N. and Schmidt, R. (2018) Trauma-informed Practice and the Opioid Crisis: A Discussion Guide for Health Care and Social Service Providers. Vancouver, B.C.: Centre of Excellence for Women's Health.
- <sup>48</sup> Rottnek, F. (2019, July-August). What's next when "Just Say No" doesn't work? *Health Progress*.
- <sup>49</sup> Substance Abuse and Mental Health Services Administration, (2018) Medications for Opioid Use Disorder for Healthcare and Addiction Professionals, Policymakers, Patients, and Families. HHS Publication No. SMA-18-5063, Rockville, MD: Substance Abuse and Mental Health Services Administration.
- <sup>50</sup> Substance Abuse and Mental Health Services Administration, (2012) Pharmacologic Guidelines for Treating Individuals with Post-Traumatic Stress Disorder and Co-

---

Occurring Opioid Use Disorders. HHS Publication No. SMA-12-4688, Rockville, MD: Substance Abuse and Mental Health Services Administration,

<sup>51</sup> Winograd, R.P., Presnall, N., Stringfellow, E. et al. (2019) The case for a medication first approach to the treatment of opioid use disorder, *The American Journal of Drug and Alcohol Abuse*, DOI: 10.1080/00952990.2019.1605372

<sup>52</sup> Mannell, P., Peindl, K.S., Lee, T. et al (2012) Buprenorphine-mediated transition from opioid agonist to antagonist treatment: State of the art and new perspectives. *Curr Drug Abuse Rev*, 5(1), 52-63.

<sup>53</sup> Killeen, T.K., Back, S.E. & Brady, K.T. (2015) Implementation of integrated therapies for comorbid post-traumatic stress disorder and substance use disorders in community substance abuse treatment programs, *Drug Alcohol Review*, 34(3), 234-241.

<sup>54</sup> Zweben, J.E., Moses, Y., Cohen J.B. et al (2015) Enhancing family protective factors in residential treatment for substance use disorders. *Child Welfare*, 95(5), 145-166.

<sup>55</sup> Shea, K. and Graham, M. (2018) Early Childhood Courts: The opportunity to respond to children and families affected by the opioid crisis. *Zero to Three*, 38(5), 39-47.

<sup>56</sup> Harris, M. and Fallot, R.D., Eds. (2001) *Using Trauma Theory to Design Service Systems, New Directions in Mental Health Services*. SF: Jossey-Bass.

<sup>57</sup> Substance Abuse and Mental Health Services Administration (2014) SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach. HHS Publication No. (SMA) 14-4884. Rockville, MD: Substance Abuse and Mental Health Services Administration.

<sup>58</sup> Carter, P. and Blanch, A. (2019) A trauma lens for systems change. *Stanford Social Innovation Review*, Summer, 2019, 49-54.

<sup>59</sup> Brown, S.M., Baker, C.N.; and Wilcox, P. (2012) Risking connection trauma training: A pathway toward trauma-informed care in child congregate care settings. *Psychological Trauma: Theory, Research, Practice, and Policy*, 4(5), 507-515.  
<http://dx.doi.org/10.1037/a0025269>

<sup>60</sup> Boel-Studt, S.M. (2015) A quasi-experimental study of trauma-informed psychiatric residential treatment for children and adolescents. *Research on Social Work Practice*, 1-10.

<sup>61</sup> Marrow, M.T., Knudsen, K.J., Olafson, E., and Bucher, S.E. (2012) The value of implementing TARGET within a trauma-informed juvenile justice setting. *Journal of Child & Adolescent Trauma*, 5(3), *Special Issue: Trauma and Juvenile Delinquency, Part II: New Directions in Interventions*, 257-270.

<sup>62</sup> Covington, S.S., Burke, C., Keaton, S., and Norcott, C. (2008) Evaluation of a trauma-informed and gender-responsive intervention for women in drug treatment. *Journal of Psychoactive Drugs, SARC Supplement 5*, 387-398.

<sup>63</sup> U.S. Government Accountability Office (April, 2019) *Children Affected By Trauma. Selected States Report Various Approaches and Challenges to Supporting Children*. GAO-19-388.

- 
- <sup>64</sup> Nathoo, T., Poole, N. and Schmidt, R. (2018) Trauma-informed practice and the opioid crisis: A discussion guide for health care and social service providers. Vancouver, B.C.: Centre of Excellence for Women's Health. Retrieved from [http://bcewh.bc.ca/wp-content/uploads/2018/06/Opioid-TIP-Guide\\_May-2018.pdf](http://bcewh.bc.ca/wp-content/uploads/2018/06/Opioid-TIP-Guide_May-2018.pdf)
- <sup>65</sup> Minkoff, K., & Cline, C.A. (2004). Changing the world: The design and implementation of comprehensive continuous integrated systems of care for individuals with co-occurring disorders. *Psychiatric Clinics of North America*, 27(4), 727–743.
- <sup>66</sup> Substance Abuse and Mental Health Services Administration (2010) Recovery-oriented Systems of Care Resource Guide. Retrieved from: [https://www.samhsa.gov/sites/default/files/ros\\_c\\_resource\\_guide\\_book.pdf](https://www.samhsa.gov/sites/default/files/ros_c_resource_guide_book.pdf)
- <sup>67</sup> Sheedy C. K., and 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.
- <sup>68</sup> Blanch, A.K., Shern, D.S., Reidy, M.C. and Lieberman, L. (Submitted for review). Using the ACEs/Trauma/Resilience frame in building cross-sector networks: Observations from the Field. Community Development.
- <sup>69</sup> Strong Foundations Collaboration. The first thousand days: A case for investment (April 2019). <https://www.rch.org.au/uploadedFiles/Main/Content/ccchdev/The-First-Thousand-Days-A-Case-for-Investment.pdf>
- <sup>70</sup> Fee, E. & Brown T.M. (2002) The unfulfilled promise of public health: Déjà vu all over again. *Health Affairs*, 21(6), 31-43.
- <sup>71</sup> Trust for America's Health: Legislative Priorities for the 116th Congress January 2019. Retrieved from <https://www.tfah.org/report-details/trust-for-americas-healths-legislative-priorities-for-the-116th-congress-january-2019/>
- <sup>72</sup> Kindig, D.A. & Milstein, B. (2018) A balanced investment portfolio for equitable health and well-being is an imperative, and within reach. *Health Affairs*, 37(4), 579-584; Hester, J. (2018) A balanced portfolio model for improving health: concept and Vermont's experience. *Health Affairs*, 37(4), 570-578.
- <sup>73</sup> Health Federation of Philadelphia survey of trauma-informed community initiatives, unpublished data.
- <sup>74</sup> Hawkins, J.D., Catalano, R.F. & Arthur, M.W. (2002) Promoting science-based prevention in communities. *Addictive Behaviors*, 26(6), 951-976.
- <sup>75</sup> Tough, P. (2009) Whatever it takes: Geoffrey Canada's quest to change Harlem. NY: Harcourt.
- <sup>76</sup> Lester, P. (2016) Performance Partnership Pilots: Projects May Need More Time to Test Local Flexibility and Coordinated Services. Social Innovation Research Center. Retrieved from [http://socialinnovationcenter.org/wp-content/uploads/2016/06/P3\\_Report.pdf](http://socialinnovationcenter.org/wp-content/uploads/2016/06/P3_Report.pdf)
- <sup>77</sup> Horn, Margo. 1989. Before It's Too Late: The Child Guidance Movement in the United States 1922–1945. Philadelphia: Temple University Press.

- 
- <sup>78</sup> Regier DA, Goldberg ID, Taube CA. (1978) The de facto US mental health services system: a public health perspective. *Arch Gen Psychiat*; 35(6): 685-693.
- <sup>79</sup> ACGME Program Requirements for Graduate Medical Education in Family Medicine. (2018). Retrieved from <https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/120FamilyMedicine2018.pdf?ver=2018-06-15-112624-307>
- <sup>80</sup> Brieler, JA, Scherrer JF, Salas J. (2014) Differences in prescribing patterns for anxiety and depression between General Internal Medicine and Family Medicine. *J Affect Disord* Oct; 172C: 153-158.
- <sup>81</sup> Stein M, Sherbourne C, Craske M, et al. (2004) Quality of care for primary care patients with anxiety disorders. *Am J Psychiatry*; 161 (2230-2237).
- <sup>82</sup> Bradford DM, Kim MM, Braxton LE, et al. Access to medical care among persons with psychotic and major affective disorders. *Psychiatr Serv* 2008; 59(8): 847-852.
- <sup>83</sup> Jacobs C, Brieler JA, Salas J, Betancourt RM, Cronholm PF. (2018) Integrated Behavioral Health Care in Family Medicine Residencies: A CERA Survey. *Fam Med*; 50(5):380-384.
- <sup>84</sup> Solberg, LI, Crain, AL, Maciosek MV, et al. (2015) A Stepped Wedge Evaluation of an Initiative to Spread the Collaborative Care Model for Depression in Primary Care. *Ann Fam Med*; 13(5).
- <sup>85</sup> Fisher L, Dickinson WP. (2014) Psychology and primary care: New collaborations for providing effective care for adults with chronic health conditions. *American Psychologist*; 69(4):355-63.
- <sup>86</sup> Woltman E, Grogan-Kaylor A, Perron B, et al. (2012) Comparative effectiveness of collaborative chronic care models for mental health conditions across primary, specialty, and behavioral health care settings: systematic review and meta-analysis. *Am J Psychiatry*; 169(8): 790-804.
- <sup>87</sup> Peek, C. J. (2013). Integrated behavioral health and primary care: A common language. In *Integrated Behavioral Health in Primary Care* (pp. 9-31). Springer New York.
- <sup>88</sup> Bogan, J. (2019). Proven treatment is out there for heroin addicts. But good luck getting it in Missouri. *St. Louis Post-Dispatch*. Retrieved from [https://www.stltoday.com/news/local/crime-and-courts/proven-treatment-is-out-there-for-heroin-addicts-but-good/article\\_ec5972de-06d2-5521-a480-968309344cef.html](https://www.stltoday.com/news/local/crime-and-courts/proven-treatment-is-out-there-for-heroin-addicts-but-good/article_ec5972de-06d2-5521-a480-968309344cef.html)
- <sup>89</sup> Dick, A., Pacula, R., Gordon, A., Sorbero, M., Burns, R., & Farmer, C. et al. Increasing Potential Access to Opioid Agonist Treatment in U.S. Treatment Shortage Areas. *Health Aff (Millwood)*. 2015 Jun; 34(6): 1028–1034.
- <sup>90</sup> Pearson, C., & Brantley, K. (2019). Why we need bolder action to combat the opioid epidemic. Retrieved from <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/why-we-need-bolder-action-to-combat-the-opioid-epidemic>.
- <sup>91</sup> TIP 63: Medications for Opioid Use Disorder – Full Document (Including Executive Summary and Parts 1-5) | SAMHSA Publications. (2018). Retrieved from

---

<https://store.samhsa.gov/product/TIP-63-Medications-for-Opioid-Use-Disorder-Full-Documents-Including-Executive-Summary-and-Parts-1-5-/SMA19-5063FULLDOC>

<sup>92</sup> Substance Abuse Treatment for Persons with Co-Occurring Disorders. (2013). Retrieved from <https://store.samhsa.gov/system/files/sma13-3992.pdf>

<sup>93</sup> O'Connor, P., Nyquist, J., & McLellan, A. (2011). Integrating addiction medicine into graduate medical education in primary care: The time has come. *Annals of Internal Medicine*, 154(1), 56.

<sup>94</sup> Goldsmith RJ. (2016). Summary of Inter-Professional Collaboration. Retrieved from <https://www.asam.org/resources/publications/magazine/read/article/2016/03/22/summary-of-inter-professional-collaboration>