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Integrated Systems and Services for People with Co-Occurring Mental Health and Substance Use Conditions: What's Known, What's New, and What's Now?

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**Integrated Systems and Services for People with Co-Occurring Mental Health and
Substance Use Conditions: What's Known, What's New, and What Now?**

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Kenneth Minkoff and Nancy Covell

Introduction – Historical Context for this Review: What's Known

Individuals with co-occurring mental health and substance use disorders (COD) were first identified as a population of significance in the 1970s and 1980s, at a time when mental health (MH) services and practitioners and substance use disorder (SUD) services and practitioners were far more divided than is the case today. At that time, the so-called “dual diagnosis” population were recognized as a group of individuals who were associated with poor outcomes and high costs in multiple domains (1-5), as well as being surprisingly prevalent in both MH and SUD service settings.

Beginning in the late 1980s, researchers in a variety of settings began describing and studying programmatic approaches and specific intervention strategies for what was termed “integrated treatment” - addressing both types of disorders at the same time, in the same place, by the same team (6). During the next decade and one-half, there was a steady accumulation of materials, manuals, guidelines, and research findings directed at “COD”. Many of these materials will be described later in this review article.

By the late 1990s, the Substance Abuse and Mental Health Services Administration's (SAMHSA's) Center for Mental Health Services (CMHS) had released an evidence-based practice toolkit on Integrated Dual Disorder Treatment (IDDT) for individuals with serious mental illness and co-occurring substance use disorder (7), and a few years later, the Center for Substance Abuse Treatment (CSAT) released *Treatment Improvement Protocol (TIP) #35, on Assessment and Treatment of Individuals with SUD and Co-Occurring Mental Illness* (8), which was designed mostly to provide guidance for addressing individuals with COD who were being serviced in SUD settings, although much of the manual could be applied in any setting.

The emergence of these sets of organized clinical materials helped to generate a wave of energy directed at implementation of integrated services and integrated systems of care at the federal, state, and local (county and regional) level across the country. SAMHSA's CMHS Managed Care Initiative, as early as 1998, commissioned a report entitled: *Individuals with Co-Occurring Mental Health and Substance Use Disorders: Standards of Care, Practice Guidelines, Workforce Competencies, and Training Curricula* (9-11). Massachusetts (12), New Mexico (13) and Arizona implemented statewide consensus building and implementation processes (in New Mexico) regarding universal implementation of what were termed “Dual Diagnosis Capable (DDC)” services. The American Society of Addiction Medicine (ASAM) issued updated *Patient Placement Criteria (Second Edition, revised)* incorporating standards for DDC and Dual Diagnosis Enhanced (DDE) addiction services (14). In 1999, the national organizations representing the National Association of State Mental Health Program Directors (NASMHPD) and National Association of State Alcohol and Drug Abuse Directors (NASADAD) issued a combined consensus statement supporting the use of the “Four Quadrant Model” for service planning for individuals with COD across state systems (15).

SAMHSA's Report to Congress on Co-Occurring Disorders (2002) declared (based on an accumulation of epidemiologic data from the Epidemiologic Catchment Area survey (16) and the National Comorbidity Survey and NCS-R (17) that “Co-occurring disorders are an expectation,

not an exception” in all settings, thus indicating a need for universal application of strategies to develop integrated or “dual diagnosis capable” services and integrated systems to support those services (18). In 2003, SAMHSA funded the Co-Occurring Center of Excellence (COCE) to coordinate national technical assistance and implementation efforts, and also initiated a multi-year wave of five-year Co-Occurring State Infrastructure Grants (COSIGs), which were ultimately awarded to 19 states, with a first wave of seven states in 2004, and the last two states in 2009. The goal of the COSIGs were to assist states in developing, implementing, and evaluating statewide approaches to integrated service delivery for the COD population.

In 2006, COCE produced a series of technical assistance papers to provide guidance to the field (19-26). Numerous states (*e.g.*, Ohio (27), Michigan, New York) embarked on their own implementation activities without receiving COSIG grants. Many states and counties proceeded to “integrate” their MH and SUD divisions or departments into single “Behavioral Health Departments”. SAMHSA developed a train-the-trainer series on implementing *TIP #42, Treatment Improvement Protocols* and increasingly emphasized implementation of evidence-based practices (EBPs) such as IDDT in its MH Block Grant requirements. In addition to the EBP Toolkit for IDDT, to be discussed in more detail later in this paper, toolkits with broader applicability were developed by Kenneth Minkoff & Christie Cline (*e.g.*, *Comprehensive Continuous Integrated System of Care* (28-32), and by McGovern *et al.*, (33) to guide the implementation of “dual diagnosis capability” or “co-occurring capability” more universally at the program and practice level; these toolkits were used in most of the COSIG states, and many of the non-COSIG states and counties to support an organized implementation process for integrated services. (28-31). Most states adopted one or the other toolkit, but some states, like Maine, used both (34).

There was a lot of progress apparently being made. And then, suddenly, it all slowed down. The COSIG program stopped, COCE was de-funded, and the energy and effort dedicated to COD was apparently sidelined.

What happened?

First, beginning in 2006, as the appropriate result of the emergence of dramatic data on the 25- to 30-year life expectancy gap for adults with serious mental illness (SMI) (35), and the simultaneous accumulation of research on evidence-based approaches for treatment of common behavioral health conditions in primary care (*e.g.*, Collaborative Care models such as IMPACT (36) and DIAMOND (37) for depression, and Screening Brief Intervention and Referral to Treatment (SBIRT) for SUD (38)) there was an upswing of effort shifting the focus on “integration” from Mental Health and SUD integration to Primary Health and Behavioral Health Integration (PHBHI).

Notably, most of the health conditions contributing to the mortality gap are caused or exacerbated by a co-occurring nicotine addiction resulting in high smoking rates in the behavioral health population (39). Beginning in September 2009, SAMHSA and the Health Resources and Services Administration (HRSA) began funding PHBHI implementation grants. Over the past several years, those grants have reached more than 100 recipients (mostly MH agencies) across the nation and have been evaluated as producing success in building integrated, multidisciplinary teams offering an array of services and demonstrated improvement in some medical, but not behavioral health, outcomes (40). SAMHSA and HRSA also established and funded the Center for Integrated Health Solutions (under the auspice of the National Council for Behavioral Health) to support “bidirectional” implementation efforts nationwide, and a panoply of tools and toolkits emerged to

achieve PHBHI at multiple levels of system design and service delivery (<https://www.integration.samhsa.gov/>).

As the focus on PHBHI became more prominent, it became natural to assume that the “BH” (that is MH and SUD) integration had been completed. At the same time, there was somewhat less energy for continuing to work on COD. The prevailing perspective was: “We did that already; we need to move on.” This was likely related to limitations in understanding how to measure “MH and SUD integration”, and limitations in the ability to apply best practices of implementation science to the achievement of MH/SUD integration.

For example, if integration is “measured” by “administrative reorganization” – the creation of a BH Department instead of separate MH and SUD departments –by increasing co-located MH and SUD services, or increasing numbers of staff who had received some type of COD training, then progress was indeed visible. If, however, MH/SUD integration was measured by the number of individuals or families with both MH and SUD conditions who were screened and identified, and received integrated assessment and appropriately matched integrated treatment, then progress (as will be discussed below) was far more inconsistent, less firmly grounded, and less sustainable. Indeed, people with COD continued receiving treatment for both at alarmingly low rates; in the 2017 National Survey on Drug Use and Health (NSDUH), only 12% of adults with co-occurring SMI (8% with any mental illness) and substance use disorder received both MH and specialty SUD treatment (41).

A fully applied implementation science framework applied at the system level would have more routinely focused attention on the importance of aligning policies, procedures, practice supports, and ongoing supervision to ensure that individual COD clients receive the services they need, and that progress is continually measured to ensure that, in fact, individuals with COD are receiving appropriately matched services. However, in the past few years, as a result of newly emergent areas of concern, there has been a growing re-focus on achieving MH and SUD integration, and improving services for individuals with COD.

What’s New?

- 1. The opioid epidemic:** The emergence of the national opioid crisis has been a stark reminder of the need for integration of MH/SUD services. Among significant data that have emerged are:
 - The high prevalence of co-occurring MH conditions (including trauma) among individuals with opioid use disorder (OUD) (42), especially women (43), requiring integration of MH services into OUD treatment settings, and
 - The high prevalence of OUD among adults with SMI (42, 44), and the need for integrated services, including medication-assisted treatment (MAT), to be delivered within MH settings to meet their need.

It is also important to note that the visibility of the opioid epidemic has partially obscured the continued impact of methamphetamine—which is also associated with a high prevalence of COD—across the nation. Many states are currently reporting more deaths related to methamphetamine (possibly due to a mixture with fentanyl) than due to opioids. (45)

2. **Certified Community Behavioral Health Centers (CCBHCs):** The implementation of the CCBHC demonstrations, starting with 24 states with planning grants, 8 states currently in year two of implementation, and the likelihood of expanded funding for more states to come on line, has led to a focus on this new model of funding and service delivery as an emerging model for the system as a whole. Part of CCBHC implementation has been the dissemination of a set of federal standards of practice that CCBHCs have to meet, one of which is the ability to respond effectively to the needs of individuals with COD (45). For the [National Council for Behavioral Health](#) and for many providers, this has brought renewed awareness that co-occurring services had not been well-developed, even in these “front running” CCBHC provider organizations, and that more consistent attention to this population is warranted.
3. **PHBHI Progression:** Over the past decade, steady progress in implementing integrated services in primary care has made it even more clear how much disconnection remains between treatment for MH and SUD, even within primary care integration efforts. There have been numerous national projects studying implementation of SBIRT in primary care (37), and implementation of Collaborative Care models in primary care (36) (usually with a focus on the use of PHQ-9 to screen for depression), but primary care organizations have not commonly been focused on integrating services for BOTH MH and SUD conditions. (47); the Veterans Administration (VA) is arguably an exception to this finding. Nonetheless, progress in PHBHI has begun to circle back to recognizing that both MH and SUD need to be integrated with each other AND integrated into primary care in order to maximize population health impact.
4. **Criminal Justice Diversion:** During the past decade as well, there has been renewed focus on developing system and service approaches to diverting individuals with BH needs out of the criminal justice system wherever possible. Sequential intercept mapping (48) has been a guiding approach, and the Stepping Up initiative (49-50) has led to hundreds of counties nationwide to commit to these efforts, with support from a variety of federal grant programs, the National Gains Center, MacArthur and Arnold Foundations (<https://stepuptogether.org/what-you-can-do>). The data on individuals with BH needs in the criminal justice system report on the striking prevalence of comorbidity (51) yet communities attempting to implement diversion efforts indicate that there is limited access to effective program models (52) that can respond effectively to these individuals. This has led once again to the need to implement what is known about effective integrated treatment approaches for this population, in order to effectively respond the strengthening demand for diversion services.

What Now?

The revival of attention to this issue requires that we move forward, pick up where we left off as a field, and build upon what we already know, not start over. The main purpose of this review article is to bring together information that will help the field do just that, in each of the following sections.

Understanding and Planning for the Population – This section will review definitions of COD, integration, and other key terms, will look at the most current data on epidemiology and frameworks for population mapping (e.g., the Four Quadrants), and then look at where we need to go in these areas.

What's Known

Over 10 years ago, the SAMHSA Co-Occurring Center of Excellence (COCE) issued a set of “Overview Papers” to clarify terms and concepts concerning co-occurring disorders (19-26). These papers, although somewhat dated, still represent the best available consensus understanding of definitions, epidemiology, and approaches for population mapping. Here is a summary of key points:

Definition of COD: COCE recommends using a “service definition” (individuals who need both MH and SUD services at any point in time) for co-occurring disorder service planning, rather than a narrower “diagnostic” definition, since many individuals require integrated services but may not meet independent diagnostic criteria for mental illness and SUD. (19). COCE also recommends inclusion of gambling and nicotine as addictive issues of concern. This might be stated as follows: “Any person, of any age, with any combination of a mental health condition (including trauma-related symptoms) and a substance use or addictive condition (including nicotine or gambling addiction), whether or not that person has already been diagnosed.” This definition also can include individuals with serious and disabling mental illness, or youth with serious emotional disturbance, who are using substances in moderate amounts that are nonetheless harmful because of the vulnerability of their brains, but who may not meet the diagnostic threshold for a SUD.

Epidemiology of COD: COCE’s review of COD epidemiology (26) captures general household survey prevalence data from three sources: The National Comorbidity Survey – Replication (NCS-R), conducted 2001-03, the annual SAMHSA NSDUH, and the National Epidemiologic Study on Alcohol and Related Conditions (NESARC), conducted 2001-02. The review discusses the variations in methodology of these various surveys, and concludes that somewhere between 5 million and 7 million Americans suffered from COD (at that time). With regard to prevalence in treatment settings, COCE summarizes data indicating between 20% and 50% of individuals served in MH settings have lifetime co-occurring SUD, and between 50% and 75% of individuals in SUD treatment settings have a lifetime co-occurring mental health condition. The prevalence of comorbidity is higher in populations with higher levels of instability and need (e.g., homelessness, criminal justice involvement, child welfare populations, crisis settings.) (53-61)

COCE concludes: *Persons with COD are found in all service populations and settings. These clients will never be served adequately by implementing a few programs in a system with scant resources. Rather, COCE takes the position that co-occurring disorders are to be expected in all behavioral health settings, and system planning must address the need to serve people with COD in all policies, regulations, funding mechanisms, and programming. (See COCE Overview Paper 3 (21), Overarching Principles to Address the Needs of Persons with Co-Occurring Disorders, p. 2; CSAT, 2005).*

Systems integration is one important mechanism for reaching this goal. COCE has papers dedicated to discussion of both “services integration” (24) and “systems integration” (25), each of which utilizes the following definitions:

- **Integration:** *As used in this paper, integration refers to strategies for combining mental health and substance abuse services and/or systems, as well as other health and social services to address the needs of individuals with COD.*

- **Services Integration:** *Any process by which mental health and substance abuse services are appropriately integrated or combined at ... the level of direct contact with the individual client with COD Integrated services can be provided by an individual clinician, a clinical team that assumes responsibility for providing integrated services to the client, or an organized program in which all clinicians or teams provide appropriately integrated services to all clients.*
- **Systems Integration:** *The process by which individual systems or collaborating systems organize themselves to implement services integration to clients with COD and their families. (24-25)*

Note that COCE emphasizes that simply merging MH and SUD “departments” at a provider organization or delivery system level does not automatically produce either systems integration or services integration. Whether or not “departments” are administratively merged, there needs to be an organized and collaborative effort across all relevant service domains to implement routine delivery of integrated services at the level of individuals served.

Definition of Co-Occurring Capability: COCE (24) utilizes the original ASAM definition of Dual Diagnosis Capability, as follows:

Dual Diagnosis Capable (DDC): This term is used to designate programs that "address co-occurring mental and substance-related disorders in their policies and procedures, assessment, treatment planning, program content and discharge planning" (14 p. 362). A more recent version of The ASAM Criteria (Third Edition, 2013), utilizes the “service definition” of “co-occurring conditions” (above) and updates its terminology to “co-occurring capability,” as follows:

Co-Occurring Capability: *For any type of program, and as defined by the mission and resources of that program, recovery-oriented co-occurring capability involves integrating at every level the concept that the next person “coming to the door” of that program is likely to have co-occurring conditions and needs. This approach emphasizes that such people need to be welcomed for care, engaged with empathy and the hope of recovery, and provided what they need in a person-specific and integrated fashion.....For any type of addiction and MH program, co-occurring capability can be achieved within existing program resources.....Progress...includes addressing...(a range of) indicators, through policy, procedure, practice improvement, and workforce development over time (pp. 26-29). (See also Minkoff & Cline, Compass-EZ 2.0, 32)*

Tools for measuring program co-occurring capability include the COMPASS-EZ 2.0 for both MH and addiction programs (32), and the DDCAT (for addiction programs) (33) and DDCMHT (for MH programs) (61).

The ASAM Criteria also discuss **Co-Occurring Enhanced programs** (formerly termed Dual Diagnosis Enhanced), describing them as “**special programs**” that are not merely programs that have made more progress in being COD-Capable. Examples include addiction programs with enhanced resources that specifically and preferentially serve individuals with more severe psychiatric disabilities, or specialized mental health programs that focus on individuals with severe mental health conditions and active SUD, such as acute COD-specialized inpatient units or specialized IDDT or ACT programs (14, p. 29; 24).

What's New?

Very little has changed in the past decade, other than the evolution of terminology from Dual Diagnosis Capable to COD-Capable, described above. Several areas of importance are worth noting, however:

Epidemiology of Co-Occurring OUD and MI: Using 2015–2017 NSDUH data, one study estimated the prevalence of co-occurring substance use and mental disorders and receipt of mental health and substance use treatment services among adults with opiate use disorder (42). More than three-quarters (77%) of adults with opiate use disorder had co-occurring other substance use disorders or nicotine dependence in the past year, and many had co-occurring mental health issues (64% with any MI and 27% with SMI (42). Less than one-third of people with a co-occurring mental health and OUD received treatment for both (25% of those with any MI and 30% of those with SMI; 42).

Epidemiology of Co-Occurring Trauma and SUD: Although it has been well known since the late 1990s that the presence of a history of trauma (emotional, physical, sexual abuse) is both predictive of the development of SUD, often the result of having an SUD, and in either case commonly correlated with SUD (62), this issue has received even greater attention because of the increasing awareness of the connection between combat-related trauma, SUD, and mental illnesses (notably depression and suicide) among returning combat veterans. (U.S. Department of Veterans Affairs). This has led to important progress in knowledge (discussed further later in this article) regarding integrated interventions for SUD and trauma-related disorders (*e.g.*, PTSD) and symptoms.

Epidemiology of Co-Occurring SUD, MH and Intellectual and Developmental Disabilities (I/DDs) and Acquired Brain Injury (ABI): There has similarly been significant advance in knowledge of the risk of initiation of both MI and SUD following ABI (combat-related and non-combat related), as well as the risk of SUD in causing ABI (*e.g.*, resulting from motor vehicle accidents caused by driving under the influence) (63). This has resulted in awareness of the need for brain injury support services to integrate co-occurring disorder services. Further, increased efforts to identify individuals with a wider range of I/DDs (including fetal alcohol syndrome and autism spectrum disorders) and support them living in the community, has resulted in a greater prevalence of individuals in I/DD services who have both mental health and substance use disorders which need integrated attention within I/DD support services (64).

Importance of Addressing Co-Occurring Nicotine Dependence:

Tobacco-related illness is the highest-ranking cause of death among people with SMI. (65) People with a diagnosed mental health and/or substance use disorder, other than nicotine, have smoking rates higher than the general population (66) and are responsible for over one-third of all cigarettes smoked (39). Dr. Jill M. Williams and colleagues have made a strong argument for behavioral health providers to treat tobacco dependence like any other co-occurring mental health and substance use disorder (67).

Increased Recognition of Risks of Marijuana and “Synthetic Cannabinoids” in COD Populations.

Cannabis use has been associated with an increased risk for psychosis (68) and co-occurring use of cannabis has been related to poorer outcomes for people with psychosis, major

depressive disorder, and bipolar disorder (69). The rates of synthetic cannabinoids are increasing with similarly negative impact for people with COD. In one study, over one-half of 101 people admitted to a psychiatric inpatient unit for co-morbid substance use in Australia reported use of synthetic cannabinoids during their lifetime (70). In a separate study of a similar population in the United States, among 594 people admitted to an inpatient unit for co-occurring mental health and substance use, synthetic cannabis use was associated with higher rates of psychosis and agitation than marijuana use (71).

Description of System Integration Planning Frameworks: COCE describes two system integration frameworks that are in common use today.

- **Four Quadrant Model:** The Four Quadrant model was developed as a consensus for system planning among state mental health and SUD commissioners (NASMHPD and NASADAD) in 1999 (15). This planning framework divides the population into four quadrants based on severity (applied to acuity and/or chronic impairment) associated with each condition. The High-High (Quadrant IV) and High-Low (Quadrant II) clients are generally served in acute or long-term mental health settings; the Low-High (Quadrant III) clients and some types of Quadrant IV clients are served in SUD settings. Low-Low (Quadrant I) clients are more likely to be seen, and served, in primary care. This is clearly only a rough heuristic, but it has proven valuable for describing the focus of population planning for MH/SUD service integration that is most relevant for each type of system and service delivery setting.
- **Comprehensive Continuous Integrated System of Care (CCISC):** First described by Paul Barreira *et al.*, (12), this approach has been developed and applied in multiple systems by Kenneth Minkoff and Christie Cline (28, 29), and was described as an emerging practice for systems integration by COCE (25). The framework of CCISC builds on the idea that individuals and families with co-occurring conditions occur in all settings (including, in child MH settings, where parents of children with serious emotional disturbance abuse substances) and therefore systems integration requires an organized systemic Continuous Quality Improvement-driven implementation process by which all processes, programs, and staff become co-occurring-capable. This approach has been applied and described in multiple state and regional systems (13, 30-31), with individual evaluations of system progress (*e.g.*, Maine) (34), but has not been subject to formal implementation research. Experiences with CCISC implementation will be discussed later in this paper.

What Now?

It is striking to realize that the most recent national epidemiologic survey addressing co-occurring disorders (NCS-R) is nearly 20 years old. There is an urgent need for more current and reliable data on the epidemiology of all MI and SUD, including COD. That is an effort for which SAMHSA is currently seeking to obtain funding.

Further, it is also striking to realize that there has been little further progress in the delineation, evaluation, and research of system and services integration efforts, including concepts like co-occurring capability, co-occurring enhancement, the 4 Quadrant Model, and CCISC. Indeed, significant structural barriers still exist in access to evidence-based treatments for people with co-occurring disorders, including service availability, identification of the co-occurring disorder,

provider training, service provision, racial/ethnic disparities, and insurance/policy barriers. (72) There is much more known about “what works” (as shall be seen in the next section of this paper) than about sustainable and systematic implementation of “what works”. This will be discussed in more detail in the final section of the paper.

Understanding What Works

This section will first review the array of treatment interventions that have been identified as helpful for individuals and families with COD, the data that support those interventions, the various ways that the interventions that work have been packaged into “integrated interventions” and “integrated treatment program” models, and the data that support the effectiveness of various packages of integrated services. Following that, there will be discussion of what’s new in terms of emerging clinical interventions, and what’s next in terms of application in the field.

What’s Known: Overarching Principles: COCE (21) articulated 12 overarching principles for integrated COD treatment, the first six for systems, and the second six for providers of care. The latter principles include:

Principle 7: Co-occurring disorders must be expected when evaluating any person, and clinical services should incorporate this assumption into all screening, assessment, and treatment planning.

Principle 8: Within the treatment context, both co-occurring disorders are considered primary.

Principle 9: Empathy, respect, and belief in the individual’s capacity for recovery are fundamental provider attitudes. In all behavioral interventions, the quality of the treatment relationship is the most important predictor of success.

Principle 10: Treatment should be individualized to accommodate the specific needs, personal goals, and cultural perspectives of unique individuals in different stages of change.

Principle 11: The special needs of children and adolescents must be explicitly recognized and addressed in all phases of assessment, treatment planning, and service delivery.

Principle 12: The contribution of the community to the course of recovery for consumers with COD and the contribution of consumers with COD to the community must be explicitly recognized in program policy, treatment planning, and consumer advocacy.

These principles can inform our understanding of “what works”. Each person with co-occurring conditions is unique, and interventions must be matched appropriately to what that individual needs, within the context of an ongoing treatment relationship that is matched to the level and type of service that the individual needs and wants and is able to successfully engage the individual over time.

To summarize this:

- **Each person requires interventions that are appropriately matched to EACH primary co-occurring condition.** This requires attention not just to diagnosis, but to acuity, severity, chronicity, and level of impairment associated with each condition, as

well as to the individual's personal preferences and capabilities (developmental or cognitive status) for participating in treatment. Just as this is variable for any single condition, it is similarly variable for any combination of conditions.

- **Each person requires interventions that are matched to his/her individual recovery goals and his/her stage of change (73) for each condition.** In addition to services being properly matched to the disorders or conditions, the services must be matched to the individual's stage of change. If the person does not acknowledge that they have an MH or SUD condition – or that they want to address it – offering them treatment for it will not be properly matched. For many people, this means that they are engaged in service for one type of problem or condition, while receiving motivational interventions to help them progress with one or more co-occurring conditions. This may be further complicated by the needs of individuals (usually youth) who are being served in the context of their family or caregivers who may have their own needs, goals, and preferences. This leads to “stage-matched” or “stage-wise” treatment, which will be discussed below.
- **Each person (or family) is likely to benefit from “integration” of treatment or services to the degree that they are unable to integrate services for themselves.** The above definition of “integration” references the ability to integrate appropriately matched services at the level of the individual (or family). Thus, “integration” is not a single type of program or activity, so much as a range of strategies for helping individuals receive services that are integrated in accordance with their needs. Everyone must integrate multiple services or interventions for any co-occurring conditions in his or her own life; the question becomes how much assistance is needed to do that. The need for integration to be externally provided increases when the conditions are more complex, chronic, and disabling, or when the individual or family is more impaired. Further, this can require a higher level of external integration during an acute decompensation (e.g., hospitalization or crisis episode) than during ongoing continuing care. Thus, for some individuals, ongoing integration can be provided by an individual clinician coordinating care among multiple settings; at the other extreme, some individuals require a high degree of integration and coordination over time such as might be provided by an Assertive Community Treatment team, IDDT Team, or Modified Therapeutic Community. Similarly, for adolescents and families, program models based on wraparound principles that incorporate both high intensity services and integrated attention to COD have been developed, such as Multi-Systemic Therapy (MST) (74) which was designed to address co-occurring conduct disorder, SUD, and juvenile justice involvement.

Interventions That Work

For individuals with COD, there is considerable evidence indicating that interventions that work with any single condition will “work” with individuals who have a co-occurring “other” condition, with some degree of modification as needed based on the characteristics of the condition (e.g., severity or chronicity) and the individual's cognitive capacity or disability.

These interventions can be divided into pharmacologic and non-pharmacologic interventions, and, within the latter, can be subdivided into specific treatment interventions and recovery supports. The following is an intentionally brief summary of the most salient points.

Pharmacologic Interventions for MI for Individuals with COD

What's Known

Based on a range of available studies, including important research on IDDT, SAMHSA established principles for psychopharmacologic interventions for individuals with COD (75). These were further elaborated by Minkoff (76). The following are highlights of “what’s known”:

- Necessary non-addictive medication for known mental illness is effective, and must be continued, even for individuals who continue to use substances. In general, risky behavior requires closer monitoring and more support, not treatment extrusion or medication discontinuation (29, 75).
- Adults and adolescents respond to appropriately matched medications for their mental illness, even when they continue to use substances. (77).
- Although there are medications that have indications for MI (*e.g.*, certain anticonvulsant mood stabilizers such as gabapentin (78), valproate (79), and topiramate (80) that may have benefit for helping individuals reduce substance use, there are no data indicating that any specific medication is a “magic bullet” for any combination of comorbid conditions.
- There is considerable research suggesting that clozapine may have a direct effect helping individuals with psychotic illness reduce substance use, beyond its direct impact on their mental illness (81-82).
- Individuals with diagnosable ADHD (adults or children) are recommended to start treatment with non-stimulants, but once they are reasonably stable, they may benefit from, and safely be prescribed, continuing long-acting stimulants for their ADHD (83). There is no evidence that treatment with stimulants of individuals with ADHD produces higher incidence of SUD; in fact, pharmacotherapy of ADHD is associated with a reduced risk for substance use (84).

What's New?

There is a regular flow of research attempting to identify medications for psychiatric illness that may also impact co-occurring SUD (76). Often, initial findings that show promise do not hold up in subsequent studies. In a very recent report that shows promise, three people with longstanding substance use disorder reported a rapid and dramatic decrease in substance use when treated with cariprazine for bipolar I disorder (85).

What Now?

Despite the fact that the COD psychopharmacology practice guidelines are over 20 years old, there is still a lack of consistent training and implementation among prescribers. This is an important standard of care issue that needs to be addressed.

Pharmacologic Interventions for SUD for individuals with COD

What's Known

Research on the effectiveness of “Medication-Assisted Treatment” for SUD for individuals with co-occurring mental illness dates back more than 40 years. Early studies demonstrated the success of combining tricyclic antidepressants with methadone for co-occurring OUD and (86-87). Success using disulfiram for individuals with schizophrenia and alcohol use disorder (AUD) was demonstrated as early as 1986 (88). Steven L. Batki *et al.* demonstrated the effectiveness of naltrexone in reducing alcohol use among individuals with schizophrenia in 2007 (89). This research leads to the converse principle in co-occurring psychopharmacology practice guidelines (76).

For individuals with co-occurring MI, MAT for SUD will be as effective as for individuals without SUD who do not have co-occurring MI. These interventions may be used both to assist with “harm reduction” as well as with achieving abstinence, depending on the appropriate patient-centered goals.

What’s New? In the past decade, the emergence of research and awareness of the value of MAT for AUD and OUD has expanded considerably, most recently as a result of the opioid epidemic. At this point, it is considered a standard of care that ALL individuals who may have conditions that would respond to MAT should have the opportunity to receive it (90). This represents a major culture shift in addiction treatment. Although there are still no approved medications for treatment of stimulant use disorders, hallucinogen use disorders, or so-called “synthetic cannabinoids,” there is a continuing effort to identify those. N-Acetyl cysteine (NAC) has been found to be helpful with reducing cannabinoid use (91).

There has been an explosion of research looking at new medications (including “vaccines” (92), and delivery methods (sublocade for long acting buprenorphine administration; (93), and procedures (rapid initiation of MAT in emergency rooms; (94-95). Recently, the National Institute on Drug Abuse (NIDA) released a “ten most wanted list” for medication developments to treat OUD (96). All of these are likely to have value for individuals with COD.

There has been expansion of research on medications to treat nicotine addiction among individuals with SMI. Jill M. Williams *et al.* (97) have asserted, based on recent reviews, that prior concerns about MH side effects with varenicline are not so serious and therefore varenicline should be considered the treatment of choice, with bupropion and nicotine replacement interventions being considered as ancillary interventions.

The opioid epidemic has led to increased pressure and expectation for the development of MAT capacity in mental health settings of all kinds. This is reinforced by the standards of care in CCBHCs (45). There are increasingly reports and descriptions of such implementation efforts in the literature (98).

What Now?

In spite of these recent efforts, the number of individuals with COD who receive MAT for AUD or OUD is dramatically low, mirroring treatment rates overall. For example, in 2013, only 2.5 million persons (11%) of 22.7 million persons aged 12 or older needing treatment for an illicit drug or alcohol use problem actually received such treatment. In a national study, of 623 people who had a diagnosis of prescription OUD at any time in their life, only 11% sought treatment within the first year, 24.5% within 10 years, and 42% in the course of their lifetime (99). Similarly, data from 156 community-based addiction treatment organizations participating in the

ongoing National Treatment Center Study (NTCS) found that only an average of 9.6% (SD=24.1%) of people with OUD received MAT (100). In a survey of 170 psychiatrists in North Carolina, close to one-half of the people seen in a primary psychiatric setting had comorbid alcohol use disorders, yet only one-fourth were prescribed MAT (101). Therefore, the next wave of effort will be in expansion of implementation for MAT in all types of settings, including in MH settings, to be a standard part of care for individuals with COD, as well as SUD alone

Psychosocial Interventions for MI for individuals with COD

What's Known: As with psychopharmacologic interventions, it has been established for some time that effective psychosocial interventions for psychiatric illnesses and disabilities are usually effective for those same conditions in individuals who have co-occurring SUD.

Case Management and Care Coordination: Although the level of intensity may vary (ranging from standard case management to Intensive Case Management (ICM) to Assertive Community Treatment (ACT) or IDDT based on individual need) the benefit of this intervention for complex populations is well known (102-103). Of most interest are recommendations for continuing case management among individuals with severe SUD and co-occurring MI who are NOT SMI, and therefore not eligible for usual SMI case management services (104).

Cognitive Behavioral Therapy (CBT): CBT for anxiety and mood symptoms has been demonstrated effective in individuals with COD (provided SUD is sufficiently stabilized) (105-106).

Symptom Management Skills Training: Numerous tools have been made available, particularly for use in SUD settings, to assist with teaching COD clients the skills to manage symptoms of mental illness without using substances, including both self-management skills and help-seeking skills. One of the most robust of these efforts has been Seeking Safety (62, 107), which has been demonstrated to be helpful in managing trauma-related pathology in early SUD recovery for both men and women.

Psychoeducation: Efforts to educate individuals with COD about their mental illnesses as well as teaching them skills for using medication properly and working effectively with prescribers (e.g., 108), along the lines of Illness Management and Recovery (IMR), have been utilized in a wide range of SUD programs.

What's New?

Although research in this arena has been limited in the past decade, there have been significant advances in the treatment of trauma-related pathology (including PTSD) (109), and in the application of those "trauma-specific treatments" to individuals with severe mental illness (110) and substance use disorders (111). While the application to people with serious mental illness still needs high-quality research evidence (110), there is evidence supporting that the position that the use of trauma-focused interventions alongside treatment for substance use disorder can help reduce PTSD symptom severity (111). Increasingly, research on Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) and exposure therapy has been conducted that has demonstrated benefit for individuals when PTSD treatments are integrated in the earliest stages of sobriety, challenging the longstanding notion that trauma-specific treatment must wait until an extended period of sobriety has been achieved (107, 112-116).

What Now?

Consistent implementation of these interventions in settings providing SUD services for individuals with COD is still quite limited, so that more focus on consistent implementation of what's known is the challenge ahead.

Population health efforts--including addressing both the OUD epidemic AND addressing individuals with high medical and/or BH utilization in health systems attempting to implement value-based payment methodologies—are beginning to more regularly identify individuals with severe SUD (usually with COD, but often not with identified SMI) as a high priority population for continuing care coordination and/or case management (117-118). Given that the traditional approach to SUD treatment has been episodic, the recognition that these individuals need the same types of continuing interventions as other complex populations may result in a significant redesign of services for this population.

Psychosocial Interventions for SUD for individuals with COD

What's Known

As with the converse, it has been known for some time that effective psychosocial interventions for SUD are also effective for individuals with COD, if there are appropriate modifications for the presence of psychiatric disability that may affect cognitive processing ability.

Examples of such interventions include: Motivational Engagement or Motivational Interviewing (MET or MI); CBT (including relapse prevention, and skill building); and Contingency Management.

In a review that included 43 research trials and 24 reviews to illuminate treatment of people abusing substances who also have a co-occurring mental health diagnosis, among behavioral strategies, MI, CBT, and Contingency Management (CM) proved the most effective (106). Notable examples of cognitive-behavioral skill building interventions that have been adapted into modules for individuals with SMI include the Substance Abuse Management Module (SAMM) created as part of their social skills training (119), and the BTSAS modules created by Allan S. Bellack and associates (120). CM interventions have been studied in SMI individuals for over two decades, beginning with work by Andrew Shaner *et al.*, (121-122) and Richard K. Ries *et al.* (123) (related to using disability payments as incentives) in addition to the more recent dissemination of CM interventions for all types of SUDs with and without COD (124-126).

Another category of psychosocial intervention that has been applied to individuals with COD is the Therapeutic Community (TC). Stanley E. Sacks and others have described how traditional TC's can become Modified TCs for COD (127), which have demonstrated positive outcomes after extended lengths of stay, particularly for individuals with correctional involvement (128). Modified TCs embed many of the specific interventions listed above (*e.g.*, medication, skill building, etc.) into the context of the “therapeutic community” which emphasizes peer-based social learning as a key change element.

What's New?

There has been no notable new research in this area during the past decade. The previous skill-building modules remain the most relevant for current practice.

What Now?

As with other types of interventions, the need for more consistent implementation of what's known remains a consistent challenge.

Stage-Matched Interventions for Each Condition:

What's Known

The early research on the implementation of IDDT articulated the concept of Stages of Treatment, defining Eight Stages of Treatment (129), moving from Pre-Engagement through Remission, and emphasizing the importance of interventions (individual and group) and outcomes being stage matched. This work was an extension of the earlier work of Prochaska and Di Clemente on the Transtheoretical Change Model for SUD, which articulated five stages of change, along with, again, the concept of stage matched interventions and outcomes (73). The relatively simultaneous dissemination of the science and technology of motivational interviewing (or Motivational Enhancement Therapy (MET)) by William R. Miller and Stephen Rollnick (130), has led to the recognition that while MET strategies are important in the change partnership at any stage of change, they are particularly relevant for helping to engage individuals in the earliest stages of change to make progress through the subsequent stages. Some studies have demonstrated effectiveness of modifying MET for individuals with SMI (131). This is particularly relevant for COD, where individuals may be engaged actively in working on one issue (MI or housing) and still be in an earlier stage of change for SUD (or vice versa).

What's New?

More recent work has delineated a conceptual framework for expanding the application of stages of change and stage-matched interventions (and application of MET) from SUD to a multiplicity of other co-occurring conditions, including MI, housing, criminal justice, trauma, health and so on. Kenneth Minkoff & Christie Cline articulated the concept of stage of change being issue specific (28, 29), and recommended that all interventions be both integrated and stage-matched. Further, the Transtheoretical Change model has similarly expanded in the past decade or more to expand its application and research to other conditions, finding that the same concepts are applicable as were applicable to SUD (*cf.*, 132-133).

What Now?

As with other types of interventions for individuals with COD, even though the recognition of the effectiveness of stage-wise treatment or stage-matching has been apparent for over two decades, there is very little consistent implementation of this framework in standard practice. It is very rare that treatment providers routinely identify the stage of change for each of multiple issues to ensure that all interventions and outcomes are stage-matched.

Residential Treatment and Supported Housing for Individuals with COD

What's Known

Just as for either condition separately, individuals with COD may benefit from episodes of residential treatment. The literature has examples of how co-occurring services and interventions can be embedded into residential settings ranging from psychiatric inpatient facilities (134),

residential SUD facilities (135), TCs (127), and psychosocial rehabilitation settings (136). However, because individuals with COD have not one but at least two chronic relapsing conditions, there is no data that suggest that a single episode of residential care is sufficient to produce long lasting recovery without provision for continuing services for each condition. In addition to what's known about residential treatment, there is considerable literature on various types of housing interventions, both to engage individuals with COD who are homeless, as well as to provide various levels of engagement and recovery support for individuals who may be further along in their recovery process. The extensive "Housing First" literature has emphasized the value of engaging homeless individuals with COD in scattered-site housing environments (sometimes termed "wet housing") with supports to help them succeed in the housing while making better decisions over time about managing their various challenges (137-138).

Similarly, literature on group "Housing First" environments (or "damp housing") has indicated success in using integrated psychosocial interventions for engaging individuals who initially are unable or unwilling to completely discontinue substance use to ultimately be engaged by the community to be more willing to commit to sobriety (139). Finally, there is a growing literature on sober housing or "recovery residences" as a valuable element of the continuum of support for individuals (including those with COD) who may wish to live in a supportive sober environment to help them maintain abstinence (140-141). Further research indicates that some individuals with serious mental illness come to recognize that choosing supported sober group living to help them establish sobriety will help them achieve their ultimate recovery goal of living independently (142).

What's New?

More recent work continues to refine these approaches. Recent Housing First research has been more purposeful about studying impact on individuals with more severe SUD (143). Researchers have begun to explore how to more accurately delineate who will do well in scattered-site vs. single-site (group) Housing First environments. For example, Susan E. Collins *et al.* (144) identified a cohort of homeless individuals with severe alcohol use disorders (almost all with co-occurring mental health conditions) who appeared to do better in a single site environment, noting however that those with psychotic or violent symptoms appeared to do better in scattered-site environments. Finally, there has been a major effort by the National Association of Recovery Residences to establish standards for recovery homes, including a basic equivalent of co-occurring capability that creates minimum expectations of policies and procedures for residents who are receiving psychotropic medication (145). These standards have been promulgated and are in the process of adoption by some states.

What Now?

In spite of the robust literature on these various approaches, it is still the exception rather than the rule that communities design housing continua to fit the varying needs of individuals with COD rather than continuing to expect these individuals to fit into abstinence-oriented group living even when it is not their preference. Further, the movement to establish standards for recovery homes is still in its infancy, and much needs to be learned about what standards are most appropriate and how they can be most effectively disseminated without limiting availability of recovery homes for those who need them.

Supported Employment and Education for Individuals with COD

What's Known

Multiple reviews including randomized controlled trials have established the effectiveness of supported employment for people with SMI (*e.g.*, 146-147). This evidence-based practice emphasizes that all people who want to work are eligible for services, including those who are actively using substances (148). Indeed, a co-occurring condition of substance use is not predictive of employment outcomes (146). Further, people with COD are successful in supported employment programs, and employment can be critical to their recovery (149). More recently, in a secondary analysis of a random controlled trial comparing supported employment to conventional vocational rehab programs, of the 106 people with COD, those who participated in the Individual Placement and Support Model (IPS) of supported employment had cumulative employment rates of 60%, compared to 24% of those in a conventional program; those receiving IPS were more likely to work 20 or more hours per week (47% vs. 10%) at some point during the 18-month follow-up, worked more weeks and hours, had a longer job tenure, and earned more wages than control clients (150).

When SAMHSA developed a toolkit for supported education (151), the evidence base was promising but far from rigorous (152), and the field has advanced little since that time. In a recent review of supported education for people with mental health disorders, Heather Ringeisen and colleagues (153) concluded that, while the evidence base is growing, there is a significant need for more rigorous studies using larger sample sizes and long-term follow-up. Notably, studies to date do not mention co-occurring substance use and its interaction with supported education.

What's New?

The recent attention to Coordinated Specialty Care (CSC) for people experiencing first episode psychosis is driving an increased focus on supported education and employment (*e.g.*, 154-157). Because young adults almost always have work- and school-related goals, it is imperative that services for people experiencing first episode psychosis include supported education and employment specialists (158). To date, results have been promising. For example, in a sample including 325 individuals ages 16–30 with recent-onset nonaffective psychosis who were enrolled in the OnTrackNY CSC program, including 144 (44%) with co-occurring substance use, education and employment rates increased from 40% to 80% by six months of program participation (157). It is notable that substance use was not a predictor of any study outcome, including employment and education (157). In parallel, the definition of recovery is increasingly focusing on community integration, including attention to education and employment as they relate to dimensions of wellness (159).

What Now?

With the importance of education and employment to long-term recovery, there is a significant need for more rigorous studies and long-term follow-up of supported education. As many supported education efforts are currently packaged as an extension of supported employment, it will be important to understand the unique contribution of each of those services separately on outcomes. While it is hopeful that people with COD seem to benefit from both supported education and employment, understanding which aspects of these services are most helpful and identifying what modifications strengthen their impact for people with COD would be useful.

Recovery Supports for Individuals with COD

Within the broad array of “recovery supports”, this section focuses on peer recovery support, including non-professional “self-help” recovery support services and programs, and peer support provided by formally trained and commonly certified and employed “peer specialists” or “recovery coaches.”

What’s Known

Although it has been difficult to conduct formal research on the benefits of various self-help recovery programs for people with SUD (*e.g.*, 12-Step programs like Alcoholics Anonymous (AA), Narcotics Anonymous; and Smart Recovery) or people with mental illness (Emotions Anonymous; Schizophrenia Anonymous), there is an established literature indicating that these activities are beneficial for many if not all individuals who have these disorders (160-161), including those with co-occurring mental illness (162). Twelve-Step Facilitation (as a formal treatment intervention) has been found to have some level of supportive evidence of being effective for individuals with SUD, including those who may have lower severity COD (161).

At the same time, many individuals with COD have found difficulty to participate in these types of programs, both because individual groups (*e.g.*, AA groups) may be less accepting of people on psychiatric medications than the formal AA literature would suggest, and because some individuals with more significant psychiatric challenges (psychotic illnesses; PTSD) may find the group process overwhelming rather than helpful. For this reason, beginning over two decades ago, efforts emerged to create “dual diagnosis” oriented self-help “programs”, such as Dual Recovery Anonymous and Double Trouble in Recovery (163), and some literature emerged suggesting the benefits of these types of self-help recovery supports for individuals with co-occurring disorders (164-165).

Also in the past two decades, there has been more focus on formal training, certification, and employment of individuals with lived experience of mental illness (many of whom may have COD) to work as “certified peer specialists (CPS)” (166). In the past decade, there has been a similar effort in the SUD system to move away from relying only on non-professional recovery supports to the training and certification of what are usually termed “recovery coaches” (RC), many of whom are recovering from various mental health conditions in addition to having the lived experience of recovering from SUD. Two rigorous systematic reviews examined the body of published research published between 1995 and 2014 on the effectiveness of peer-delivered recovery supports. Both concluded there is a positive impact on participants. (167-168) In spite of the fact that a recent review indicated that many studies had methodologic limitations making it difficult to draw conclusions (169), specific studies demonstrate benefit for individuals with co-occurring disorders (170-172).

What's New?

In relatively short order, it has become an increasing expectation that employed peer supporters for individuals with either MI and/or SUD be available, even though there is still a lot of work to be done to train and employ those individuals in sufficient numbers. Almost all states now have a process for the certification of peers. However, while it is intuitive that individuals trained to be peer supporters for one condition can be helpful for those with both, there is little if any research exploring the degree to which that applies. In fact, in many states, although the majority of peer supporters might have COD, peer support training tends to be siloed--CPS learn about MH recovery but not about integrated COD treatment or dual recovery, and vice versa for RCs.

With regard to self-help programs, the expansion of dual recovery programs appears to have plateaued, and more recent survey data indicate a significantly increased likelihood that any "self-help" program for any single disorder will be much more purposeful about integrating some level of attention to COD. For example, AA updated its pamphlet entitled *The AA Member: Medications and Other Drugs* in 2011 to include much more explicit support for using medications to address co-occurring disorders (173). Conversely, Wellness Recovery Action Plan (WRAP) materials - which originally were focused on mental illness - have now added a specific booklet for addictions (174).

What Now?

The continuing evolution of recovery peer support needs to be designed and studied with the assumption that individuals both receiving and providing peer supports will have co-occurring MH and SUD (in addition to other concerns, including medical issues). This will affect future training packages, certification expectations, and materials development. Further, the "peer movement" is beginning to coalesce and even "integrate" in many communities as more peers discover that "co-occurring disorders" are an expectation in their own lives. One example of this effort involves the implementation of what are termed Recovery-Oriented Systems of Care (ROSCs), in which (in many, but not all ROSC communities) the addiction recovery community reaches out to partner with the MH recovery community to create a community collaborative designed to build recovery support throughout the combined community (175-177). Finally, the opioid epidemic has led to an erosion of the barriers to peer support for individuals receiving MAT. A new 12 Step Program, Medication Assisted Recovery Anonymous, has recently emerged (www.mara-international.org). In addition, there is a growing movement to provide both counselors and peer supporters training and certification in "Medication Assisted Recovery Support" (MARS) (178).

Integrating Interventions for Co-Occurring Conditions

What's Known

As indicated previously, there are a substantial number of interventions for either SUD or MH conditions (including trauma) that "work" when properly matched to individuals who may also have COD. Further, individuals are likely to do better when they receive properly matched interventions for each disorder at the same time, and over time. Finally, individuals benefit from these interventions being "integrated" into a single program, team, or provider, to the extent that the person is unable to successfully integrate "parallel" interventions on his or her own (which is common, particularly for more serious issues).

What's known about how to do that? The earliest investigations (25-30 years old) of how to provide "integrated treatment" started with the development and evaluation of special "integrated treatment" programs. The most well-known example of this is IDDT which, in spite of its very generic name, actually refers to a particular evidence-based package of interventions encapsulated within a reasonably intensive treatment team program model specifically designed for individuals with very serious and disabling mental illnesses and serious SUDs. SAMHSA has identified IDDT as one of its core EBPs for the SMI population, and the toolkit is available for implementation (179).

There is research indicating the benefit of the IDDT approach, as well as describing the incremental progress of these individuals through stages of treatment over a period of years (6,180-181). Other studies have challenged whether "integrated treatment" is substantially beneficial, but all studies raise methodological challenges because (as previously noted) integrated treatment cannot be researched as if it is a "single intervention" compared to "treatment as usual": Integrated treatment means that an individual receives appropriately matched interventions (including correct matching for stage of change as well as for specific diagnosis and level of severity) for EACH condition at the same time, provided by a well-coordinated team. Consequently, research on whether "integrated treatment" is helpful has to account for proper individualized matching of services for each condition as well as measuring progress individually (e.g., movement through stages of change or stages of treatment). Any research that does not ensure that the integration AND the matching AND the outcomes expected are properly comparable to what is being provided to – and measured for - controls will not be able to reliably demonstrate differential results for the "integrated" condition vs the "non-integrated" condition.

As an illustration, a recent systematic review of IDDT concluded there is some evidence that IDDT can improve psychiatric symptoms and substance use, but no research supporting whether it is more effective than standard treatment (181). Specifically, the authors found six studies, only one of which was a randomized controlled trial (two were non-randomized studies, and three were pre-post studies) which included a variety of outcomes making comparison difficult (181). The authors confirmed that the lack of research in this area is remarkable, particularly given that integrated treatment is considered the standard clinical practice for people with co-occurring disorders (181).

A recent randomized controlled stepped-wedge cluster trial, with 6 functional assertive community treatment teams that included 154 people, demonstrated a significant decrease in the number of days a person used drugs or alcohol after 12 months but no effects on mental health, therapeutic alliance or motivation to change (182). However, the authors also did not observe a change in clinician knowledge, attitudes, or motivational interviewing skills, which may have indicated poor implementation (the intervention focused on a three-day training of clinicians with one booster session) rather than any lack of impact of the evidence-based treatment on outcomes (182).

Other specialized program models have been explored for individuals with severe SUD whose co-occurring mental illness might not meet the criteria for SMI. One such model, previously mentioned, is the Modified TC. As previously mentioned, MST is one example of a specialized program model for adolescents with certain co-occurring mental health and substance use issues (specifically, conduct disorder, SUD, justice involvement, as well as other challenges) that has

had some degree of dissemination (183). By contrast, many widely disseminated SUD program models for both adults (*e.g.*, Matrix Model for SUD, particularly methamphetamine) (184) and adolescents (*e.g.*, Adolescent Community Reinforcement Approach or ACRA) (185), address emotional issues and mental health symptoms, but do not integrate specific attention to co-occurring disorders within their researched program materials.

In the past 20 years, there has been progressive exploration of how to “integrate interventions” without necessarily defining a special program model (9-10). For example, there were investigations of how to “unpack” some elements of the IDDT toolkit and use those elements in residential (135, 139) or hospital (134) settings. The literature on dual diagnosis capability (33, 61) and co-occurring capability (32) involves descriptions of how any program can organize itself to routinely provide a package of appropriately matched and integrated interventions as part of its routine service for individuals with COD who routinely attend. This package includes elements of the list of “interventions that work”, either provided directly or through collaboration and in-reach, to create an integrated experience for the clients. This package looks different for a program providing psychiatric inpatient services compared to a program providing residential substance abuse treatment, ICM for adults with SMI, or school-based outreach for teens with SED, or compared to a veteran’s court. But the general approach is the same (186).

In an extensive review spanning 30 years of psychosocial interventions for people with schizophrenia and co-occurring substance use disorders, Lisa Dixon and colleagues (105) recommended offering integrated treatment for both disorders using motivational enhancement (ME) and behavioral strategies that focus on engagement in treatment, coping skills training, and relapse prevention training. Their research suggested that ME and cognitive-behavioral interventions improved treatment attendance, substance use and relapse, symptoms, and functioning (105). While the evidence for “integrated treatment” was not definitive, there was a suggestion that people with co-occurring schizophrenia and substance use disorders receiving appropriate integrated interventions participated more in treatment, reduced substance use, spent more days in stable housing, and experienced fewer hospitalizations and arrests (105). Notably, many of the studies reviewed reported that more than half of the sample were people with diagnoses other than schizophrenia, suggesting that these results may apply more broadly to people with serious mental illness and co-occurring substance use disorders.

Another review of 45 controlled studies (22 including random assignment and 23 quasi experimental) conducted by Robert E. Drake and colleagues concluded that group counseling, contingency management, and residential treatment for co-occurring disorders reduced substance use, while other interventions (*e.g.*, case management improving time in community and legal interventions increasing treatment participation) impacted other areas related to recovery. No interventions consistently impacted mental health outcomes; however, the authors noted that the review was limited by lack of standardization, diversity of participants and outcomes, absence of fidelity assessment, and varying lengths of intervention (187). The authors also noted a lack of research specific to stages of treatment (6).

Similarly, in a review including 43 research trials and 24 reviews to illuminate treatment of people abusing substances who also have a co-occurring mental health diagnosis, Thomas M. Kelly and colleagues (106) concluded that the combination of evidence-based treatments (both behavioral and pharmacological) provides the most effective treatments for co-morbid conditions. In a controlled trial, people receiving methadone maintenance who were randomly assigned to receive on-site integrated substance use and psychiatric care (n=160) were

significantly more likely to initiate psychiatric care, attend more psychiatrist appointments, and have greater reductions in global severity of symptoms than were those who received off-site and non-integrated care (n=156). However, there were no group differences in drug use (188).

An observational study conducted by Van L. King and associates examining referral of people on methadone maintenance to a community psychiatry program that was co-located on the same campus concluded that such referrals are often ineffective and that integrated models can improve attendance and retention. In that trial, 156 people receiving methadone maintenance were referred to the co-located psychiatric service and, while about 80% initiated care, they attended only one-third of scheduled appointments and most (84%) did not complete a full year of care. However, they did display modest reductions in psychiatric distress over time (189).

What's New?

In spite of the continuing limitations of research methodology (*e.g.*, the above reviews referring to “integrated treatment” as a “thing”), there has been continued progress in recognition of the importance of providing integrated interventions routinely in a variety of settings.

The American Society of Addiction Medicine Patient Placement Criteria (PPC) Second Edition, Revised (PPC 2R 2001; 14) was the first version that incorporated language defining “dual diagnosis capability” and creating the expectation that all addiction programs at any level of care should be moving from an addiction-only service design to becoming DDC. This was enhanced further in PPC 3 (2013; 190) with the inclusion of the term “complexity capability”, referencing the need to routinely engage in integrated attention on multiple issues in addition to SUD and MH (health, housing, criminal justice, learning, etc.).

The opioid epidemic – and associated data showing the prevalence of high-risk opioid misuse and addiction among individuals with SMI (many of whom are served in MH settings) has created a nationwide effort to implement integrated MAT in MH settings. This is very much a work in progress and has required recognition of the fact that these individuals generally need a suite of interventions available, not just medications.

The federally mandated CCBHC standards include very specific language requiring capability to provide integrated MH and SUD interventions to people with co-occurring conditions. Although this was viewed as a logical standard when first developed, it raised recognition that many Community Mental Health Centers that had been approved as CCBHCs did NOT have this capacity and needed to develop it.

Parallel efforts to implement MH care in primary care (usually with a focus on depression screening), and SUD care in primary care (usually termed as “implementing SBIRT”) has led to an awareness of the fact that PHBHI implementation efforts for the past decade have been largely “non-integrated” (*i.e.* parallel, if combined at all) with regard to MH and SUD. This has led to understanding that PHBHI cannot ultimately be successful without integrating attention to both MH and SUD within the primary health care setting.

Another area of emerging concern relates to the challenge of workforce development. In the past decade, expansion of specialist certifications (*e.g.*, addiction psychiatry, COD-certified addiction counselors) has been striking, and there is some evidence that more individuals are seeking dual credentials, but it is also clear that there will never be enough specialists with either two credentials (mental health AND substance use disorder certification) or with a specialized “co-

occurring disorder credential” to meet the need. This has led to the launch of efforts to develop clearer instructions for how any individual provider (whether with no license (as a peer supporter), one license/certification, or multiple certifications) can receive appropriate guidance (within their job and level of training) to know how to appropriately provide properly matched integrated interventions to the individuals they are helping.

Kenneth Minkoff & Christie Cline have described a suggested scope of practice for singly trained SUD counselors (191), and rehabilitation counselors (192), but there has been limited implementation of these recommendations by state registration boards. One of the best descriptions of “integrated team” development is in the detailed description of implementation of IDDT in mental health settings by Kim Mueser *et al.* (193). However, although there are individual “organizational case stories” about developing integrated co-occurring capable services throughout a system (30-31, 34), these descriptions have not provided detailed guidance for how to move beyond having “parallel” MH and SUD specialists vs having an integrated team where everyone is cross trained to be “co-occurring competent” and mutually supportive. This is in striking contrast to the level of detail that has been provided on culture changes required for the integration of primary health and behavioral health (194).

What’s New:

The drivers mentioned at the beginning of this article and earlier in this section have led to renewed awareness that progress in learning how to provide integrated treatment or integrated interventions within a wide array of programs has essentially stopped or slowed in the past decade, and much more needs to be done. This requires more clearly articulating what co-occurring capability looks like in any service (in terms of explicitly defining the helpful interventions), as well as researching how individuals with various levels of severity respond to properly matched and integrated interventions vs. non-matched and/or non-integrated interventions. The prevalence of COD has (as far as we know) not been reduced, though the prevalence has not been recently measured, and the importance of providing guidance for how to implement what is known, and then steadily improve it, is more important than ever.

What Now?

Implementation of What Works – Programs and Staff, Systems and Services

What’s Known:

A review of psychosocial treatments for people with co-occurring disorders conducted by Robert E. Drake and colleagues noted a significant need for evidence-based approaches to changing systems of care and implementing integrated treatments (187). Integrated treatment requires changes at multiple levels ranging from developing individual practitioner skills to developing policies and procedures that integrate, or at least coordinate, multiple systems of care (*e.g.*, treatment for mental health, addictions, and primary care; criminal justice; social services). The developing field of implementation science offers several frameworks that can guide this work (see, for example, the Consolidated Framework for Implementation Research (CFIR) (195); and the National Implementation Research Network implementation drivers (196-197).

Outside experts, also called purveyors, when supporting one evidence-based practice, or intermediaries, when supporting multiple evidence-based practices (198), can use these frameworks to support programs and agencies that seek to provide evidence-based integrated treatment for co-occurring mental health and substance use disorders.

Existing implementation strategies have attempted to apply this multi-level implementation framework in real world systems. Some of those strategies have focused on the specific implementation of the IDDT program model, using implementation techniques described in the most recent update of SAMHSA's IDDT Toolkit (7). Other strategies have been more broadly focused on implementing integrated services on a system-wide basis, through efforts to implement universal co-occurring capability.

One such strategy, developed by Mark P. McGovern and others, has utilized a set of tools (DDCAT) (33), (DDCMHT) (61)) to formally assess and improve (using multi-layered training and technical assistance strategies) to formally improve DDC in large state and local systems. This process involves alignment between state leadership efforts, program improvement activities, and provision of training, consultation, and technical assistance to the targeted programs. This approach was adopted by several of the 19 states receiving Co-Occurring State Incentive Grants (COSIG) during the period 2005-2013 (e.g., Oregon, Missouri, South Carolina, Minnesota, Connecticut), as well as in several non-COSIG states (e.g., New York, Michigan), some states with statewide application, and others with subsystem pilots.

Another such strategy, the Comprehensive Continuous Integrated System of Care (CCISC), described and implemented by Kenneth Minkoff and Christie Cline (28-29), involves a multi-level implementation approach that combines program self-assessments using the authors' toolkit (e.g., COMPASS-EZ and other tools) to assess and improve baseline co-occurring capability (or "complexity capability"), aligned with overarching system leadership attention, to: providing direction: creating integrated capacity for leading the implementation process via an integration steering committee; continual improvement of data, policies, procedures, protocols, and practices; recruitment and support of a boundary spanning team; system-wide team of change agents or champions; and continual attention to integrated practice improvement at the front line level. Tools in the CCISC toolkit include tools for staff competency evaluation, system of care improvement, integrated system oversight improvement, and attention to co-occurring/complexity capability in intellectual/developmental disability services, health services, and prevention services.

CCISC implementation was utilized to varying degrees in many of the 19 states receiving COSIG grants (e.g., Alaska, Maine, Vermont, District of Columbia, Oklahoma, South Dakota, Pennsylvania, Virginia) as well as many other state and local systems in the U.S. and Canada (e.g., California, Florida, Iowa, Nebraska, Montana, Michigan, Maryland, Manitoba, Prince Edward Island). (cf. 30, 31, 34)

Results of COSIG implementation efforts have been described in individual state evaluation reports, only one of which has been formally published (Maine) (34), but there has never been a formal cross-site evaluation of the COSIG process, nor formal evaluation research comparing approaches or tools for system-wide integrated services implementation.

With regard to implementation research, a review of research exploring implementation of IDDT at the program-level concluded that successful implementation takes considerable time and effort, longer than what is needed to implement many other psychosocial interventions (199). Most of the research in this area occurred as part of the National Implementing Evidence-Based Practices Project where, of the 11 programs attempting to implement IDDT, only 2 (18%) met the high fidelity benchmark, 6 (56%) met the moderate fidelity benchmark, and 3 (26%) did not exceed the low fidelity threshold after two years. However, 9 of these programs had sustained

the practice at four years (199). The authors noted that the longer time frame was likely related to the aforementioned complexity of implementing integrated services, which requires culture change (within programs and across separate systems of care), skill development, shifts in staff, clinical process changes, and outcomes monitoring (199), a complexity underscored in a more recent study by Martin Kikkert and colleagues (182).

A large study related to utilization of DDCAT and DDCMHT in New York state demonstrated (not surprisingly) the likely value of technical assistance in improving DDC scores. In a study of technical assistance provided to 603 behavioral outpatient programs throughout the state of New York, Michael Chaple and Stanley Sacks (200) measured capability to provide treatment for co-occurring disorders at baseline (n=603) and at follow-up (n=150 randomly selected programs). Programs received technical assistance focusing on site visit feedback (including key strengths to build on and immediate opportunities to improve capability based upon the baseline self-assessment in which items reflecting the presence of co-occurring capability are rated on a scale from a low of 1 to a high of 5), assessment report (including recommendations for improvement in each dimension and links to training and other available resources), implementation support (quick guides to summarize most common recommendations; guidelines to improve scores), and workshops (reinforcing feedback from assessments and guidance to develop implementation plans (200). Programs demonstrated significant improvements from baseline to follow-up overall, in each domain, and for a majority of individual items (at baseline, the average program score was 2.68 out of 5, and, at follow-up, the average score was 3.04 out of 5 (200). Further, the percentage of programs with average scores of 3 and higher more than doubled, from 22% to 52% (200). The authors note that, given the significant New York state policy directives and other training/technical assistance (TA) initiatives in the state at the time, it was difficult to decipher the unique impact of the TA provided in this study (200).

Recent research on system implementation of integrated service delivery was reported by a group in Sydney (New South Wales), in which a team of researchers set out to apply “implementation science” to the use of a “multimodal” training process, along with “clinical champions”, to improve co-occurring service delivery in SUD programs across New South Wales. These efforts did not utilize any of the tools or materials utilized in the North American implementation efforts referenced above, but nonetheless represent the most recent published work on this topic (201).

In conclusion, despite the availability of considerable practical experience, and a wide range of tools and measures for implementing integrated co-occurring services in all types of programs, there is little universality in the implementation of these strategies, very little evidence of sustainable effort over time, and almost no research continually evaluating, comparing, and refining various approaches to implementation. A recent review by Mark McGovern and colleagues across multiple states indicated that only a very small percentage of a sampling of selected MH or SUD providers were able – at baseline - to demonstrate even moderate progress toward co-occurring capability (202).

Conclusion

Although there has been little substantially new in the development, evaluation, or research of strategies for large scale implementation of integrated MH/SUD services, the past decade has led

to important new knowledge and opportunities for implementation of integrated services, as follows:

- **Substantial knowledge about implementation of integrated PH/BH services:** There is substantial literature that has accumulated describing the details of implementation of sustainable culture shift and practice improvement in both primary health and behavioral health settings working on PHBHI. One of the best descriptions of the level of detail involved in this challenge has been described in “A Guidebook of Professional Practices for Behavioral Health and Primary Care Integration” (194). Further, the concept of “bidirectional” integration has made it clear that integrated services occur in multiple forms and in multiple settings. (See SAMHSA_HRSA Center for Integrated Health Solutions at <https://www.integration.samhsa.gov/>). This knowledge can contribute to our next steps of implementation of MH/SUD integration.
- **Increased recognition of the importance of MH/SUD integration for a wide array of populations.** Because of the opioid epidemic, the need to provide integrated criminal justice diversion services, and the importance of integration of both MH and SUD in health settings, implementation efforts have now included the importance of incorporating medication assisted treatment (which of course applies to both MH and SUD) in all settings, as well as building opportunities for integrated continuity of care for all individuals with severe SUD, including those with co-occurring conditions that do not meet the criteria for SMI.
- **Increased understanding of how to integrate MH/SUD services with other complex challenges.** The state of Iowa engaged in a five-year project from 2008 to 2014 to develop “multi-occurring capability” involving MH, SUD, I/DD, and Brain Injury services statewide, using the CCISC approach. The Council on State Governments has released a system design model which overlaps MH/SUD severity (high low) with criminogenic risk severity (high low) to provide opportunities for mapping services (using the sequential intercept model) to the expectation of various combinations of high or low MH, SUD, and criminogenic risk comorbidities at each intercept (203).
- **Increased recognition at the state and county system level that “integration of MH and SUD services” is not “complete”.** Although many states have engaged in internal reorganization and “integration” of their MH and SUD departments and divisions, and many states have engaged in some type of practice improvement activity to improve co-occurring services, there are very few places that have embedded sustainable system MH/SUD integration improvement efforts at all levels. As the opioid epidemic has progressed, associations representing state and county leaders (*e.g.*, NASMHPD, NASADAD, NACBHDDD) have become increasingly aware of not only the lack of integrated services for individuals with co-occurring MH and OUD conditions, but of the lack of MH/SUD integration generally. As a result, there is now a re-emergence of interest and commitment to incorporate what is known into state and local system improvement efforts for complex populations. This becomes more urgent as more and more states are seeking to invest limited resources in population health models in which integrated services for individuals with complex co-occurring MH/SUD needs are essential for success.

Recommendations

The short answer is simple:

It's time for state and local systems (and their partner provider agencies and programs) to begin to *systematically implement what is known* to routinely provide integrated MH/SUD services for the high risk, high volume, poor outcome population with complex needs. It is also time for federal, state, and local research funders (the National Institute of Mental Health, SAMHSA, foundations, etc.), academic institutions, and other entities which routinely evaluate population health efforts to make the same level of investment in the study of systematic MH/SUD integration efforts as has already been done for PHBHI.

For any individual state (or county) leader, we recommend the following policy steps. These steps are relatively simple, not terribly costly, and can be highly productive in improving integrated MH/SUD services in your system.

- 1. Establish the goal of universal availability of integrated MH/SUD services in all settings for all populations (“universal co-occurring capability”).** Ensure that this goal is communicated by all divisions overseeing service provision. (Note that only establishing the goal of health/behavioral health integration will NOT automatically imply that MH/SUD integration will be addressed.)
- 2. Routinely measure and report the prevalence of co-occurring MH/SUD conditions (whether or not they have both been diagnosed or billed) in all settings in which service or population data are reported.** Expect over time to have data collection match expected prevalence in that setting. Include reporting on co-occurring families in children's services. Include specific attention to gathering data on opioid users in all settings. Developing baseline data collection enables ongoing data-driven performance improvement at the individual, program, and subsystem level.
- 3. Identify a sustained state-level “steering committee” with empowered leadership from all relevant state agencies - and broad stakeholder involvement - to oversee MH/SUD integration improvement efforts.** Replicate such steering committees at the level of key intermediaries (regions, counties, etc.). Ensure participation of managed care organizations and other funding intermediaries. This should be viewed as an ongoing (10-year) effort, not as a short-lived project. The end point should be that routine monitoring and improvement of integrated service provision is sufficiently embedded into all state oversight operations and services to the degree that no further “special leadership” is required.
- 4. Identify a formal process (tool) for measuring co-occurring capability and ensure all programs utilize that tool to establish a baseline for improvement.** Encourage initially and then ultimately expect that all agencies and programs demonstrate continuous improvement. Do not settle for achievement of a “partial score” on the fidelity scale; emphasize the need for continuous improvement within available resources. Utilize other tools for measuring and improving co-occurring system performance and staff competency.
- 5. Make provision for cost-effective statewide (and local, when appropriate) support of the change processes, including training/consultation/TA, identification of champions, support of learning communities and continuing measurement of**

progress. At present, there is no one right way to do this, but the presence of sustainable support will result in better outcomes. Intensity is less important than sustainability. Some states (*e.g.*, Ohio) have created a formal Center of Excellence for this purpose.

- 6. Make provision for ongoing evaluation and improvement of the system-wide implementation process.** Ensure that the evaluators are familiar with large-scale implementation science methodologies and can translate effort into measuring progress across the total population, rather than just in narrowly selected practices or pilot programs.
- 7. In the context of the opioid epidemic, specifically target routine implementation of MAT for OUD and AUD in community mental health programs, as well as in primary care settings.** Similarly, emphasize access to MAT for SUD and access to medications for co-occurring mental health conditions in SUD programs as a routine feature of services throughout the system. This can be done through direct provision of psychopharmacology in SUD programs, or through proactive collaboration of SUD programs with MH programs and/or MAT programs.
- 8. Review and improve internal state and local policies and regulations regarding the following issues:**
 - a. Ensure all program descriptions in regulation include the expectation that the programs will be addressing individuals with co-occurring disorders and providing integrated services.** Ensure this occurs in the crisis continuum as well as at all levels of care in routine services. Ideally, crisis services should be designed as an integrated (rather than parallel) continuum of services for people in crisis, using LOCUS. (204) or a similar set of guidelines for integrated measurement of appropriate service intensity.
 - b. Review and adjust all access rules that create barriers for individuals with co-occurring conditions.** Every door is the right door to get help, and the job of every program should be to bring you in quickly and help you get connected to what you need.
 - c. Review billing instructions and codes to ensure that appropriate co-occurring services can be provided and billed within each *individual* MH or SUD funding stream.** This would include appropriate instructions regarding progress note and treatment plan documentation. Numerous systems have begun to develop these policies, but they have not been widely disseminated.
 - d. Redefine outcome measures to emphasize continuity of small steps of progress across multiple disorders, including harm reduction efforts, rather than emphasizing “treatment completion” and short-term episodes of care.**
 - e. Identify mechanisms that reimburse and reinforce cross-consultation and in-reach services provided by MH practitioners/agencies in SUD programs, and vice versa.** Include attention to implementation of MAT services in MH and other settings, as well as psychiatric input into methadone programs.
- 9. Establish a plan for “co-occurring competent” workforce development system-wide. This might include the following issues:**

- a. **Provision of continuing support for co-occurring MH/SUD practice improvement strategies at the subsystem and provider level.** This should involve alignment of system leadership, agency managers, supervisors, and staff to move beyond “training alone” to ensuring that any training is associated with routine practice supports on the job.
 - b. **Review and improve existing workforce development activities (e.g., state-funded training programs, scopes of practice of state licensing boards, job descriptions).** The goal is to clarify that all BH providers will need to be prepared to have clear instructions and basic competency for providing integrated services to the people with co-occurring needs that regularly appear in their caseloads.
 - c. **Incorporate co-occurring training into certification of peer support specialists and recovery coaches.** Remarkably, even though most peers have co-occurring issues, they are commonly trained on providing peer support for only one area of lived experience.
- 10. Over time, work with partner systems to support identification and integrated interventions for individuals and families with co-occurring needs as a routine feature of service design.**
- a. **Criminal justice and juvenile justice services.** All diversion services should have the expectation of addressing co-occurring needs, including trauma.
 - b. **Primary health services.** All “health homes” should be able to implement appropriate measurement-based screening and intervention for common MH disorders (not just depression) and SUD (through SBIRT) (38), with access to consultation or teleconsultation if appropriate, as well as referrals for more challenging situations.
 - c. **Housing services.** Include attention to the design of housing support services that can accommodate individuals who may be making different choices about substance use, necessitating services that are matched to preference as well as need, and are “dry”, “damp”, or “wet”.
 - d. **Child protective services.** Child welfare regularly deals with co-occurring families, as well as parents who themselves have co-occurring issues, including trauma. Aligning evidence-based and trauma-informed family intervention approaches for traumatized and complex families with the specific BH services available is an appropriate goal.
 - e. **Aging and disability services.** Individuals with cognitive disabilities are at high risk for both MH and SUD, and often both.
 - f. **Employment and vocational services: Supported employment and education.** Emphasize that the evidence base for IPS does not require sobriety before employment or education.

These policy recommendations will permit each state and county system to review what’s known, take advantage of what’s new, and organize to use the existing knowledge and current energy for change to implement substantial and sustainable improvements in co-occurring services within existing resource limitations.

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