Integrated care – panacea or white elephant? A review of integrated care approaches in Australia over the past two decades

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Abstract

Purpose – *Integrated care is widely supported as a means of improving treatment outcomes for people with co-occurring mental health and substance use disorders. Over the past two decades, Australian state and federal governments have identified integrated care as a policy priority and invested in a number of research and capacity building initiatives. This study aims to examine Australian research evaluating the effectiveness of integrated treatment approaches to provide insight into implications for future research and practice in integrated treatment.*

Design/methodology/approach – *This narrative review examines Australian research evaluating empirical evidence of the effectiveness of integrated treatment approaches within specific populations and evidence from initiatives aimed at integrating care at the service or system level.*

Findings – *Research conducted within the Australian context provides considerable evidence to support the effectiveness of integrated approaches to treatment, particularly for people with high prevalence co-occurring disorders or symptoms of these (i.e. anxiety and depression). These have been delivered through various modalities (including online and telephone-based services) to improve health outcomes in a range of populations. However, there is less evidence regarding the effectiveness of specific models or systems of integrated care, including for more severe mental disorders. Despite ongoing efforts on behalf of the Australian government, attempts to sustain system-level initiatives have remained hampered by structural barriers.*

Originality/value – *Effective integrated interventions can be delivered by trained clinicians without requiring integration at an organisational or structural level. While there is still considerable work to be done in terms of building sustainable models at a system level, this evidence provides a potential foundation for the development of integrated care models that can be delivered as part of routine practice.*

Keywords *Integrated care, Co-occurring disorders, Interventions, Policy, Capacity building, Evidence-based practice, Substance use, Mental health*

Paper type *Research paper*

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Introduction

Fragmentation of care remains a legacy of deinstitutionalisation worldwide (Fakhoury and Priebe, 2002; Talbott, 2004). The establishment of separate service systems for alcohol and other drug (AOD) use and mental health disorders has complicated treatment pathways for people with co-occurring conditions, with a lack of coordination and continuity of care resulting in barriers to treatment entry, poorer retention in treatment and greater reliance on emergency care (Bredewold *et al.*, 2020; Livingston, 2020). Inevitably, many service users "fall through the gaps", moving back and forth between services that, in isolation, are unable to adequately address their needs (Baker, 1991; Teeson *et al.*, 2014). The resulting poor outcomes discourage help-seeking and consolidate negative attitudes towards a population who are

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already highly stigmatised due to their substance use (Room, 2005), including within health-care systems, where pervasive negative experiences damage relationships with health-care providers and have a detrimental impact on the quality of care provided (Cheetham *et al.*, 2022; Livingston, 2020).

There is now widespread recognition of the limitations of the current siloed service system by service users, clinicians and policymakers (Karapareddy, 2019; McGinty and Daumit, 2020; Tobin *et al.*, 2001). Integrated care is frequently proposed as a solution to these issues, although there has been considerable variability in how this has been defined and measured across different contexts and settings (Goodwin *et al.*, 2021; Nolte, 2021). Broadly, integration aims to improve outcomes among populations where care is currently fragmented and poorly coordinated (Goodwin *et al.*, 2021) and has become a guiding principle in the re-design of health-care systems and services worldwide (Goodwin, 2013; Zonneveld *et al.*, 2018). In regard to the treatment of co-occurring mental health and substance use disorders, integration aims to bridge the gaps caused by siloed systems, while also meeting the broader needs of a population that often require assistance with housing, unemployment and criminal justice issues (McGinty and Daumit, 2020; Savic *et al.*, 2017). However, there remains ongoing debate on how integration should be conceptualised and implemented in practice (Ellis *et al.*, 2017; Hughes *et al.*, 2020; Kaehne, 2022).

Numerous conceptual frameworks and taxonomies have been developed to help guide an understanding of what integrated care involves. Strategies have been categorised based on the type, process or degree of integration involved, as well as the level at which they have been implemented (Goodwin, 2016; Savic *et al.*, 2017; Valentijn *et al.*, 2015). Frequently, this has involved a distinction between integration at the system level (e.g. shared policy, funding or inter-departmental collaboration), service level (e.g. co-location, organisational processes supporting common goals, workforce capacity building) and clinician level (e.g. through specific interventions that target both co-occurring substance use and mental health disorders) (Goodwin *et al.*, 2021; Savic *et al.*, 2017).

To the best of our knowledge, no previous studies have systematically reviewed and synthesised the integrated care literature. Despite face-validity of this approach and enthusiasm for integrated care as a means of improving treatment outcomes, there are numerous challenges in synthesising the literature to demonstrate consistent benefits across different treatment populations and contexts (Kaehne, 2022). Clinical trials demonstrating effectiveness in improving patient outcomes have also often involved complex models that have been difficult to scale up in real-world settings (McGinty and Daumit, 2020). In regard to integrated care for co-occurring mental health and substance use disorders, there has historically been limited high-quality research, generating mixed findings (Deady *et al.*, 2014; Hamilton, 2014). However, across different studies, it is possible to identify key components and strategies that support better outcomes and facilitate the delivery of integrated care (Nolte, 2021; Savic *et al.*, 2017).

In Australia, the need for an integrated response at the system level has been reflected in numerous strategies following the endorsement of the First National Health Policy in 1992 (Rosen, 2006). In 2005, the National Comorbidity Initiative was established to improve outcomes for people with co-occurring mental health and substance use disorders (Australian Institute of Health and Welfare [AIHW], 2005). At the state level, Queensland and Western Australia have both published combined mental health and AOD strategies that focus on strengthening collaboration and integration between community and hospital-based services (Queensland Health, 2016) and building on or reconfiguring existing services to ensure availability aligns with population-level needs (Western Australian Mental Health Commission, 2019). More recently, a commitment towards embedding integrated care within national strategy has been reinforced by the Productivity Commission's Mental Health Inquiry report (Productivity Commission, 2020). While acknowledging the importance of enhancing service integration from the ground up, the report emphasised the need for

comprehensive reform of governance and funding arrangements to ensure the sustainability of initiatives to integrate care.

Aims

In the context of state and federal initiatives that have focussed on improving integrated treatment responses, Australia has been at the forefront of developing interventions and service models for co-occurring mental health and substance use disorders. In this paper, we review Australian research evaluating the effectiveness of novel and effective integrated treatment approaches, as well as evidence from specific initiatives that have attempted to support clinicians and services in implementing integrated care.

Methodology

This narrative review examines the Australian clinical trials and other research evaluating the implementation and outcomes of integrated care over the past two decades, with the aim of providing reflections on contemporary practice in Australia. Literature was identified via targeted searches of databases (e.g. Web of Science, Google Scholar) using key search terms including ["integrated" OR "integrated care"] AND ["dual diagnosis" OR "comorbidity" OR "co-occurring"] AND ["mental health" OR "addiction" OR "substance use" OR "substance use disorder"]. Results were limited to studies conducted in Australian clinical populations and studies that evaluated the efficacy of treatments for mental health or substance use outcomes. Included were randomised controlled trials (RCTs), observational studies and pilot studies conducted across different populations (including populations with a mental health or substance use disorder, as well as populations with symptoms in the absence of a specific diagnosis); reviews, case studies and qualitative research was excluded. The reference lists of relevant articles were also scanned to identify additional literature.

Literature was organised in alignment with two broad themes:

1. empirical evidence evaluating the effectiveness of integrated treatment approaches for specific combinations of co-occurring mental illness and AOD problems; and
2. evidence from initiatives aimed at service or system-level integration, including those aimed at building clinician and service capacity.

Findings

Australian evidence evaluating integrated care

Brief interventions for people with co-occurring mental health and substance use problems. There is a growing body of Australian evidence demonstrating the effectiveness of brief intervention approaches (spanning a single session intervention through to four to six sessions) for people with co-occurring mental health and substance use problems. This includes RCTs of integrated brief interventions targeted at specific mental health disorders or symptoms (depression or anxiety) with co-occurring substance use (e.g. alcohol, cannabis or methamphetamine).

In a community-based sample of 212 adults with co-occurring hazardous alcohol use and depressive symptoms, Baker *et al.* (2013) found that the provision of a one-session brief intervention (including assessment feedback, case formulation, motivational interviewing [MI] and education) was associated with large and clinically significant reductions in both depression and alcohol use outcomes. Similarly, two- and four-session models based on cognitive behavioural therapy (CBT) and MI have been found to be effective for adults with amphetamine use disorder, with an improvement in depressive symptoms and amphetamine use even after two 45- to 60-min individual sessions, although the extent of

reduction in depressive symptoms was related linearly to the number of sessions attended (Baker *et al.*, 2005).

Brief interventions have also demonstrated effectiveness among young people (aged 15–26 years) with co-occurring substance use and psychological distress. Hides *et al.* (2013) evaluated a model of enhanced brief MI (QuikFix) that comprised two to three 1-hr sessions of brief MI, including brief assessment, personalised feedback and psychoeducation, followed by MI and brief coping skills training. In the first RCT (n = 61) examining the effectiveness of brief MI in young people with co-occurring alcohol or cannabis use and psychological distress, those receiving the QuikFix intervention had significantly lower levels of psychological distress (K10 scores) at 1 and 3 months and more rapid reductions in alcohol and cannabis use, compared to young people receiving assessment and feedback only (Hides *et al.*, 2013). In a subsequent RCT among young people who had sought help for alcohol-related illness or injury (n = 398), adding individualised personality-specific coping skills training and delivering the intervention via telephone was effective in reducing alcohol use and distress (Hides *et al.*, 2014; Hides *et al.*, 2021). The effectiveness of these brief interventions, especially for people with less severe disorders, challenges the notion that positive outcomes for co-occurring disorders require longer or more complex care.

Two examples of longer (five to six sessions) structured interventions for co-occurring mental health and AOD problems include *Inroads* and Ready2Change (R2C). The *Inroads* is the first early intervention programme for young people (aged 17–24 years) that simultaneously targets anxiety and hazardous drinking and provides skills to prevent progression of chronic co-occurring anxiety and alcohol use disorders (Stapinski *et al.*, 2019). The programme was co-developed with the target age group and local services and combines five online CBT modules with weekly support from a psychologist via phone or email. An RCT (n = 123) found *Inroads* was associated with a short-term reduction in symptoms of general anxiety at two months and sustained improvements in social anxiety, alcohol use and alcohol-related consequences at six months, compared to control participants who received assessment plus alcohol information (Stapinski *et al.*, 2021). As emerging adulthood is a peak risk period for the onset and escalation of anxiety and alcohol use problems (de Lijster *et al.*, 2017; Degenhardt *et al.*, 2016; Silins *et al.*, 2018), *Inroads* has potential to reduce the significant burden of this particular form of comorbidity.

R2C is the first stand-alone, structured, telephone-delivered cognitive and behavioural intervention for adults with problem alcohol use and related psychological morbidity. It incorporates core elements from evidence-based treatments such as MI, CBT and acceptance and commitment therapy (ACT), with behaviour change modules covering self-monitoring, management of cravings, routine scheduling and relapse prevention. Eight training modules address coping skills, including managing anxiety, controlling impulses, improving mood and managing anger. Workbooks containing exercises using node-link mapping are mailed to the caller and completed between sessions as an ongoing self-help resource (Lubman *et al.*, 2019). A recent RCT (n = 344) in a general population sample with problem alcohol use and related psychological distress (Lubman *et al.*, 2022) found two or more sessions of the R2C programme significantly reduced hazardous alcohol use, alcohol problem severity, risky drinking patterns and total consumption, compared to a control group provided with basic health information and weekly check-in calls. Preliminary evidence suggests R2C may also be effective in reducing psychological distress and other drug problems (Grigg *et al.*, 2021).

Integrated treatment for more complex co-occurring disorders. Integrated treatments of a longer duration (i.e. 10+ sessions) have also been developed to address substance use in the context of more complex, severe or enduring co-occurring disorders, including borderline personality disorder (BPD), complex trauma disorders (CPTSD) and psychotic disorders.

A small number of studies have evaluated integrated approaches in psychiatric in-patient samples with a high prevalence of psychotic disorders, although these have typically not

targeted psychosis exclusively. Baker *et al.* (2005) conducted the first RCT examining outcomes of a CBT/MI intervention among a large community-based sample (n = 130) of people with psychotic disorders and recent history of hazardous alcohol, cannabis and/or amphetamine use. Provision of 10 one-hour sessions of MI and CBT was associated with modest benefits among intervention participants, including short-term improvements in cannabis use and mood, better general functioning at 12 months and a trend towards reduced use of amphetamine use. A significant reduction in the frequency of alcohol consumption was observed in both groups at 12 months. Subsequent evidence from both community and inpatient samples has provided further evidence that guided psychological interventions can reduce excessive alcohol use among people with psychotic disorders, with longer and more intensive interventions providing greater benefits in regard to psychiatric symptoms and general functioning (Baker *et al.*, 2012). These studies comprise the very limited evidence base for concurrent treatments in the context of severe mental illness. Given the growing recognition of the burden of substance use in the context of psychotic and major affective disorders, this remains an important gap in the literature.

BPD and CPTSD are significantly over-represented in substance use treatment samples and pose considerable challenges for AOD services due to greater risks of relapse, treatment non-compliance and poorer clinical outcomes (Pennay *et al.*, 2011). Evidence-based psychological treatment for such complex mental health disorders (in particular, for complex trauma) dictates continuity and consistency in care (Lubman *et al.*, 2011); however, this is incompatible with AOD service systems where briefer episodes of care are delivered by clinicians who often lack specialist mental health training (Pennay *et al.*, 2011). Making Waves is an example of an intervention that was developed with the aim of being potentially implemented within routine clinical settings to target emotion regulation in people with co-occurring substance use disorders and BPD over 12 sessions. As an adaptation of a group-based ACT intervention for BPD (Morton *et al.*, 2012), Making Waves integrates AOD components, such as the identification and exploration of substance use as a common avoidant strategy for managing overwhelming emotions. A pilot study of Making Waves (n = 45) delivered on an individual basis within an outpatient alcohol and drug service found completion of 12 sessions was associated with significant improvements in emotion regulation, acceptance, psychological flexibility, as well as reduction in BPD symptoms and frequency of substance use (Hall *et al.*, 2018).

Nearly one in two people in addiction treatment settings have current symptoms of post-traumatic stress disorder (PTSD) (Kingston *et al.*, 2017). The Concurrent Treatment of PTSD and Substance Use Disorders Using Prolonged Exposure (COPE) intervention is an example of an integrated treatment that is evidence-based, manualised and highly structured, delivered by trained clinicians (usually clinical psychologists) over thirteen 90-min individual outpatient sessions and integrates CBT, relapse prevention and prolonged exposure. Consistent with international evidence (Back *et al.*, 2019), an Australian RCT (n = 103) of the COPE intervention (Mills *et al.*, 2012) found a reduction in PTSD symptom severity in comparison to treatment as usual. Although there was no significant between-group difference in substance use severity, the COPE intervention did not worsen or destabilise substance use, and there was no difference in the rate of serious adverse events between arms, bolstering evidence for safety of this approach.

The limitations of intervention studies to date include limited sample sizes (n = 398 in largest study) in specific populations. Although larger studies, such as RCTs of QuikFix (Hides *et al.*, 2021) and R2C (Lubman *et al.*, 2022), demonstrated the intervention to be effective in RCT settings, there have been few implementation studies to date to support efficacy in real-world populations (Grigg *et al.*, 2021).

Australian initiatives (state and federal level)

The National Comorbidity Initiative was established by the Australian Government in 2005 to improve service coordination and treatment outcomes for people with co-occurring mental

health and substance use disorders. As part of the initiative, a review of data systems and collection methods across both sectors was conducted with the aim of identifying how these could be improved to more effectively manage treatment. Findings highlighted the richness of Australian data sources, while highlighting opportunities to better inform system-level approaches to integration using population-level data on prevalence, treatment demand and outcomes (Australian Institute of Health and Welfare [AIHW], 2005). Other outcomes of the initiative included the development of National Comorbidity Guidelines that aimed to enhance the capacity of clinicians working in AOD settings to identify and assess (and to some extent treat) mental health disorders, later evolving into an online training package, webinars and other training activities accessed by clinicians nationally (Marel *et al*., 2016).

In contrast to the evidence base for individual treatments, there remains a relative paucity of published evidence for models of care that support integration at the service and/or system level.

Following a report by the Victorian Auditor General Office's (VAGO, 2011) that concluded care in specialist AOD services was fragmented and difficult for service users to navigate, the Victorian Department of Health funded a review of integrated working strategies to provide recommendations for specialist AOD care in Victoria, as well as practical guidance (Savic *et al*., 2014). The majority focussed on strategies that aimed to integrate care between AOD and other (e.g. medical, mental health, social care, etc.) services, with fewer considering integration between AOD agencies (e.g. between services such as detoxification and residential rehabilitation) despite the importance of these in ensuring continuity of care. An updated review conducted in 2017 identified 2,600 studies published between 1990 and 2014; however, only 14 of these provided empirical evidence on implementation of integrated care (Savic *et al*., 2017). Nevertheless, strategies to aid integration were identified at the clinical level (e.g. screening and joint care planning), service delivery level (e.g. staff training), organisational level (e.g. co-location and development of inter-agency relationships) and funding level (e.g. system investment). However, a key finding of the review was the interconnectedness of strategies and tendency for these to operate across multiple levels. This highlights the importance of a whole-system approach that includes investment in both AOD and other systems, as opposed to implementing single strategies in isolation.

A number of initiatives have focused on building workforce capacity across different Australian jurisdictions. The Victorian Dual Diagnosis Initiative (VDDI) was formed in 2002 to better enable clinicians and agencies across different sectors to identify and respond effectively to co-occurring disorders. The initiative involved establishing dedicated dual diagnosis teams to provide training to clinicians within AOD and mental health services and support cross-sector partnerships and capability building. A key component of the VDDI was the development of training resources and guidelines, which were found to be beneficial in terms of building clinician awareness and understanding of co-occurring disorders. However, an evaluation in 2011 concluded that while the VDDI had made some progress in building capability of staff and establishing partnerships, overall, there had been limited progress in integrating care (Australian Healthcare Associates, 2011). Ongoing challenges remain in breaking down sector silos, changing perceptions and attitudes and building the clinical capacity needed to effectively treat this population (Baker *et al*., 2022). A further risk with specialist programmes (such as those run by VDDI) was the development of a "third stream" of more specialised services and exacerbating the likelihood of people "falling through the gaps" (Australian Senate Select Committee on Mental Health, 2006). Reviews suggested that activities that promote inter-organisational collaboration and partnership were more successful but lacked reach and were financially unsustainable.

Recent research in New South Wales has demonstrated that it is possible to build workforce capacity in real-world settings to facilitate integrated care. The Pathways to Comorbidity Care (PCC) training package was developed to facilitate integrated care for co-occurring disorders by upskilling AOD workers using an evidence-based approach to treatment and providing them with comprehensive training and supervision (Louie *et al*., 2018; Louie *et al*., 2021a, 2021b). An evaluation of PCC found it improved the identification and clinical

documentation of co-occurring mental health and substance use problems, increased self-efficacy and improved attitudes towards screening and monitoring (Louie *et al.*, 2021a, 2021b). More recent research examining facilitators of implementation of the programme found the only factor that influenced change in clinician practice was perceptions of leadership. While consistent with the wider literature highlighting the importance of supportive leadership (Evans *et al.*, 2016; Savic *et al.*, 2017), they also challenge the notion that clinician-level factors such as knowledge and attitudes are the most important barriers to implementation of quality integrated care (Louie *et al.*, 2021a, 2021b).

Another successful example of implementing integrated care in practice involved embedding dedicated integrated care clinicians within AOD and mental health youth services (Lubman *et al.*, 2008a, 2008b, 2008c). A screening programme was developed to support referral by clinicians, and then integrated psychological interventions were tested within these settings. The results indicated that mental health screening can be readily implemented within AOD practice (Lubman *et al.*, 2008a, 2008b, 2008c), and that integrated CBT and MI accelerated treatment gains with respect to depression and substance use (Carroll *et al.*, 2009; Hides *et al.*, 2011). While the service model provided opportunities to build capacity by modelling relevant skills and offering "on the job" training, doing so required the support of senior management and a willingness to prioritise mental health issues within the youth AOD sector. Ultimately, the model was successful but ceased when the funding for embedded clinicians ended, again highlighting the importance of ongoing system investment in ensuring the sustainability of integrated care approaches.

Conclusions

There has been considerable progress in Australia over the past two decades addressing the challenges caused by the separation of AOD and mental health services and the need to provide appropriate care for the large number of people who present with co-occurring disorders (Baker and Dawe, 2005; Kingston *et al.*, 2017; Lambert *et al.*, 2003; Prior *et al.*, 2017; Robinson and Deane, 2022). Research conducted over this period has supported the efficacy of integrated treatment as a means of improving mental health and substance use outcomes across a range of populations. While supported by a number of key initiatives to aid integration of care, overall, the findings of this review suggest that addressing the impacts of co-occurring disorders requires consideration of new approaches to integrated treatment, service delivery and policy (Ellis *et al.*, 2017; Kaehne, 2022).

Evidence supporting integrated care – implications and new directions

Studies supporting the efficacy of brief interventions, particularly for high-prevalence conditions such as anxiety and depression, challenge the notion that positive outcomes for people with co-occurring disorders require longer or more intensive treatment (Baker *et al.*, 2013). Importantly, research involving longer and more structured interventions demonstrates that appropriately trained clinicians can deliver effective integrated treatment without requiring co-location of services, organisational change or large-scale efforts to build workforce capacity. For example, the results of the R2C and inroads trials demonstrate how online and telephone-based interventions can be used to deliver integrated care in accessible formats that are easily scalable and likely to be sustainable long-term (Grigg *et al.*, 2022; Stapinski *et al.*, 2021). In doing so, they highlight opportunities for effective treatment that eliminate many of the financial and organisational challenges accompanying integration at the service and/or system level. These interventions also have the potential to engage people who are reluctant to access face-to-face services or face structural barriers due to operating hours, wait lists or a lack of services in rural and remote areas (Grigg *et al.*, 2021).

The *Inroads* programme provides an example of how integrated care can be incorporated into early intervention efforts, via the use of a web-based format that aligns with youth

treatment preferences (Stapinski *et al.*, 2019), and also offers unique opportunities for after-care and self-management (Deady *et al.*, 2014). As emerging adulthood is a peak risk period for onset and escalation of both anxiety and alcohol use problems, programmes such as *Inroads* have the potential to reduce the significant burden associated with high prevalence co-occurring conditions (Stapinski *et al.*, 2021).

For people with more complex co-occurring disorders such as BPD or CPTSD, emerging evidence suggests that some positive outcomes can be achieved through integrated, short-term episodes of specialist care (i.e. 10+ sessions). For example, Making Waves (Hall *et al.*, 2018) demonstrates the benefits of less intensive approaches to treating BPD that can be implemented alongside AOD treatment. The COPE intervention provides evidence that concurrent treatment of PTSD and substance use disorder is both safe and efficacious, challenging the myth that abstinence is required prior to addressing trauma (Mills *et al.*, 2012). Important next steps in advancing this evidence base are underway in Australia, with implementation in a routine clinical setting at Turning Point in Melbourne, and a current trial in an adolescent population run by the Matilda Centre (Mills *et al.*, 2020). However, the overall evidence base remains limited for complex co-occurring disorders, particularly for integrated interventions targeting substance use concurrently with severe mental illness.

Key insights from initiatives to support integrated care in practice

State and federal policy initiatives have provided an important impetus to build workforce capability and signpost the importance of implementing integrated care approaches across both the mental health and AOD service systems. In this context, the National Comorbidity Initiative (Australian Institute of Health and Welfare [AIHW], 2005) sought to improve the coordination of services while raising awareness of common co-occurrence of mental health and substance use disorders, providing guidelines for health professionals as well as resources and information regarding care for service users (Marel *et al.*, 2016).

Reviews published by Savic and colleagues (Savic *et al.*, 2017; Savic *et al.*, 2014) have helped advance an understanding of integrated care within the context of AOD services and identified key strategies to facilitate integration at various levels. However, the interconnectedness of these highlights the importance of system-level change. In particular, there is a need to ensure adequate funding for both AOD and non-AOD services, as this is critical in maintaining the interagency relationships that underpin most integrated working strategies at the organisational, service delivery and clinical levels (Savic *et al.*, 2017). While in recent years both federal and state governments have made significant funding commitments to improve mental health treatment, the needs of people with co-occurring disorders continue to be de-prioritised, with a history of minimal investment in AOD treatment relative to their high health and social costs (Ritter *et al.*, 2014). Reforms that address the issues caused by separate funding streams may be key to enduring equitable access to evidence-based care for people with mental health and AOD problems (Livingston, 2020).

Adequate funding and resourcing are essential to connect workforce development with service delivery, as highlighted by the outcomes of initiatives such as the VDDI. Managing co-occurring disorders requires a highly skilled workforce, given the fundamental differences in service user profiles between AOD and mental health services (Deady *et al.*, 2014; Lubman *et al.*, 2008a, 2008b, 2008c). However, despite a comprehensive approach to building workforce capacity, the overall impact of VDDI programmes has so far been mixed. Progress has typically made in the short term, without advancing the establishment of core clinical capacity needed to effectively treat co-occurring disorders within mainstream practice. Primarily, this has been is due to a lack of long-term funding and governance structures that sustain cross-sector collaboration.

Early findings from the Matilda Centre PCC programme also point towards the importance of organisational factors in the implementation of evidence-based workforce training initiatives.

These studies provide evidence that building capacity in real-world settings can facilitate delivery of integrated care and improve client outcomes (Louie *et al.*, 2018; Louie *et al.*, 2021a, 2021b), but the implementation of change in clinicians' practice may ultimately be driven by organisational readiness to change rather than individual clinician attributes or attitudes (Louie *et al.*, 2022). In this context, it is important that the recent Royal Commission into the Mental Health System (Royal Commission into Victoria's Mental Health System, 2021) in Victoria has committed to ensuring that all mental health services be equipped to provide care for people with AOD problems (Recommendation 35) and establishing a new statewide specialist service to support research, education and training and provide consultation across both sectors (Recommendation 36), as well as increasing addiction medicine specialist capacity.

Implications for future research

Overall, there remains a paucity of evidence for interventions or models of care for the concurrent management of substance use and severe mental illness, particularly in the context of psychosocial complexity. Given the growing recognition of the burden of substance use in the context of psychotic and major affective disorders, this remains an important gap in the literature that future work should address. Further research is also needed into the implementation of integrated treatment approaches for co-occurring mental health and substance use disorders, as to date they have received limited evaluation outside of clinical trials, and understanding the effectiveness of implementation strategies is necessary to successfully – and cost effectively – translate evidence-based research into clinical practice (Deady *et al.*, 2014). It is important to note that while a number of strategies that facilitate the provision of integrated care in practice have been identified, these are unlikely to be effective if funded on a short-term basis or implemented in isolation, given the ways in which strategies are interconnected across different levels. For example, workforce training and capacity building are feasible and effective but are likely to be unsustainable in the long term if implemented in the absence of investment in both the AOD and mental health sectors and the inclusion of integrated working in service specifications. Studies should engage with diverse population groups and use both quantitative and qualitative methodologies to understand barriers, facilitators and preferences for treatment; while qualitative research was not included in the current review, international literature has echoed the need for more tailored and holistic approaches to care (Spencer *et al.*, 2021). Finally, it is important to ensure that people with co-occurring disorders are not excluded from treatment research, as doing so may reduce external validity and limit the applicability of findings to real-world settings.

Implications for practice

As reviewed above, a wide range of studies have provided high-quality evidence supporting the effectiveness of integrated treatment approaches, particularly for people with high prevalence co-occurring mental health and substance use disorders. These can be implemented by trained clinicians in a variety of ways to ensure they meet the needs of specific populations, without requiring co-location or "mainstreaming" of services. Their development represents an important pillar of integrated care models, as they could be delivered, with appropriate training, by existing clinicians across AOD and mental health services without requiring integration at a service or system level.

While we are not there yet in fulfilling the promise of delivering integrated care within routine practice, there have been significant gains and advances in knowledge over the past two decades. The challenge for us now is to develop, test and implement sustainable models of integrated care delivery that build on this evidence base and use strategies to facilitate integration across the system, service and clinician level.

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