WP1 – Realist Synthesis

Aims and Objectives

The aim of the realist synthesis was to identify, test and refine programme theories to explain how context shapes the mechanisms through which UK service models for co-existing serious mental health and substance use (COSMHAD) work, for whom and in what circumstances

Methods

On initiation, our review protocol was registered with PROSPERO (registration number CRD42020168667). This chapter describes the two main phases of the iterative review process 1) theory identification, and 2) theory testing and refining. In phase one, we "surfaced" and verified potential programme theories from the published literature and stakeholders. In phase two, we conducted a systematic search of the relevant literature, supplemented by further purposive explorations for evidence, underpinning each programme theory component. The review followed the five stages identified by Pawson (2006) 1) identifying the review question 2) search for studies 3) quality appraisal 4) extract the data 5) synthesise the data and disseminate the findings.

This chapter follows the Realist and Meta-narrative Evidence Syntheses: Evolving Standards (RAMESES) quality and reporting standards (Wong et al, 2013; RAMESES, 2014).

Justification for choice of realist synthesis framework

Services for people with co-existing serious mental health and alcohol/drug conditions are complex systems with outcomes that could be affected by numerous compounding factors such as the type and severity of the mental health or alcohol/drug condition, the interplay between the two, their age, sex, gender and ethnicity, as well as previous experiences of seeking help. Realist approaches are theory driven approaches used to understand complex social interventions; they account for context and mechanisms as well as outcomes in the process of systematically and transparently synthesising relevant literature or analysing relevant data [18]. Applying realist approaches offers the potential to describe why interventions or services for COSMHAD, are successful or unsuccessful, in complex social systems [19] through focusing on 'what works, for who, in which circumstances'.

Realist approaches attend to the ways that interventions (or programmes) may have different effects for different people, depending on the contexts into which they are introduced. An intervention or service for people with COSMHAD, is considered to provide resources that alters the context into which it is introduced, triggering a change in the reasoning of intervention participants, leading to a particular outcome i.e. Context + Mechanism = Outcomes (or CMOs). CMOs are used as explanatory formulae (otherwise referred to as realist programme theories), which are then 'tested' either through literature (synthesis) or empirical data (evaluation) and refined as the project progresses. They, in effect, postulate potential causal pathways between interventions and impacts. Thus, use of a realist approach will help to expose the multiple resources delivered as part of services for COSMHAD, the ways that these may be employed with different people, and how these generate different outcomes. Furthermore, with any

service or intervention, implementation can lead to the programme being interpreted and/or utilised differently, with possible impact on outcome [20]. Realist methodologies aid the development of a broader picture of how such combinations of context and underlying causal mechanisms can improve or impair programme fidelity and efficacy. Realist synthesis (WP1) methods will provide valuable insights into "literature ideals" and develop and refine an overarching programme theory of what works, for who and in which circumstances. These insights from the literature on how COSMHAD services should operate ("literature ideals") will then be further tested in practice through the stakeholder engagement (WP3).

Identification of programme theory

A classic realist synthesis begins with the identification of opinions and commentaries as a source of programme theories for which evidence is then sought. We began by analysing policy documents and papers describing COSHMAD services in practice in the UK. These papers were identified through a systematic search undertaken as part of the literature mapping exercise described in WP2 (see chapter x for full description). In short, this involved searches of the electronic databases undertaken in February 2020 (see appendix one for full search strategy and inclusion criteria) and references used to write the funding proposal and recommended by the project steering group ("personal library"). The search identified 23 papers which described 19 COSMHAD service models which had been implemented in practice in the UK. Other screened papers contributed to our thinking (including 39 additional papers which described COSMHAD service models in a non-UK context) but these 23 papers were deemed most relevant to the UK context. We also held one two-hour workshop with clinicians, policy makers, managers and academic experts (n=14) to gather their views on what worked for COSMHAD services in the UK, for whom and in which circumstances. We also attempted to engage with individuals who had experience of co-occurring disorders, but the Covid-19 pandemic and lockdown restrictions meant this was not possible at this stage of the realist synthesis.

The findings from the literature, key policy documents and the workshop were triangulated to develop a sketch of the COSMHAD programme (Figure 1) and sixteen draft programme theories. This was achieved by extracting *if/then* statements from the literature, workshop transcript and key policy documents (NICE and PHE) which were then grouped thematically. Key concepts which were important to the programme ("engagement" and "integration") were explored and defined from the relevant literature. The 16 draft programme theories and an initial programme sketch (figure 1) were reviewed and refined by the entire project team (n=9). By combining service descriptions from the practice literature and views of stakeholders, we were able to identify underpinning mechanisms by which different programme component achieve their outcomes, as perceived by those actively involved in designing and implementing COSMHAD services The 16 draft programme theories are included in Appendix **x**.

Identifying theory to inform the initial programme theories

The process of identifying abstract theories which assisted in explaining our programme theories took place iteratively throughout the realist synthesis but mainly took place over two phases. Searches for theory to help inform the development of the initial programme theories which is described in this section and searching for theory to inform and develop the final programme theories during the data analysis phase (which is described below).

Following the project team review of the initial programme theories, we began working to refine these theories into Context, Mechanism (including resource and response) and Outcome (CMO) statements. In some realist synthesis, the intervention under investigation has well-defined boundaries and outcomes and the programme theory is explicitly stated. However, COSMHAD service models are complex, large scale and "messy" (Greenhalgh et al, 2009), requiring transformation and organisational culture change within publicly funded services (Shearn et al, 2017). As our early work developing draft programme theories identified, COSMHAD programmes in the UK were often not a well-defined intervention, rather they were often a set of ideas which had been tried but not always in a systematic or uniform way. We therefore undertook a purposive search of theories and frameworks which covered the various aspects of the COSMHAD service model. We developed an initial shortlist of sixteen middle range theories from the field of COSMHAD, other realist work looking at similar service transformation and our own expertise in public health, psychology and other relevant fields.

The shortlisted theories were appraised according to the following criteria developed from Shearn et al's (2017) guidance for complex interventions 1) the level in the social system (offering explanation at the micro, meso or macro level 2) their fit with our research aim of explaining how COSHMAD services work, for whom and in what circumstances 3) their simplicity in inspiring theory generation and 4) their compatibility with the realist notion of articulating causation. Four theories were selected which best fit the criteria and helped explain various aspects of the programme theories. Normalisation Process theory was used as an overall framework to inform the generation of the final programme theories, with the four sense-making, relational, operational and appraisal domains used to organise the programme theories. Three additional theories were used to help refine specific programme theories, namely: the Health and Stigma Framework (PT 2), the Framework for action in Interprofessional Education and Collaborative Practice (WHO), PT 3) and the Integrated Commissioning for better outcomes framework (PT 10).

Finalisation of the programme theories

The initial programme theories were refined and merged to develop 11 final statements, which were broken down into Context, Mechanism (including resource and response) and Outcome. These programme theories were reviewed and refined through consultation with the entire project team (n=9) through written comments on drafts, and two meetings at which the programme theories were presented and discussed in detail. The first meeting took place when the programme theories were first developed and the second reviewed the finalised statements following testing in the literature. These final programme theories are summarised in table x.

Searching for empirical evidence and selection of studies

Following development of the initial programme theories, we searched for empirical evidence in order to test and refine these programme theories. The searches conducted for the mapping review (WP1a) identified 5,099 articles which went through a two-stage title and abstract screening process by two reviewers (JH, TA) to identify articles focusing on 1) co-occurring serious mental illness and substance use service provision and use (n=817) and subsequently 2) articles which met the screening objectives of the mapping review (n=414, described under WP1a). The decision was made to use this initial corpus of 817 full text articles as the preliminary starting point for the realist synthesis because, as recommended by

Booth et al (2018), the initial search terms had been developed in consultation with the project team who represented a range of stakeholder perspectives and the literature identified through structured searches had been supplemented by literature provided by stakeholders and sampled purposively. These 817 papers provided us with an initial, exhaustive search of examples of service provision for co-occurring disorders which we considered an "*initial sampling frame of empirical papers*" (Booth et al, 2018 p.151). However, we recognised that realist searching was an iterative process and that the search criteria often emerges as theories are proposed, tested and refined. We therefore took an iterative approach to literature searching, with additional papers being identified and included through CLUSTER searching to identify sibling studies, citation tracking and named and complementary theory searches as the review progressed (Booth et al, 2018).

The 817 full texts (n=817) were screened against a criteria made up of the 11 programme theories. Papers were selected when they provided causal insights into the programme theories by 1) reporting on integration of services for COSMHAD clients 2) describing features and functions of the integrated service architecture relevant to the programme theory and 3) providing data on the outcomes of this integration. All texts were screened by the lead researcher (JH) with two researchers independently screening (TA, LJ) 10% of these articles. The three reviewers met regularly throughout the screening process to discuss their decisions and any disagreements were resolved by all three reviewers. This discussion process was also used to identify potential studies and authors for CLUSTER searching and citation tracking and some additional purposive searches were undertaken as a result of the discussion. In total, 172 papers were selected for inclusion in the realist synthesis following this process.

Quality appraisal

Realist synthesis approaches do not follow more rigid, traditional approaches to quality appraisal. The nature of the data collected by realist reviews are not always necessarily of the "highest quality" in the traditional sense (i.e. they will be of variable trustworthiness). The aim of realist methods is not to arrive at the "final truth" regarding the research topic. Rather, realist reviewers recognise that we can only get as close as possible to a complete understanding. Realists assemble imperfect data into plausible and coherent arguments but others may disagree with their claims. Quality appraisal in this review therefore considered each article on the basis of whether it was good enough to provide some evidence that would contribute to the synthesis. This was based on two grounds 1) assessment of relevance, and 2) assessment of rigour (Pawson, 2006). In the case of this review, relevance was assessed as whether the study helped to explain how context shapes the mechanisms through which UK service models for co-existing serious mental health and substance use (COSMHAD) work, for whom, how and in what circumstances. Consideration of the study rigour took into account the plausibility and coherence of the method used to generate data and the limitations of the methods used. However, the decision to include a study in the synthesis was not restricted to a study level, pre-formulated checklist of methodological rigour. The rigour of each fragment of evidence was balanced with it relevance and the extent to which it assisted in explaining the relevant programme theory (Pawson, 2006; Wong et al, 2013).

Data extraction and synthesis

Following this screening process, the articles were re-read and mapped to each of the IPT statements using a data extraction form. This resulted in 132 articles which were felt to provide causal insights into one or more of the IPT statements. The selected articles were then imported into NVivo (version 12)

which allowed for an organised and transparent audit trail of decisions related to the data analysis, using the linked memo function (Dalkin et al., 2020). Source folders were created for each IPT and papers were uploaded to each folder based on the mapping exercise. In NVivo, parent nodes were created for each programme theory and the selected papers were coded independently to each IPT (Dalkin et al, 2020). Rather than separately coding the data from the articles into context, mechanism and outcome for each IPT statement, we attempted to identify CMO configurations directly from the literature as either dyads (context-mechanism/ mechanism-outcome/ context-outcome) or triads (context-mechanism-outcome) (Jackson & Kolla, 2012). Following the identification of individual dyads and triads we followed the process of data reduction described by Byng et al (2005)). Firstly we developed a reduced dataset for each initial programme theory by creating a table which contained all of the lower level codes for CMO dyads and triads. From this process we were able to group the outcomes (which usually had the least codes) and identify an intermediate outcome of interest for the IPT. We then reviewed the data table to identify the mechanism most commonly associated with this outcome to create an M-O dyad. We then searched our coded data for positive and negative cases of the M-O to identify consistently occurring contexts and additional mechanisms which interacted or could explain the failure of the outcome which were used to produce "conjectured Context-Mechanism-Outcome configurations" (CCMOC). The CCMOC was checked against the original literature for face validity and the process was then repeated with each additional mechanism associated with the outcome and then any other intermediate outcomes for the IPT. This full process is described in figure x.

As described in italics in the figure x below, the process of mapping, extracting and coding data for each CMO dyad/triad was undertaken by one researcher (JH) through reading and re-reading of the data. Using a realist Context Mechanism and Outcome configuration lens for each outcome identified, the analysis sought to understand under what contexts the mechanism had been fired and underpinning common mechanisms between studies. After coding possible CMO dyads and triads, the researcher consolidated the data using tables and revisited the literature to develop the possible CCMOCs. The first stage of analysis was read and discussed with two additional researchers (LJ, TA) to ensure reliability and validity and the CCMOCs refined following these discussions. The final CCMO statements were reviewed and refined in discussion with a third researcher who was the realist methodology lead for the project (SD). Each final programme theory is presented alongside a narrative of the analysis and verbatim quotes taken from the selected papers.

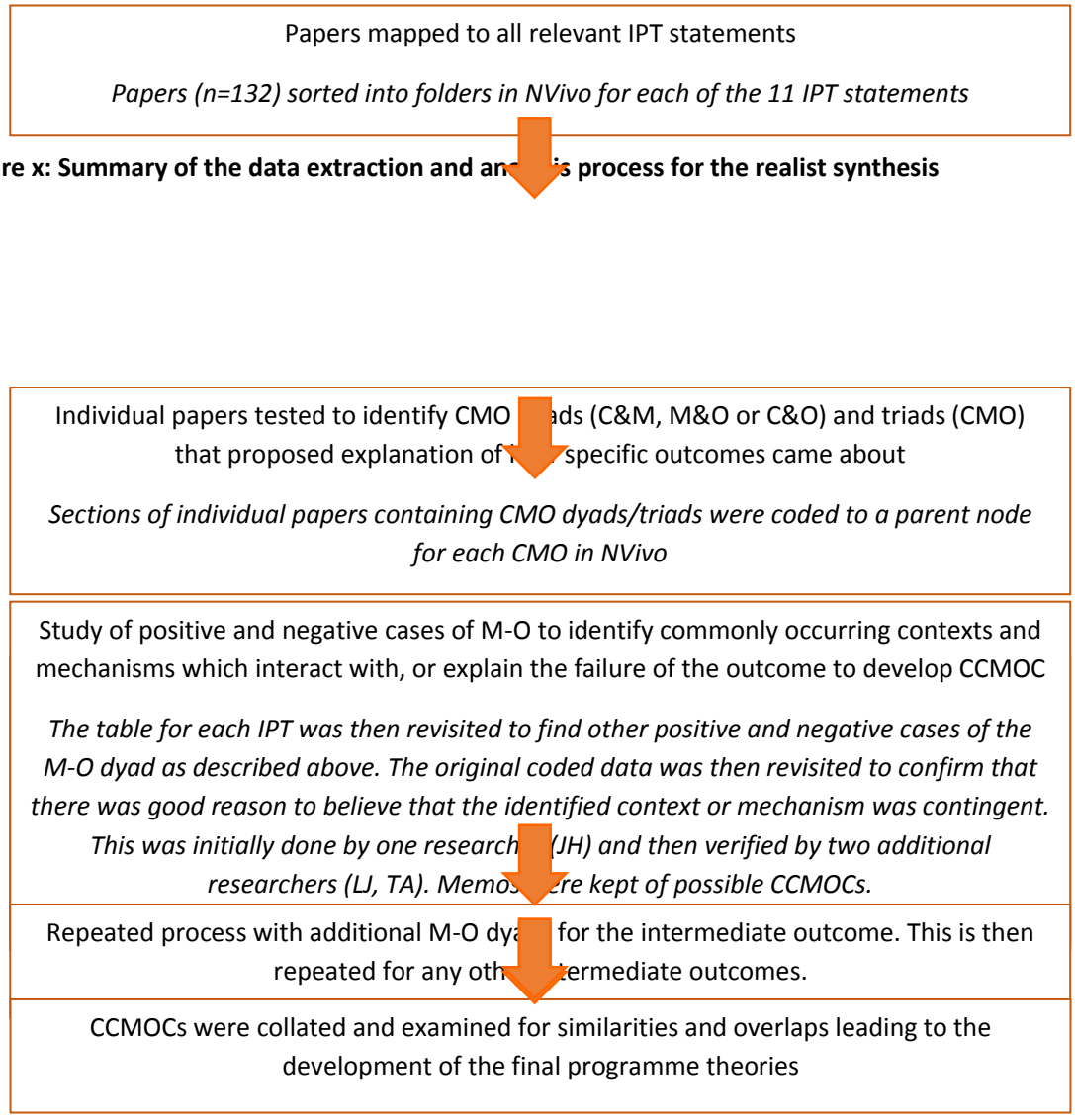


Figure x: Summary of the data extraction and an is process for the realist synthesis

Identifying theory to refine the final programme theories

Following the refinement of the programme theories through literature testing, the project team met to discuss the overarching structure of the final 11 programme theories and key concepts and mechanisms which could be informed by abstract theory. As discussed above, the complex nature of service models for co-occurring disorders led our programme theories to cover a wide range of resources and mechanism responses and which were often interlinked in terms of both their context and outcomes. We therefore aimed to identify one or more overarching theories which could assist in intepreting our realist synthesis. At the initial stage, the three lead researchers for the synthesis (JH, LJ, SD) met to discuss the final programme theories and any common concepts or relationships between the programme theories which could be explored using abstract theory. Key concepts identified during this discussion were coordination, collaboration, leadership, integration, teamwork and empowerment. Purposive searching of the literature for relevant theories was then undertaken with shortlisting undertaken according to

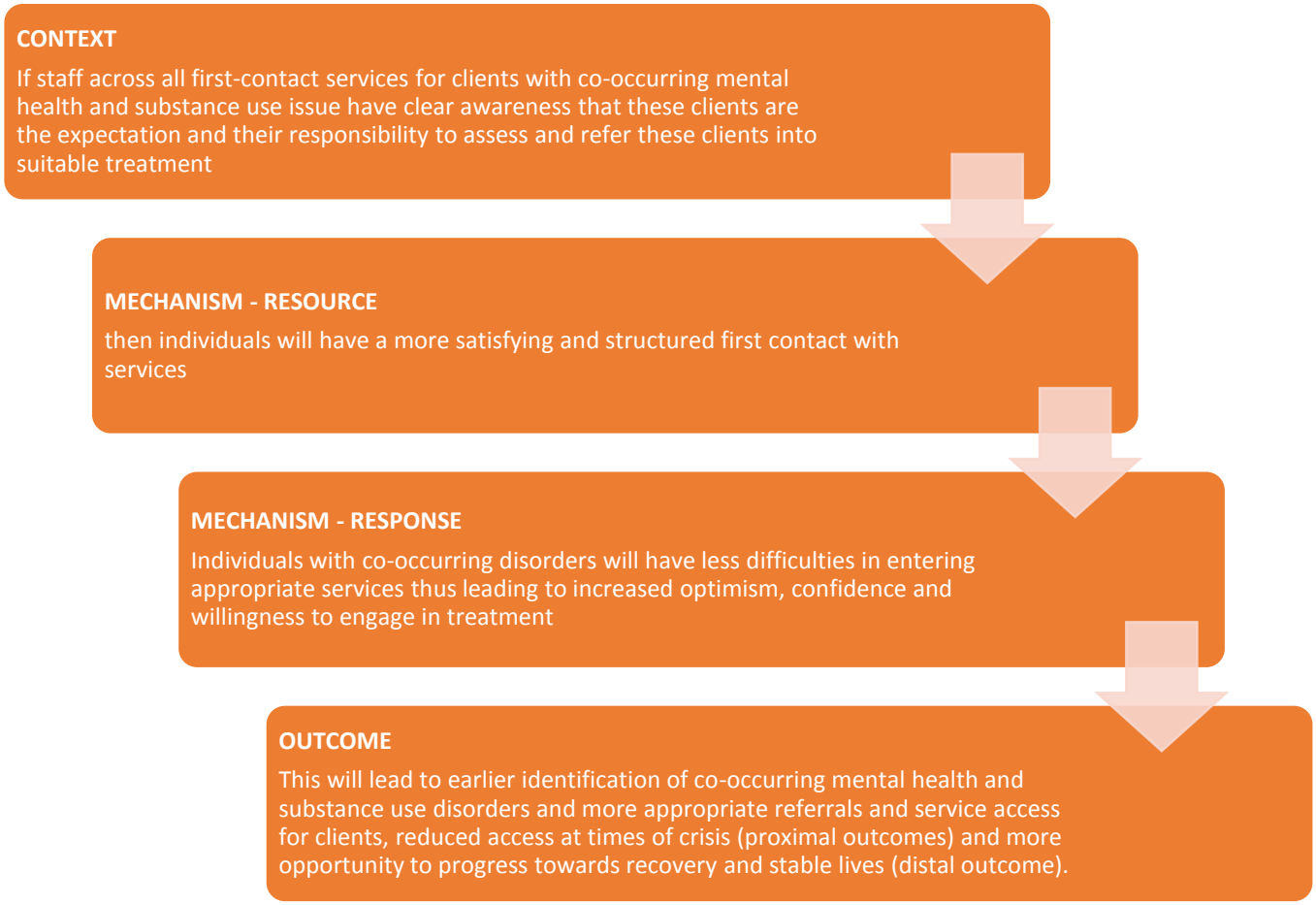
Shearn et al's (2017) guidance for complex interventions as described above. A shortlist of nine theories was developed, which were discussed by the three researchers in relation to the programme theories and Shearn et al's (2017) guidance (captured in table x below). All three researchers unanimously agreed that the SELFIE Framework (Leitjen et al, 2018) was the most useful model to describe the overall programme theory for integrated care at the meso-level and the 3C Collaboration Model (Fuchs et al, 2007) was the most useful model to examine how the programme theories operated at the micro level.

Table x: Shortlisting of overarching abstract theories

Theory	Selected	Offers explanation at the micro, meso or macro level	Explains how COSHMAD services work, for whom and in what circumstances	simple in inspiring theory generation	compatible with the realist notion of articulating causation
3C Collaboration Model (Fuchs et al, 2007)	Selected	Strong	Strong	Strong	Strong
SELFIE Framework for integrated care for multi-morbidity (Leitjen et al, 2018)	Selected	Strong	Strong	Strong	Strong
Normalisation process theory (May et al, 2015)	Rejected	Weak	Strong	Weak	Strong
Integrated Team Effectiveness Model (Lemieux-Charles and McGuire, 2006)	Rejected	Weak	Strong	Weak	No
Rainbow model for integrated care (Valentijn et al, 2015)	Rejected	Strong	Weak	Weak	Strong
Cooperative Learning Theory (Johnson and Johnson, 1994)	Rejected	Weak	Weak	Weak	Strong
Teamwork in Health Care Model (Rosen et al, 2018)	Rejected	Strong	Weak	Weak	Strong
Development Model for Integrated Care (Minkman et al, 2012)	Rejected	Strong	Weak	Weak	Weak
Empowerment Theory (Zimmerman, 2000)	Rejected	Weak	Weak	Weak	Strong

Findings

Programme theory1 – first contact and assessment



Initial programme theory

If we train staff across point of access services to recognise that all health professionals who encounter COSMHAD clients are accountable and responsible for ensuring they receive appropriate care, then access to mental health and substance use services will be increased, and exclusion of clients due to crisis or substance use will be reduced.

Refinement of programme theory

Programme theory 1 was concerned with first contact for clients with co-occurring disorders. The stakeholder workshop and service mapping review highlighted that because of the complexity of their condition, clients with co-occurring disorders could often “fall into the gap” between services with staff perceiving that either their serious mental illness or substance use made them ineligible for services. It was highlighted that staff needed to recognise their responsibility to facilitate appropriate care for these

clients to prevent their exclusion from treatment. Following analysis of the literature, several refinements were made to this programme theory – firstly it was identified that staff training was only one aspect of the context for this programme theory, with structural barriers, such as service philosophy and inadequate coordination also preventing recognition of co-occurring disorders. This resulted in the identification of two resources – training and coordinated screening and assessment for co-occurring disorders across all services (described in the refined programme theory as a satisfying and structured first contact). When these mechanisms were tested in the literature, it became clear that when there was less difficulty encountered in accessing services, clients felt more optimistic, confident and willing to engage in treatment. The initial outcomes of reduced exclusion, substance use and crisis were refined to consider short term (earlier identification of co-occurring disorders, more appropriate referrals and increased access to services) and long term (longer retention, reduced access at times of crisis and more opportunity to progress towards recovery and stable lives) outcomes.

Summary table of CMO dyads and triads

Context	Mechanism		Outcome
	Resource	Response	
Staff are aware it is their role to provide care for people with co-occurring disorders, and that there is no wrong door to enter treatment	Provide a more positive and helpful first contact with clients which considers all their needs		Better engagement rates and motivation to work towards treatment goals and longer retention into services
Staff recognise the challenges faced by clients and that clients accessing care are often not ready to make significant changes to their drug and/or alcohol use. Shared goals of care should be based on clients own perceptions of the problems	More positive first contact with clients	Clients feel motivation to engage with treatment, competence to communicate their needs, present their needs in a way that can be met effectively and trust that staff and system can help them.	
Staff recognise it is their responsibility to assess clients with co-occurring disorders and secure suitable treatment for them.	Staff not only assess clients but act upon this assessment to ensure appropriate care for clients	Without this context, clients can be passed between or fall into the gap between services	Service users have the opportunity to reach their recovery potential
Low optimism among staff to the idea that clients with co-occurring disorders can recover	Failure to appropriately assess and gain access to services they gate keep for clients		
	Standardised assessment	Clinician and client formulate a	Clients have their needs identified as

	procedures for clients	comprehensive and collaborative picture of the person's life circumstances.	soon as possible and appropriate care packages and support can be put into place
	Standardised assessment procedures introduced across different agencies and services	Staff have increased empathy, chance to air philosophical differences, find common ground and awareness of how to meet client needs leading to better communication System can become one service through referral, active communication and education.	

Final Programme Theory

If staff across all first-contact services for clients with co-occurring mental health and substance use issue have clear awareness that these clients are the expectation and their responsibility to assess and refer these clients into suitable treatment (context), then individuals will have a more satisfying and structured first contact with services (mechanism- resource). Individuals with co-occurring disorders will have less difficulties in entering appropriate services thus leading to increased optimism, confidence and willingness to engage in treatment (mechanism – response). This will lead to earlier identification of co-occurring mental health and substance use disorders and more appropriate referrals and service access for clients, reduced access at times of crisis (proximal outcomes) and more opportunity to progress towards recovery and stable lives (distal outcome).

CONTEXT

The evidence suggests that if staff across all first-contact services for clients with co-occurring mental health and substance use issue have clear awareness that these clients are the expectation and their responsibility to assess and refer these clients into suitable treatment (context), then individuals will have a more satisfying and structured first contact with services (mechanism- resource). First contact with services is crucial in enhancing the likelihood of a person with comorbid substance use and mental health disorders engaging with services and the success of this first contact is strongly influenced by the healthcare professional's skills and knowledge in communicating with those with comorbidity (Groenkjaer et al, 2017). It is therefore vital that health professionals who first come into contact with clients (regardless of which service that is), have 1) clear awareness that co-occurring disorders should be an "*expectation and not an exception*" (Chichester et al, 2009) and 2) that they are responsible for assessing these clients and retaining or referring them for suitable treatment.

Awareness of co-occurring disorders: The literature highlights that appropriate assessment of individuals with co-occurring disorders requires staff to be aware of the needs of these clients and acknowledge that working with this group is a part of their job ("role legitimacy") For example, prior to implementing integrated care for co-occurring disorders in Maine, Chichester et al., (2009) undertook work to establish staff's comfort in working with clients with co-occurring disorders and senior managers then created an expectation that all staff should be competent in treating clients with co-occurring disorders (context). A similar statement was made by leaders (context) in Curie et al's (2005) study of IDDT implementation in Ohio which is outlined in the quote below:

"because individuals with co-occurring disorders are an expectation, associated with poor outcomes and high costs, every component of the system and every level of the system should be designed based on the idea that the next person served anywhere is likely to have a co-occurring disorder. This means every program becomes defined as a 'dual diagnosis program' meeting at least minimal standards of dual diagnosis capability" (Curie et al, 2005)

In addition to statements from leadership, training is also often used to raise awareness of co-occurring disorders among staff. For example, Bell et al (2014) in their development of training for the Leeds Dual Diagnosis Network provided an online training to establish an initial, required level of competency for all staff who come into contact with these clients (including services such as Accident & Emergency and General Practice). This basic level of awareness-raising training was described in several studies with the aim of increasing staff's awareness and understanding of co-occurring disorders, inform them of their responsibility towards these clients for whom there is "no wrong door" to enter treatment and assist them in accessing appropriate services for these clients (context) (Minkoff et al, 2004; Roussy et al, 2015). Training and workforce development are considered more comprehensively in later programme theories as a mechanism resource for integrating care, but it is important to note that in the case of this programme theory it can help create the context of informed staff who can provide a more satisfying first contact for clients (mechanism – resource).

As Blakely et al (2007) highlight, individuals with co-occurring disorders may often come to services in the pre-contemplation or contemplation stages described in Prochaska and DiClemente's (1983) transtheoretical model, meaning they do not feel ready to take action to change their behaviour (mechanism – response). They therefore identified when implementing integrated care for co-occurring disorders that staff needed to recognise this as a natural and expected process of change for clients rather than evidence of resistance or non-compliance with treatment (context). Similarly, clients participating in Edland-Gryt et al's (2013) qualitative study identified four thresholds they needed to cross in order to access services: a motivation to register for treatment, competence to communicate their needs in a way services can respond to, presenting their needs in a way that can be met effectively by the service and trust that the system and staff can help them (mechanism – response). Staff who were aware of the complex needs and challenges faced by clients when accessing services (context) were associated by clients with a more successful first contact with services (mechanism – resource).

Responsible for assessing clients and securing suitable treatment: The evidence suggests that a successful first contact for clients with co-occurring disorder (mechanism – resource) not only requires staff to be aware that these clients are an expectation in their services but to also recognise that it is their responsibility to assess these clients, and respond to their acute (e.g. management of withdrawal) and longer term needs (e.g. treatment) for them (context). Several studies highlight that where responsibility for assessing and securing treatment for clients does not exist (context), clients can have a poor first encounter (mechanism – resource) leading to these clients being perceived as "*system misfits"* (Groenkjaer et al, 2017) who experience a *"ping pong effect"* (Lawrence-Jones et al, 2010) back and forth

between services before "*falling through the net"* completely (Adams et al, 2008) (mechanism-response). The literature suggests several barriers at the service level can hinder appropriate assessment and referral between services including staff attitudes, service philosophy, differing eligibility criteria for treatment and inadequate coordination of care (context) (Adams et al, 2008; MacGabhann et al, 2010; Solomon et al, 2002; Curie et al, 2005). As will be discussed in greater detail in programme theory 2, there is evidence to suggest that staff in mental health and substance use services currently hold mixed views towards individuals with co-occurring disorders (Adams et al, 2008; Barnes et al, 2002; Barrett, 2009), with Adams et al. (2008) noting that "*lower optimism among mental health professionals* [context] *who conduct assessments and 'gate keep' services* [mechanism – resource] *contributes to system failures"*. This link between staff awareness and responsibility to assess and refer co-occurring disorders (context) and the quality of a client's first contact (mechanism – resource) is highlighted by three studies which considered clients first contact with their general practitioners (MacGabhann et al, 2010; Lawrence-Jones et al, 2010; Welch et al, 2001). As Lawrence-Jones et al (2010) found, GPs typically *"seemed to perceive the issues as discrete entities"* (context) and as a result clients would only be referred to substance use services while their mental health care remained with their GP (mechanism – resource).

MECHANISM – RESOURCE

As described in the section above, staff awareness of the complexities of co-occurring disorders and recognition of their responsibility to assess and refer these clients are necessary across services encountering individuals with co-occurring disorders (context) to ensure these individuals have a satisfying and structured first contact with services (mechanism – resource). This is reflected in a literature review by Adams et al (2008) who found that "*professional ambivalence towards comorbidity…deficits in knowledge and skills, and the effect of stereotyped perceptions sometimes held by professionals* [context]*, may influence the assessment process and subsequent interactions* [mechanism – resource]*"* (Adams et al, 2008).

The literature highlights a range of different tools and protocols which can be used to ensure individuals have a satisfying and structured first contact with services (mechanism – resource). Numerous studies highlighted the importance of a core assessment protocol and recognised the importance of screening and assessment tools being used universally across services encountering clients with co-occurring disorders, in the range of agencies in which the clinicians are practising (mental health, substance use, clinical services (Groenkjaer et al, 2017; Pinderup et al, 2016; Kay-Lambkin et al, 2004; Minkoff et al, 2004). The Leeds Dual Diagnosis network (Bell, 2014) describes an example of this assessment protocol in practice (mechanism – resource); an initial screening tool is used across services in the network (mental health, substance use, housing etc.) in which the service in question is required to record whether they can support the individuals overall needs and manage the associated risks. If they identify that another service needs to be involved they can consider either 1) consulting with the service 2) offering collaborative care with the service or 3) referring the patient on to the other service. The focus of the model is ensuring a single service takes responsibility for managing a client's need (context).

Developing structured tools for first contact with clients (mechanism – resource) is described by Bell (2014) as an "*essential element of good practice"* that ensure individuals with co-occurring disorders have their needs identified as early as possible so that appropriate care packages and support can be put into place (outcome). As Kay-Lambkin et al (2004) identified, comprehensive assessment (mechanism – resource) can help the clinician and client to formulate a thorough picture of the client's life

circumstances (mechanism – response). However, Barnes et al (2003) in their qualitative study of staff once again emphasise the importance of context in ensuring a satisfying and structured first contact for clients (mechanism – resource). Participants in their study highlighted that assessment protocols must not only focus on ensuring co-occurring disorders are identified but also that staff undertaking the assessment feel responsibility to ensure that the assessment is acted upon to access appropriate care for clients (context). They argue that staff must "*position themselves as co-responsible for the outcomes for the client in the different fields of their expertise*" (context).

MECHANISM – RESPONSE

As demonstrated above if staff across all first-contact services are aware and feel responsible for clients with co-occurring disorders (context) having a satisfying and structured first contact with services (mechanism – resource) then individuals with co-occurring disorders will have less difficulties in entering appropriate services which should lead to increased optimism, confidence and willingness to engage in treatment (mechanism – response). The literature highlights several ways in which having structured first contact procedures (mechanism – resource) among aware and responsible staff (context) can reduce the difficulties for clients trying to access appropriate services (mechanism – response). Barnes et al (2002) delivered a seminar training session to address new assessment processes across agencies with the specific aims of breaking down communication and minimising the risk caused when moving clients between agencies (mechanism - resource). They found that sessions which raised staff awareness of co-occurring disorders gave staff the opportunity to air philosophical differences and find common ground leading to better communication (mechanism - response). In a later qualitative study, an interviewed team leader describes how "*assessment developed in-common"* (mechanism - resource) can lead "*services that are not under the one organisational system have to become 'one' service through a process of referral, active communication (not always formal) and education of each other to provide mutual support*" (mechanism - response) (Barnes et al, 2003). Staff participants also reported that this focus on early identification of clients' needs through assessment (mechanism – resource) meant staff were "*given permission to be a bit more pre-emptive and preventative, to try and pick things up early"* (mechanism – response). Roussy et al (2015) also found that awareness raising training which increases staff understanding of the complex issues clients face in everyday life (mechanism - resource) can increase staff's empathy for clients and increase their awareness of how they can best respond to their needs (mechanism response).

The literature suggests that when clients have fewer difficulties accessing appropriate services, they have increased optimism, confidence and willingness to engage with treatment (mechanism – response). Kirst et al (2017) found in their qualitative study that when clients encountered a safe and trusting environment, they felt more comfortable and willing to share their experiences (mechanism – response). Similarly, Edland-Gryt et al (2013) found in their qualitative study with clients and staff that clients who receive an offer of help that promotes change, they are less likely to resist this offer and have greater hope of recovery. As illustrated in the quote from Kay-Lambkin et al. (2004) below, if clients' first contact with services are unstructured and result in uncoordinated assessment and referral processes (mechanism – resource) then this can impede clients' motivation to engage with services (mechanism – response) reducing their motivation to work towards their treatment goals (outcome).

"For clients, these experiences may seem rather like being caught in traffic on an enormous, multi-laned, busy roundabout, with many possible exits to consider, yet with few road signs to direct the traffic. Extending this metaphor, a well-functioning 'co-morbidity roundabout' is proposed as a model of

intervention for comorbidity that acknowledges client and service provider experiences, highlights treatment issues, and provides a framework for assessment and intervention strategies…conflicting treatment approaches will affect the driver, not only in terms of goal selection, but even in rousing and maintaining the motivation necessary to work toward their goals and remain engaged in treatment. This may result in the driver's semi-trailer overbalancing on the roundabout, unable to negotiate the tight turns, leaving the driver stranded, possibly wounded, and bewildered by the experience" (Kay-Lambkin et al, 2004)

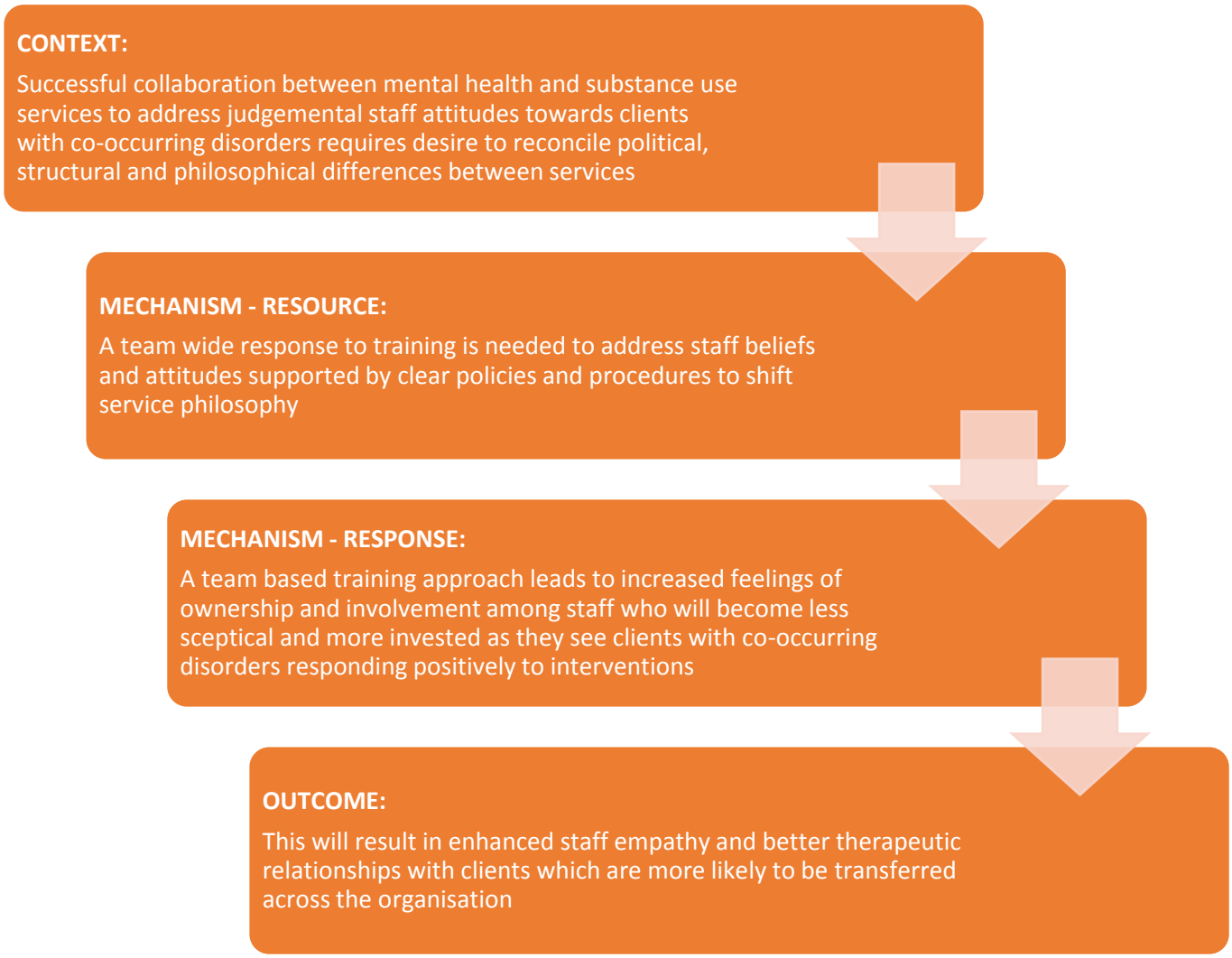
OUTCOMES

If having a satisfying and structured first contact with services (mechanism – resource) leads individuals with co-occurring disorders to have fewer difficulties and are more willing to entering appropriate services (mechanism – response), then the evidence suggests this could lead to earlier identification of co-occurring mental health and substance use disorders and more appropriate referrals and service access for clients, and more opportunity to progress towards recovery and stable lives (outcome). As previously noted, clients must cross several thresholds in order to access services (registration, competence, efficiency and trust) (Edland-Gryt et al, 2013) which can feel insurmountable when clients feel staff are not are not willing or able to provide them with the help they need (mechanism – resource) (Edland-Gryt et al, 2013; Jerrell et al, 2000; Lawrence-Jones et al, 2010). The impact on these outcomes when staff are not aware of their responsibility (context) to ensure as satisfying and structured first contact with services (mechanism – resource) is explained in the quote below by Jerrell et al (2000):

"…outcomes are seriously compromised if the staff of participating agencies are not adequately trained for or committed to an integrated effort. Slow or inappropriate referrals, failure to transfer consumers to the integrated program for service or to designate a primary case manager who is in the integrated program, or provision of inadequate medical or transportation services undermine not only staff morale but also consumer confidence that the program is really there to serve them more effectively" (Jerrell et al, 2000)

As a result, clients can experience difficulties in navigating services, which can undermine their confidence and treatment optimism, reducing their willingness to make another attempt to engage with services (Kay-Lambkin et al, 2004), or only presenting when crises occur (Groenkjaer et al, 2017). Clients who fall through the cracks of the system in this way ultimately do not have the opportunity to achieve their recovery potential by achieving a level of wellbeing that allows them to lead a more stable life (Chichester et al, 2009; Groenkjaer et al, 2017). By reducing the difficulties in navigating treatment for clients through satisfying and meaningful first contact (mechanism – resource) with staff who are aware of their responsibility towards these clients (context), they will have increased confidence, willingness and optimism to engage in treatment resulting in longer retention, reduced access at times of crisis and more opportunity to progress towards recovery and stable lives (outcome) (Edland-Gryt et al, 2013; Kirst et al, 2017; Hunter et al, 2005).

Programme theory 2 – Staff Attitudes



Initial Programme Theory

If we develop workplace policy and training in mental health and substance use services to challenge stigma and promote empathetic and non-judgemental attitudes towards individuals with COSMHAD, then staff will address their own biases and challenge discriminatory behaviour. This means service users will feel that the complexity of their disorder is acknowledged, and accepted by services, leading to increased access to services.

Refinement of Programme Theory

Programme theory 2 focused on the need for non-judgemental and empathetic staff attitudes in order to increase co-occurring disorder clients' engagement with services. During the stakeholder workshop, practice professionals had alluded to stigma which existed not only towards clients but was also transdisciplinary between those working in mental health and substance use services. When this theory

was tested in the literature, these views were more clearly demonstrated and articulated. It became clear that judgements were not merely the result of staff attitudes but were also embedded within services at the organisational level due to differences in philosophy and delivery. This evidence made it clear that it was not sufficient to expect staff to *"address their own biases and challenge discriminatory behaviour"* as expressed in the initial programme theory. Rather, a whole team approach to training was required, supported by organisational level policies and procedures to shift individual and service philosophy. Only within this mechanism of support can staff recognise the clinical benefits of their efforts with clients and thus respond with more empathetic attitudes. The original programme theory outcomes included clients feeling the complexity of their disorder was acknowledged and feeling accepted by services, this was amended to include the phrase better therapeutic relationships as this encompassed these and wider outcomes and is described in greater detail below.

Summary Table of CMO dyads and triads

Context	Mechanism		Outcome
	Resource	Response	
Positive staff attitudes including high interest working with these clients, subscription to non-punitive beliefs, therapeutic relationships and pragmatic, flexible and individually tailored approaches		Staff feel they are able to treat these clients and have positive results	Clients have access to appropriate care for their co-occurring disorders
A desire to address variations in staff attitudes and wider political, structural and philosophical differences at an organisational level	Appropriate and relevant team based approach to training including: formal education, ongoing training, clear policy and procedure, changing workplace culture		Better therapeutic relationship with clients due through joint working
	Team wide approach to formal and ongoing training	Encourage staff to reappraise their assumptions and expectations regarding co-occurring disorders	

		Staff experience interventions working successfully which reduced staff scepticism towards the interventions and reinforced their belief that clients could recover	Staff sustain practice of these new interventions which is associated with better outcomes related to mastery of these approaches
		Staff feel involved in training development, perceived management support and took ownership as a team	Training has greater chance of being implemented and sustained in practice
	Using individual cases from the team during training that is grounded in clear practice and policy frameworks	Collaboratively using their learning in practice and time to work through the issues they encountered as a team, led to increased staff empathy.	Good quality therapeutic relationship between clients and health professional where clients believe change is possible and clients more likely to continually engage
	Clear theoretical and practical frameworks and policy for staff to manage co-occurring disorders in a non-judgemental manner	Negative attitudes embedded in workforce culture are successfully addressed and empathy towards clients increased.	

Final programme theory

Successful collaboration between mental health and substance use services to address judgemental staff attitudes towards clients with co-occurring disorders requires desire to reconcile political, structural and philosophical differences between services (Context). A team wide response to training is needed to address staff beliefs and attitudes supported by clear policies and procedures to shift service philosophy (mechanism – resource). A team based training approach leads to increased feelings of ownership and involvement among staff who will become less sceptical and more invested as they see clients with co-

occurring disorders responding positively to interventions (mechanism – response). This will result in enhanced staff empathy and better therapeutic relationships with clients which are more likely to be transferred across the organisation (outcomes).

Context

The literature suggests that implementing training and policy to address staff attitudes towards co-occurring disorders (mechanism – resource) requires collaboration between services to promote non-judgemental attitudes and reconcile political, structural and philosophical differences between services (context). Access and engagement with treatment for these clients (outcome) can often be hindered by stigmatising, judgemental attitudes and lack of empathy (mechanism – response). The literature suggests collaboration to address these attitudes must be happening at both the staff level but also at the wider organisational level due to underlying differences in structural delivery and philosophical orientation between mental health and substance use services (context).

Health professionals' competence is typically described as being qualified to determine the "right" solution to clients' problems and their ability to choose high quality interventions depends on the health professionals' background, knowledge and skills (Wieder et al, 2007). Health professionals' knowledge, skills, and attitudes towards those with co-occurring disorders (context) is therefore vital to ensuring prompt assessment and productive subsequent interactions (outcomes) (Adams et al, 2008). The reviewed literature suggested mixed attitudes towards co-occurring disorders among healthcare professionals. As Adams et al (2008) note "*people with comorbidity can potentially receive care in a variety of diverse settings; therefore, it is perhaps unsurprising to find divergent attitudes and perceptions to the problem, with few apparent patterns rising from the literature"* (p.107). Some studies of staff already providing care for co-occurring disorders report positive attitudes with staff reporting high interest in working with these clients and subscription to non-punitive beliefs, therapeutic relationships and pragmatic, flexible and individually tailored approaches (context) (Adams et al, 2008; Graham et al, 2004). However, a larger number of studies reported prevailing negative attitudes including: feelings of frustration, resentment and powerlessness in understanding clients with COSMHAD (Adams et al, 2008; Danda et al, 2012), finding working with these clients unrewarding (because issues are perceived to be of the clients' own volition) (Avery et al, 2013; Graham et al, 2004; Roberts et al, 2014; Canaway et al, 2010; Danda et al, 2012; Hind et al, 2010; Lawrence-Jones et al, 2010; Sorsa et al, 2017) and difficulty relating to these clients as a group (Bjorkquist et al, 2018). As the quote from Canaway et al (2010) below highlights, when non-judgemental staff attitudes (context) are absent, clients may have challenges accessing appropriate care for their co-occurring disorders (outcome) due to staff viewing them as difficult to treat (mechanism – response).

"When co-occurring disorders are detected, the affected individuals can be regarded as 'difficult to treat' clients, they might be denied care because of the complexity of their presentation, or may be ineligible for cross referral. It was noted that some individuals 'fall between the cracks', meaning they are denied service altogether through not meeting treatment criteria due to their co-occurring disorders and complex needs" (Canaway et al, 2010).

The literature also identified variations in staff attitudes according to service setting, with non-specialist staff (for example in general practice or A&E) perceived by clients to hold more negative attitudes than those in mental health and substance use services (Hodges et al, 2006). Comparative studies also suggest that clinicians in substance use services may report less negative attitudes towards using substances than community psychiatrists who also report lower confidence in their skills treating substance use. In

contrast, specialists in addictions report less favourable attitudes towards treating schizophrenia, although they show similar skills in treatment to community psychiatrists, suggesting that a deficit in skills is not necessarily driving these attitudes (Avery et al, Roberts et al, 2013). There is also evidence that more negative perceptions towards substance use may be emerging among staff in UK forensic settings due to increased pressures to maintain a secure and drug-free environment (Adams et al, 2008). These variations in staff attitudes according to setting and specialism (context) suggest that there also needs to be a desire to reconcile these structural, political and philosophical differences at an organisational level (context) to develop an appropriate and relevant team based approach to training (mechanism – resource)

This link between staff attitudes and the wider political, structural and philosophical differences between services (context) is summarised in a review by Adams et al (2008) who found "*mental health professionals and allied workers may have a willingness to work with people with comorbidity, but experience deficiencies in knowing what to offer them, either because of structural problems with services or paucity of training*". In several of the studies reviewed, staff's perceived ambivalence towards comorbidity was linked to a broad consensus among staff that existing service provision had limited effectiveness which can negatively impact upon staff attitude (context) (Adams et al, 2008; Weider et al, 2007; Danda et al, 2012). Similarly to poor organisational structure, differences in philosophical orientation between substance use and mental health services can impact upon staff attitude. Philosophical differences in substance use and mental health services include a focus on harm reduction versus abstinence, use of pharmacotherapies, ontological understandings of health, understandings of causality for mental health and substance use issues, differing symptom classification frameworks and views on client autonomy. These competing philosophical orientations manifest themselves in how substance use and mental health services structure service delivery and set outcome expectations for treatment (Canaway et al, 2010; Hodges et al, 2006; Hunter et al, 2005; Kola et al, 2010; Lawrence-Jones et al, 2010; Manley et al, 2010; Roberts et al, 2014; Sorsa et al, 2017; Sterling et al, 2011). As Danda et al (2012) summarise in their review:

"organizational issues like lack of structure, unclear policies and procedures, lack of accessible leadership and lack of specialized addictions education all negatively impact staff attitudes. An organization's operating structures are a good place to begin implementing care improvement strategies." (Danda et al, 2012)

These structural and philosophical aspects (context) can lead staff to value laden judgements about which actions and outcomes are good and bad, and a lack of incentive to bridge the gap between services (mechanism – response) (Bjorkquist et al 2018; Canaway et al, 2010). The literature therefore suggests that a desire to reconcile these structural and philosophical differences through joint working is an important context to address non-judgemental staff attitudes. Mental health and substance use services have a history of contentious behaviours towards each other with studies suggesting some mental health services express feelings of medical cultural superiority and disparaging views towards substance use workers' expertise (Manley et al, 2010; Roberts et al, 2014). Ness et al (2014) in their qualitative study of staff working with young adults with co-occurring disorders, highlights that collaboration between services to reconcile their differences (context) can lead to a better therapeutic relationship with clients (outcome). As one participant stated "*in a fruitful collaboration, it is not about just giving information to each other but negotiating a way of working together so that we can have a joint understanding of how to proceed with the work together*"

In summary, the literature suggests that collaboration between services requires a desire to develop non-judgemental staff attitudes towards individuals with co-occurring disorders and also to address the underlying structural and philosophical differences between mental health and substance use services which contribute to these attitudes (context). This context will enable the development of suitable training approaches to address staff attitudes (mechanism –resource).

Mechanism - resource

The section above highlights how a willingness to improve staff attitudes and addressing the underlying structural and philosophical differences between services (context) could potentially present a fertile ground for training and education (mechanism - resource). In their review of staff attitudes towards co-occurring disorders, Adams et al (2008) acknowledged that these structural and philosophical differences between services and the resulting presence of mixed staff attitudes towards co-occurring disorders where staff have *"willingness to work with people comorbidity, but experience deficiencies in knowing what to offer them, either because of structural problems with services or a paucity of training"*. Their review identified that in organisations that are willing to address issues (context) a "*commitment to structural integrity of services, targeted training to certain groups and ongoing supervision may give cause for optimism"* (mechanism – resource).

The literature suggests several elements of successful staff training (mechanism - resource) within this context of willingness to improve attitudes, structural and philosophical differences which lead to improved staff confidence and capabilities (mechanism - response). Danda et al (2012) describe four interconnected steps as result of their review which they propose should be used in combination to address staff attitudes towards co-existing mental health and substance use conditions: 1) formal education 2) ongoing training 3) clear policy and procedure 4) changing workplace culture. These four steps are what Danda et al (2012) describe as a team wide approach to training (mechanism - resource) which addresses both staff beliefs and attitudes and shifts service philosophy (context). Two additional studies confirmed that taking this team-wide approach (mechanism - resource) meant that formal and ongoing training could be designed based on staff's baseline level of comfort and encouraged staff to reappraise their assumptions and expectations regarding co-occurring disorders (mechanism – response) (Chichester et al, 2009; Wieder et al, 2007). Graham et al (2004) ran team-wide training as part of the COMPASS project, and made use of examples of individual cases treated by the team during 'train the trainer' exercises (mechanism - resource). They found that using their learning collaboratively in practice lead to increased staff empathy (mechanism - response). Solomon et al (2002) also highlight the connection between developing a team wide approach to training (mechanism - resource) and willingness to engage with issues caused by differences in service structure, philosophy and staff attitude (context), stating *"At this stage an effort must be made to distinguish between lack of involvement resulting from a primary lack of knowledge and skills, or a defensive position developed out of fear and anxiety."*

The additional elements of the team-wide training approach (mechanism - resource) described by Danda et al (2012) are clear policy and procedure and changing workplace culture. Both Danda et al (2012) and Kola et al (2010) found that staff attitudes and structural and philosophical differences (mechanism - response) are more positively influenced when staff have clear theoretical and practical frameworks in which to manage co-occurring disorders (mechanism - resource). Chichester et al (2009) reported on the integration of co-occurring disorder treatment across the state of Maine and identified that negative attitudes embedded in workplace culture were successfully addressed (mechanism – response) when

senior management incorporated competency in treatment of co-occurring disorders and empathy towards clients into workplace policy and procedure (mechanism - resource).

Mechanism - response

The evidence from the literature demonstrates that a team based training approach which incorporates formal and ongoing education, policy and procedure and changing workplace culture (mechanism - resource) leads to increased feelings of ownership and involvement among staff who will become less sceptical and more invested as they see clients with co-occurring disorders responding positively to interventions (mechanism - response). In a team based approach, as Drake (1991) describes "*most of their learning occurs… in the daily experience of struggling as an interdisciplinary staff with a recurrent set of problems".* This less sceptical and more invested response (mechanism – response) following team-wide training (mechanism - resource) is defined by Blakely et al (2007) as the attitude-aptitude spiral. Blakely et al (2007) aimed to address staff readiness and interest in learning new techniques for co-occurring disorders (context) by implementing a team-wide, ongoing approach to training (in this case the focus was on learning motivational interviewing) (mechanism – resource) at an agency in Michigan, US. They found that using a team-based, ongoing approach to training (mechanism - resource), meant staff experienced interventions working successfully and clients responded positively, reinforcing their belief that clients could recover (mechanism - response). As highlighted in the quote below, once staff saw clients responding positively to new interventions during this ongoing, team based training (mechanism – resource) they become less sceptical, reluctant and fearful and more inquisitive and invested (mechanism - response) (Blakely et al, 2007).

"*As clinicians became proficient at MI they experienced a positive response from clients that reinforced a belief that clients could change. This attitude led to a desire to learn more about the new technique and to become better at it. The better they became the better the clients responded. Once started, the Attitude-Aptitude spiral became self-reinforcing. Clinicians literally went from being reluctant and fearful, not completing assignments or scheduling supervision, to being inquisitive and impatient to learn more, reading on their own, and actively seeking clinical feedback in groups*" (Blakely et al, 2007)

These feelings of ownership, increased investment and reduced scepticism (mechanism - response) in response to a team based approach to training (mechanism -resource) were also described by Graham et al (2004) and Wieder et al (2007) who implemented similar team-based approaches in UK and US services respectively. As observed in the quote by Graham et al (2004) below, using a team based approach to training that is grounded in clear practice and policy frameworks (mechanism - resource) allowed staff time to work through and address the issues they encounter as a team, which in turn can shift philosophy (mechanism – response). In concurrence with Blakely et al (2007), Graham et al (2004) found that if staff could see the benefits and rewards of the training in their practice, felt involved in training development, perceived management support and took ownership as a team (mechanism – response) then the training has a greater chance of being implemented and sustained in practice (outcome).

"To facilitate a shift in the treatment philosophy of an existing team to embrace the concept of integrated treatment all clinicians within the team need to be trained, preferably at the same time…this method of training offers all clinicians within the team an opportunity to be exposed to the issues they feel they may encounter in implementation. The team is then able to work through these issues and resolve them as a team" (Graham et al, 2004)

Weider et al (2007) reinforce the link between this response to training (mechanism - resource) and the context of non-judgemental staff attitudes and a desire to reconcile philosophical and structural differences (context). In their comparison of agencies implementing IDDT, they found that staff attitudes and organisational willingness to change (context) impacted upon staff response to training (mechanism - resource), as they note, "*Where willingness was present, it was observed that a lack of familiarity with the model and/or population was not an impediment*".

Outcomes

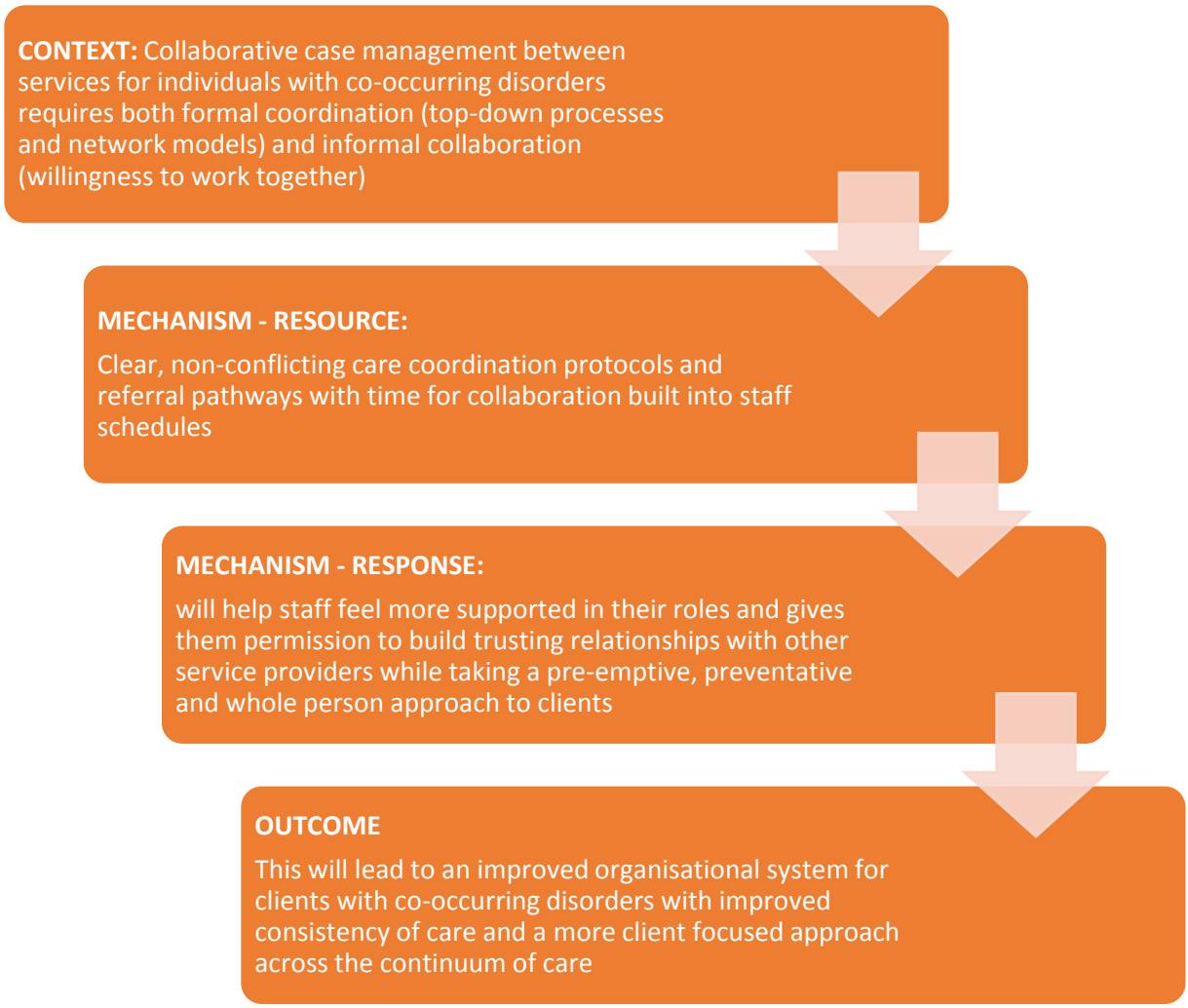
The literature demonstrates that staff ownership and investment in approaches to treat individuals with co-occurring disorders (mechanism – response) through a team-wide approach to training (mechanism - resource) will result in enhanced staff empathy and better therapeutic relationships with clients which are more likely to be transferred across the organisation (outcomes). Weider et al (2007) demonstrate this link between context, mechanism and outcomes in their experiences of implementing the IDDT in Ohio, stating "*clinicians who were seen to be open and willing to learn the IDDT approaches, enthusiastic about small gains in their clients' progress, and ready to "stick with it for the long haul" were associated with better outcomes related to mastery of those approaches"*

A good quality therapeutic relationship between clients and health professional (outcome) is recognised as an important facet of successful treatment (Adams et al, 2008; Brekke et al, 2017). Clients with co-occurring disorders often struggle in their daily lives with feelings of loneliness, discrimination, lack of belonging to society, fears of guilt and shame and not being taken seriously (Brekke et al, 2017; Hodges et al, 2006; Jones et al, 2015; Danda et al, 2012). Empathy and understanding from healthcare professionals (mechanism - response) is therefore vital to developing a good therapeutic relationship (outcome). As Brekke et al (2017) define "*therapeutic alliance, which may be defined broadly as the collaborative and affective bond between therapist and patient, is established as a predictor of outcome in psychotherapy*". Brekke et al (2017) identifying four recovery supporting behaviours: hopefulness, loving concern, commitment and, action and courage. Without this empathy from health professionals (mechanism - response) clients may lack the belief that positive change is possible and perceive health professionals as lacking in skills (Brekke et al, 2017; Lawrence-Jones et al, 2017). Clients are more likely to continually engage (outcome) with services where staff are invested in are flexible, accepting and mutually honest approaches and feel ownership to provide continuity of care (mechanism - response) in comparison with routinized encounters. A participant in Canaway et al's (2010) study expresses this link between staff investment and ownership in approaching co-occurring disorders (mechanism - response) and good therapeutic relationship with clients (outcome) as "*don't fix me, listen to me first*".

By taking a team wide training approach (mechanism - resource) these improved therapeutic relationships (outcomes) are more likely to be transferred as non-judgemental attitudes and philosophical and structural differences across the whole organisation (context). This ethos is, again, perhaps best expressed by a participant in Canaway et al's (2010) study:

"I think there is something fundamentally connecting to the world in the best therapeutic relationship, where you finally feel understood by another human being. That makes all change possible"

Programme Theory 3 – encouraging collaborative case management



Initial Programme Theory

If senior service managers develop delivery and governance polices to consistently promote and allow time and space for interprofessional collaboration between mental health and substance use staff, then staff will feel supported to enter into interprofessional collaborations leading to shared case management that takes a holistic and individualised approach towards COSMHAD patients.

Refinement of Programme Theory

Programme theory 3 focused on the staff's need for time and space to collaborate with other services when providing coordinated care. When this theory was initially developed it focused on the requirement for senior service managers to promote collaboration through delivery and governance policies. After engagement with the literature, this was further refined to reflect two levels of context: formal coordination at the organisational level and a more informal willingness to collaborate at the practitioner level. The resource and response aspects of this programme theory where then also structured at these levels, with formal coordination allowing staff to feel supported and more pre-emptive in their role and informal collaboration building trusted, understanding relationships to facilitate shared care. As in the

initial programme theory, the outcomes for the final programme theory remained focused on providing more client-focused care but was also amended to include greater consistency of care.

Summary Table of CMO dyads and triads

Context	Mechanism		Outcome
	Resource	Response	
Joint working between services for case management		Reduces staff stress and anxiety and lessening the load of managing clients with multiple and complex needs by sharing care	
Coordination through top down hierarchical organisations which must be interrelated, prioritised and adapted	Collaboration in case management between different services providers	Enables stakeholders to establish trusting relationships through open and ongoing communication	
Building relationships with partner organisations	Networks and informal opportunities for communication built into staff schedules	Increase staff awareness of other service's roles and expertise and dispel fear of the unknown, misunderstanding of jargon and technical language and feelings of resentment of being deskilled which exist between services. Develop a shared work culture and sense of ownership between organisations	
Leadership and communication to facilitate coordination	Formal, written arrangements which detail the roles and responsibilities of all involved services which describe coordination from registration through to referral/discharge	Creates a culture of change within organisations which ensures staff feel leadership is fully behind such change	
	Coordination policies for case management	Staff feel more supported to take a pre-emptive and whole person approach	Improved consistency and more client focused approach across the continuum of care
	Coordination of collaborative case management ensures client's treatment is focused on their needs and characteristics, not	Clients' difficulties in navigating services are reduced	Less presentations at secondary care at times of crisis/relapse and staff less likely to fall between services and become marginalised

	the treatment organisation's priorities		from care.

Final programme theory

Collaborative case management between services for individuals with co-occurring disorders requires both formal coordination (top-down processes and network models) and informal collaboration (willingness to work together) (context). Clear, non-conflicting care coordination protocols and referral pathways with time for collaboration built into staff schedules (mechanism –resource) will help staff feel more supported in their roles and gives them permission to build trusting relationships with other service providers while taking a pre-emptive, preventative and whole person approach to clients (mechanism – response). This will lead to an improved organisational system for clients with co-occurring disorders with improved consistency of care and a more client focused approach across the continuum of care (outcomes).

Context

Collaboration and coordination between services treating individuals with co-occurring disorders (context) is required to facilitate collaborative case management (mechanism – resource) of consistent, client focused care for individuals with co-occurring disorders (outcome). The evidence highlights that separate specialist services for mental health and substance use face a number of challenges including services being overstretched, limits on interventions set within services, limited time and resources, which result in staff stress and anxiety (Bjorkquist et al, 2018; Barnes et al, 2003; Guest et al, 2015). Joint-working (context) therefore presents benefits to practitioners in these services by reducing their stress and anxiety and lessening the load of managing clients with multiple and complex needs by sharing care (mechanism – response) (Barnes et al, 2003: Guest et al, 2015). However, the literature highlights that even where staff have aspirations to improve collaborative care for clients with co-occurring disorders, they are constantly balancing client needs against resources and cannot achieve this goal without support at the organisational level (context) (Bjorkquist et al, 2018a, Bjorkquist et al, 2018b; Kirst et al, 2017). This highlights that collaborative case management requires both formal coordination (for example, top-down processes and network models across services) and informal collaboration (willingness to work together across services) (Bjorkquist et al, 2018; Barnes et al, 2003).

Formal coordination: Coordination of services implies more than different ways to meet and communicate. Coordinated service provision requires the services involved to reach agreement on who is to collaborate, how they will collaborate and how that collaboration will be organised (context). Collaboration and coordination are often used synonymously but have different definitions. Coordination describes the top down processes in hierarchical organisations which must be interrelated, prioritised and adapted (context) to ensure collaboration between different service providers (mechanism – response). Coordination can be organised in different ways including: processes and protocols which establish sequential responsibility for service provision and measures to regulate patient flow, and network models which give a venue for different services to coordinate case management (Bjorkquist et al, 2018b). Network models for co-occurring disorders are considered in greater detail in programme theory 7, but they have been categorised across a continuum ranging from information exchange through to case coordination, multidisciplinary teams and formal partnerships (Bjorkquist et al, 2018b).

The literature revealed a range of challenges and facilitators in relation to service coordination for co-occurring disorders. Challenges include differences in communication style, electronic record systems and workflow processes (Anastas et al, 2019; Anamalai et al, 2018). Facilitators for successful collaboration include defined staff roles, time for staff training and communication, processes to track integration efforts and outcomes, careful selection of partner agencies and organisational readiness (Anastas et al, 2019; Petrakis et al, 2018; Annamalai et al, 2018).

Informal collaboration: In contrast to coordination, collaboration refers to the willingness of staff in different services to work together to address the needs of clients with co-occurring disorders (context). Collaboration has several key elements including structure, process, roles and relationships. Collaboration may take place in professional networks but can also take place more informally during the course of providing care to address clients' needs (Bjorkquist et al, 2018b). While clear coordination is vital, it cannot be achieved unless staff are willing to commit to this change. Building relationships with partner organisations (context) is an important aspect which can increase staff awareness of other service's roles and expertise and dispel fear of the unknown, misunderstanding of jargon and technical language and feelings of resentment or being deskilled which exist between services (mechanism – response) (Georgeson et al, 2009; Greonkjaer et al, 2017; Kola et al, 2010; Pinderup et al, 2018).

Mechanism – resource

Co-ordinating case management requires clear, non-conflicting care coordination protocols and referral pathways which build time for collaboration into staff schedules (mechanism resource) based on the available resources being commitment by leadership (coordination) and relationships between organisations (collaboration) (context). Formalised protocols (mechanism – resource) ensure consistency across lead practitioners and commissioners, as Chichester (2009) observes "*leadership and communication from the top are necessary for change to occur"* (context). Huntington et al (2005) suggest coordination processes begin by convening coordination bodies across all involved organisations (context) who meet regularly to reach a consensus on the work to be done and then create formalised, written arrangements which detail the roles and responsibilities of all involved services (mechanism - resource). Studies by Annamalai et al (2018) and Bell et al (2014) identify some key features of these protocols for care coordination (mechanism - resource). They should clearly describe each level of coordination from registration through to referral or discharge and include the exchange of demographic data on clients between involved services (mechanism - resource) (Annamalai et al, 2018; Bell et al 2014). However, some studies express caution about creating uniform pathways for such a non-heterogeneous group of clients reiterating the important link between developing coordination protocols within the context of existing service coordination and collaboration (context). In their evaluation of collaborative and coordination efforts for co-occurring disorders in Scotland (Hodges et al, 2006) and the US (Davidson et al, 2014), both sets of authors highlight that the ongoing but rapidly changing needs of clients with co-occurring disorders suggest that coordination efforts should be focused on the kinds of services that already exist in the system of care (context). They emphasise the importance of encouraging flexible menus of treatment focused on choice and individualised approaches (mechanism resource) (Hodges et al, 2006; Davidson et al, 2014). In order to achieve this required flexibility and individualised approach to coordination (mechanism -resource), staff will also need time for collaboration (mechanism - resource).

The emphasis on individualised and flexible approaches to care coordination (mechanism - resource) in the literature clearly highlights the link between the formal coordination and informal collaborative contexts described above. This relationship is clearly demonstrated in the quote below from Davidson et

al (2014) who emphasise the importance of coordinating case management (mechanism - resource) according to meeting client needs (context – collaboration) and not merely funding and regulatory parameters (context – coordination). As highlighted above, coordinated case management requires both formal coordination and collaboration (context), which is why coordination protocols must build time to collaboration into staff schedules (mechanism - resource).

One of the first steps in developing a shared vision for an integrated system involved creating opportunities for stakeholders to come together and re-envision the service system, not based on existing funding or regulatory constraints, but instead based on the common needs expressed by people with mental health and addiction difficulties (Davidson et al, 2014)

The literature highlights several ways in which collaboration can be facilitated including networks, huddles and multi-agency team meetings (mechanism resource) (Georgeson, 2009; Bell et al, 2014; Annamalai et al, 2018; Bjorkquist et al, 2018b; Anastas et al, 2019). As Annamalai et al (2018) describe "*regardless of the mechanism, organisations building an integrated model of care should at the outset determine effective and feasible models of communication…shared treatment planning can only occur when there are effective ways of communication between the two sets of clinical providers"*. Strong collaboration between staff across services can diminish silos (context) but requires planning with: time for communication formally built into schedules, clear protocols to determine how and what information needs to be exchanged and supported by leadership (mechanism resource) (Anastas et al, 2019; Annamalai et al, 2018; Bjorkquist et al, 2018b).

Mechanism – response

Defined, coordinated structures for case management (mechanism - resource) help staff feel more supported in their roles and enabled to use their skills and knowledge to work with the challenges of this complex client group (mechanism - response) (Danda et al, 2012). In addition, Barnes et al (2003) observed in their study that having structured coordination procedures (mechanism – resource) gives staff permission to be more pre-emptive, preventative and take a whole person approach to clients (mechanism response). Key to this shift in staff responses (mechanism - response) is a commitment from leadership at higher organisational levels (context) to champion the coordination protocol (mechanism - resource) and invest in implementation (Kirst et al, 2017; Pinderup et al, 2018). Formalised coordination of case management (mechanism - resource) creates a culture of change within organisations and ensures staff feel leadership is fully and not "*only half-heartedly behind such change"* (mechanism - response) (Chichester et al, 2009). As Georgeson et al (2009) describe, coordination is:

"…a call to arms for practitioners to work with each other. Not against each other or in competition with each other, but in partnership for a common cause. That cause is the alleviation of distress and suffering in our communities"

Coordinating opportunities for more informal collaboration when managing clients (mechanism – resource) enables stakeholders to establish trusting relationships through open and ongoing communication (mechanism response) (Bjorkquist et al, 2018b; Chichester et al, 2009). Staff who meet together both formally and informally begin to understand the roles, functions and available treatment in other services. This increased understanding will facilitate them linking up for joint working and co-ordination of care (mechanism - resource) thus developing a shared work culture and sense of ownership between organisations (mechanism - response) (Chichester et al, 2009; Anastas et al, 2019).

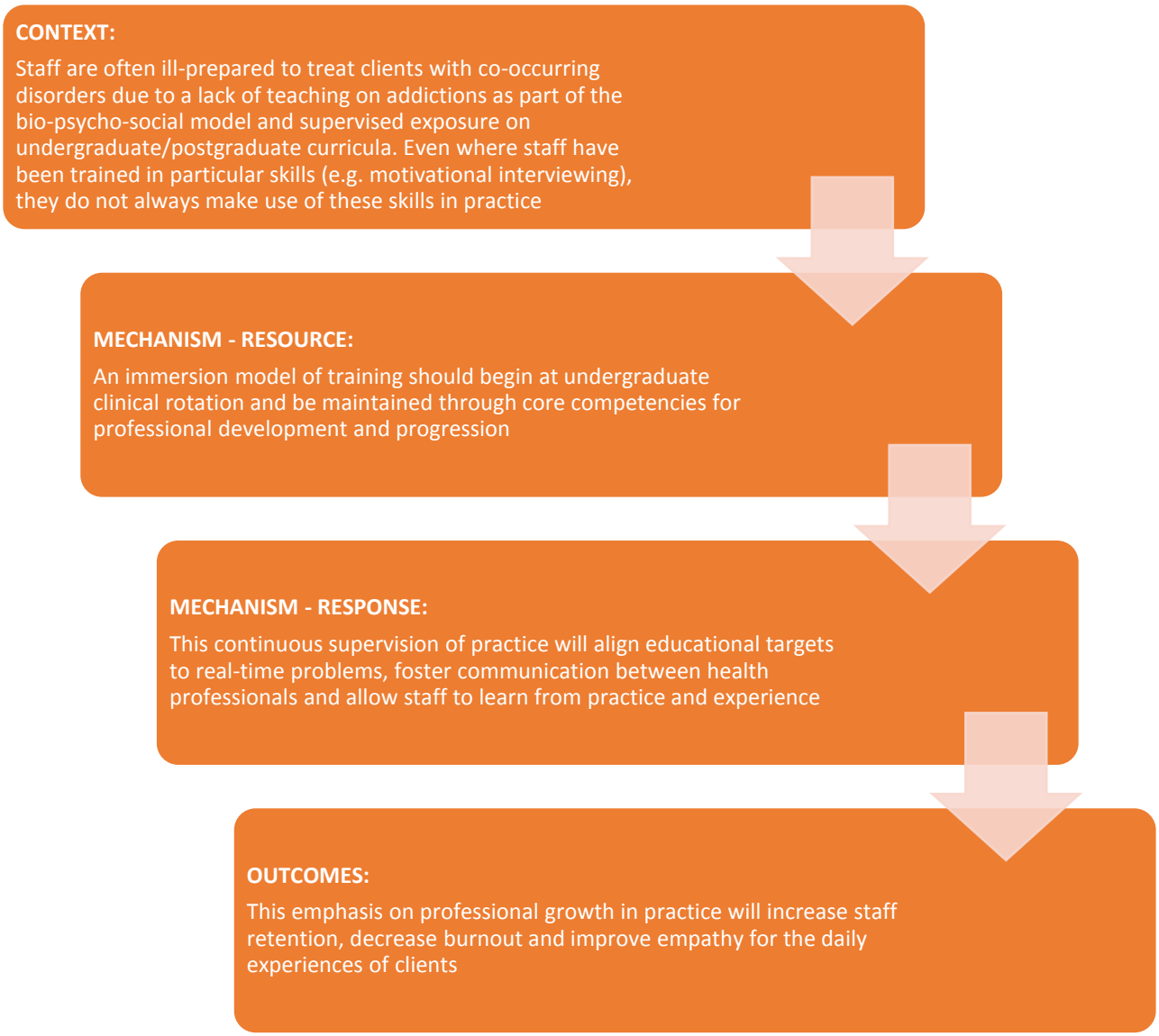
Outcomes

As outlined above, the literature suggests that a combination of formal coordination and informal collaborative measures (context), are needed improved organisational system for clients with co-occurring disorders (mechanism – resource). These resources help staff feel more supported and take a pre-emptive and whole person approach in their roles (mechanism - response) which several studies suggest is associated with improved consistency and a more client focused approach across the continuum of care (outcomes) (Barnes et al, 2003; Danda et al, 2012). The example below from an AOD nurse participating in Barnes et al's (2003) study demonstrates how policies for coordination of case management (mechanism -resource) that "*pulled treatment together in a mixture of informal and formal processes"* (context) allowed health professionals to take a flexible and whole person approach to a client (mechanism - response) which resulted in client focused improvements in mental health and substance use outcomes (outcome)

"I had assessed this one client who had come to me for drug and alcohol issues. After being with him for about an hour and a half I realised that this young man had quite profound and long term effects from depression. He was suicidal, had relationship problems and grief from the loss of a child a few years earlier. He was using heavily (about 25-30 cones a day) and this was masking his depression. He suffered symptoms of withdrawal if he didn't smoke for a day. So what we did was, I referred him to the mental health team at the weekly triage as someone who needed their assistance for his depression, and that I would help him to deal with his smoking issues. So they worked with his depression, and I worked with him to reduce his smoking - last time I saw him he was only having two cones to help him sleep at night - and the mental health team said that his depression and life was now much easier to deal with and work through - I think that all worked well because we co-managed him and talked regularly at case management meetings about his progress... I think it works well because we deal with each other [as health professionals] in respectful ways - respectful of each other's expertise." (Barnes et al, 2003)

As the example above illustrates, coordination and collaboration (context) means that responsibility for client's care does not reside with a single health professional. Coordinating policies and procedures which facilitate the sharing of resources and expertise across services and disciplines (mechanism - resource) ensure that the focus of a client's treatment is not shaped by the treatment organisation's priorities but by the characteristics and needs of the client (Barnes et al, 2003). The importance of collaboration and coordination as a context for these resources is demonstrated in qualitative studies of staff experiences by Groenjaker et al (2017) and Pinderup et al (2018) who illustrate what can happen when this context of coordination and collaboration is absent. Participants working with those with co-occurring disorders reported that a lack of coordination and collaboration between services (context) could negatively impact on their clients' help-seeking (outcome). If services are difficult to navigate (mechanism – resource), participants believed clients may choose not to seek help or fall between the net of separate services, leading to more repeated presentations at primary care and A&E at times of relapse and crisis (outcome). As a consequence clients with co-occurring disorders can become trapped in a negative cycle of becoming sicker, further isolated, disenfranchised and marginalised (outcome) (Groenkjaer et al, 2017; Pinderup et al, 2018).

Programme theory 4 – continuous exposure from undergraduate level this is mainly in reference to mental health registrants such as MH nurses, psychiatrists in training, allied health profs and psychology. Also qualified SW. This is especially relevant for RECO as our focus is serious mental illness where there is an expectation that the main care managers would be a MH registrant



Initial Programme Theory

If we incorporate the biopsychosocial approach, understanding of integrated approaches for COSMHAD clients, and exposure to individuals with COSMHAD (context) into training for mental health and substance use from undergraduate/pre-registration level onwards (mechanism – resource), then staff will feel more confident and skilled to deal with the complexities faced by these clients (mechanism – response) leading to appropriate use of therapies and behaviour change strategies.

Refinement of programme theory

The focus of this programme theory was ensuring a skilled workforce by ensuring that the appropriate skills, knowledge and experience of working with individuals with co-occurring disorders was introduced at undergraduate level and maintained through ongoing professional development. The mechanism for this programme theory involved both didactic training on the model of addictions and experience of working with these clients in practice. The mechanism was amended in the final programme theory to include the concept of an “immersion” model of training which combined introducing education on clinical concepts in specific sequence with continuous practice of interventions with these clients under

direct supervision. The initial outcome of more appropriate use of therapies was amended to a more intermediary outcome of encouraging staff retention and emphasising professional growth. The further mechanisms and outcomes associated with retaining a skilled workforce are considered in programme theory 11.

Summary table of CMO dyads and triads

Context	Mechanism		Outcome
	Resource	Response	
Co-occurring disorders are recognised as an important part of curricula and placement/rotation	Education on co-occurring disorders to post-graduate level and exposure to clients	Non-stereotyping attitudes and treatment optimism among health professionals	
Without formalised plans for exposure to co-occurring disorder clients during placement students usually only encounter these clients at times of crisis	Supervised exposure to clients with co-occurring disorders in community/specialist settings as a routine part of undergraduate/post-graduate curricula	Increase staff optimism in the efficacy of treatment	Increased empathy towards clients
	Teaching focusing on the bio-psychosocial approach to addictions in undergraduate/ post-graduate curricula	Increase staff understanding that there is no one type of client with co-occurring disorders, rather each presents with a unique combination of biopsychosocial factors	
	Staff competencies maintained through ongoing professional development	Ensure sustained professional growth. By making use of their skills in treating individuals with co-occurring disorders (e.g. motivational interviewing supervised practice staff feel comfortable and confident to use them in practice and belief that they will work	
	Designing immersion training strategies based on existing staff's knowledge and needs	Improve staff attitudes towards co-occurring disorders. Fosters communication, aligns educational targets to real-time problems	
	Immersion model of training which combines clinical skills education with the opportunity to use	Stimulate and reinforce changes in the attitude-aptitude spiral whereby staff see these concepts are effective	Increased staff retention and decreased burnout leading to service improvements and

	learned interventions in practice with direct supervision, consistent feedback and pre-determined quality indicators.	and thus believe they are worth implementation.	better engagement from clients
	Learning through supervised practice	Allowed staff to recognised the integration of co-occurring disorders as part of their work in the context of providing care. Staff become more motivated and confident to practice interventions and skills when they see them work	

Final programme theory

Staff are often ill-prepared to treat clients with co-occurring disorders due to a lack of inclusion of bio-psycho-social perspectives as part of formal qualifications in substance use, and lack of supervised exposure on undergraduate/postgraduate curricula. Even where staff have been trained in particular skills (e.g. motivational interviewing), they do not always make use of these skills in practice (context). For those professionals undertaking clinical qualifications an immersion model of training should begin at undergraduate clinical rotation and be maintained through core competencies for professional development and progression (mechanism - resource). This continuous supervision of practice will align educational targets to real-time problems, foster communication between health professionals and allow staff to learn from practice and experience (mechanism - response). This emphasis on professional growth in practice will increase staff retention, decrease burnout and improve empathy for the daily experiences of clients (outcomes).

Context

The literature demonstrates that staff in mental health and substance use services are often ill-prepared to treat clients with co-occurring SMI and SUD (context), particularly those who are recent graduates. Staff do not always have educational experience in both physical and behavioural health, how to manage psychiatric medication and how to conduct basic screening for co-occurring serious mental illness and substance use (Anastas et al, 2019; Danda et al, 2012; Fisher et al, 2014). The time devoted to co-occurring disorders and the addictions model on curricula is often limited and there are concerns programmes have not kept pace with changes in healthcare delivery (Szermann et al, 2017; Fisher et al, 2014; Hodge et al, 2009; Renner et al, 2007). Research suggests that being educated to post-graduate level and exposure to clients with co-occurring disorders (mechanism – resource) is positively correlated with non-stereotyping attitudes and treatment optimism among health professionals (mechanism –

response) (Danda et al, 2012). However, Renner et al (2005) note that this is dependent on the manner in which students are exposed to individuals with co-occurring disorders during their training (context). In their study of US medical residents they found that residents' optimism in the efficacy of treatment for clients with co-occurring disorders could decline (mechanism – response) during their residency, as they were often exposed to clients in inpatient and emergency departments at times of poor health rather than in community or outpatient clinics (context). This evidence suggests that current training is lacking in two respects: firstly, teaching focusing on the biopsychosocial approach to addictions (mechanism – resource) will increase understanding that there is no one type of client with co-occurring disorders, rather each individual presents with a unique combination of biopsychosocial factors (mechanism – response) (Mee-Lee et al, 2001; Renner et al, 2005). Secondly, staff must also have supervised exposure to clients with co-occurring disorders routine part of undergraduate and postgraduate curricula (mechanism – resource) rather than simply encountering this patients opportunistically and often at times of crisis, as this will increase staff optimism in the efficacy of treatment (mechanism – response) (Renner et al, 2005)

Furthermore, the literature highlights that training and exposure only during formal education is insufficient and that these staff competencies must be maintained through ongoing professional development (mechanism – resource). Organisations often assume that staff with the requisite qualifications in mental health or substance use have all the clinical skills required to treat co-occurring disorders and simply need a practice framework to express them (Blakey et al, 2007). However, Blakely et al (2007) when introducing an ongoing workforce training model in the US, found often staff do not make use of trained skills (for example motivational interviewing) in practice due to a belief they will not work, lack of teaching proficiency among skilled practitioners passing on knowledge and well-rehearsed practice prevailing over new innovations (mechanism – response). This is demonstrated in the quote from a participant in Mericle et al's (2007) study who noted that despite having received training in motivational interviewing, they did not feel comfortable or confident making use of it in practice (mechanism – response). This highlights the need for ongoing supervision and workforce development (mechanism – resource) to increase staff confidence and competence (mechanism – response).

"I don't know whether it's because I'm not skilled at it or really haven't focused on it but, I don't find that I use motivational interviewing. I mean I think about it sometimes and try to put it in but, I don't. I guess maybe I don't feel really comfortable or really have a sense of how to take that in a way that could seem to get somewhere." (Mericle et al, 2007)

Mechanism – resource

As demonstrated above, contextually, organisations must have a comprehensive and realistic understanding of their staff's qualifications and previous experience of working with individuals with co-occurring disorders (context) in order to develop effective clinical training (mechanism - resource). As Szerman et al (2017) highlight in their systematic review of education for co-occurring disorders quoted below, designing education strategies (mechanism – resource) based on staffs knowledge and needs (context) can improve staff attitudes towards co-occurring disorders (mechanism – response):

"Combining effective education strategies with the needs of physicians' knowledge at specific points in their education may be effective in reversing the negative trends seen in attitudes toward the care for patients with DDs." (Szerman et al, 2017: 48)

Renner et al (2005) note that the three critical elements of effective clinical training (mechanism - resource) are 1) adequate clinical knowledge base 2) clinician attitude towards the patient and, 3) professional responsibility. The literature identifies that staff must be comfortable working in the clinical environment, able and willing to work as part of a team, have a reasonable comfort level working with the challenges faced by individuals with co-occurring disorders, feel a clear sense of responsibility for identifying clients' needs, and a belief that clients can recover (mechanism – response) (Bjorkquist et al, 2018; Renner et al, 2005; Annamalai et al, 2018; Anastas et al, 2019). The focus in the literature on both clinical competency and experience of working with individuals with co-occurring disorders (context) highlights that training must begin at undergraduate clinical rotation (Renner et al, 2005; Renner et al, 2007) and be maintained through core competencies for professional development and progression at each viable career level to ensure sustained professional growth (mechanism - resource) (Hoge et al, 2009; Fisher et al, 2014). These competencies could be built into curricula and clinical rotation through partnerships with higher education institutions to ensure they begin at undergraduate/pre-registration level (Danda et al, 2012).

Blakely et al (2007) highlight the need for both these contextual factors when describing their attempts to introduce a staff training programme for co-occurring disorders in a US agency. They report that "*the agency began with the assumption that case management staff and clinical supervisors had essential clinical skills and only needed a new practice framework in which to express them…this assumption about staff skill level proved false"*. In order to address this, Blakely et al (2007) developed an immersion model of training (mechanism - resource) which combined clinical skills education with the opportunity to use the learned interventions in practice. Blakely et al (2007) describe three characteristics of this immersion approach. Firstly, clinical concepts and characteristics are introduced in a specific sequence (mechanism – resource) to stimulate and reinforce changes in the attitude-aptitude spiral whereby staff see these concepts are effective and thus believe they are worth implementing (mechanism – response). Secondly, interventions for co-occurring disorders are continuously practised with direct supervision and consistent feedback from experienced supervisors using a predetermined set of quality indicators (mechanism – resource).

Mechanism – response

As discussed above, Blakely et al (2007) propose that the immersion model of training which combines clinical concepts with continuous supervision of practice (mechanism - resource) aligns educational targets to real-time problems, fosters communication between health professionals and allow staff to learn from practice and experience (mechanism - response). Annamalai et al (2018) in their comparative study of agencies implementing integrated behavioural health homes, describe how learning through supervised practice (mechanism - resource) allowed staff to recognise the integration of co-occurring disorders as part of their work "*in the context of providing care or by osmosis"* (mechanism - response). Blakely et al (2007) similarly describe how learning from supervised practice (mechanism - resource) as "*not like learning an academic subject, but rather like learning to play a musical instrument that required practice"* (mechanism – response). As previously discussed in Programme Theory 2, this response represents another example of the aptitude-attitude spiral acting as a mechanism – knowledge based training is not sufficient without opportunity to practice the interventions learnt (mechanism – resource). Without practising new skills and interventions, health professionals aren't presented with any evidence the intervention works and so are less confident and motivated to change their practice. As Blakely et al (2007) noted in their study "*Staff who did not believe that clients could recover demonstrated little interest in learning new techniques. These beliefs about their clients' ability to recover did not change*

until the staff person experienced success with interventions. These two views reinforced each other and caused stasis until the agency administrative staff created a self-reinforcing spiral of attitude and aptitude change" (mechanism –response). In addition, Annamalai et al (2018) found that when staff undertook this training in the context of their own organisations and practice (mechanism – resource), it "*helped foster a feeling of collaboration and a sense of ownership between the two institutions, as well as an opportunity to identify areas of growth and educational potential*" (mechanism - response)

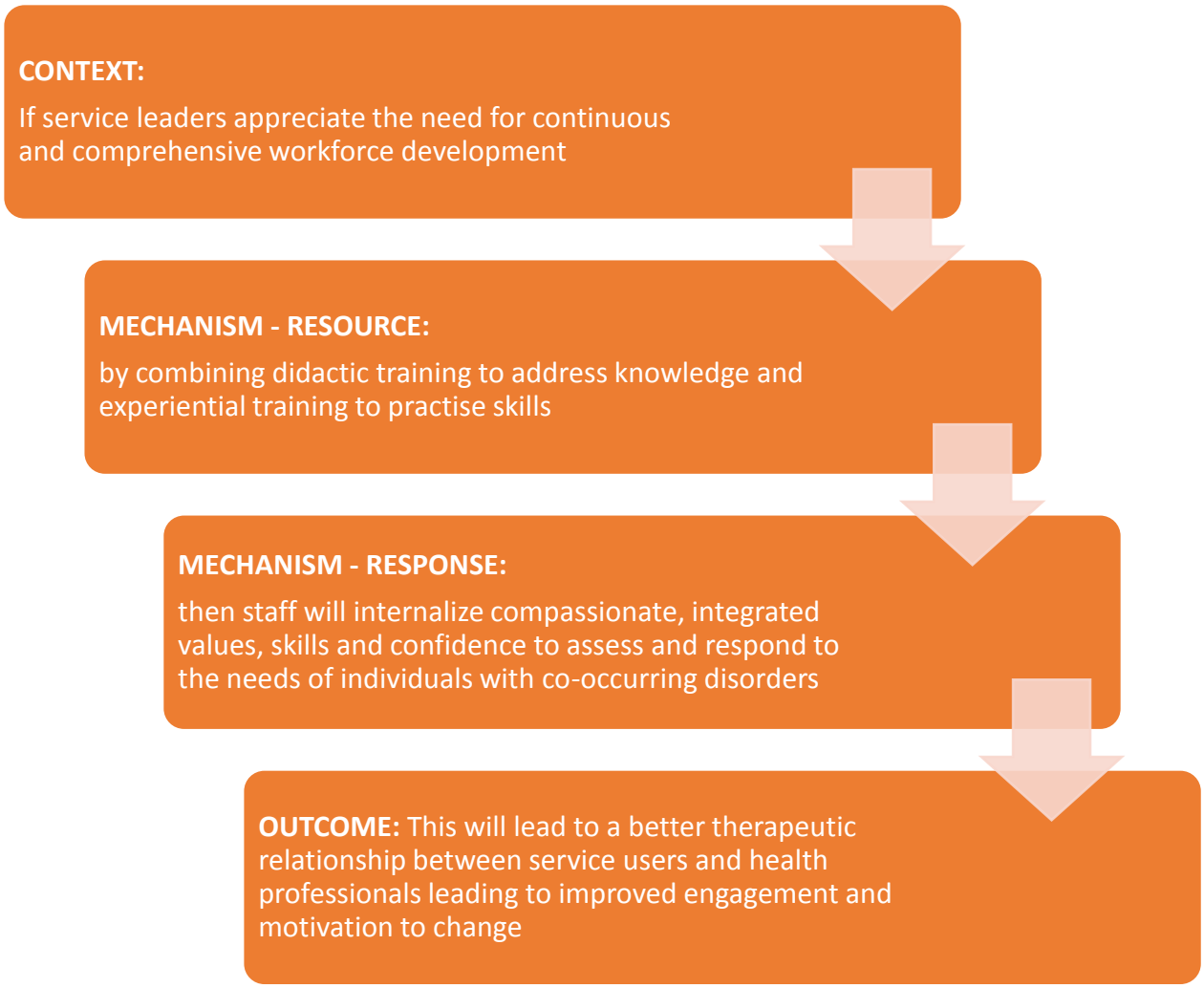
Outcome

The evidence suggests that emphasis on professional growth in practice from undergraduate level onwards (context) through training and supervision which gives staff exposure to other staff and patients in practice (mechanism - resource) increases staff awareness of other's daily work and increases their empathy as they gain greater understanding of clients' experiences and lives (Anastas et al, 2019). As illustrated in the quote below, Anastas et al (2019) found that the two sites who had this emphasis on professional growth (context) and provided ongoing, immersive training (mechanism - resource) lead to increased staff retention and decreased burnout (outcomes). Retaining skilled staff into services has been linked to increase staff retention, decreased burnout and improved outcomes for co-occurring disorder services which are considered in greater detail in programme theory 11.

"For retention, one agency (site E) emphasized professional growth opportunities to encourage staff to stay. Another (site A) had PC and BH clinicians learn about each other's daily routines to increase empathy and decrease burnout" (Anastas et al, 2019)

The process of retaining skilled staff into integrated services is given full attention in programme theory 11 and so the evidence is presented more briefly in this section. Tripper et al (2008) suggest that retaining skilled staff who are encouraged and legitimised to integrated care for co-occurring disorders will lead to improvements at a service level. As they report, if staff feel encouraged to stay in their posts then services will have a "*critical mass of appropriately qualified staff"* who feel qualified and capable to deal with the variety and magnitude of problems encountered by those with co-occurring disorders. This was confirmed by Sorsa et al's (2017) qualitative study of staff in mental health and substance use services who felt understaffing and a lack of resources made it difficult for them to cope with the magnitude of problems encountered by those with co-occurring disorders. As a result they felt individuals with co-occurring disorders may drop out of care because services are not supportive enough (outcome).

Programme theory 5 – continuous, comprehensive professional workforce development



Initial programme theory

If services have continuous and comprehensive workforce development (combining didactic training to address knowledge and experiential training to practise skills) (CONTEXT) then staff will internalize compassionate, integrated values, skills and confidence to assess and respond to the needs of individuals with COSMHAD (MECHANISM). This will lead to a better therapeutic relationship between service users and health professionals leading to improved engagement and motivation to change (OUTCOME).

Refinement of programme theory

The programme theory focused on training for staff on co-occurring disorders within the context of continuous and comprehensive workforce development. This initial programme theory was well supported in the literature and few changes were made as a consequence. Consultation of the literature allowed clearer distinction between the mechanism resource (combining didactic and experiential training) and response (allowing staff to internalise values and skills). The literature provided greater

insight into the context for this programme theory; namely that staff having the time to attend participate in workforce development (either as a learner or as a supervisor) required service leaders to recognise the need and put appropriate structures into place to facilitate this.

Summary table of CMO dyads and triads

Context	Mechanism		Outcome
	Resource	Response	
Leaders must appreciate the need for committed and continuous workforce development, have clarity of mission and be open to change	Implementation of continuous workforce development	Allows staff to develop the values and confidence to respond to the needs of those with co-occurring disorders	
Leaders must take coordinated action to facilitate the development of continuous workforce development	Implementation of continuous workforce development which combines didactic training and experiential training	Combining didactic and experiential training disseminate information, increase interest and improves translation of learning	
Leadership committed to implementing workforce development	Combining didactic and experiential training in sequence with shorter initial didactic phase and longer supervision	Shorter traditional training builds trust, professional relationship and knowledge and with longer supervised experiential training allowing staff to enter into group discussion about challenges and potential interventions	
At a service level, proficient supervisors who adhere to the service philosophy and have access to appropriate training and organisational structure to facilitate supervision	Ongoing supervision of staff to develop skills in practice	Supported repetition allows staff to put newly learned knowledge into practice and produce changes in staff skills, values and confidence. Staff invest more fully in these new techniques leading to increased ownership.	Experiential training improves staff empathy leading to better client-clinician relationships. Clinician empathy is a determinant of client motivation to change.
	Didactic training	First steps in achieving mastery – staff become aware and learn basics of new clinical skills	Staff skills and values allow them to develop a good therapeutic relationship with clients.
	Implementing training at a whole team rather than individual level	Increase staff confidence and positive values, foster collaboration and allow sharing of observations and alternative approaches from peers.	

		Promotes paradigm shift as staff are able to work through and resolve issues they encounter in implementation as a team.	

Final programme theory

If service leaders appreciate the need continuous and comprehensive workforce development (Context) by combining didactic training to address knowledge and experiential training to practise skills (mechanism - resource) then staff will internalize compassionate, integrated values, skills and confidence to assess and respond to the needs of individuals with co-occurring disorders (mechanism - response). This will lead to a better therapeutic relationship between service users and health professionals leading to improved engagement and motivation to change (outcome).

Context

As previously identified in programme theory 4, staff working with clients with co-occurring disorders need ongoing access to professional development and supervision in order to acquire and maintain the necessary knowledge and skills, and the implementation of this workforce development requires commitment from relevant service leaders. Staff working with clients with co-occurring disorders need to develop the skills to detect, recognise and understand these clients and confidence and capacity to do so (Adams et al, 2008' Barrett et al, 2009; Baldacchino et al, 2007; Hoge et al, 2009). Previous training and experience with co-occurring disorders (mechanism – resource) is associated with increased knowledge, confidence and therapeutic attitudes at training completion and follow up (mechanism – response) (Adams et al, 2008; Munro et al; 2007) and generally staff report a willingness to attend training (Adams et al, 2008; Anastas et al, 2019). However, the literature suggests that without a committed and coordinated response from service leaders (context), training can often be inadequate, out-dated, opportunistic or too infrequent (Adams et al, 2008; Barrett et al, 2009; Baldacchino et al, 2007). Leaders therefore need to appreciate the need for continuous and comprehensive workforce (context) development which addresses existing deficits in skills, knowledge and experience and provides staff with the confidence, skills and capabilities to detect, recognise, understand and treat clients with co-occurring disorders (mechanism - response). The literature suggests this requires leadership at multiple levels of the organisation. Clinical leaders within services are needed to implement and oversee the necessary training through practical and administrative action. The importance of service level leadership in promoting or inhibiting staff development (context), is highlighted in the quote below from focus group participants in Guerrero et al's (2015) study of staff experience of co-occurring disorder leadership in 48 outpatient mental health programmes. However, the literature suggests that commitment to advancing the workforce's capability (context) in relation to co-occurring disorders is also needed to ensure this workforce development happens (mechanism – resource). As Davis et al (2012) describe from their experience of implementing IDDT: "*clinical supervision must take a top down approach, with executive level staff ensuring that program directors are properly supervising and supporting their team leaders in both supervising and practicing IDDT. Program directors and executive staff are responsible for ensuring the structural components of IDDT are in place"* (Davis et al, 2012)

"the central role that leaders have in either promoting or inhibiting the implementation of changes to enhance COD treatment capacity and service delivery…focus group members highlighted these points, showing how in some organisations leaders encouraged COD supervision, training and service delivery with their action as both internal managers and advocates who were responsible for securing resources needed to provide integrated care." (Guerrero et al, 2015)

The literature suggests that this commitment from leadership must include ensuring that the workforce development opportunities are up to date in relation to evidence based practice, service structure and policy (Hill et al, 2009; Hoge et al, 2009; Louie et al, 2008; Mason et al, 2017; Biegel et al, 2007; Blakely et al, 2007). The Dual Diagnosis Good Practice Guide published by the former Department for Health recommends that services assess their training needs to identify the relevant core competencies required (which may include knowledge of co-morbidity substance use, and the Mental Health Act, skills to manage these problems including motivational interviewing skills, relapse prevention and preventative work) (Department of Health, 2002). Secondly, the literature highlights that leaders must ensure training for co-occurring disorders is part of ongoing professional development (Hodges et al, 2006; Barrett et al, 2009). In order to do this, leaders also need to ensure time is allocated and permitted for staff to attend training and that staff are able to proceed with the learned practices when training ends (Anastas et al, 2019; Brunette et al, 2007; Chandler et al, 2009). For example, Boyle et al (2006) in their comparison of IDDT implementation in the US and Netherlands, highlight the importance of making supervision a regularly scheduled activity for both the mentee and supervisor rather than something that occurs simply when both parties "have time".

In summary, commitment from leadership at a senior and service level (context), in terms of both providing relevant, evidence-based workforce development programmes and allowing staff time to engage is necessary to ensure staff have access to continuous and comprehensive workforce development for co-occurring disorders (mechanism – resource).

Mechanism – resource

As discussed in the section above, commitment from senior leadership including appreciation of the benefits of evidence based practice and policy and allocation of staff time provide the context needed to implement continuous workforce development for co-occurring disorders (mechanism- resource). The literature suggests that the most effective resource to allow staff to develop the values and confidence to respond to the needs of those with co-occurring disorders (mechanism – response) is a combination of traditional, **didactic training** and **experiential training**, for example through modelling, on-site review and monitoring, study groups and ongoing, interactive supervision and mentoring (Louie et al, 2018; Drake et al, 2010; Devitt et al, 2009; Blakely et al, 2007). The reviewed literature suggests that whilst traditional, didactic training methods (for example workshops, seminars, conferences, train the trainer programmes) are important to increase staff knowledge, they do not produce lasting change and the skills learnt are rarely applied by staff in practice (Blakely et al, 2007). These traditional approaches disseminate information and may increase interest, but they are not sufficient on their own to change clinician behaviours and attitudes (mechanism- response) (Boyle et al, 2007; Drake et al, 2010; Hepner et al, 2011; Louie et al, 2018). The evidence suggests that combining didactic and experiential methods of training (mechanism – resource) improves the translation of learning (mechanism – response) (Louie et al, 2018) should be combined with active learning methods (Mason et al, 2017; Pinderup et al, 2016). Two studies describe this as happening in two phases, with a shorter initial phase of traditional didactic training used to build trust, professional relationships and knowledge; followed by longer supervised experiential

training which allows staff to enter into group discussion about challenges and potential interventions (Guest et al, 2015; Hill et al, 2009) The quote from Hepner et al (2011) below, summarises the importance of combining these two approaches (mechanism – resource) to allow staff to develop and maintain the required values, attitudes and skills.

"…the current dissemination format of a workshop, manual and brief supervision does not support adequate levels of treatment proficiency. Rather, the literature suggests ongoing organizational support in the form of an interactive clinical supervision model that allows for performance feedback is critical to obtaining and sustaining treatment fidelity." (Hepner et al, 2011)

The quote above highlights that continuous didactic and experiential workforce development (mechanism – resource) requires "*ongoing organisational support"*, highlighting the relationship between committed leadership (context) and implementing effective workforce development programmes (mechanism – resource). Across the studies which had combined didactic and experiential training (mechanism- resource), leadership was frequently mentioned as an important contextual factor which predicted the success or failure of these workforce development programmes. Brunette et al (2008) reviewed 11 national evidence based practice projects for co-occurring disorders in the US, they found that the prominent facilitators in the two projects which achieved highest treatment fidelity were administrative leadership, expert consultation, training, supervisor mastery and regular supervision. This highlights the need for committed leadership (context) to implement effective workforce development (mechanism – resource). The study by Louie et al (2018) drew on an implementation science framework which emphasises that the success of training (mechanism – resource) is dependent not only on its quality but also the extent to which it is disseminated and adopted, with evidence showing that organisations with higher clarity of mission, communication and openness to change (context) achieved better implementation of training. The authors therefore implemented a mixture of didactic training and supervision which emphasised the role of leadership in dissemination (context) including focusing on the attitude and approach of implementation staff and regular supervision sessions with a senior clinical psychologist (mechanism – resource). Devitt et al (2009) also highlight the important role of leadership in implementing IDDT training at Thresholds Psychiatric Rehabilitation Centres in Chicago. They describe how they initially offered a traditional didactic training approach in motivational interviewing for staff but that "*nobody was held accountable for making sure the recovery spirit of the recommendations was taking root at the programme level"* and so, without this context, their mass approach to training *"failed to provide staff with supervision and in-vivo practice* (mechanism - resource) *for learning the motivational nuances* (mechanism- response) *that are so critical for helping people explore and develop personally significant goals* (outcome)*"* As a result of this unsuccessful approach to training, Thresholds implemented a new approach which combined didactic training with experiential training including coaching, consultation and supervision at a smaller team level (mechanism – resource) across eight of their programmes. They decided upon a number of strategies which highlight the importance of committed leadership (context) in successful implementation, namely: continued used of fidelity assessments, renewed and visible leadership commitment, an agency-wide oversight committee and training on clinical supervision. The relationship between committed leadership (context) and continuing workforce development (mechanism – resource) is summarised in the quote below:

"As part of the infrastructure agencies must create in order to support EBPs is a systematic, individualized way to provide continuing education to front-line and supervisory staff, part of which should include enlisting supervisory staff in the monitoring and support of the practices. In the increasingly rigorous literature on implementation, establishing a stronger organizational infrastructure was identified as a key element to sustaining nascent evidence-based practices" (Devitt et al, 2012)

As highlighted in the context section above, commitment from leadership is required at multiple levels to ensure continuous and comprehensive workforce development (mechanism – response); senior leadership must commit to this workforce development in principle and policy, but clinical level leaders are also required to implement this in practice. Regular supervisions sessions with staff was one of the most frequently mentioned experiential training measures (mechanism – resource) which highlights the need for commitment across multiple leadership levels (context). As already noted above, supervision can be the mechanism resource by which training is translated into practice – without a sustainable programme of supervision and appraisal the effects of training can be quickly eroded (Baldacchino et al, 2007; Barrett et al, 2009). The quote from Davis et al (2012) below highlights how supervision (mechanism – resource) allows staff to learn through the repetition of putting their new knowledge into practice (mechanism – response) but that this requires supervision from the top-level down to ensure that service and team level leaders who are overseeing and undertaking this supervision are appropriately skilled and supported (context). The literature suggests effective supervision must take place regularly and frequently, have appropriate fidelity measures in place and provide immediate feedback to staff to assist them in implementing change (Boyle et al, 2007; Hepner et al, 2009; Blakely et al, 2007). Supervision requires proficient supervisors who adhere to the service philosophy and these supervisors must have access to appropriate training and peer support and an organisational structure to facilitate supervision (context) (Boyle et al, 2007). As an example, Chandler et al (2009) assessed the fidelity of IDDT implementation across several sites in California and found that the highest fidelity site had experienced supervisors who were administratively empowered to act as team leaders, clinical supervisors and planners.

"The final and perhaps most important dissemination activity is the new emphasis on supervision. Insofar as repetition is what allows individuals to put newly learned knowledge into practice, then supervision is crucial in helping staff not just know about IDDT, but to practice it in the way it is intended. Thresholds has learned that clinical supervision must take a top down approach, with executive level staff ensuring that program directors are properly supervising and supporting their team leaders in both supervising and practicing IDDT. Program directors and executive staff are responsible for ensuring the structural components of IDDT are in place." (Davis et al, 2012)

In summary, comprehensive workforce development programmes which combine didactic and experiential training (mechanism – resource) appear most effective in achieving and maintaining staff values, knowledge and skills for co-occurring disorders (mechanism – response) but this can only be achieved with the support of committed leaders from the top level down (context).

Mechanism – response

As previously highlighted, the literature suggests that implementing a comprehensive programme of workforce development which combines didactic and experiential training (mechanism – resource) increase staff knowledge (staff training) and produce lasting changes in staff values, skills and confidence as they make use of these skills in practice (experiential training) (mechanism – response). Blakely et al (2007) describe didactic training such as lectures, workshops and reading materials (mechanism – resource) as *"necessary but not sufficient first steps in achieving mastery"* (mechanism – response). Training sessions (mechanism – resource) are how staff become aware of and learn the basics of new clinical skills, for example motivational interviewing, (mechanism – response) that are required to develop a good therapeutic relationship with individuals with co-occurring disorders (outcome). However, studies suggest that only a small amount of the skills learnt on these sessions are translated into practice (Devitt et al, 2009; Davis et al, 2012; Hepner et al, 2011; Louie et al, 2018). Devitt et al (2009) highlight this deficiency through their early experiences of implementing a large scale didactic

training programme for motivational interviewing which increased staff's basic clinical skills and awareness of evidence practice but did not result in changes in practice. They describe this attempt as *"diffusing' EBPs through training front line staff in the structure and clinical practices of IDDT, albeit without providing them with sufficient support and supervision to make necessary changes in clinical practice or service delivery. While these efforts were laudable and resulted in awareness of the EBP and some use of staging and basic clinical skills, they did not add up to a dissemination plan"*. In summary, the research suggests that while didactic training has an important role in workforce development, "*provision of information alone is an insufficient means of changing practitioner behaviour"* highlighting the need to combine it with experiential training (mechanism – resource) to produce lasting changes in staff values, skills and confidence (mechanism – response). As discussed in the section above, a number of studies used this combination of didactic and experiential training (Louie et al, 2018; Drake et al, 2010; Devitt et al, 2009; Blakely et al, 2007; Hepner et al, 2011; Graham et al, 2004; Boyle et al, 2008).

Experiential training through supervision, coaching or mentoring, allows staff to repeat the skills they have learnt through didactic training in practice (Davis et al, 2012). Applying new skills for co-occurring disorders in practice helps to address the attitude-aptitude spiral (as previously described in programme theory 4). As summarised in the quote from Blakely et al (2007) below, once staff see evidence of clients with co-occurring disorders responding positively to newly learned interventions in practice (mechanism – resource), they begin to invest more fully in the learning and application of these new techniques (mechanism – response). Staff learning about co-occurring disorders "*in the context of care or by osmosis"* (Anastas et al, 2019) can foster a sense of ownership among staff (mechanism – response) as supervised practice allows them to identify their own individual and service level needs and challenges (mechanism – resource) (Annamalai et al, 2018). Minyard et al (2019), in their realist review, found that studies which allowed staff who had attended didactic training to carry out newly learnt interventions with actual clients in a supervised setting (mechanism – resource) lead to enhanced confidence and skills (mechanism – response). Two studies also identified that using experiential training within a whole team (rather than an individual staff member attending training) can increase staff confidence and positive values (mechanism – response) (Graham et al, 2004; Hepner et al, 2011). Hepner et al (2011) found that having supervision occur in a group or team based setting (mechanism – resource) can foster collaboration and allows sharing of observations and alternative approaches from peers (mechanism – response), which can seem less intimidating than feedback from a senior clinical professional. Graham et al (2004) found that training a whole team "*promotes a paradigm shift"* as staff are able to work through and resolve the issues they encounter in implementation together as a team (mechanism – response).

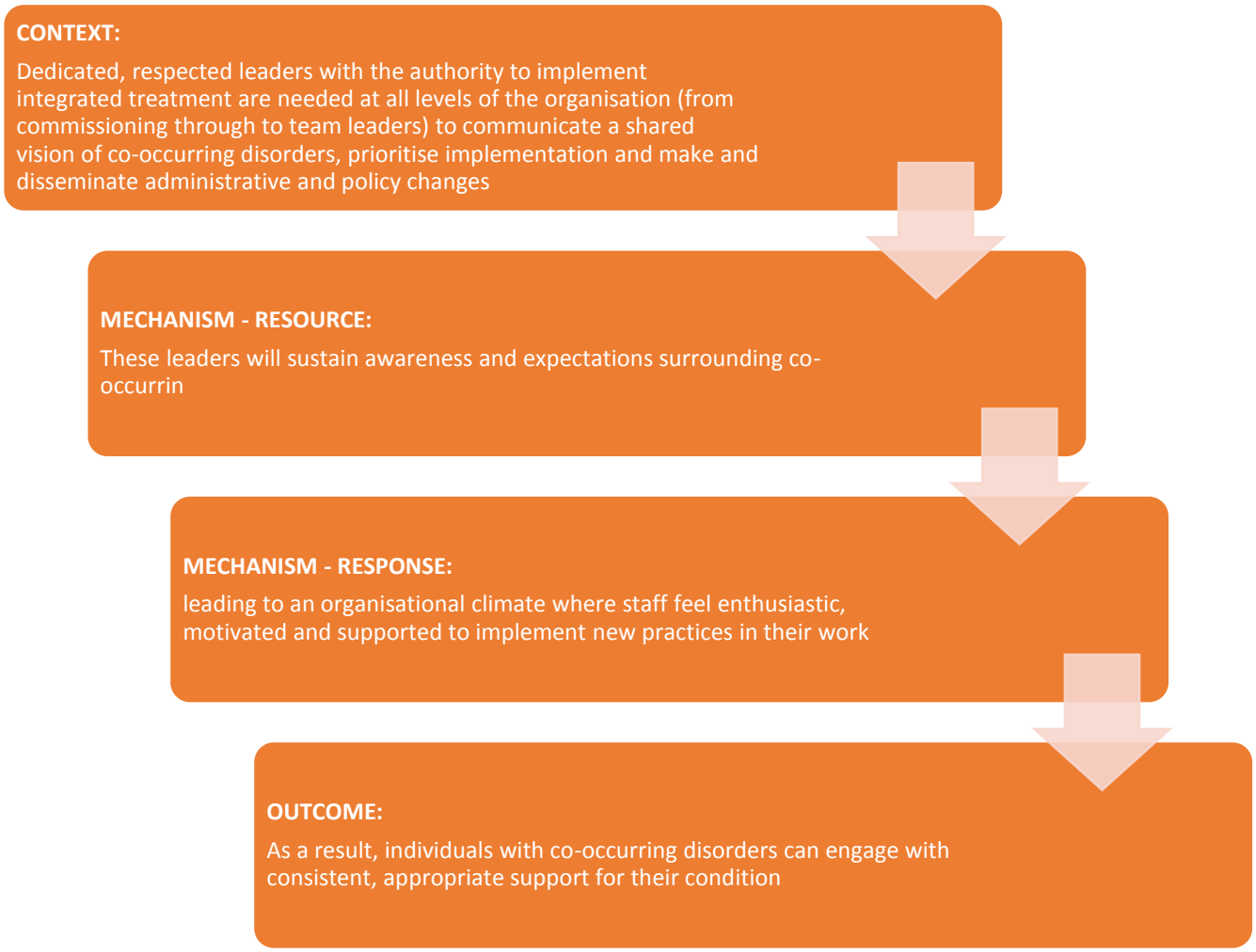
"*Until staff began to believe that clients' conditions could improve, they were skeptical and reluctant to invest in the learning and application of new techniques. Attitudes did not change until staff began to see evidence that clients responded positively to new interventions. The first steps were small and tentative. Significant progress did not happen until a foundation of mutually reinforcing attitude and aptitude was in place*." (Blakely et al, 2007)

Overall, the literature demonstrates that if leadership commit (context) to a continuous workforce development programme that combines traditional didactic training with experiential training such as routine supervision (mechanism – resource) can help staff to learn the necessary clinical skills for co-occurring disorders and develop the confidence and compassionate, integrated values to implement these skills in practice (mechanism – response).

Outcomes

As described above, comprehensive workforce development (mechanism – resource) in a supportive leadership context, can lead to improved staff knowledge, skills, confidence, ownership, enthusiasm and empathy (mechanism – response). A number of the studies made a connection between staff knowledge, skills, confidence, ownership, enthusiasm and empathy (mechanism – response) and improved therapeutic relationships between staff and clients with co-occurring disorders (outcome). Graham et al (2004) describe empathy (mechanism – response) as a "*key factor in establishing a positive therapeutic relationship*" (outcome). They found that clinicians may find it harder to develop empathy when they are faced with client symptoms that are outside their perceived scope and experience, but that experiential training in which staff use their actual cases to elicit clients' cognitions and develop individualised case formulations (mechanism – resource) can enhance empathy (mechanism – response) leading to better client-clinician relationships (outcome). Similarly, Guest et al, (2015) described how exposure to clients actual experiences during training (mechanism – resource) elicited empathy from practitioners as they began to relate to individuals' circumstances rather than learning about a generic "dual diagnosis client" (mechanism – response). This empathy was demonstrated to be a "*potent determinant of client motivation to change"* (outcome). In their realist review of co-occurring disorder treatment services in Ireland, Minyard et al (2019) identified several studies which described how training (mechanism – resource) which achieved increased staff beliefs that patients could recover (enthusiasm and ownership) and understanding of co-occurring disorders (knowledge) (mechanism – response) were associated with increased staff ability to work in a recovery orientated way and improved quality of client experience (outcome).

Programme theory 6 – opinion leaders



Initial programme theory

Dedicated, respected leaders with the authority to implement integrated treatment are needed at all levels of the organisation (from commissioning through to team leaders) to communicate a shared vision of co-occurring disorders, make implementation a priority and take action by making and disseminating administrative and policy changes (CONTEXT). These leaders will sustain awareness and expectations surrounding co-occurring disorders (MECHANISM – RESOURCE) leading to an organisational climate where staff feel enthusiastic, motivation and supported to implement them in their work (MECHANISM – RESPONSE), ensuring individuals with co-occurring disorders can access consistent, appropriate support for their condition (OUTCOME)

Refinement of programme theory

This programme theory focused on the role of leaders in communicating a shared vision of co-occurring disorders, prioritising implementation of this vision and taking the necessary action to ensure this

happens. The context for this theory highlights the need for these leaders to be present at multiple levels within organisations from senior commissioner level through to team leaders within services. This highlights that commitment at a senior level is essential as these individuals have the authority to ensure changes are implemented. However, often action and communication to front line staff is taken at a team leader level within services and so enthusiastic and committed individuals are also required at this level to sustain awareness and manage expectations of staff. This was confirmed by the literature.

Summary table of CMO dyads and triads

Context	Mechanism		Outcome
	Resource	Response	
Committed leadership who understand the treatment model and have the authority to implement it	Sustain awareness and expectations of co-occurring disorders across all involved organisations	An organisational climate where staff feel enthusiastic, motivated and supported to implement new practices	
Leaders consistently articulate their system vision across all services	Foundations for good working relationships and addresses responsibility gap	Staff are accountable and responsible for individuals with co-occurring disorders	Clients do not "fall between the cracks" of existing services
Leadership must be committed to champion implementation in their organisation by making policy decisions	Shift the culture across the agency		
Leaders take action by making and disseminating policy and administrative changes	Achieve a fit between new practice and the current practices and values of the organisation through opinion leaders	Opinion leaders provide ongoing energy, direction and enthusiasm and a link between senior managers and front line clinicians to transmit policy and advocate for good clinical practice	
	Clear policies and procedures that give clarify on what each person is supposed to do and expectations of staff involvement	Generate increased enthusiasm and support for new practices and implementation from frontline staff	Consistent incorporation of new evidence based practices into routine care
	Mid-level leaders sustain awareness and expectations of co-occurring disorders by acting as "opinion leaders" who translate policy into practice	Provide moral support to colleagues and inspire enthusiasm leading to organisational change	Implementation of integrated care practices leading to increased patient engagement and improved treatment outcomes

Final programme theory

Dedicated, respected leaders with the authority to implement integrated treatment are needed at all levels of the organisation (from commissioning through to team leaders) to communicate a shared vision of co-occurring disorders, prioritise implementation and make and disseminate administrative and policy changes (CONTEXT). These leaders will sustain awareness and expectations surrounding co-occurring disorders (MECHANISM – RESOURCE) leading to an organisational climate where staff feel enthusiastic, motivated and supported to implement new practices in their work (MECHANISM – RESPONSE). As a result, individuals with co-occurring disorders can engage with consistent, appropriate support for their condition (OUTCOME)

Context

As described in programme theory 5, commitment from leadership is an important context required to implement comprehensive workforce development. However, this is not the only mechanism which requires this committed leadership context, the literature suggests that it is also needed more widely to sustain awareness and expectations of co-occurring disorders across all involved organisations (mechanism – resource) leading to an organisational climate where staff feel enthusiastic, motivated and supported to implement new practices (mechanism – response). Blakely et al (2007) from their study implementing integrated co-occurring disorder treatment in a single US agency, describe a leader as someone "*that understands the treatment model and has the authority to implement it*". The reviewed literature collectively suggests three factors associated with dedicated and respected leaders who have the authority to implement integrated treatment:

1) Need a shared and articulated **vision/attitude** the CoD is everyone's business sets the tone and models staff responses
2) Make implementation a **priority** and maintain this across interactions with partner organisations
3) Take **action** by making and disseminating administrative and policy changes to ensure implementation

These contextual factors and the associated mechanisms are considered in greater detail below with reference to specific studies. The literature also highlights that leaders are needed at all levels of the organisation (from commissioning through to team leaders). Chichester et al (2009) in their study of implementing integrated treatment for co-occurring disorders in Maine, US reported that "*agencies needed a "change" architecture with champions on all levels in their agencies [context] to create change [mechanism – resource]*"

Vision:

The evidence suggests a shared vision and goals for collaborative and integrated treatment should be articulated by leaders across all partner agencies (Curie et al, 2005; Anastas et al, 2019; Bell et al, 2014). However, two studies highlighted the challenges of getting commitment from leadership, not so much because leaders disagreed with the principle of making co-occurring disorders everyone's business, but more because of the challenges of getting their attention amid competing priorities and a lack of understanding about what each person is supposed to be doing (Chichester et al, 2009; Devitt et al, 2009). Leadership buy-in is an essential context because they can act as champions of change and are key to procuring the resources needed to implement new practices (Guerrero et al, 2015). For example,

Chichester et al (2009) in their integration project in Maine had commissioners make a statement that integration was now everyone's business to communicate their shared vision (context) and this facilitated buy-in from staff at a departmental and service level (mechanism- resource). Similarly, Curie et al (2005) in their study of CCISC models across the US and Canada found that if leaders consistently articulated their system vision and made significant policy decisions in a thoughtful and strategic manner (context) then there was constant advancement of the integrated model within their agencies (mechanism – resource).

The literature also highlights that in the case of integrating care for co-occurring disorders, it is important that this vision is shared by leaders across all of the involved services (context). Annamalai et al (2019) highlight how leaderships across organisations building a shared vision and similar goals (context) can set the foundation for good working relationships across organisations (mechanism – resource). Two studies highlight how a shared vision across organisations (context) ensures the responsibility gap is addressed (mechanism – resource), if leaders commit their organisations as responsible and accountable for ensuring individuals with co-occurring disorders get the coordinated support they need (Page et al, 2011) (mechanism – response) and do not " fall through the cracks" of existing services (Curie et al, 2005) (outcome).

Leaders make implementation a priority: While a shared vision across partner organisations is important, the literature suggests it must be articulated alongside a commitment to implement changes within the leadership of all the organisations involved. This was demonstrated by the example above from Curie et al (2005), where the advancement of integration (mechanism – resource) required leaders to both consistently articulate their system vision and make significant policy decisions in a thoughtful and strategic manger (context). In their study which compared the implementation of integration across 10 agencies, Anastas et al (2019) found that three agencies had unfilled roles for integrated care (even where there was a shared vision of integrated care) because they lacked leadership to champion implementation within their organisations (context). As a staff member in one of these agencies described "*we have a lot of support for integrated care…but we don't have a lot of champions. And we need more champions* [context] *to shift the culture across the agency* [mechanism – resource]". As highlighted in the quote below, leaders play a key role in procuring the resources needed design, support and consistently advance systems change by making significant policy decisions to support implementation (context) (Guerrero et al, 2015; Curie e al, 2005). Team leaders cannot implement changes (mechanism – resource) unless they are given higher level administrative support by senior leaders who have the sufficient understanding and authority (context) (Chandler et al, 2009; Blakely et al, 2007).

"Leaders are generally considered champions of change and play a key role in procuring resources that are needed to implement evidence-based practices" (Guerrero et al, 2015)

Take action by making and disseminating administrative and policy changes: The evidence so far suggests supportive leadership at a senior level is therefore important for establishing a shared philosophy and making implementation a priority (Boham et al, 2014). However, these attitudes from senior leaders are insufficient if action is not taken to disseminate and implement these administrative and policy changes. This could include introducing policies, implementing processes for treatment plans or making changes to address hiring and staff turnover (Brunette et al, 2008). The literature suggests that this action to disseminate policy is often not done by senior level managers, but by team level leaders who act as opinion leaders. These opinion leaders provide ongoing energy,

direction and enthusiasm and provide a link between senior managers and front line clinicians to transmit policy and advocate for good clinical practice (Minkoff et al, 2004, Torrey et al, 2002). Beigel et al (2007) found when implementing IDDT in Ohio that this dissemination action was a vital context to achieve a "*fit between the new practice and the current practices and values of the organisation"* (mechanism – resource). They highlight how all three contextual factors (vision, prioritising implementation, taking action) of leadership are necessary for sustaining awareness and expectations of co-occurring disorders across organisations (mechanism – resource), describing how "*making a commitment to change requires a significant investment of time, energy, human and financial resources and must be thoroughly explored with the organizations in order to build consensus to move ahead through the remaining stages of implementation*".

Mechanism – resource

The literature suggests that in contexts were leaders have shared collaborative visions, prioritise implementation and take action to disseminate policy and administrative changes, these leaders will sustain awareness and expectations surrounding co-occurring disorders within their organisations (mechanism – resource) (Torrey et al, 2002; Curie et al, 2005). As Torrey et al (2002) outline in their review of implementing IDDT programmes across the US:

> *"Effective leaders typically articulate the goal of providing optimal care to consumers with dual disorders and actively engage all stakeholders in creating the envisioned services…These preparations need to engage key staff in the process of taking ownership so that active support for the change broadens"*
> (Torrey et al, 2002)

Minkoff et al (2004) provide further elaboration on their expectations surrounding co-occurring disorders, namely leaders and staff need awareness of what integration means, what each person is supposed to do and clear expectations of staff involvement (mechanism – resource). They highlight how clarity around these expectations from leaders (mechanism – resource) will generate increased enthusiasm and support for new practices and implementation from frontline staff (mechanism – response). A qualitative study by Rapp et al (2008) compared the implementation of integrated co-occurring disorders treatment across six sites and found that there was less enthusiasm and greater resistance (mechanism – response) towards new evidence based practices in the five sites with weak leaders (context). In these five sites expectations for frontline staff were not set, monitored or enforced, while the one site with a tradition of expectation setting (mechanism – resource) saw greater staff enthusiasm to meet expectations (mechanism – response) which lead to quicker and more successful implementation outcomes. In focus groups conducted by Guerrero et al (2015), staff in participating agencies identified a number of actions that could be taken by senior level leaders (context) to sustain awareness and expectations surrounding co-occurring disorders (mechanism – response) including: leading by example, investing in staff development around co-occurring disorders and providing incentives for services to improve their performance through either policy or processes changes.

As previously discussed, sustaining awareness and expectations surrounding co-occurring disorders requires not only senior level leadership commitment but also leaders at all levels within the organisation (context) who can provide moral support and inspire enthusiasm in their colleagues leading to organisational change (mechanism – response) (Minshalll et al, 2019) Several studies highlighted the role of mid-level leaders in sustaining awareness and expectations of staff at all levels across services surrounding co-occurring disorders (mechanism – resource) (Bonham et al, 2014, Brunette et al, 2008; Minkoff et al, 2005). Minkoff et al (2005) borrow the terms change agents and opinion leaders from Rogers (1962) diffusion of innovation theory to describe how expectations are sustained across different

levels of the organisation from those with the status to enact change (change agents) to those who are well respected and connected within each organisation (opinion leaders). They describe how staff sustaining awareness and expectations surrounding co-occurring disorders (mechanism – resource) within organisations and services "*function in the role of system change agents and "opinion leaders," whose job is defined to help the system translate policy into clinical practice, as well as to provide feedback to the system when clinical practice expectations are not supported by policy*".

The quote below from Torrey et al (2002) summarises how sustaining awareness and expectations surrounding co-occurring disorders (mechanism – resource) requires leaders to have a clear, shared vision, prioritise implementation and take action to make and disseminate policy changes (context). As Torrey et al (2002) highlight, all these contextual "*arrows must line up one direction"* to create a change in organisational culture (mechanism – response)

"*Over time, practices are sustained because they become part of organizational culture. They cannot depend on outside supervision, exhortations of charismatic leaders, or popular trends. Instead, all the routine operating procedures of an agency should make it easy to maintain fidelity and difficult to drift. In other words, all the arrows must line up in one direction to ensure long-term maintenance*" (Torrey et al, 2002)

Mechanism – response

As the quote above from Torrey et al (2002) highlights, the literature suggests that committed leaders (context) sustaining awareness and expectations of co-occurring disorders across organisations (mechanism – resource) will lead to a shift in organisational culture to a climate where staff feel enthusiastic, motivated and supported to implement new practices in their work (mechanism – response). As already discussed, Rapp et al's (2008) study of six sites implementing integrated treatment found that the site with a tradition of expectation setting (mechanism – resource) saw greater staff enthusiasm to meet these expectations (mechanism – response). Focus group participants in Guerrero et al's (2015) comparative study of co-occurring disorders treatment across eight sites, reported that when leaders were clearly engaged in securing resources for co-occurring disorder services (context), their enthusiasm "*trickles down"* to staff who become more engaged in the process of delivering integrated care (mechanism – response) as leaders make them aware of these expectations (mechanism – resource). This is further supported by Bonham et al's (2014) study which compared implementation of integration for co-occurring disorders across five agencies and found that "*positive leadership styles are associated with supportive organisational climates and receptive staff attitudes towards EBPs [evidence based practices]"*. The agency which they identified as strongly facilitative had supportive leadership and external funding (context); in this agency a popular administrator used measures to sustain expectations towards integrated treatment (making time for weekly supervision, being available to respond to queries and praising and rewarding efforts) (mechanism – resource) "*to establish a constructive organisational climate where providers described feeling motivated and challenged by their work"* (mechanism – response) leading to consistent incorporation of new evidence based practices into routine care (outcome).

In summary, committed leaders across multiple levels of the organisation (context) who actively work to sustain awareness and expectations of co-occurring disorders (mechanism – resource) can lead to a positive shift in organisational culture where staff feel motivated, enthused and supported to implement these expectations (mechanism – response). A participant in Barnes et al (2003) qualitative study of nursing staff in rural Australia gives insight into how greater awareness of expectations surrounding co-

occurring disorders (mechanism – resource) can lead to a positive shift in organisational culture (mechanism – response) resulting in greater implementation of integrated care practices (outcome), describing the change in organisational perspective (mechanism – response) as having "*been given permission to be a bit more pre-emptive and preventative, to try and pick up things early"* (outcome).

Outcomes

As the evidence as already demonstrated, the shift to a more positive organisational culture with staff feeling motivated, enthused and supported to implement integrated care (mechanism – response) in the context of committed leadership should allow individuals with co-occurring disorders can engage with support that is consistent and appropriate support for their condition. As several of the comparative studies discussed above have already highlighted, agencies with this positive organisational climate (mechanism –response) saw better uptake of evidence based practices for integrated care (Rapp et al, 2008, Bonham et al, 2014; Guerrero et al, 2015). As Minyard et al (2019) identified in their own rapid realist review of co-occurring disorder treatment in Ireland, staff adoption of a client centred, integrated approach (mechanism – response) is associated with increased patient engagement and improved treatment (outcome). Barnes et al's (2003) qualitative study of nursing staff in rural Australia agrees that a positive organisational shift towards integrated care (mechanism – response) leads to a more client-centred approach (outcome) with one nurse participant describing how *"the way the nurses 'pull together' and 'share resources' foregrounds the client's ownership of the territory".*

Programme theory 7 – formalised opportunities to bring practitioners together (e.g. network)

Initial Programme Theory

Creating formalised opportunities for practitioners working with COSMHAD clients across services to meet with each other (e.g. through a network) will ensure all teams, services and specialisms dealing with COSMHAD have good, familiar relationships and awareness of other services' collective contributions to practice. These improved relationships will lead to more effective referrals between services, reduce waiting times and allow services to collaboratively response to individual's complex needs in a trauma informed way.

Refinement of Programme Theory

This programme theory deals with the creating opportunities for practitioners from different services encountering clients with co-occurring disorders, to come together. By developing good, working relationships, these staff will be more motivated and confident in integrating care for these clients. Two key contextual aspects of this programme theory were confirmed and refined in the literature. Firstly, these networks must be formally created and endorsed by the participating organisations – whilst informal communication between providers can bring some benefits, formalised structures are needed to bring improved coordination for clients' varying needs. Secondly, these networks must have a purpose or action – either by directly addressing individual client needs (for example through case conferences) or by working to improve the use of existing resources through organisational and policy changes. Without this commitment, networks can achieve short term gains such as improved staff confidence, motivation and enthusiasm to work with clients but are unlikely to achieve longer term outcomes. By developing formalised and sustained networks, the literature suggests that members can enact change in their organisations overtime, resulting in more coordinated and welcoming services for clients.

Summary Table of CMO dyads and triads

Context	Mechanism		Outcome
	Resource	Response	
Formalised networking and communication structures	Overcome communication challenges and help stakeholders to reflect on strengths, differences and barriers	Build collaboration	
Structured, sustained commitment from leadership to develop formal network and communication opportunities	Bring diverse groups of healthcare providers together and identify and mobilise them as change agents within their organisations	Able to identify strengths of their services and more willing to effect change in their organisations	
Staff have formalised, sustained network opportunities to meet, communicate, build relationships, take actions	Increased awareness of other services, opportunity to discuss service provision with contemporaries from other organisations, learn from each other, develop multidisciplinary ethos		
Communication	Diminish silos between	Increase staff	

through formalised networks	services	confidence and motivation to work collaboratively to treat individuals with co-occurring disorders	
Time for communication built into schedules	Staff from different disciplines clearly determine what and how information needed to be exchanged	Opportunity for communication valued by staff and allowed them to develop individualised, coordinated care	
	Formal networks allow staff to ensure sufficient resources to address differing client needs through collaboration, master networking skills and negotiating systems and increase knowledge of resources available	Increase staff motivation to network through increased confidence in the services provided by others	
	Formalised partnership	Stimulates natural energy to participate in systems change that is engendered by shared values and priorities	Systems can find better ways to serve individuals with co-occurring disorders
Regular network meetings	Give staff collective support	Giving them the energy and motivation to carry on coordinating care	
Sustained networks	Move beyond actively examining and addressing barriers and differences to develop a multidisciplinary ethos and become and team within a team	Increased commitment to creating an integrated system of care from their existing resources	Improved delivery of services
		Networks improve members' job satisfaction and resilience to stress and burnout	May have a positive impact on care coordination, quality and safety e.g. more immediate referrals and assessments and more organised use of resources.

Final programme theory

Formalised, structured and sustained opportunities for practitioners working with clients with co-occurring disorders to meet, communicate and build relationships and take action (e.g. through a network) (CONTEXT) will lead to increased awareness of other services' collective contributions,

opportunities for peer support and a multidisciplinary ethos (MECHANISM – RESOURCE). This will increase staff motivation, confidence and commitment to work collaboratively when treating individuals with co-occurring disorders (MECHANISM – RESPONSE) leading to improved care coordination, better provision of stage appropriate interventions including more immediate referrals, assessments and care planning (intermediary OUTCOME). Coordinated and welcoming services will make patients with co-occurring disorders feel more comfortable and engage in a more sustained way (OUTCOME).

Context

The evidence suggests that formalised, structured and sustained opportunities for practitioners working with clients with co-occurring disorders to meet, communicate, build relationships and take action are an important context to bring staff together in a supportive environment (mechanism – response) to work collaboratively (mechanism – response) and achieve coordinated care for co-occurring disorders across services (outcome). The literature suggests that the formal, structured and sustained nature of these opportunities to build relationships is key. Several qualitative studies with staff highlight that informal, single communications between staff working with co-occurring disorders (such as impromptu telephone calls, emails or conversations at meetings, events and in corridors) to have a short term value for example in initiating relationships, seeking opinion from another service on one off events such as referral or finding a solution to a short term problem (Bjorkquist et al, 2018b; Barnes et al, 2002; Anderson et al, 2012). However, Baldacchino et al (2010) in their European survey of networking for individuals with co-occurring disorders, rank this form of communication as the lowest level of networking and encourage organisations to move away from relying solely on informal communication. Instead, they recommend the creation of formalised networking and communication structures (context) that are responsive to the complexity and variety of needs experienced by individuals with co-occurring disorders (outcome). There were numerous examples across the literature of ways in which communication between staff in services can be formalised. These included: touring each other's clinical spaces (Anastas et al, 2019), developing steering committees for coordinating services and review of day to day issues (Annamalai et a, 2018; Barriera et al, 2000), staff learning or action research groups (Barrett et al, 2010), large multidisciplinary networks of services within a locality (with UK examples existing in Leeds (Bell et al, 2014) and Manchester (Holland et al, 1998)), communities of practice (Anderson et al, 2013) and collaborative case conferences (Biegel et al, 2003; Clodfelter et al, 2003; Swinden et al, 2008).

Annamalai et al (2018) and Barreira et al (2000) describe their experiences of developing formal networks to integrate care; both studies found that developing effective and feasible models of communication (context) that bring together differing services (including addressing differing philosophies, regulatory processes, policies and practices) could overcome communication challenges and help stakeholders to reflect upon strengths, differences and barriers (mechanism – resource) and build collaboration (mechanism – response). As has already been discussed in programme theory 4 and 5, network opportunities (much like workforce development and shifting organisational culture) require formal, structured and sustained commitment from leadership (context) to facilitate bringing diverse groups of healthcare providers together (mechanism – resource). Examples of these formalised and structured actions in the literature included building time for communication into staff schedules and formally establishing what information needs to be exchanged through these networks (Anastas et al, 2019; Engelhardt et al 2012). For example, Engelhardt et al (2012) highlight the importance of establishing formalised and structured roles and activities for network members when they created a

multi-stakeholder service delivery committee (context) to assist with the delivery of CCISC in Tampa, Florida. The intention of this committee was that members would become change agents for integrated treatment within their organisation's culture (mechanism – resource), however in the early stages of the committee they found that individuals who had been identified has change agents were unaware of the reasons they were attending. Through time, effort and increased communication (context), change agents were more effectively identified and mobilised (mechanism – resource) leading to them being able to identify more strengths of their services and more willing to effect change in their organisations (mechanism – response)

Mechanism – resource

The literature highlights that where staff have these formalised, sustained network opportunities to meet, communicate and build relationships and take action (context) they will lead to increased awareness of other services' collective contributions, opportunities for peer support and a multidisciplinary ethos (mechanism- resource). Two qualitative studies with service providers suggest that without these formalised channels (context), staff often do not have the opportunity to discuss service provision with their contemporaries in other services (mechanism – resource) (Englehardt et al, 2009; Bjorkquist et al, 2018b). For example, in their study of 29 provider services, Englehardt et al (2009) note the majority "*never discussed the types and form of services that they delivered with representatives in the "other camp"".* In their review of networking opportunities for co-occurring disorders. In contrast, Biegel et al (2003) in their study describing the implementation of IDDT in Ohio, found that formalised peer support networks (context) allowed members "*learn from each other's trial and error. This facilitates the timely adoption of practices that generate good outcomes and practices that help individuals and agencies to avoid or respond to pitfalls and challenges".* Currie et al (2005) who implemented similar groups for CCISC projects in the US (context) found that over time these groups then begin to develop a multidisciplinary ethos as members discussed their different services and the mutual challenges they were experiencing (mechanism – resource). Similarly Connolly et al (2010) found that bringing clinicians from mental health and addictions services together regularly (context), helped group members realise that they "*shared more similarities than differences in their working objectives with the dual diagnosed client"*.

The opportunity for sustained and consistent communication through these formalised networks (context) has therefore been shown to diminish the silos which exist between different services (for example mental health and substance use services) (mechanism resource) which can thus increase staff confidence and motivation to work collaboratively to treat individuals with co-occurring disorders (mechanism – response). For example, Anastas et al in their comparison of eight agencies developing behavioural homes for co-occurring disorders in the US, found that the agency which built formalised time into schedules (context) where staff from different disciplines able to clearly determine what and how information needed to be exchanged (mechanism – resource) reported this opportunity for communication was valued by staff and allowed them to develop individualised, coordinated care (mechanism – response). This link between mechanism resource and response is demonstrated by Baldacchino et al (2010) in their survey of European networks for co-occurring disorders. They identified four broad roles for these networks, members have the opportunity to: 1) ensure sufficient resources to address differing client needs by collaborating across different cultural, organisational and policy contexts (mechanism – resource) 2) master networking skills and negotiating bureaucratically organised systems (mechanism – resource) 3) increase knowledge of the resources available in the network for clients'

needs (mechanism – resource) and thus 4) increase their motivation to network through increased confidence in the services provided by others (mechanism – response).

Mechanism – response

As outlined in the literature reviewed above, the awareness of other services and multidisciplinary ethos (mechanism – resource) developed by these formalised networks (context) will increase staff motivation, confidence and commitment to work collaboratively when treating individuals with co-occurring disorders (mechanism – response). The quote from Barnes et al (2002) below, highlights how before staff in community mental health teams had formalised opportunities to come together (context) they were often working and dealing with issues and barriers in isolation (mechanism – resource) and as a result their motivation to integrate care can wane (mechanism – response).

"Staff generally wanted to continue to provide services at the point of referral to people with a dual diagnosis. There was no widespread desire to pass these patients on to other agencies, although substance misuse staff requested more support from mental health staff, particularly those who had specialised training. The audit also highlighted an urgent need to build the confidence of staff who dealt with people with a dual diagnosis" (Barnes et al, 2002)

In contrast, Curie et al (2005) in their implementation of IDDT in Ohio found that formalised partnership (context) "*stimulated natural energy to participate in systems change that is engendered by the shared values and priorities* [mechanism – response]*…as all systems are struggling for better ways to serve individuals with co-occurring disorders* [outcome]". In Anderson et al's (2013) study of communities of practice for co-occurring disorders, they described how these regular meetings (context) gave staff collective support (mechanism – resource) and so the energy and motivation to carry on coordinating care (mechanism response):

"*keeping the staff engaged and motivated to continue to do what they're doing on a daily basis for the customer that's presenting with the same problem day in day out for three years. That can be quite draining on the staff but actually to sit and talk about it and get that collective support that we're all going through the same thing gives you a bit more energy and motivation to carry on doing whatever it is for a longer period of time"* (Anderson et al, 2013)

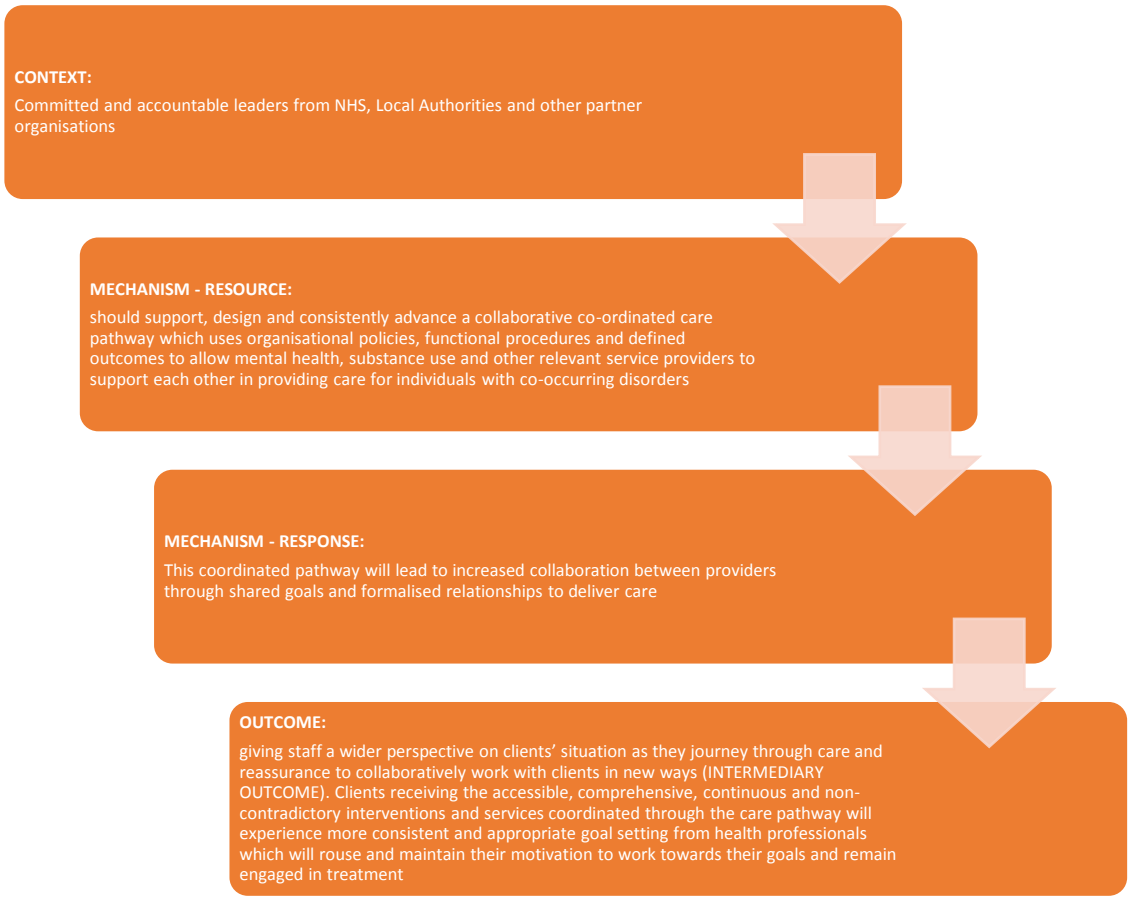
For example, Anderson et al (2013) described group members identifying "*small examples of progress in a client's case to re-motivate the case presenter"* and through discussion of similar experiences the case presenter was encouraged and reassured that they were "*doing the right thing"* (mechanism – response). The literature also suggests that if these networks are sustained (context), then members' increased motivation and confidence (mechanism – response) can move beyond short term, client focused goals to consider integration of services by modifying barriers and integrating their existing resources (outcome). For example, Barriera et al (2000) found that overtime collaborative workgroups (context) moved beyond examining the differences and barriers between their organisations (mechanism – resource) and became committed (mechanism – response) to actively examining and addressing these barriers as they worked to create an integrated system of care from their existing resources (outcome). Similarly, Barnes et al (2002) found "*the group developed a multidisciplinary ethos, and in some ways, became a team within a team* [mechanism – resource]. *Members confidence increased* [mechanism – response], *and the networking which occurred immediately improved the delivery of* services [outcome]".

Outcomes

As the section above concluded, formalised networks (context) which increase awareness, peer support and a multidisciplinary ethos (mechanism resource) can increase staff motivation and confidence to work collaboratively (mechanism- response) leading to improved coordination of care for individuals with co-occurring disorders (outcome). In a systematic review on the impact of networks for health professionals, Cunningham et al (2012) found that as these networks improve members' job satisfaction and resilience (mechanism –response) they may also have a positive impact on care coordination, quality and safety (outcome). For example, Connolly et al (2010) and Engeldhardt et al (2009) found that bringing professionals together regularly (context) in multidisciplinary groups (mechanism – resource) lead to more immediate referrals and assessments and more organised use of resources (outcome).

A systematic review of positive social networks within health professions found that they can increase members' job satisfaction, resilience to stress and burnout (Cunningham et al, 2012). Cohesive and collaborative networks may have positive impacts on care coordination and quality and safety including more immediate referrals and assessments and more organised use of existing resources (Cunningham et al, 2012; Connolly et al, 2010; Engelhardt et al, 2012). Furthermore, Engeldhardt et al (2012) found that once their service delivery committee began using their existing resources in a more coordinated manner, clients with co-occurring disorders were "*increasingly welcomed, identified and engaged"* (outcome). However, the evidence to show if network members (context) increased confidence and motivation (mechanism – response) to coordinate resources more effectively (outcome) leads to improved quality of engagement for clients for co-occurring disorders (outcome) is limited (Anderson et al, 2012) and Bell et al (2014) note that this is in part is due to a lack of consensus on how client engagement is measured across services and networks.

Programme theory 8 – co-ordinated care pathways



Initial programme theory

Leaders from NHS and Local Authorities should collaboratively commission an agreed pathway of care for integrated COSMHAD services in consultation with all relevant third sector and partner agencies. This will ensure "buy in" and understanding of the journey through care across all key agencies (at commissioner, provider, staff and service user levels), meaning that people can access continuous, flexible and effective care that meets their needs from every access point.

Refinement of programme theory

The focus of this programme theory is on the development of co-ordinated care pathways which allowed integration of services for individuals with co-occurring disorders across services. The need for care pathways for co-occurring disorders in the UK is well described in existing guidance (NICE, 2016; PHE, 2017) and so initially this programme theory was viewed as relatively straightforward in its proposition that commissioning a care pathway would ensure buy in for all agencies and thus effective care. However, engagement with the literature led to greater refinement of this theory which identified further nuances in context, mechanism and outcomes. Specifically, the literature highlighted that these care pathways cannot simply rely on collaboration and communication between enthusiastic staff in services. Rather pathways must be formalised through policy and procedure, providing structure, process and resources which can be layered on top of existing mental health and substance use provision to enable coordination. This requires committed leadership across collaborating organisations who have the

authority to implement change and who work consistently to achieve incremental changes relevant to their local context. Shared goals and formal consensus at the leadership level are needed to empower service providers to effectively deliver care that reflects clients' individual and complex needs.

Summary table of CMO dyads and triads

Context	Mechanism		Outcome
	Resource	Response	
Formal commitment from accountable leaders in NHS, Local Authority and other partner organisations	Co-ordinated care pathways including organisational structures and functional processes	Collaboration across different services and organisations	
Shared vision, and strategic policy decisions among leaders who have experience of integrated management, financial viability and collaborative relationships with other organisations	Successful coordination of care		
Commitment from top-level leadership with ongoing/open communication	Development of integrated care pathway	Shared sense of ownership and work culture between organisations	
Commitment to coordination and understanding of current provision from the early stages of implementing care pathways	Care pathway can be placed over the top or layered onto pre-existing, separate services	Partner organisations feel empowered to organise the various components of the care pathway and make critical decisions to move the process forward	
Leadership consensus	Develop a care pathway equally validated by mental health and substance use communities	Participants are committed to new system of care and how to create an integrated system of care from existing resources	
	Coordinated care pathways	Stimulate willingness among practitioners to work together, reassure them in their approach, reduce the stress of supporting those with complex needs and allow staff to widen their perspective on the needs of those with co-occurring disorders	

	Coordinating clients' treatment through a formal care pathway	Staff provide clients with more accessible, comprehensive, continuous and non-contradictory interventions and services which means clients experience more consistent and appropriate goal setting	Consistency of care rouses and maintains clients motivation to work towards their goals and remain engaged in treatment

Final programme theory

Committed and accountable leaders from NHS, Local Authorities and other partner organisations (CONTEXT) should support, design and consistently advance a collaborative co-ordinated care pathway which uses organisational policies, functional procedures and defined outcomes to allow mental health, substance use and other relevant service providers to support each other in providing care for individuals with co-occurring disorders (MECHANISM- RESOURCE). This coordinated pathway will lead to increased collaboration between providers through shared goals and formalised relationships to deliver care (MECHANISM – RESPONSE) giving staff a wider perspective on clients' situation as they journey through care and reassurance to collaboratively work with clients in new ways (INTERMEDIARY OUTCOME). Clients receiving the accessible, comprehensive, continuous and non-contradictory interventions and services coordinated through the care pathway will experience more consistent and appropriate goal setting from health professionals which will rouse and maintain their motivation to work towards their goals and remain engaged in treatment (PRIMARY OUTCOME)

Context

Coordinated care pathways for co-occurring disorders are recognised in existing UK guidance (NICE, 2016; PHE, 2017) as an optimal model of service provision (mechanism resource) and this guidance highlights the importance of clearly describing the aims, roles and expectations of the different services involved. This action of coordinating a pathway across services implies, as in previous programme theories, that, committed and accountable leadership from across the NHS, Local Authorities and other partner organisations are a necessary context to enable this. However, there is limited evidence from the UK which describes the development of care pathways in a UK context. Rather, a significant proportion of the literature which describes integration of care for co-occurring disorders at the organisational level comes from the US (Minkoff et al, 2004; Kruszynzki et al, 2008). The current model of separately commissioned mental health and substance use services in the UK means that these single integrated service models from the US context are not directly transferrable (Bell et al, 2014). However, the synthesis identified some elements from the US evidence which may give insight into the contexts which lead to more successful care pathway development (mechanism – resource) and increased collaboration between healthcare professionals to provide care (mechanism – response).

The quote below from Minkoff et al (2006), who developed one of the predominant models of integration for co-occurring disorders (the CCISC model), outlines the different components of a co-ordinated care pathway including organisational structures and functional processes (mechanism

resource). In particular, Minkoff et al (2006) highlight that care coordination is more than simply collaboration procedures such as having arrangements for interagency referrals but must take place across multiple elements of the system (including policies, procedures, assessment, planning and delivery of treatment and discharge (Minkoff and Cline, 2006), and this therefore requires formal commitment from accountable leaders in the NHS, local authorities and other partner organisations.

> *"a "system" is much more than an organizational chart listing its component parts. Systems include all elements of "infrastructure" that organize the functioning of that system by describing system policies, procedures, and processes that determine how the system functions within each of its component subsystems, and how the different components function in relationship to each other. These policies and processes in behavioral health systems relate to every element of each component of the system, from mission statement and values, to administration and oversight, quality management and advocacy, funding mechanisms, requirements, and certification standards, intersystem and interprogram care coordination, collaboration, and referral, program design, licensure, and monitoring, clinical practice requirements and guidelines, and clinician credentialing, competencies, supervision, and workforce development"* (Minkoff et al, 2006)

Bjorkquist et al (2018) concur with Minkoff et al (2006), highlighting that in order for care pathways to achieve collaboration across different services and organisations (mechanism – response) there must be formalised and top-down protocols to ensure consistency (mechanism – resource). Bjorkquist et al's (2018) study on coordination of care for co-occurring disorders in Norway, suggests that this requires partnership from leaders in all parts of the system to make joint decisions on coordinated service provision and the content of services (including who, how and in what way coordination will be organised (context). Some aspects of successful leadership have already been outlined in previous programme theories (4 and 5) and include clearly articulating a vision for the coordinated care pathway and making policy decisions in a thoughtful, strategic manner to consistently advance implementation (context). This is confirmed by a consultation with commissioners in the UK by Hodges et al (2006) who found that without this shared clear vision and strategic policy decisions across organisations (context) leaders could find themselves in a *"bureaucratic quagmire"* with coordination efforts hindered by the expediency of policy changes, the volume of guidance and lack of insight on the relevance to their local context. In addition, two studies which described state-level coordination of care in the US, found that organisations with prior experience of integrated management, financial viability, shared goals and visions and past collaborative relationships (context) were more likely to be successful and coordinating care (mechanism – resource) (Annamalai et al, 2018; Curie et al, 2005).

Mechanism – resource

Commitment and accountable leaders across NHS, Local Authority and other partner organisations (context) can support, design and consistently advance a collaborative co-ordinated care pathway which uses organisational policies, functional procedures and defined outcomes to allow mental health, substance use and other relevant service providers to support each other in providing care for individuals with co-occurring disorders (mechanism – resource). Several studies identified common elements of this collaborative care pathway, namely: 1) developing collaborations with interested organisations and convening organising groups 2) the creation of the pathway through formal written arrangements of processes 3) delivering relevant training to staff across mental health, substance use and other agencies (Broner et al, 2001; Guest et al, 2015; Huntington et al, 2005; Lee et al 2013). These common components of collaborative care pathway development (mechanism – resource) highlight the necessity

for committed leadership across all organisations involved in delivering care (context). The quote below from Annamalai et al (2018) highlights how investment, commitment and communication from leadership in both behavioural and primary care in the US (context) was needed to develop an integrated care pathway (mechanism – resource) and led to a shared sense of ownership and work culture between organisations (mechanism – response)

> *"a shared sense of ownership between participating organizations and emphasis on creating a shared work culture are important. Investment and commitment by top leadership with ongoing/open communication on both sides was critical to start and maintain the initiative"* (Annamalai et al, 2018)

The evidence also highlights that this commitment from leaders across all organisations delivering care needs to be established (context) before the development and coordination of care pathways. As Barreira et al (2000) observed when developing a coordinated care pathway in Massachusetts, US: "*All of the stakeholders needed to commit* [context] *to the new system before it was implemented so that the systems as a whole changed* [mechanism – resource] *and the outcome did not result in a series of individual project"*. Coordination across services from the initial stages is necessary (context) because the coordinated care pathway will be placed "over the top" or "layered" onto the pre-existing, separate services (mechanism – resource) and so must be developed through an understanding of the current provision in these collaborating organisations (context) (Curie et al, 2005; Georgeson et al, 2009). For example, Georgeson et al (2009) describe how their development of the Matrix Model formal care coordination pathway in Bristol, UK required service managers and commissioners to "*meet and discuss, draft, trial, redraft and implement a local/regional care pathway together"* (mechanism – resource) and in order to do this "*commissioners must provide the impetus"* and "*it is vital that there be a strong connection and partnership between the two teams"* (context). Similarly, Curie et al (2005) highlight that the successful implementation of an integrated care pathway for co-occurring disorders in Ohio required a structure to placed "over the top" of the separate system components (mechanism – resource) but this "*could not actually be operationalised without significant infrastructure support"* from *"equal partners in the oversight of treatment services"* (context) which lead that partner organisations feeling "*empowered to organise the various components and to make critical decisions to move the process forward"* (mechanism – response).

Mechanism – response

The evidence suggests that committed leadership (context) who support, design and consistently advance a collaborative co-ordinated care pathway (mechanism – resource) can lead to increased collaboration between providers through shared goals and formalised relationships to deliver care (mechanism – response) which will give staff a wider perspective on clients' situation as they journey through care and reassurance to collaboratively work with clients in new ways. The literature suggests that if a formal coordinated care pathway (mechanism – resource) is built on a joint consensus approach between leaders to existing resources and funding (context) then conflict and differences between services will be reduced and staff delivering the model will feel empowered, as the coordinated care pathway provides clear avenues for them to participate in the delivery of services for individuals with co-occurring disorders. Barreira et al (2000) found when developing integrated care for co-occurring disorders in Massachusetts that through leadership consensus (context) they could develop a collaborative approach where they could "*emphasize the clinical and competitive advantages of integration* [and] *develop a model equally validated by both psychiatric and addiction communities"* (mechanism – resource). This approach allowed them "*to overcome the philosophical, treatment and*

funding barriers" and as a result "*the participants were seriously committed to the new system of care and grappled with how to create an integrated system of care from existing resources"* (mechanism – response). As Curie et al (2005) describe in their study, formally coordinating care (mechanism – resource) "*stimulated natural energy to participate in systems change that is engendered by the shared values and priorities…all systems are striving for better ways to serve individuals with co-occurring disorders"* (mechanism – response).

As highlighted in the quote by Georgeson et al (2009) below describing the Matrix Model of coordination (mechanism - resource), collaborative working (context) can stimulate willingness among practitioners to work together, reassure them in their approach, reduce the stress of supporting those with complex needs and allow staff to widen their perspective on the needs of those with co-occurring disorders (mechanism – response). The implication from this quote is that his will lead to improved access to appropriate and coordinated care for individuals with co-occurring disorders (outcome) which is further explored below.

"*Although miracles are not what we expect, even a little bit of willingness to move beyond the fear of failure and accusations of incompetence can save lives. The Matrix Model is a call to arms for practitioners to work with each other. Not against each other or in competition with each other, but in partnership for a common cause. That cause is the alleviation of distress and suffering in our communities"* (Georgeson, 2009).

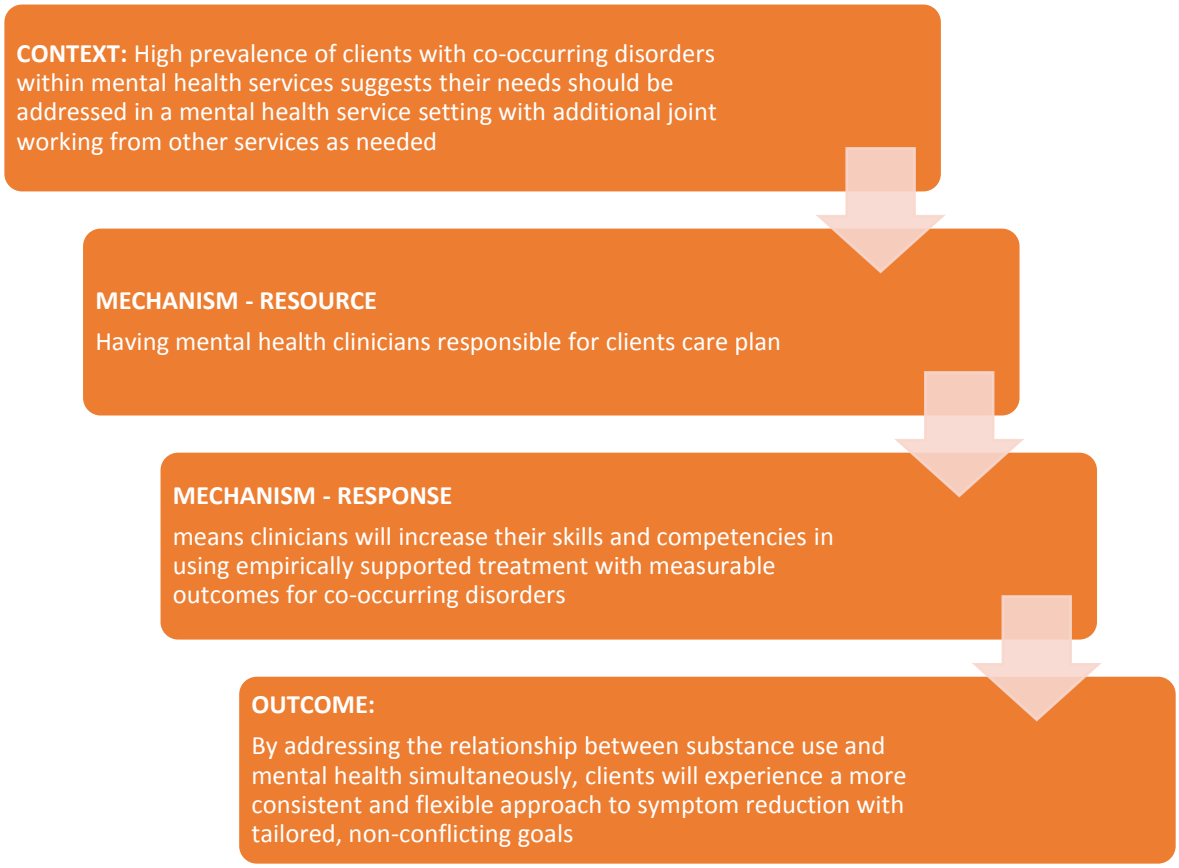
Outcomes

As highlighted above, formalising care coordination (mechanism – resource) in the context of committed leadership gives staff a wider perspective on clients' situation as they journey through care and reassurance to collaboratively work with clients in new ways (mechanism – response). The literature suggests that clients whose treatment is coordinated through a formal care pathway (mechanism - resource) will be receiving more accessible, comprehensive, continuous and non-contradictory interventions and services and so experience more consistent and appropriate goal setting from health professionals (mechanism – response). This consistency of care can rouse and maintain clients' motivation to work towards their goals and remain engaged in treatment (outcome). Kay-Lambkin et al (2004) use the metaphor of a co-morbidity roundabout to describe the experience of clients in Australia, to describe how clients whose travel is guided by a coordinated care pathway (mechanism – resource) receive more consistent care and are less likely to be offered contradictory or repeated services and interventions by health professionals (mechanism – response). They state that clients receiving coordinated care (mechanism – resource) are more likely to commit to treatment goals and engage with care (outcome), highlighting that when this coordination is absent and conflicting treatment approaches are offered *"this experience may serve to undermine driver motivation and commitment to their goals, their confidence or willingness to attempt another exit from the roundabout (e.g. engage in treatment) and certainly their optimism for the future".*

In summary, formally coordinated services through care pathways (mechanism- resource) developed by committed leaders across organisations (context) lead to increased collaboration between staff as they are reassured and motivated to work in this way (mechanism response). This increases clients' access to a range of care approaches which are suited to their individual life stages and situations and can increase their sense that the multiple issues they face are recognised by service providers (outcome) (MacCallum et al, 2015; Minyard et al, 2019; Haskell et al, 2016). As already demonstrated by the literature, this means that when clients feel ready to set goals, they can be based on their individual needs which will

rouse and maintain their motivation to work towards these goals and remain engaged in treatment (outcome) (Kay-Lambkin et al, 2004).

Programme theory 9 – mental health led services



Initial programme theory

Care coordinators developing collaborative care plans for individuals with COSMHAD should be based in mental health services with joint working arrangements with substance use services. This is because mental health staff have the most relevant skills and are well linked to the wider NHS infrastructure thus ensuring that individuals with COSMHAD have access to the services and treatment they need for recovery.

Refinement of programme theory

This programme theory was developed from the stakeholder workshop and focused on mental health services taking the lead for care coordination for clients with co-occurring disorders. Workshop participants felt this was important as mental health services had high prevalence of co-occurring disorders, staff already trained in the appropriate clinical skills for case management and appropriate

links to additional services through the NHS infrastructure. While there was some supporting evidence for each of these claims, the literature did not give a large amount of additional insights into this programme theory and so it has remained largely unchanged in the final programme theory. It was unclear from the literature is if the lack of detail to support the context and mechanism of this programme theory is due to a lack of research or rather because it is simply taken for granted that mental health services will take this lead role. For this reason, the programme theory has been retained for further exploration during the qualitative work in WP3.

Summary table of CMO dyads and triads

Context	Mechanism		Outcome
	Resource	Response	
High prevalence of patients with co-occurring disorders presenting at mental health services	Mental health clinicians should be responsible for care coordination for co-occurring disorders		Prevent clients from falling into the gaps between services
Mental health services sit within the wider NHS structure (in contrast to substance use services)	Mental health clinicians undertake care planning	These clinicians are better placed to connect clients to the services they need	
	Mental health services take responsibility for care planning to integrate care for individuals with co-occurring disorders at the level of the clinician and the service	Placing responsibility for care planning with mental health services will result in a conceptual shift within the organisation with staff recognising substance misuse work as being an integral part of care delivered to people with severe mental health problems	Clients experience a more consistent and flexible approach to symptom reduction with tailored non-conflicting goals
	A single mental health clinician as case manager acts as the mechanism of integration who keep all providers aware of the services the clients is receiving and their treatment goals	The case manager being responsible for linking their clients to other services as required through active case management and ensures there is no duplication of efforts across services	Clients who experience consistent, non-contradictory services are more likely to commit to treatment goals and engage with care

Final programme theory

High prevalence of clients with co-occurring disorders within mental health services suggests their needs should be addressed in a mental health service setting with additional joint working from other services as needed (CONTEXT). Having mental health clinicians responsible for clients care plan (MECHANISM – RESOURCE) means clinicians will increase their skills and competencies in using empirically supported

treatment with measurable outcomes for co-occurring disorders. (MECHANISM – RESPONSE). By addressing the relationship between substance use and mental health simultaneously, clients will experience a more consistent and flexible approach to symptom reduction with tailored, non-conflicting goals (OUTCOME)

Context

The evidence suggests that mental health is the correct context for care planning for co-occurring disorders to occur in, with staff in mental health services taking the lead and coordinating care from substance use and other services as required (mechanism – resource). Studies in both the US and the UK propose that care coordination for individuals with co-occurring disorders (mechanism – resource) should be the responsibility of mental health clinicians, citing the frequency with which these client present at mental health services as justification for this claim (context) (Minkoff et al, 1991; Graham et al, 2003). For example, the UK COMPASS project (an integrated shared care model operating in Northern Birmingham Mental Health Trust) reported the one year prevalence of co-occurring disorders among mental health patients was 24%, and higher in assertive outreach services (Copello et al, 2003). Prior to the introduction of the COMPASS programme in mental health services, the authors noted that individuals with co-occurring disorders often had "*severe unmet need"* (Copello et al, 2001). As previously discussed in greater detail in programme theory 1, without mental health clinicians taking responsibility for care planning (context) individuals with co-occurring disorders often fall into the gaps between fragmented services, either receiving insufficient care for their needs of in some cases not receiving care at all (outcome) (Copello et al, 2001; Graham et al, 2003). Pinderup et al (2018) concur with this view that the high prevalence of clients with co-occurring disorders within mental health services make it the most suitable location (context) for care planning (mechanism – resource) and caution against reliance on specialist services and clinicians stating "*these places are not capable of treating all patients with dual diagnosis and it is, therefore, crucial that general mental health centres can provide treatment for these patients as well"*.

In the UK context, mental health services sit within the wider organisational structure of the NHS (context) and participants in the stakeholder workshop suggested that this meant mental health clinicians undertaking care planning (mechanism – resource) were better placed to connect clients to the services they need – thus meeting the "mainstreaming agenda" for co-occurring disorders recommended by the former Department of Health (mechanism – response). This contextual aspect of UK mental health services wasn't particularly frequently articulated in the literature, however the quote below from Novotna et al's (2014) Canadian study touches on some aspects of this by highlighting that substance use services are often insufficiently resourced to take the lead on treatment for co-occurring disorders (context). Whilst the NHS mental health sector in the UK undoubtedly faced pressures on finances and resources, these are arguable less problematic than the uncertainly faced by local authority commissioned, third sector organisations providing substance use services (context) and this will be further explored during the realist evaluation.

"As one of the research participants noted, the addiction sector might have incorporated the concept of concurrent disorders into the expectation of greater recognition and increased legitimacy. However, without sufficient resources this task can represent an additional burden that may, in fact, jeopardize the current service structures". (Novotna et al, 2014 p.273)

Mechanism – Resource and Response

As explored above, the available evidence suggests mental health clinicians (context) should take the lead on care planning for individuals with co-occurring disorders (mechanism – resource). Graham et al (2003) argue that mental health services should "*achieve integration of treatment both at the level of the clinician and service"* (mechanism – resource) and that by placing responsibility for care planning within mental health services there will be a "*a conceptual shift within the organisation and those working within it to recognise substance misuse work as being an integral part of the care delivered to people with severe mental health problems*" (mechanism – response). In the COMPASS project this meant, wherever possible, a single mainstream clinician should address the needs of clients' with co-occurring disorders simultaneously (mechanism – resource) (Copello et al, 2001; Graham et al, 2003). This is in keeping with the traditions of the case management model, which emphases the importance of continuity of care, using relationships between services for collaboration and varying the intensity of interventions and support for clients' based on their needs, self-determination and resourcefulness. In the case of integrated case management for co-occurring disorders, the case manager acts as the mechanism of integration who keeps all providers aware of the services the client is receiving and their treatment goals (mechanism – resource). The case manager is responsible for linking their clients to substance use services as required through active case management and ensures there is no duplication of efforts across services (mechanism – response) (Mehr et al, 2001). The expectation in this model is that the case manager in mental health services does not simply act as a broker for external services but provides the clinical services themselves (Mehr et al, 2001). As Trippier et al (2008) note, for this case management approach, building a *"functionally 'critical mass' of appropriately qualified staff is imperative"* (mechanism – resource) so that mental health clinicians increase their skills and competencies in using empirically supported treatment with measurable outcomes for co-occurring disorders (mechanism – response). We can thus see how this programme theory is dependent on programme theories 4 and 5 where training and ongoing workforce development are essential mechanisms in achieving a clinically competent workforce for co-occurring disorders. As Pinderup et al (2018) describes "*in order to improve dual diagnosis treatment [outcome], a range of training programmes on dual diagnosis treatment has been developed to upskill mental health professionals' competencies".*

Outcome

The evidence suggests that having mental health clinicians responsible for clients care plan (mechanism - resource) means clinicians will increase their skills and competencies in using empirically supported treatment with measurable outcomes for co-occurring disorders. (mechanism - response). By addressing the relationship between substance use and mental health simultaneously, clients will experience a more consistent and flexible approach to symptom reduction with tailored, non-conflicting goals (outcome). As Mehr et al (2001) describe, a key aim of the integrated case management in mental health (mechanism – resource) is to ensure consistency in approach to treatment (mechanism – response) for individual with co-occurring disorders. Novonta et al (2014) note that one of the key ways that this consistency is achieved is through the more consistent use of empirically supported treatment models and approaches which facilitate more measurable outcomes for clients in the long term. As has already been described in greater detail in programme theory 8, clients with co-occurring disorders who receive more consistent care and are not offered contradictory or repeated services and interventions by health professionals

(mechanism – response) are more likely to commit to treatment goals and engage with care (outcome). In this programme theory, the case manager (mechanism – resource) within mental health services (context) acts as the resource to achieve this outcome. Once mental health clinicians are established in this case management role (mechanism – resource) they can develop the skills and awareness of the clients' needs and the various services the client is receiving (mechanism – response). As Mehr et al (2001) describe, the case manager is "*aware of and communicates to all parties, the various treatment goals for the client in order to prevent any duplication of effort or efforts that would be of cross purposes"*. By setting consistent goals based on the clients individual needs (mechanism – response), Kay-Lambkin et al (2014) state that clients are more likely maintain motivation to work towards these goals and remain engaged in services (outcome)

Programme theory 10 – evaluation and quality improvement

Initial programme theory

Evaluation and quality improvement measures need to be put into place to evaluate the impact of integration and training interventions on COSMHAD delivery and capture learning across services. This will ensure that commissioners, service managers, practitioners and service users see the value of their work and continue to endorse and engage with these new practices. Formally, capturing learning will ensure this can be sustained even when there are changes in personnel or primary and secondary service structure so that individuals with COSMHAD aren't allowed to fall into the gaps between services. (10)

Refinement of programme theory

This programme theory focuses on implementing quality improvement measures and evaluation to monitor integration of care for individuals with co-occurring disorders. After engagement with the literature, the context for this programme theory was more clearly defined as being accountable and involved leadership across all services. Without this leadership, coordinating quality improvement across the multiple services and complex needs of clients with co-occurring disorders would be extremely challenging. Engagement with quality improvement frameworks also more clearly defined the quality improvement resource required for co-occurring disorders, namely: structure, process and outcome measures. These three categories will allow measurement of which integration measures are being implemented (structure), if they are working (outcomes) and how they are working (process). The literature confirmed that quality improvement measures can allow those involved to see the value in their activities but this was amended to recognise that progress was often incremental.

Summary table of CMO dyads and triads

Context	Mechanism		Outcome
	Resource	Response	
Strong leadership that develop and establish accountability for co-occurring disorders	Meaningful evaluation and quality improvement measures	Incentivises and empowers services by creating a feedback loop to drive improvement processes	Achieve quality improvement outcomes
Commitment from leaders to quality improvement measures from the early stages of integration	Develop quality improvement measures from the outset	Ensure that service providers feel these measures reflect and value the work they do	Incremental progress is made towards outcomes
Leaders are actively engaged and understand how their services operate	Ensure quality improvement efforts are specific and relevant to all services		
Leaders understand the structure and capacity of each service in their system to ensure realistic expectations of progress	Three types of quality improvement measurements 1) structure measures 2) process measures 3) outcome measures	Clear, structured expectations for monitoring structure, process and outcomes lead to greater commitment and action taken by staff towards quality improvement	Performance barriers are addresses and strategizing happens for improvement
	Data driven, incentivised and interactive performance improvement processes	Incremental process by building on existing system strengths and capacities	Data generated a progress tracked over time

Final programme theory

Leadership across all involved services need to develop and establish accountability (CONTEXT) in order for meaningful evaluation and quality improvement measures to be put into place to evaluate the structure, process and outcomes of integration and training interventions on service delivery for co-occurring disorders (MECHANISM – RESOURCE). This will ensure that commissioners, service managers and practitioners feel the work they do is valued (MECHANISM -RESPONSE) and continue to make incremental progress in improving services by building on existing strengths and identifying priorities leading to better insights into the quality of care (OUTCOME)

Context

The evidence suggests that another important characteristic of leaders is that they develop and establish accountability for co-occurring disorders across all involved services (context) in order for meaningful evaluation and quality improvement measures to be put in place (mechanism – resource). It is well recognised in the existing literature that meaningful quality metrics must be selected to collect data on clinical processes and health outcomes for populations with co-occurring SMI and substance use disorders (Anastas et al, 2019; Annamalai et al, 2018). However, Curie et al (2005) also suggests that strategic incentivization and empowerment (mechanism –response) are required across all levels of the healthcare system in order to achieve evaluation and quality improvement outcomes (outcome) highlighting the important role for strong leadership (context).

Leadership (context) is required from the early stages of integration to develop quality improvement measures (mechanism – resource) and ensure that service providers feel these measures reflect and value the work they do (mechanism – response). Chichester et al (2009) found that getting department leadership buy-in was vital to ensure that quality improvement measures were implemented across all organisations and departments (context) and that once departmental leadership was aligned with the idea of co-occurring disorders being everyone's business, *"change flowed as if a dam had been opened"* and "*co-occurring disorder requirements were inserted into every contract the department has with providers".* As demonstrated in the quote below, Curie et al (2005) found that it was important for leaders to actively engage and understand how their services operated (context) to ensure that quality improvement efforts were specific and relevant to all services (mechanism – resource). As several of the studies highlighted, individuals with co-occurring disorders have complex and variable needs which require integration across multiple services (Chichester et al, 2009) and services can also experience practical challenges in tracking patient data across multiple software systems (Annamalai et al, 2018; Chichester et al, 2009; Anastas et al, 2019; Biegel et al, 2013). As Curie et al (2005) found in their work in Ohio, it is therefore importance that quality improvement structures, processes and outcomes measures are built (mechanism – resource) are built on realistic expectations from leaders across organisations of the nature of the existing system, patient preferences and realistic expectations of incremental progress.

"Programs are "monitored" but the initial requirement is only that they are evaluated on the quality of their participation and the honesty of their quality improvement efforts, to emphasize the capacity of the initiative to engage each system component exactly where it is and help it to make progress." (Curie et al, 2005)

Mechanism – resource

As outlined above, committed leadership across all involved services to establish accountability needed (context) to ensure meaningful evaluation and quality improvement measures are put into place. Historically, quality improvement measures have been structured around Donabedian et al's (1966) framework which distinguishes between three types of measurement: 1) Structure measures: evaluate the characteristics of services (for example staff training and competence to deal with co-occurring disorders) 2) process measures: examine the relationship between clients and the structural elements (for example: proportion engaging or receiving certain types of care) 3) outcome measures: examine the results of interactions with the service for patients. These three aspects of quality improvement (mechanism – resource), concur with the quote from Curie et al (2005) which highlight that the development of these measures is dependent on leaders understanding the structure and capacity of each service in their system to ensure there are realistic expectations of progress (context).

Structure measures aim to identify strengths and weaknesses in service organisation and administration (Biegel et al, 2013; Devitt et al, 2009). Structural measures are often the most straightforward to collect as they don't rely on the completion and collation of patient data across services and systems. Outcome measures consider the results of patients' interactions with services and the extent to which clients are achieving the goals they set in their care plans (Biegel et al, 2007; Kilbourne et al, 2010). For clients with co-occurring disorders they are likely to cover areas such as functioning, morbidity and mortality (Kilbourne et al, 2010; Curie et al, 2005). Kilbourne et al (2010) describe them as the "bottom line" – whether patients are doing better or worse. Process measures represent the middle ground between structure and outcome measures. These focus on areas such as patient engagement, communication between agencies, tracking integrated care processes such as screening and assessment, patient satisfaction and their perceived barriers and facilitators to receiving care (Biegel et al, 2013; Curie et al, 2005; Biegel et al, 2007). Donabedian et al (1966) emphasise that all three domains (structure, process and outcome) are needed (mechanism – resource) to improve the quality of care (outcome).

Sylvain et al (2013) emphasise that these measures are context dependent, once more highlighting the important role of leadership (context) in developing meaningful measures. Pre-existing fidelity scales for co-occurring disorders in the literature are often developed with a particular model in mind (for example IDDT) but as has been confirmed by the previous mapping review, in the UK there *"are a variety of different ways of organising services to deliver integrated dual disorders services"*. Scales developed for a particular model may therefore only be applicable in certain contexts and "*a lack of fidelity may be less attributable to an implementation gap than a lack of compatibility between a particular context and the organisational model on which the measuring tool is based*" (Sylvain et al, 2013). Similarly, outcomes with complex conditions like co-occurring disorders are often challenging to interpret because one condition may improve whilst another declines and many factors outside of service provision such as health behaviours and socioeconomic status can impact upon an individual's health outcomes (Kilbourne et al, 2010). In addition, such outcomes may take long periods to be achieved and the changes will often be modest (Biegel et al, 2007). This once again highlights the need for engaged leadership (context) who develop and advance quality improvement measures that are relevant to their services (mechanism – resource).

In summary, the relationship between mechanism and context is demonstrated in the quote below. Rapp et al (2008) compared quality improvement for IDDT implementation across multiple sites and found that where leaders set clear and relevant expectations (context) for monitoring structures, processes and

outcomes (mechanism – resource) there was greater commitment and action taken by staff towards quality improvement (mechanism – response) including addressing performance barriers and strategizing for improvement (outcomes).

"The clarity and conscientious monitoring of expectations seemed to go together. PLs who set behavioural standards for practice (e.g., % of time in community) and outcomes (e.g., number of consumer employed) were also most likely to closely monitor performance through the use of data, field supervision, review of documentation and team meetings. They shared performance information, provided feedback, and strategized avenues of improvement. They also sought to alter wider barriers to performance like agency productivity policies. Similarly, they induced cooperation from others in the agency, for example getting psychiatrists more closely involved with IDDT." (Rapp et al, 2008)

Mechanism – response

The evidence therefore suggests that when meaningful evaluation and quality improvement measures are put into place to evaluate the structure, process and outcomes of integration and training interventions on service delivery for co-occurring disorders (mechanism – resource) commissioners, service managers and practitioners feel the work they do is valued (mechanism - response) and continue to make incremental progress in improving services (outcome). Curie et al (2005) found in their experience of monitoring CCISC implementation that "*organised performance improvement processes* [mechanism – resource]*… require both strategic incentivization and empowerment at multiple levels…to create a feedback loop to drive the improvement process"* (mechanism – response).

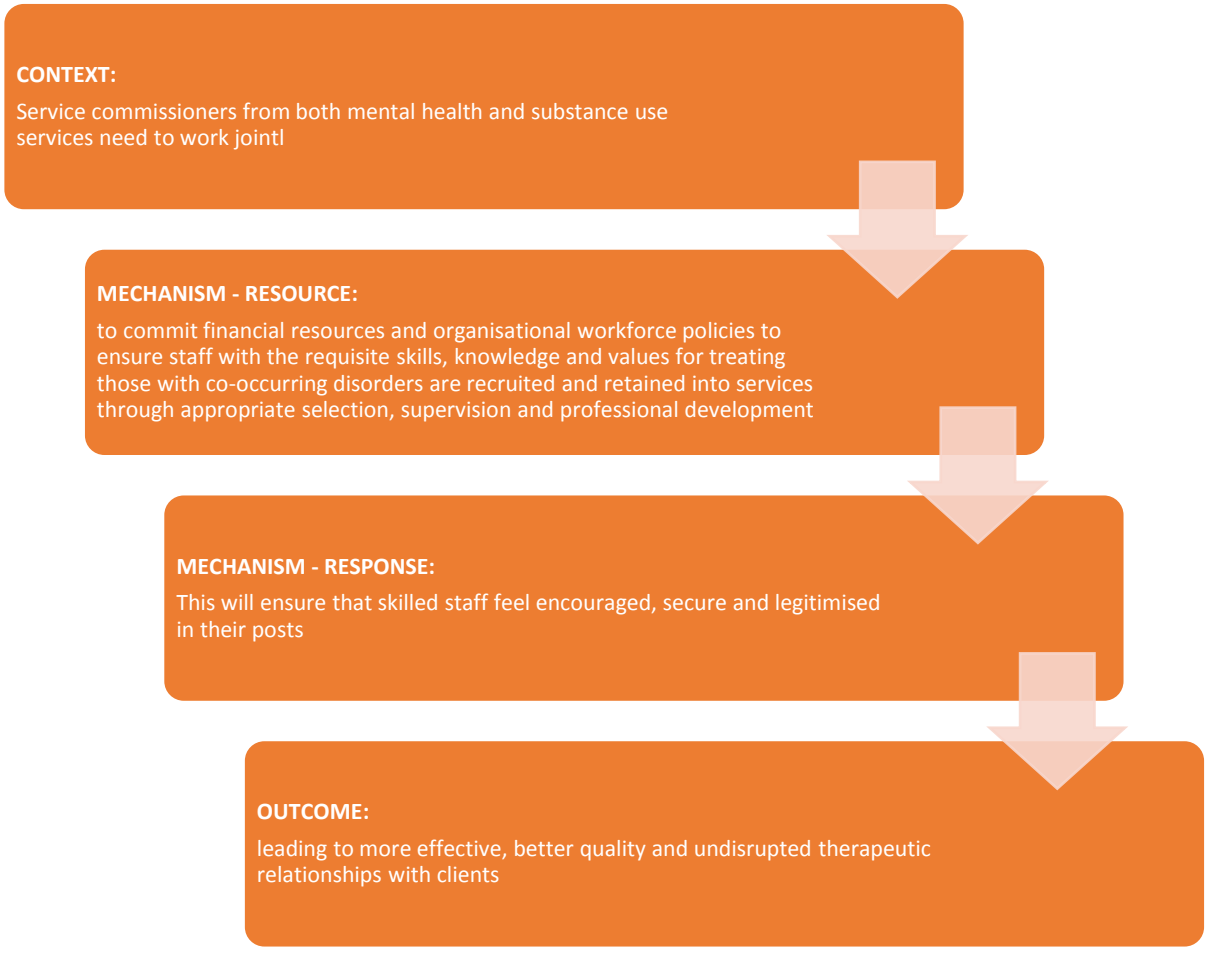
For example, Rapp et al (2008) found that under these conditions the collection of monitoring data "*can generate energy around the activity being measured"* (mechanism – response) and sites that were successful in quality improvement had supervisors who *"were adept at using this information to monitor components, giving appropriate feedback to staff to improve performance"* (context). For example, Devitt et al (2009) in their study of IDDT implementation, found that when outcome measures where combined with structural and process measures and staff were appropriately trained in collecting them (mechanism – resource), then "*the results were shared at post-fidelity review meetings during which time goals for incremental progress were made along with a training and technical assistance plan for helping actualise these goals."* (mechanism – response). This experience was also found by Curie et al (2005) who found that when they introduced "*data-driven, incentivised and interactive performance improvement processes*" (mechanism – resource) it can "*result in incremental progress by building on existing system strengths and capacities* [mechanism – response]*, then using the tools to generate data to track progress over time* [outcomes]*"*.

Outcomes

As previously outlined meaningful evaluation and quality improvement measures to be put into place to evaluate the structure, process and outcomes of integration and training interventions on service delivery for co-occurring disorders (mechanism - resource) can ensure that commissioners, service managers and practitioners feel the work they do is valued (mechanism - response) and so continue to make incremental progress in improving services by building on existing strengths and identifying priorities leading to better insights into the quality of care (outcome). The aim of outcome measures is to demonstrate that clients who are engaged in treatment report positive improvements across multiple domains (Chichester et al, 2009; Annamalai et al, 2018), however it is recognised in the literature that

achieving outcomes measures is often a long term commitment (Kilbourne et al, 2010; Annamalai et al, 2018). However, as previously discussed, when staff are engaged in relevant process and structure measures, they can make incremental progress in improving the quality of care by using these measures to identify strengths and weaknesses in the organisation (Curie et al, 2005; Biegel et al, 2007; Biegel et al, 2013). For example, Annamalai et al (2018) were able to report improvements in patient satisfaction in the quality of care (outcomes) (in advance of observing improvements in outcomes) as a result of changes in service provision identified through quality improvement such as improved communication between providers, increased data sharing and reduced waiting times (mechanism – response).

Programme theory 11 – Recruiting and retaining skilled staff



Initial programme theory

Service commissioners need to commit the financial resources to ensure that staff with the requisite COSMHAD skills, knowledge and values are recruited and retained into services. This will lead to a confident, skilled and empathetic workforce who feel valued for their skills and so will deliver better quality care.

Refinement of programme theory

This programme theory addressed the need to recruit and retain skilled staff who have the skills and confidence to provide care to individuals with co-occurring disorders. This programme theory was refined in several ways following testing in literature. Firstly, initially the programme theory focused solely on the commitment of financial resources to recruit staff. However the literature highlighted that committed commissioners across services needed to work jointly to not only commit financial resources, but also establish organisational workforce policies relating to staff selection, hiring, supervision and professional development. Secondly, the initial programme theory was shown to simplify the response to these resources. It was initially suggested that staff retention would lead to a more skilled and empathetic workforce. While this was not supported by the literature, a different response was identified which was that clearly defined, well supervised staff roles lead to increased feelings of legitimisation and security among staff. This lead to increased staff retention allowing for a critical mass of skilled workers who could develop effective therapeutic relationships with clients.

Summary table

Context	Mechanism		Outcome
	Resource	Response	
Commitment from service commissioners working jointly across mental health and substance use services	Financial and workforce policies to ensure staff with requisite skills, knowledge and values are recruited and retained into services through appropriate selection, supervision and professional development	Staff feel supported and willing to go the extra mile for their clients	
Commissioners must take time to develop organisational and policy changes	Policies and organisational changes developed through planning and consensus development	Acceptance of new clinical practices by staff	
Leaders make implementation a priority among competing responsibilities	Action taken by leaders by making administrative and policy changes to implement the new practice including hiring and changing staff and changing the focus of supervision	Staff feel more legitimised and empowered in their roles and thus more likely to develop their skills and engage in the process of integration	
Commissioners are willing to work jointly across organisations	Joint decisions made about how services will be staffed, operated and funded leading to recruitment and		

	retention of a skills workforce		
	Appropriate professional development and supervision in place to ensure staff are retained	Staff feel encouraged, secure and legitimised in their posts, with training to allow career progression leading to improved staff retention	Staff develop good relationships with clients which has been shown to increase client engagement
	Flexible hiring processes to appoint well-prepared providers	Staff are more motivated and passionate for working with clients with co-occurring disorders	Clients feel a stronger sense of trust and connection with the health professional
	Retaining skilled staff into services	Staff are able to cope with the magnitude of problems encountered by those with co-occurring disorders	Clients with co-occurring disorders retained into services

Final programme theory

Service commissioners from both mental health and substance use services need to work jointly (CONTEXT) to commit financial resources and organisational workforce policies (MECHANISM – RESOURCE 1) to ensure staff with the requisite skills, knowledge and values for treating those with co-occurring disorders are recruited and retained into services through appropriate selection, supervision and professional development (MECHANISM – RESOURCE 2). This will ensure that skilled staff feel encouraged, secure and legitimised in their posts (MECHANISM – RESPONSE) leading to more effective, better quality and undisrupted therapeutic relationships with clients (OUTCOME)

Context

The evidence suggests that improving the public health workforce requires commitment from service commissioners from both mental health and substance use services need to work jointly (context). These commissioners can commit financial resources and organisational workforce policies (mechanism – resource) to ensure staff with the requisite skills, knowledge and values for treating those with co-occurring disorders are recruited and retained into services through appropriate selection, supervision and professional development (mechanism - resource). As previously discussed in programme theory 4, staff in mental health and substance use services can often fell ill-prepared and uncertain about providing integrated care to individuals with co-occurring disorders due to a lack of training or experience (Anastas et al, 2019; Edwards et al, 2011; Boyle et al, 2007) and this can hinder the development of a competent co-occurring disorders workforce (mechanism – resource) if unaddressed by service commissioners (context).

The quote below from Boyle et al's (2007) study of IDDT implementation in Ohio, highlights how the lack of this committed leadership (context) can hinder the development of workforce policies to address deficits in staff skills, knowledge and values (mechanism – resource). They found that senior leaders and commissioners were often unaware that organisational and policy changes are required to enable staff to adhere to new integrated practices (context) and that when commissioners "*under-estimate the*

complexity of implementing an EBP…implementation is rushed. They reported rushed implementation from commissioners (context) *"with insufficient planning and consensus development"* (mechanism – resource) can lead to resistance towards new clinical practices from staff (mechanism – response)

"*Directors and programme leaders often believe existing services adhere more closely to the new EBP than they actually do and are surprised to discover how much the organisation's policies, structure and practices need to be altered, so that staff can be supported in delivering the services as intended for optimal effectiveness"* (Boyle et al, 2007)

Similarly, Brunette et al (2008) in their study of integrated care implementation across 11 sites in Ohio found that will leaders' attitudes set the tone and modelled staff responses to the challenge of implanting a new service (context), attitude alone was insufficient. They found that high fidelity sites had leaders who "*made implementation a priority among their myriad, competing responsibilities* [context], *and they took action by making administrative and policy changes to implement the new practice"* [mechanism – resource]. These changes included hiring, changing, firing staff and changing the focus of supervision (mechanism – resource).

The literature also suggests that leaders need to be willing to work jointly across organisations (context) to ensure the financial and workforce policies needed are in place to recruit and retain a skilled workforce for co-occurring disorders (mechanism – resource). Page et al (2011) present this in their qualitative consultation with 60 UK stakeholders for co-occurring disorders, where they observe that "*effective coordinated services require the input of a range of services funding by multiple budgets at different levels"*. However, several authors note that securing adequate staff resources can be hindered by a lack of adequate funding. The cyclical nature of government funding impacts on services ability, capacity to ensure continuity of services (context) and this lack of security can make them unwilling to make organisational changes (mechanism – response) (Anastas et al, 2019; Chandler et al, 2009, Brunette et al, 2008; Groekjaer et al, 2017). As Brunette et al (2008) observe, integrated care for co-occurring disorders is unlikely to be successful if "*the agency takes on these projects without allocating the internal resources to make them succeed"* (context).

The importance of commissioners who are committed to both co-occurring disorders and identifying the policy and resources needed for joint working (context) is highlighted by the experiences of Jerrell et al (2000) in implementation of DDDTP at multiple sites. They found that they experienced delays in the hiring process at site 2 due to *"a more generalised reluctance on the part of professional staff to be associated with an agency that was known for its leadership problems"* and *"inadequate revenues for hiring replacements"*. They suggest that these experiences should be instructive to other sites initiating integrated treatment for co-occurring disorders and observe that – "*first a joint decision needs to be made about how the program will be staffed, operated, and funded, especially where categorical funding streams are involved"* [context] and *"administrative support for the program must be explicit, aimed at carrying out the programme standards as agreed on at successful implementation and unencumbered by hidden agendas and manipulation"* [context] to ensure "*the staff of participating agencies are adequately trained for or committed to an integration effort"* [mechanism – resource]

Mechanism – resource

As highlighted in the context section above, collaboration amongst leaders providing services to individuals with co-occurring disorders [context] can lead to joint administrative and policy decisions that to ensure staff with the requisite skills, knowledge and values for treating those with co-occurring

disorders are recruited and retained into services through appropriate selection, supervision and professional development [mechanism – resource]. Minyard et al (2019) in their rapid realist review similarly identified that integration requires a combination of financial resources (for example training, hiring staff or ensuring reimbursement allowances) and "*an empowering collaborative climate"* which is enabled by a combination of organisational policy, regulations, incentives, staffing and staff mentorship and supervision. The quote below, from Page's (2011) qualitative consultation with 60 stakeholders involved in UK service provision for co-occurring disorders highlights how collaborative leadership (context) who have committed to integration through flexible, strategic responses (mechanism – resource) ensure staff feel supported and willing to "*go the extra mile"* for their clients (mechanism response).

"These teams are supported by flexible responses and strategic commitment from all relevant local agencies, ensuring that they all 'go the extra mile' for this group. But, as these areas will testify, offering coordinated services is not easy. Too often, supporting people with multiple needs means swimming against the tide of policy and battling for political and strategic engagement…Effective coordinated services require the input of a range of services funded by multiple budgets held at different levels. (Page, 2011)

However, the quote above from Page et al (2011) also highlights that joint working and policy decisions (mechanism – resource) can be challenging and require long term commitment and action to ensure the recruitment and a retention of a skilled workforce (mechanism – resource). As Solomon et al (2002) observe "*…with any change, individual or institutional, there is always a tendency to pull back to an earlier phase. Keeping an effective level of integration requires skilled continuity"* (context). The evidence suggests this can be addressed with a combination of policies and financial resources to ensure, firstly, that roles are well defined leading to the recruitment of staff with the requisite skills, knowledge and values (mechanism – resource). Secondly, there also needs to be financial resources and policy supporting appropriate professional development and supervision for these staff to ensure they are retained (mechanism – resource). When establishing a dual diagnosis service in Westminster, Trippier et al (2008) found that recruitment to dual diagnosis worker posts was difficult when the advertised roles were poorly described in terms of required skills and knowledge and were only funded on a temporary basis. However, when they created a virtual team to support these staff members and practical training to allow career progression (mechanism – resource), retention of staff was improved (mechanism – response).

Boyle et al (2007) in their experience of implementing IDDT in Ohio, emphasised this combination of appropriate hiring practices and ongoing supervision and support for staff (mechanism – resource). When they began implementation there had been no previously standardised hiring processes and staff credentials, knowledge and experience varied widely. However, they found that "*team members' lack of credentials and skills appear to have been ameliorated by intelligence, enthusiasm and strong supervision*" (mechanism - resource). However, they do also caution that "*excellent training and supervision can offset deficits in the staff selection process but may be costly*" highlighting the need to also have effective hiring policies. As they observe, "*staff selection has been observed to be functionally intertwined with supervision and training."* (mechanism – resource). Brunette et al (2007) highlight the influence of joint leadership (context) on staff recruitment and retention (mechanism – resource), with the most successful agencies in Ohio implanting two leaders – one with administrative skills and one with advanced clinical expertise to share these tasks (context).

The quotes below from studies by Solomon et al (2002) and Boyle et al (2007) found that when leaders were committed (context) to sustained financial and policy changes to support staff recruitment and retention (mechanism – resource) staff felt more legitimised and empowered in their roles and thus more likely to continue to develop their skills and engage in the process of integration (mechanism response).

"Practitioners who have had previous exposure to innovation seem to find it easier to adopt subsequent change. Overall, practitioners tend to become more enthusiastic about a new practice when they begin to see results. Once they are "sold," they feel empowered and are more likely to continue to develop their skills." Boyle et al, 2007

However, the more evolved staff members may play an important role in reinitiating the process of integration since it should be clear that the change has had a positive impact on patient care (Solomon et al, 2002)

Mechanism – response

The narrative so far suggests financial resources and organisational workforce policies to ensure staff with the requisite skills, knowledge and values for treating those with co-occurring disorders are recruited and retained into services through appropriate selection, supervision and professional development (mechanism – resource) will ensure that skilled staff feel encouraged, secure and legitimised in their posts (mechanism - response). Edwards et al (2011) in their study of link workers for dual diagnosis found that when roles were poorly lineated and supervisory support systems were not in place (mechanism – resource), staff enthusiasm, motivation and morale in could diminish due to resource pressures, role isolation and peer resistance (mechanism – response). Similarly, one agency in Anastas et al's (2019) study of implementing integrated health homes found poor staff retention because staff struggled to understand role in integration (mechanism – response) due to poorly defined job roles and responsibilities (mechanism – resource). In contrast, agencies who used flexible hiring processes to appoint well-prepared providers (mechanism – resource) found these staff were more motivated and "*really passionate for this type of population"* (mechanism – response). This aligns well with the quotes from Boyle et al (2007) and Solomon et al (2002) which suggest that staff with greater experience of integrated care (either when hired or through professional development and supervision) (mechanism – resource) were more enthusiastic and empowered to engage with integration for co-occurring disorders because they had seen the positive effects on clients for themselves (mechanism – response). Groenkjaer et al's (2017) qualitative study with staff also found that feelings of job security could also impact upon staff engagement with integrated care, with staff reporting that the stability and quality of their work (mechanism – response) declined when refunding periods approached (mechanism – resource) due to "*competition between services and workers alike, resulting in them withholding information and knowledge because of the risk of losing their positions"* (context).

Tripper et al (2008) suggest that retaining skilled staff (mechanism – resource) who are encouraged and legitimised to integrated care for co-occurring disorders (mechanism – response) will lead to improvements at a service level. As they report, if staff feel encouraged to stay in their posts (mechanism – resource) then services will have a "*critical mass of appropriately qualified staff"* who feel qualified and capable to deal with the variety and magnitude of problems encountered by those with co-occurring disorders (mechanism – response). This was confirmed by Sorsa et al's (2017) qualitative study of staff in mental health and substance use services who felt understaffing and a lack of resources (mechanism – resource) made it difficult for them to cope with the magnitude of problems encountered by those with

co-occurring disorders (mechanism – response). As a result they felt individuals with co-occurring disorders may drop out of care because services are not supportive enough (outcome).

Outcomes

As highlighted above, recruiting and retaining a critical mass of appropriately skilled staff (mechanism – resource) mean staff are better legitimised, secure and encouraged in their roles (mechanism – response) making them better equipped to focus on co-occurring disorders (Trippier et al, 2008; Boyle et al, 2007; Sorsa et al, 2017). The literature suggests that this critical mass of staff will lead to more effective, better quality and undisrupted therapeutic relationships with clients. Novotna et al (2014) highlight how retaining skilled clinicians (mechanism – resource) who feel secure and encouraged to provide long term and comprehensive support to clients (mechanism – response) is vital in developing good interpersonal relationships between the staff member and their client which has been shown to increase client engagement with services (outcome). As illustrated in the quote below from a programme manager in their qualitative study of co-occurring disorder treatment in Ontario, Canada, this results from clients feeling a strong sense of trust and connection with the health professional (outcome). This is confirmed by providers in Kirst et al's (2017) qualitative study who reported that when their programmes were under-resourced they felt less able to develop good quality relationships and subsequently care: *"…to be like completely at capacity…and that does not foster a great working relationship at all*".

The therapeutic relationship is much more important than any method that you work in. And, so these common factors that actually make people think and having a good [relationship] ... like, 'these are good people. I trust them, they understand me… I feel a strong connection to them'. (Novotna et al, 2014)

Summary Table

PT 1: first contact and assessment	If staff across all first-contact services for clients with co-occurring mental health and substance use issue have clear awareness that these clients are the expectation and their responsibility to assess and refer these clients into suitable treatment (context), then individuals will have a more satisfying and structured first contact with services (mechanism- resource). Individuals with co-occurring disorders will have less difficulties in entering appropriate services thus leading to increased optimism, confidence and willingness to engage in treatment (mechanism – response). This will lead to earlier identification of co-occurring mental health and substance use disorders and more appropriate referrals and service access for clients, resulting in longer retention, reduced access at times of crisis (proximal outcomes) and more opportunity to progress towards recovery and stable lives (distal outcome).
PT 2: staff attitudes	Successful collaboration between mental health and substance use services requires non-judgemental staff

	attitudes towards clients with co-occurring disorders and a desire to reconcile political, structural and philosophical differences between services (Context). A team wide response to training is needed to address staff beliefs and attitudes supported by clear policies and procedures to shift service philosophy (mechanism – resource). A team based training approach leads to increased feelings of ownership and involvement among staff who will become less sceptical and more invested as they see clients with co-occurring disorders responding positively to interventions (mechanism – response). This will result in enhanced staff empathy and better therapeutic relationships with clients which are more likely to be transferred across the organisation (outcomes).
PT 3: encouraging collaborative case management	Collaborative case management between services for individuals with co-occurring disorders requires both formal coordination (top-down processes and network models) and informal collaboration (willingness to work together) (context). Clear, non-conflicting care coordination protocols and referral pathways with time for collaboration built into staff schedules (mechanism –resource) will help staff feel more supported in their roles and gives them permission to build trusting relationships with other service providers while taking a pre-emptive, preventative and whole person approach to clients (mechanism – response). This will lead to an improved organisational system for clients with co-occurring disorders with improved consistency of care and a more client focused approach across the continuum of care (outcomes)
PT 4: continuous exposure from undergraduate level	Staff are often ill-prepared to treat clients with co-occurring disorders due to a lack of teaching on addictions as part of the bio-psycho-social model and supervised exposure on undergraduate/postgraduate curricula. Even where staff have been trained in particular skills (e.g. motivational interviewing), they do not always make use of these skills in practice (context). An immersion model of training should begin at undergraduate clinical rotation and be maintained through core competencies for professional development and progression (mechanism - resource). This continuous supervision of practice will align educational targets to real-time problems, foster communication between health professionals and allow staff to learn from practice and experience (mechanism - response). This emphasis on professional growth in practice will increase staff retention, decrease burnout and improve empathy for the daily experiences of clients (outcomes).

PT 5: continuous workforce development	If service leaders appreciate the need continuous and comprehensive workforce development (Context) by combining didactic training to address knowledge and experiential training to practise skills (mechanism - resource) then staff will internalize compassionate, integrated values, skills and confidence to assess and respond to the needs of individuals with co-occurring disorders (mechanism - response). This will lead to a better therapeutic relationship between service users and health professionals leading to improved engagement and motivation to change (outcome)
PT 6: opinion leaders	Dedicated, respected leaders with the authority to implement integrated treatment are needed at all levels of the organisation (from commissioning through to team leaders) to communicate a shared vision of co-occurring disorders, prioritise implementation and make and disseminate administrative and policy changes (CONTEXT). These leaders will sustain awareness and expectations surrounding co-occurring disorders (MECHANISM – RESOURCE) leading to an organisational climate where staff feel enthusiastic, motivated and supported to implement new practices in their work (MECHANISM – RESPONSE). As a result, individuals with co-occurring disorders can engage with consistent, appropriate support for their condition (OUTCOME)
PT 7: formalised networking opportunities	Formalised, structured and sustained opportunities for practitioners working with clients with co-occurring disorders to meet, communicate and build relationships and take action (e.g. through a network) (CONTEXT) will lead to increased awareness of other services' collective contributions, opportunities for peer support and a multidisciplinary ethos (MECHANISM – RESOURCE). This will increase staff motivation, confidence and commitment to work collaboratively when treating individuals with co-occurring disorders (MECHANISM – RESPONSE) leading to improved care coordination, better provision of stage appropriate interventions including more immediate referrals, assessments and care planning (intermediary OUTCOME). Coordinated and welcoming services will make patients with co-occurring disorders feel more comfortable and engage in a more sustained way (OUTCOME).
PT 8: coordinated care pathways	Committed and accountable leaders from NHS, Local Authorities and other partner organisations (CONTEXT) should support, design and consistently advance a collaborative co-ordinated care pathway which uses organisational policies, functional procedures and defined outcomes to allow mental health, substance use and other relevant service providers to

	support each other in providing care for individuals with co-occurring disorders (MECHANISM- RESOURCE). This coordinated pathway will lead to increased collaboration between providers through shared goals and formalised relationships to deliver care (MECHANISM – RESPONSE) giving staff a wider perspective on clients' situation as they journey through care and reassurance to collaboratively work with clients in new ways (INTERMEDIARY OUTCOME). Clients receiving the accessible, comprehensive, continuous and non-contradictory interventions and services coordinated through the care pathway will experience more consistent and appropriate goal setting from health professionals which will rouse and maintain their motivation to work towards their goals and remain engaged in treatment (PRIMARY OUTCOME)
PT 9: mental health led services	High prevalence of clients with co-occurring disorders within mental health services suggests their needs should be addressed in a mental health service setting with additional joint working from other services as needed (CONTEXT). Having mental health clinicians responsible for clients care plan (MECHANISM – RESOURCE) means clinicians will increase their skills and competencies in using empirically supported treatment with measurable outcomes for co-occurring disorders. (MECHANISM – RESPONSE). By addressing the relationship between substance use and mental health simultaneously, clients will experience a more consistent and flexible approach to symptom reduction with tailored, non-conflicting goals (OUTCOME)
PT 10: evaluation and quality improvement	Leadership across all involved services need to develop and establish accountability (CONTEXT) in order for meaningful evaluation and quality improvement measures to be put into place to evaluate the structure, process and outcomes of integration and training interventions on service delivery for co-occurring disorders (MECHANISM – RESOURCE). This will ensure that commissioners, service managers and practitioners feel the work they do is valued (MECHANISM - RESPONSE) and continue to make incremental progress in improving services by building on existing strengths and identifying priorities leading to better insights into the quality of care (OUTCOME)
PT 11: recruiting and retaining talented staff	Service commissioners from both mental health and substance use services need to work jointly (CONTEXT) to commit financial resources and organisational workforce policies (MECHANISM – RESOURCE 1) to ensure staff with the requisite skills, knowledge and values for treating those with co-occurring disorders are recruited and retained into services through appropriate selection, supervision and professional

	development (MECHANISM – RESOURCE 2). This will ensure that skilled staff feel encouraged, secure and legitimised in their posts (MECHANISM – RESPONSE) leading to more effective, better quality and undisrupted therapeutic relationships with clients (OUTCOME)

Discussion

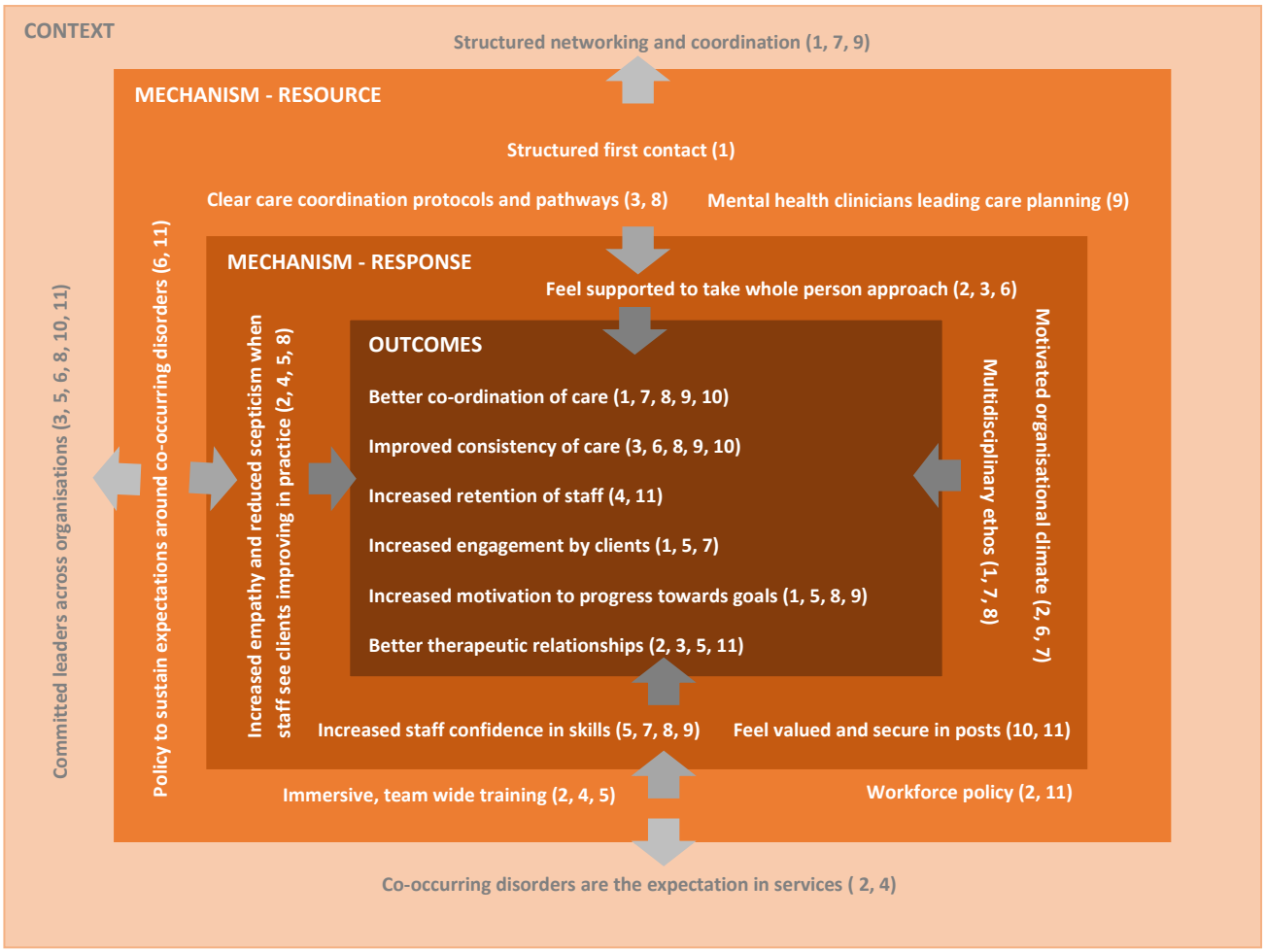
The eleven programme theories highlight the complexities of integrating care for co-occurring serious mental health and substance use across the current UK health system. As previously highlighted in the literature mapping review, much of the evidence on standardised models of treatment and care in this area come from the US, and while these models provide some very useful insights they are not directly transferrable to the UK setting. The programme theories developed therefore do not focus on a single model of service provision but rather on context, mechanisms and outcomes which are relevant across the range of services. This covers certain points along the care pathway for co-occurring disorders (as recommended by NICE, 2017 and PHE, 2016) such as assessment, care planning and case management and activities at the workforce and strategic level including training and workforce development, leadership, networking, quality improvement and staffing. As previously described in the theory section above, two theoretical frameworks were therefore applied to the programme theories. The SELFIE framework (Leijten et al, 2018) was used at a macro-level, to explain how the 11 programme theories come together to explain how organisational integration of care for co-occurring disorders in the UK works, for whom and in what circumstances. The 3Cs collaborative model (Fuchs et al, 2007) was used at a micro level to consider the individual programme theories and how they could work at a practice level.

Overall programme theory (meso level)

As Gittell and Weiss (2004) argue, coordination of healthcare often occurs within networks as organisations vertically disintegrate and outsource services that were once produced internally and so it is important to view coordination for multi-morbidities, such as co-occurring disorders, as both intra and inter-organisational. This was confirmed by the earlier mapping review and exercise which identified that much of the work on co-occurring disorders in the UK focused on the use of networks, consultancy teams and link workers to create these interagency connections. To reflect this, this discussion section will focus on bringing together the 11 individual programme theories into an overall programme theory, making use of the SELFIE framework to explain the integration of these programme theories.

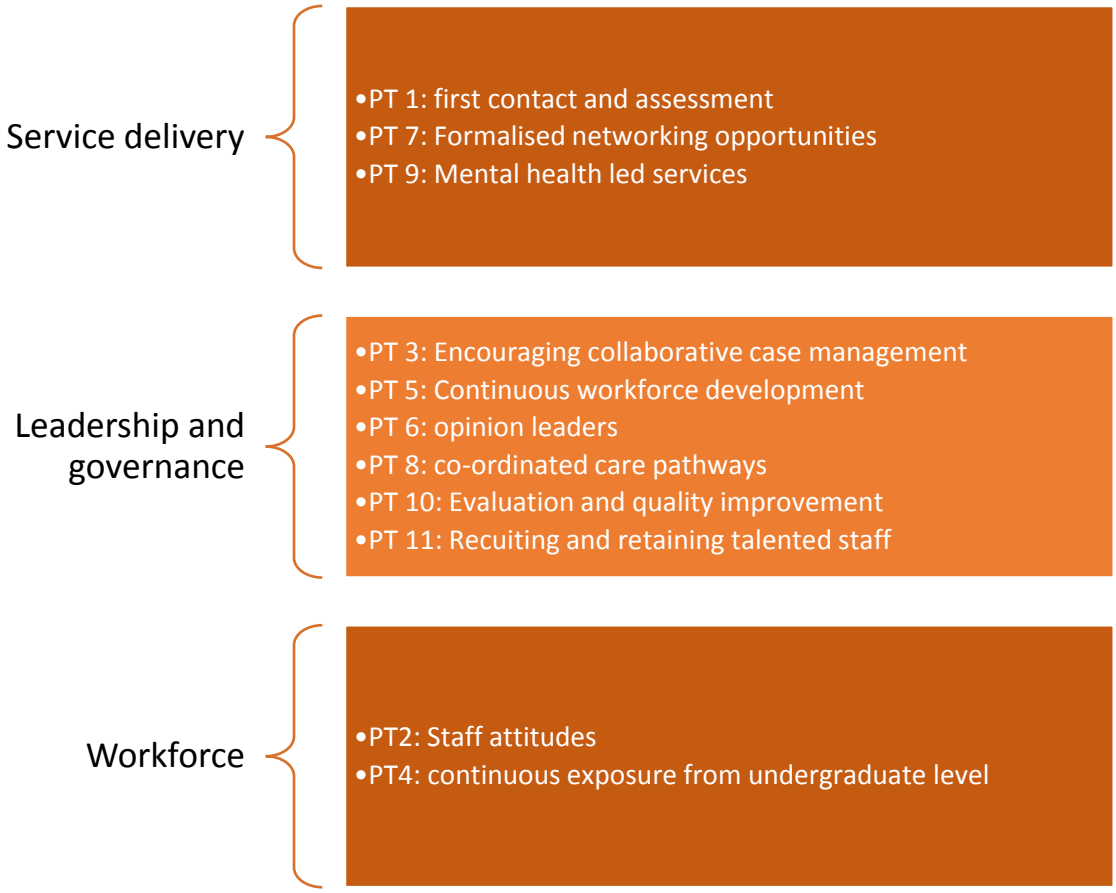
Figure x below has been used to combine the 11 programme theories for integrating care for co-occurring serious mental health and substance use. Context, mechanism (resource and response) and outcomes from each of the 11 programme theories have been group and numbered with the appropriate programme theory to give an overall programme theory of co-occurring disorders.

Figure x: The overall programme theory of integrated care for co-occurring disorders



Three broad contextual factors were identified across the 11 programme theories, these were committed leadership across organisations involved in providing care for co-occurring disorders, clear expectation across staff in services that they will encounter and are responsible for clients with co-occurring disorders and structured networking and coordination across organisations to assist in integrating care for individuals with co-occurring disorders. These contextual areas align well with the SELFIE framework developed by Leijten et al (2018) which was developed by a European consortium to contribute to the improvement of integrated, person-centred care for multimorbidity. The SELFIE framework groups concepts relating to integrated care for multimorbidity at the micro, meso and macro level, split across six components: service delivery, leadership and governance, workforce, financing, technologies and medical products. The three contextual areas identified in our overall programme theory align well with these first three domains 1) service development (structured networking and co-ordination) 2) leadership and governance (committed leadership across organisations 3) workforce (co-occurring disorders are the expectation in services. The 11 programme theories have been mapped to these concepts below (figure x) which are used as subheadings to structure the discussion.

Figure x: Programme theories mapped to SELFIE framework concepts



Service delivery

As the meso-level, Leijten et al (2018)2004 highlight how organisational and structural integration can facilitate and sustain integrated care delivery and this is particularly relevant in care for multimorbidity such as co-occurring disorders where integration is required across health and social care sectors. The programme theories were concerned with three structural and organisational aspects of service delivery: 1) ensuring a structured and satisfying first contact with services (PT 1), 2) formalised networking opportunities for staff across services to meet, communicate, build relationships and take action (PT 7) and 3) mental health clinicians taking the lead in care planning for co-occurring disorders (PT 9).

Leijten et al, (2018) emphasise that service delivery requires organisational transparency, ongoing communication to ensure integrated care have been highlighted and service to be "structured for flexibility" (meaning systems expect the unexpected) in order to personalise care. In PT 1, staff awareness that co-occurring disorders are the expectation and their responsibility (context) is seen as a necessary context to ensure a satisfying first contact with services (mechanism – resource). In PT 7, providing staff with the formal opportunity to meet, communicate and build relationships (context) will lead to networks which allow staff to work collaboratively for co-occurring disorders (mechanism – resource). In PT 9, awareness among mental health staff of their responsibility towards the high prevalence of co-occurring disorders (context) is needed for mental health clinicians to lead care planning for these clients (mechanism – resource) (PT 9). Across these three programme theories, implementing structured service delivery resources (assessment, networks and care planning) were seen to increase the multidisciplinary ethos, motivation and confidence of staff in services providing integrated care to clients with co-occurring disorders (mechanism – response).

The outcomes associated with all three of these programme theories were related to improved coordination of care, leading to clients with co-occurring disorders receiving more consistent, non-contradictory care. As a result, the synthesis suggested clients would be more likely to remain engaged in care and be motivated to work towards their individual goals. The outcomes from the synthesis align well with the micro-level concepts of the SELFIE framework for service delivery. The framework demonstrates that integration at the micro-level requires service delivery to be person-centred, tailored and flexible to the situation of the individual with multi-morbidities. Initial proactive care (e.g. at assessment PT1) and promotion of self-management (PT7 and PT9) provide the means for individuals with multi-morbidities to become more pro-active, motivated and remain autonomous (Leijten et al, 2018)

Leijten et al (2018) also highlight that macro level policies such as close links with national government, market regulation and policies to ensure the availability of resources also impact upon integrated service delivery, but these were beyond the scope of this realist synthesis.

Leadership and Governance

The SELFIE framework proposes that supportive leadership can stimulate successful integration of care for multi-morbidities. These supportive leaders must have clear accountability for integrating care, promote shared visions, ambitions and values in relation to treating co-morbidities and use performance based management (Leijten et al, 2018). Six of the programme theories developed from the synthesis demonstrated that supportive leadership was an important context for integrating care for co-occurring disorders (PTs 3, 5, 6, 8, 10, 11). Cumulatively, these programme theories highlighted that integration for co-occurring disorders required leaders who: were committed, accountable and had the authority to implement integrated care (PTs 6, 10), communicated a shared vision for co-occurring disorders (PT 6), were willing to develop and put formal policies, procedures and pathways in place for integrating care (PTs 3, 6, 8), appreciated the need for continuous workforce development (PTs 5,11) and were committed to work jointly across organisations (3, 8, 10, 11). The synthesis suggests that this leadership context could impact on the successful implementation of (mechanism – resource): collaborative case management (PT 3), continuous workforce development (PT 5), sustaining awareness and expectations around co-occurring disorders (PT 6), coordinated care pathways (PT 8), evaluation and quality improvement (PT 10) and recruiting and retaining a skilled workforce (PT 11).

Across these leadership focused programme theories, the realist synthesis identified that supportive leadership (context) who took action to develop the listed policies, processes and procedures (mechanism- resources) would lead to staff (mechanism – response): feeling supported to take a whole person approach (PTs 3, 6), having increased empathy and reduced scepticism when seeing interventions work in practice, increased confidence in their skills related to treating co-occurring disorders (PTs 5, 8), feeling valued and secure in their roles (PTs 10, 11), and a multidisciplinary ethos (PT 5). These responses are confirmed by the SELFIE framework which highlights that in order for organisations and professionals to successfully collaborate they require belief and willingness in the collaboration, trust in one another and mutual respect (Leijten et al, 2018).

The outcomes most commonly associated with the leadership and governance related programme theories were improved co-ordination and more consistent care, leading to better engagement and motivation to work towards goals from clients. The realist synthesis also suggested that collaborative case management (PT 3), continuous workforce development (PT 5) and recruitment and retention of skilled staff (PT 11) would lead to improved therapeutic relationships between clients. Retention of skilled staff was also identified as an outcome following the development of workforce policies (PT 11).

These outcomes are confirmed by the SELFIE framework, where shared-decision making is key at the micro-level of leadership and governance to ensure integration of care for comorbidities. Shared decision is identified as facilitating individualised care planning and coordination tailored to the individuals' complex needs (Leijten et al, 2018). This is reflected in the focus on developing good therapeutic relationships and increasing client motivation to work towards their goals identified in the synthesis.

The SELFIE framework also identifies that integrated care for multi-morbidities are impacted at the macro level by wider political commitment and governance from the wider regional and national system (Leijten et al, 2018). These wider political impacts were beyond the scope of the realist synthesis but are important to acknowledge. Coordination within organisations can be undermined by changes in the external environment such as funding, contracting, technology, legislation and clinical guidelines and the impact of the external environment is often neglected in implementation theories (Birken et al, 2017). The subsequent qualitative stage of the realist evaluation will therefore aim to explore these macro level impacts on leadership from a stakeholder perspective.

Workforce

The SELFIE framework identifies continuous professional education and development as an important aspect of integrated care for multi-morbidity including new professional roles and continuous professional development (Gittell and Weiss, 2004). The two workforce related programme theories identify awareness that co-occurring disorders are the expectation in their services is the needed context to implement training to address staff attitudes (PT 2) and ensure continuous exposure and supervised practice with clients with co-occurring disorders from undergraduate level through to professional development (PT 4). The realist synthesis highlights that when staff receive training through these team-based and immersive approaches they are learning through practice. This increases their empathy for clients, their belief that the newly learned techniques will work by observing them working in practice and feel supported to take a more pre-emptive and full-person centred approach to their clients.

The realist synthesis suggested that addressing staff attitudes and values could lead to increased empathy towards the experiences of clients with co-occurring disorders (PT 4) and improved therapeutic relationships (PT 2) as staff become more aware (PT 2) and work with these clients through supervised practice (PT 4). The SELFIC framework confirms that integrating care for multi-morbidities calls for multidisciplinary work across health and social care organisations (Gittell and Weiss, 2004) which is reflected in the programme theories which focus on first contact services (PT 2) and undergraduate education (PT 4). The SELFIE framework also identify that teams need to be tailored to the target population and context, may take time to achieve effective team-working and require good communication. They emphasise the need for a core group of professionals and named coordinator (drawing on wider networks only when necessary) to ensure the individual with multi-morbidities is not overwhelmed or discouraged from taking an active role in their care (Leijten et al, 2018). This was also found in the workforce programme theories which emphasised a team based approach to training (PT 2) and learning through supervised practice (PT 4). As with Leitjen et al (2018) the realist synthesis found that professional networks were important but in the context of service delivery rather than workforce development (PT 7).

At the macro level, the SELFIE framework highlights how demographic changes (e.g. aging population) will affect the sustainability of the workforce and the increased demand on care for multi-morbidities. They highlight the importance of educational and workforce planning including increasing competencies on curriculums, enrolling sufficient students onto these courses and creating new professional roles. This

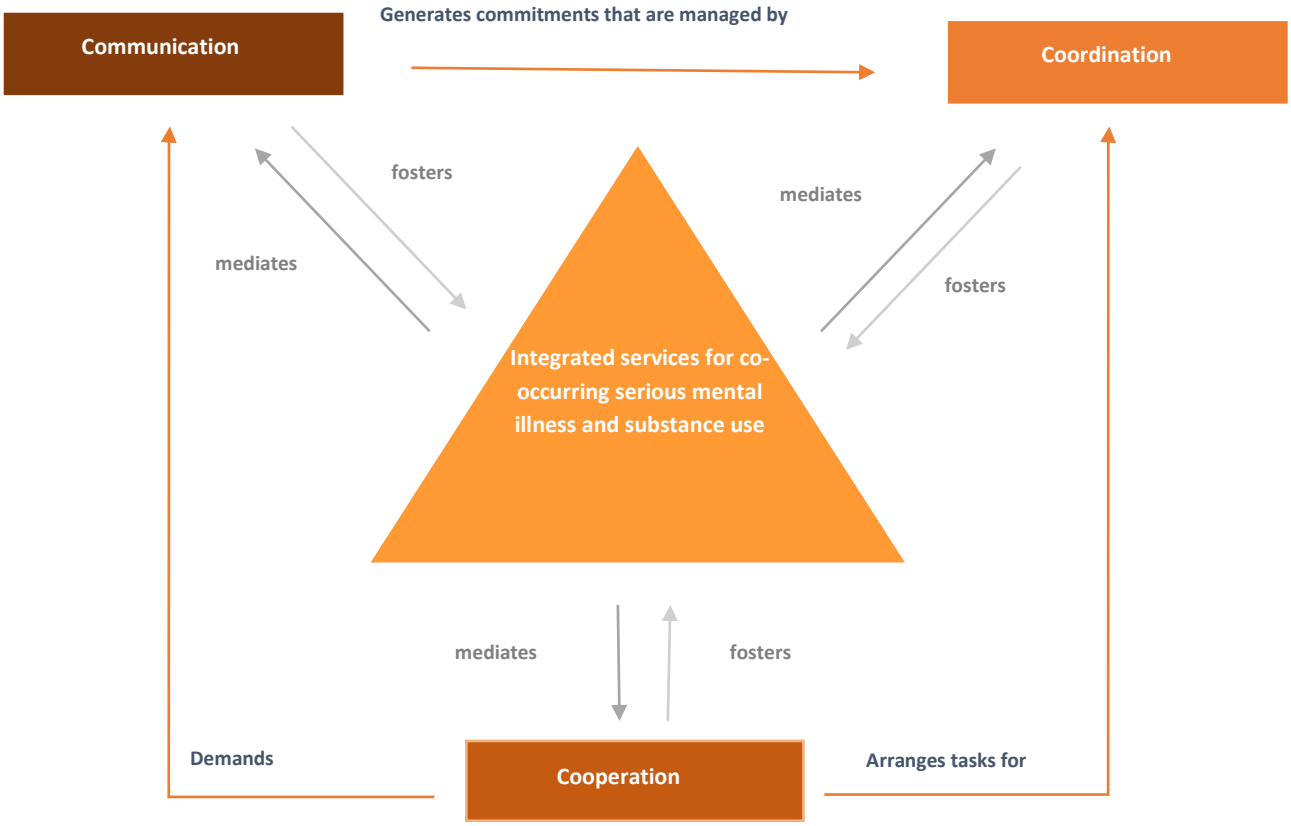
is reflected in PT4 which suggests the need for training on the biopsychosocial model of addictions and supervised practice with individuals with co-occurring disorders from undergraduate level onwards (PT 4).

Individual programme theories in practice (micro level)

As previously discussed, integrating care for co-occurring disorders in the UK is a complex task of organisational change (Greenhalgh et al, 2009; Shearn et al, 2017) which cannot be limited to a single model or intervention. As an overall programme theory it is best described at the meso-level. As identified in figure x above, the individual programme theories were often interlinked in terms of both their context and outcomes. However, the 11 programme theories also describe a range of separate resources to be implemented and sustained by health professionals at the service or organisational level including: structured first contact and assessment (PT 1), Immersive team-wide training (PTs 2, 4,5), clear care coordination protocols and pathways (PTs 3, 8), workforce policy (PTs 2, 11), policy to sustain awareness around co-occurring disorders (PTs 6, 11), mental health clinician led care planning (PT 9) and evaluation and quality improvement measures (PT 10). It was therefore felt useful to identify a theoretical framework which could be applied to the programme theories at a micro level in order to better understand how they might work in practice.

At a micro level, the resources described in the 11 programme theories were identified as consisting of three broad domains: communication between organisations, coordination of care for co-occurring disorders and cooperation between healthcare professionals working with these clients. The 3Cs Model of Collaboration (Fuchs et al, 2007) has its origins in software design and illustrates the relationship between these three "Cs" of communication, cooperation and coordination as demonstrated in figure x below. Importantly, Fuchs et al (2007) highlight that each "C" should not be considered a separate entity, rather the cyclical nature of the model highlights the constant interplay between them. These three concepts are frequently used in the health implementation literature and have been briefly defined from this context in the boxes below figure x. The relevance of these concepts to a healthcare setting is confirmed by Gittell (2002) who describe key aspects of relational coordination between health professionals and organisations as communication, shared goals and knowledge (coordination) and mutual respect and helpfulness (cooperation).

Figure x: The 3Cs collaborative model



Communication: Communication in healthcare is recognised as both a transactional process (information exchange) and a transformational process (responsible for causing change. Manojlovich et al (2015) define it as the process of developing a shared understanding by establishing, testing and maintaining relationships between communicators. Key to this is briding consensus between discipline specific paradigms and knowledge (for example mental health and substance use) to build the knowledge required to implement healthcare. Jacobi (2011) highlights four elements of communication that can contribute to successful implementation. Communication is 1) relational 2) multi-layered (with layers that compliment and contradict) 3) a continuous process of re-contextualising implicit and explicit values 4) more than language and face to face

Coordination: Coordination is the top-down steering that takes place in hierarchical organisations and describes the process by which different parts of a health service are inter-related, prioritised and adapted to each other. In other words, coordination arranges who is to cooperate, how they will cooperate and how this cooperation will be organised (Bjorkquist et al, 2018b). Coordination happens at the clinical, professional, organisational level (Valentijin et al, 2013). Torrey et al (2012) identify several key coordination processes which are common across the implementation literature, namely: practice prioritisation, leadership, workforce development, restructuring the workforce and reinforcing practice.

Cooperation: Cooperation indicates a willingness to collaborate between health professionals and may occur within the context of service delivery but also within professional networks (Bjorkquist et al, 2018b). Cooperation is the process by which interdependent professionals structure collective action towards patients' care needs (San Martin-Rodriquez et al, 2009) and can be described in terms of structures, processes, roles and relationships (Bjorkquist et al, 2018b).

The cyclical nature of the 3Cs model is also particularly relevant to our realist synthesis on service integration for co-occurring disorders. Firstly, the treatment of individuals with co-occurring disorders can often be a cyclical process depending on their needs. While our programme theories describe the development of a care pathway and focus on different points along this pathway (from assessment at first contact to quality improvement measures), individuals with co-occurring disorders due to the clinical and environmental complexities they experience in their everyday life will rarely progress along such pathways in a linear fashion. Their experience of services is often cyclical, requiring different types and levels of support at different times. Secondly, each of our programme theories involve each aspect of the 3Cs model (communication, cooperation and coordination) to varying degrees. The programme theories may begin at different points in this cycle and give different weighting to one aspect of the model.

Table x below presents each of the programme theories in relation to this communication, coodination, cooperation cycle. This was felt to be a useful way to conceptualise how these theories operate at a micro-level because it highlights how actions can be taken sequentially in practice to implement and achieve the context, mechanism (resource & response) and outcomes associated with each programme theory.

Table x: Programme theories mapped to the 3Cs Collaboration Framework

PT 1	Communication **Awareness co-occurring disorder clients are the expectation**	**Coordination** **Structured first contact with services**	Cooperation **Earlier identification and more appropriate referrals**
PT 2	**Coordination** Team based approach to training supported by clear policy	**Cooperation** Staff ownership and investment as they see the interventions working in practice	**Communication** Better therapeutic relationships and empathy which are transferred across the organisation
PT 3	**Communication** Leaders develop policy and build time for collaboration into staff schedules	**Coordination** Coordinated care protocols and clear referral pathways	**Cooperation** Staff given permission to take a more client-focused approach across the continuum of care
PT 4	**Coordination** Immersion model of training with supervised practice from undergraduate level onwards	**Cooperation** Staff learn from practice, real time problems and each other	**Communication** Improved communication between staff and better therapeutic relationships with clients
PT 5	**Coordination** Comprehensive workforce development programme combining didactic and experiential training	**Cooperation** Staff internalise compassionate, integrated skills and values to respond to needs of clients with co-occurring disorders	**Communication** Improved therapeutic relationships between clients and staff
PT 6	**Coordination** Leaders prioritise, make and disseminate policy and administrative changes to achieve integrated treatment for co-occurring disorders	**Communication** Opinion leaders sustain awareness and expectations surrounding co-occurring disorders	**Cooperation** Organisational climate where staff feel enthusiastic, motivated and supported to implement new practices

PT 7	**Coordination** Formalised, structured opportunities for practitioners to meet as a network	**Communication** Increased awareness among network members of each other's' collective contributions, peer support and multidisciplinary ethos	**Cooperation** Increased staff motivation, confidence and commitment to work collaboratively when treating individuals with co-occurring disorders
PT 8	**Coordination** Leaders design and advance co-ordinated care pathway for co-occurring disorders	**Cooperation** Increased collaboration between providers through shared goals and formalised relationships to deliver care	**Communication** Staff reassured to work with clients in new ways with more appropriate and consistent goal setting
PT 9	**Coordination** Mental health clinicians are responsible for clients care plan	**Cooperation** Clinicians increase their skills and confidence in using empirically supported treatment	**Communication** Clients experience more consistent and flexible approach to symptom reduction with tailored, non-conflicting goals.
PT 10	**Communication** Leadership develop accountability for quality of co-occurring disorder care	**Coordination** Meaningful quality improvement measures to evaluation structure, process and outcomes of integrated care	**Cooperation** Staff feel the work they do is valued and make incremental progress by identifying priorities
PT 11	**Cooperation** Service commissioners from mental health and substance use agree to work jointly	**Coordination** Commit financial resources and workforce policies to ensure appropriately skilled staff are recruited and retained	**Communication** Staff feel encouraged, secure and legitimised in their posts leading to better therapeutic relationships with clients

As the table above demonstrates, each programme theory required communication, coordination and cooperation actions in order to implement it in practice. For the majority of programme theories (n=7, PTs 2, 4, 5, 6, 7, 8, 9), coordination was the starting point in the 3Cs cycle. This concurs with the overall programme theory, where supportive leadership was the predominant context required (n=6). Torrey et al (2002) highlight that strong leadership was an important aspect of coordination with actions such as redesigning the flow of work, creating policy, developing meeting structures and defining staff functions helping to build new practices into the fabric of staff's daily work. Initial coordination identified in the

programme theories included: training and workforce development (PTs 2, 4, 5) prioritise, make and disseminate policy changes to ensure co-occurring disorders are a priority (PT 6), create formalised networking opportunities for practitioners (PT 7) and develop coordination care pathways (PT 8) lead by mental health clinicians (PT 9).

Communication was more evenly distributed across table x, demonstrating that communication is a continuous contextual process with messages and relationships needing to be established, tested and maintained to achieve integration of care for co-occurring disorders (Jacobi, 2011, Majlokovich et al, 2015). As the realist synthesis highlights, mental health and substance use services often come from difference philosophical orientations including: harm reduction versus abstinence, use of pharmacotherapies, ontological understanding of health, understandings of causality for mental health and substance use issues, differing symptom classification frameworks and views on client autonomy (Canaway et al, 2010; Hodges et al, 2006; Hunter et al, 2005; Kola et al, 2010; Lawrence-Jones et al, 2010; Manley et al, 2010; Roberts et al, 2014; Sorsa et al, 2017; Sterling et al, 2011). Communication across the programme theories occurs at multiple levels – from leaders to staff within services and organisations (PTs 6, 10), between practitioners to establish collaborative working (PT 7) and between client and practitioner to establish good therapeutic relationships (PTs 2, 4, 5, 8, 9, 11).

Cooperation was also more evenly distributed across the table of programme theories and in most cases followed coordination. This highlights an important aspect of integration for co-occurring disorders which was highlighted in both the literature mapping review and the realist synthesis. Cooperation is often built on a voluntary basis and implies that health professionals must undertake some level of negotiation to move away from a competitive approach to a more collaborative one (Bjorkquist et al, 2018b). Many of the examples in the UK and international literature on integration for co-occurring disorders relied on cooperation through approaches such as networks, huddles and shared meetings where staff are required to voluntarily access training and act as champions for co-occurring disorders in their organisations. However, as the realist synthesis identifies, successful collaboration often requires formal coordination of policies, processes and procedures to be successful. This agrees with San Martin-Rodriguez et al (2009) who identify that successful collaboration is dependent on interactional, organisational and systemic factors.

Overall, the 3Cs model when applied to the programme theories highlights that implementing these programme theories in practice requires all three components: active and sustained communication built on a sense of responsibility towards clients with co-occurring disorders; formal coordination led by strong leadership to establish policies, procedures and pathways for co-occurring disorders, and willing collaboration at all levels of organisations providing care to build the relationships needed for integration of care.

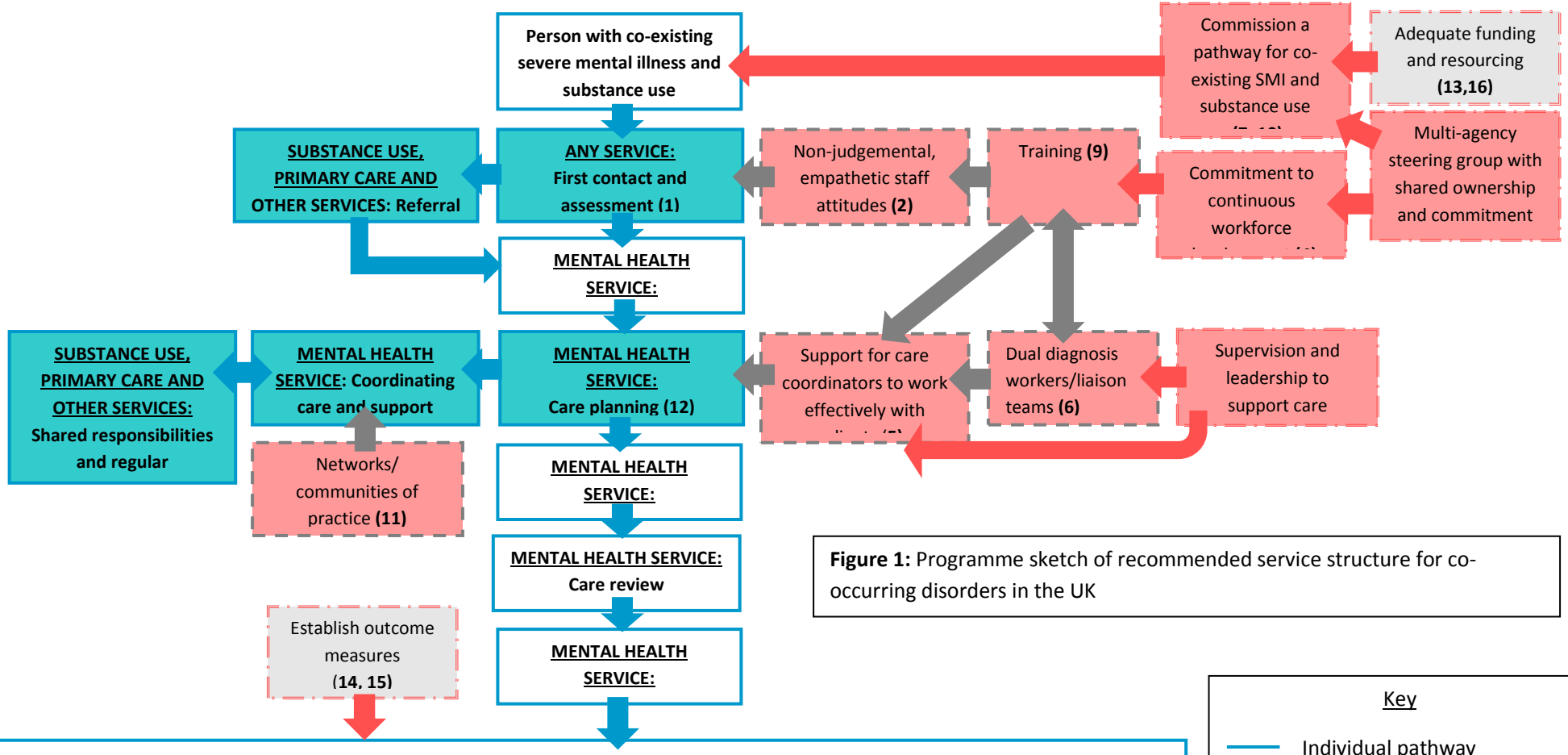


Figure 1: Programme sketch of recommended service structure for co-occurring disorders in the UK

OUTCOMES FOR INDIVIDUALS:

- Improved access to timely diagnosis, care and treatment,
- Reduced waiting times
- Reduced stigma
- Improved uptake of services
- Good relationship and trust with provider leading to increased willingness to engage, remain involved and adhere to care plan and respond to care,
- Treatment adherence and reduced impact of side effects
- Reduced inappropriate discharge
- Increased access to wider health and social care services
- Reduced hospital admissions,
- Improved mental health outcomes,
- Facilitation of recovery,
- Reduced alcohol use,
- Improved substance use outcomes,

Table x: Candidate Programme Theories

Programme Theory	CONTEXT	MECHANISM		OUTCOME (SERVICE LEVEL)	OUTCOME SERVICE USER (SHORT TERM)	OUTCOME SERVICE USER (LONG TERM)
		Resource	Reasoning			
Sense-Making						
If we train staff across point of access services to recognise that all health professionals who encounter COSMHAD clients are accountable and responsible for ensuring they receive appropriate care, then	All point of access services – individuals with COSMHAD may initially access any number of services	Awareness training for all staff assessing COSMHAD clients in these services	Staff trained will recognise that all health professionals who encounter COSMHAD clients are	Increased accountability and responsibility for COSMHAD clients among staff	Increased and improved access to substance use and mental health treatment	*Compliance with treatment* *Improved mental health symptoms (symptoms, severity)*

access to mental health and substance use services will be increased and exclusion of clients due to crisis or substance use reduced. (1)	seeking care.		accountable and responsible for ensuring they receive appropriate care	Increased motivation and commitment to work with individuals with co-occurring disorders Increased attempts to engage clients Reduced exclusion	Reduced exclusion of clients due to crisis or substance use	*Reduced substance use (amount, frequency)*
If we develop workplace policy and training in mental health and substance use services to challenge stigma and promote empathetic and non-judgemental attitudes towards individuals with COSMHAD, then staff will address their own biases and challenge discriminatory behaviour. This means service users will feel that the complexity of their disorder is acknowledged, and accepted by services, leading to increased access to services.	Mental health and substance use services where programme philosophies, attitudes and experience of working with mental health and substance use differ	Workplace policy and training to challenge stigma and promote empathetic and non-judgemental attitudes towards individuals with COSMHAD	Staff will become more aware of their own and colleagues' biases and recognise a workplace commitment to challenge discriminatory behaviour	Reduced stigmatising attitudes and increased empathy among staff Increased commitment and motivation to work with co-occurring disorders	Feel the complexity of their disorder is recognised Feel accepted by services Increased engagement with services	*Increased satisfaction with treatment* *Increased compliance with treatment* *Self-efficacy and motivation to change* *Positive changes in recovery orientated outcomes*

(2)						
If we incorporate the biopsychosocial approach, understanding of integrated approaches for COSMHAD clients, and exposure to individuals with COSMHAD into training for mental health and substance use from undergraduate/pre-registration level onwards, then staff will feel more confident and skilled to deal with the complexities faced by these clients leading to appropriate use of therapies and behaviour change strategies. (4)	Individuals undertaking qualifications and training to work in mental health and substance use services from undergraduate/pre-registration level onwards	Teaching on the biopsychosocial approach, integrated approaches for COSMHAD clients including exposure to individuals with COSMHAD during	Increased awareness and exposure to these complexities leading to increased confidence	More confident and skilled to deal with the complexities faced by these clients Increased use of appropriate therapies and behaviour change strategies Increased staff competence and flexibility in using treatment strategies	Access to appropriate treatment and therapies Attendance and participation in treatment	*Increased compliance and completion of treatment* *Improved substance use and mental health outcomes (as above)* *Increased life satisfaction and quality of life* *Improvements in wider social functioning: e.g. employment, networks, housing*
If services have comprehensive workforce development (through universal and ongoing COSMHAD training, supervision, exposure to positive practice and lived experience) then staff will internalize compassionate, integrated values and skills to	Services providing care for COSMHAD clients	a comprehensive workforce development programme (including universal and ongoing COSMHAD training, supervision,	staff will internalize compassionate, integrated values and skills to assess and respond to the needs of individuals with COSMHAD	Better skilled staff to deal with needs of individuals with COSMHAD Better therapeutic relationships between health professionals and	Better therapeutic relationships between health professionals and service users Improved	*Improved substance use and mental health outcomes (as above)* *Increased life satisfaction and quality of life*

assess and respond to the needs of individuals with COSMHAD. This will lead to a better therapeutic relationship between service users and health professional and improved engagement. (5)		exposure to positive practice and lived experience)		service users	engagement with services Improved attendance and participation in treatment Increased completion of treatment Increased satisfaction with treatment	
Relational						
If senior service managers develop delivery and governance polices to consistently promote and allow time and space for interprofessional collaboration between mental health and substance use staff, then staff will feel supported to enter into interprofessional collaborations leading to	Policy development and implementation by senior managers in substance use and mental health	Delivery and governance policies which promote interprofessional collaboration	Allowing space and time for collaboration means mental health and substance use staff will feel supported to enter into collaborations	Shared case management which takes a holistic and individualised approach towards COSMHAD patients	Access to services which meet their needs and reduced exclusion Improved engagement	Increased retention into treatment and follow-up post-discharge

shared case management that takes a holistic and individualised approach towards COSMHAD patients. (3)					Improved attendance and participation in treatment	
Dedicated, respected COSMHAD strategic leadership is needed to drive forward the new/and modified practices. These opinion leaders will sustain awareness and increase adoption of new COSMHAD practices at all levels of the organisation; ensuring individuals with COSMHAD can access consistent support appropriate for the chronic nature of their condition. (6)	Opinion leaders at all levels of organisations implementing COSMHAD practices from senior and commissioning levels to respected managers and colleagues working within services.	Dedicated, resected COSMHAD strategic leadership and opinion leaders within services committed to COSMHAD practices	Drive forward new and modified practices in their organisations and sustain awareness of these practices	Increased and sustained awareness of new COSMHAD practices Increased adoption of COSMHAD practices across organisation Increased motivation and commitment to practices for individuals for co-occurring disorders	Increased access to appropriate support for their condition Increased retention and duration of treatment Increased attention and participation in treatment Increased compliance and completion of treatment	Increased self-efficacy for recovery and motivation to change Positive changes in recovery orientated behaviours
Creating formalised opportunities for practitioners	practitioners working with	Formalised opportunities for	will ensure all teams, services	Improved working relationships	Reduced exclusion	Increased self-efficacy for recovery and motivation to

working with COSMHAD clients across services to meet with each other (e.g. through a network) will ensure all teams, services and specialisms dealing with COSMHAD have good, familiar relationships and awareness of other services' collective contributions to practice. These improved relationships will lead to more effective referrals between services, reduce waiting times and allow services to collaboratively response to individual's complex needs in a trauma informed way. (7)	COSMHAD clients across different services	practitioners to meet each other (e.g. through a network)	and specialisms dealing with COSMHAD have good, familiar relationships and awareness of other services' collective contributions to practice.	between staff in services More effective referrals between services Reduced waiting times More collaborative and trauma informed response to clients complex needs	Increased access to multiple services and treatments Improved therapeutic relationships Increased retention and duration of treatment Increased compliance and completion of treatment	change *Improved substance use and mental health outcomes (as above)* *Increased life satisfaction and quality of life*
Operational						
Leaders from NHS and Local Authorities should collaboratively commission an agreed pathway of care for	Agreement and collaboration across NHS and Local Authorities and	Collaboratively commissioned pathway of care for integrated	Buy in across all key agencies	Increased understanding of the journey through care (at all	Increased and more open access to services	Increase self-efficacy for recovery and motivation to change

integrated COSMHAD services in consultation with all relevant third sector and partner agencies. This will ensure "buy in" and understanding of the journey through care across all key agencies (at commissioner, provider, staff and service user levels), meaning that people can access continuous, flexible and effective care that meets their needs from every access point. (8)	relevant third sector and partner agencies	COSMHAD services		levels)	Increased retention/more continuous care Better engagement due to flexible care	Positive changes in recovery orientated behaviours *Improved substance use and mental health outcomes (as above)* *Improved social and behavioural outcomes (as above)*
Care coordinators developing collaborative care plans for individuals with COSMHAD should be based in mental health services with joint working arrangements with substance use services. This is because mental health staff have the most relevant skills and are well linked to the wider NHS infrastructure thus ensuring that individuals with COSMHAD have access to the services and treatment they need for recovery. (9)	Care coordinators developing collaborative care plans for individuals with COSMHAD should be based in mental health services with joint working arrangements with substance use services	Collaborative care plans for individuals with COSMHAD	Mental health staff have the most relevant skills and well linked to wider NHS infrastructure	Clearer sense of responsibility for COSMAHD clients and staff recognition of the importance of collaboration across services in care planning	Increased access to services and treatment Improved therapeutic relationships Increased retention and duration of treatment Increased	*Improved substance use and mental health outcomes (as above)* *Improved social and behavioural outcomes (as above)*

					compliance and completion of treatment	
Appraisal						
Evaluation and quality improvement measures need to be put into place to evaluate the impact of integration and training interventions on COSMHAD delivery and capture learning across services. This will ensure that commissioners, service managers, practitioners and service users see the value of their work and continue to endorse and engage with these new practices. Formally, capturing learning will ensure this can be sustained even when there are changes in personnel or primary and secondary service structure so that individuals with COSMHAD aren't allowed to fall into the gaps between services. (10)	Collaboratively put into place by all services involved in the care plan for individuals with COSMHAD	Evaluation and quality improvement measures to evaluate the impact of integration and training interventions on COSMHAD delivery and capture learning across services	Commissioners, service managers and practitioners see the value of their work and continue to endorse and engage with these new practices	Increased and ongoing engagement with best practice Capture of learning on best practices Continuity of care during changes in personnel and service structure Improved quality of services	Increased retention and reduced exclusion	*Improved substance use and mental health outcomes (as above)* *Improved social and behavioural outcomes (as above)*
Service commissioners need to commit the financial	Service commissioners with	Financial resources to	Staff with the requisite	More confidently skilled workforce	Increased engagement	*Improved substance use and mental health outcomes (as*

resources to ensure that staff with the requisite COSMHAD skills, knowledge and values are recruited and retained into services. This will lead to a confident, skilled and empathetic workforce who feel valued for their skills and so will deliver better quality care. (11)	responsibility for substance use and mental health budget allocation across organisations	continue COSMHAD services past short term pilots	COSMHAD skills, knowledge and values are recruited and retained into services who feel valued for their skills	More emphatic and experienced workforce Increased quality of care	with services Improved retention and treatment duration Improved and sustained Therapeutic relationship Improved attendance and participation in treatment	*above)* *Improved social and behavioural outcomes (as above)*