1  **Achieving Integrated Treatment: A realist synthesis of service models and systems for**
2  **co-existing serious mental health and substance use conditions**

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18  **Abstract (195/200 words)**

19  Approximately 30-50% of people with serious mental illness have co-existing drug/alcohol problems
20  (COSMHAD), associated with adverse health/social care outcomes. UK guidelines advocate both co-occurring
21  needs being met within mental health services but uncertainty remains about how to operationalise this to
22  improve outcomes. Various unevaluated service configurations exist in the UK. A realist synthesis was
23  undertaken to identify, test and refine programme theories (PTs) explaining how context shapes the mechanisms
24  through which UK service models for COSMHAD work, for whom, and in what circumstances. Structured and
25  iterative realist searches of 7 databases identified 5,099 records.  A two-stage screening process identified 132
26  papers. Three broad contextual factors shaped COMSHAD services across 11 PTs: committed leadership; clear
27  expectations regarding COSMAHD from mental health and substance use workforces; and clear care
28  coordination processes. These contextual factors led to increased staff empathy, confidence, legitimisation and
29  multidisciplinary ethos which improved care coordination, and increased people with COSMHAD's motivations
30  to work towards their goals. Our synthesis highlights that integrating COSMHAD care is complex and both
31  individual and cultural behavioural shifts in leadership, workforce and service delivery is essential to ensure
32  people with COSMHAD receive compassionate, trauma informed care that meets their needs.

35  **Declaration:** We confirm this paper has not been submitted or previously published elsewhere
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39  **(4339/3500)**

40  # Introduction

41  Approximately 30%-50% of people with serious mental illness (SMI) have a co-existing alcohol/drug condition(1,
42  2). SMI includes conditions that affect daily functioning, quality of life and, require long term support from
43  services(3) such as schizophrenia, paranoid psychosis; schizoaffective disorders; bipolar affective disorders; and
44  long term and severe depression. Co-Occurring SMI and Alcohol/Drug use (COSMHAD) is associated with
45  adverse health/social consequences including: increased risk of suicide, self-harm(4), violence perpetration and
46  victimisation(5, 6); criminal justice system and forensic mental health contact(7), recidivism, crisis care(8);
47  overall service costs (9); co-morbid physical health problems(10), and homelessness(7).
48

49  The importance of integrating effective treatments for COSMHAD is internationally recognised(11) however
50  there remains a lack of consensus regarding the most appropriate treatment strategies and settings(12). As a
51  consequence, guidance in many countries has developed without supporting evidence or frameworks for
52  COSMHAD integration(13). COSMHAD treatment research comprises randomised control trials (RCTs) which
53  integrate psychosis and addiction treatment approaches (combining cognitive behavioural therapy, motivational
54  interviewing and relapse prevention)(14, 15); Integrated Treatment models(16), and workforce training
55  evaluation(17). However there remains a lack of high-quality evidence on how psychosocial services should be
56  best delivered to improve outcomes due to small sample sizes, high attrition rates, differing ways psychosocial
57  interventions are delivered and differences in outcome measures(18). Furthermore, the heterogeneous nature of
58  people with COSMHAD, exclusion of those who are currently mentally unwell from research and participation
59  barriers (such as childcare or homelessness) mean existing studies provide only partial evidence from a sub-
60  section of the population with COSMHAD.

61

62  In the UK, a policy of "mainstreaming"(19) (that people should have both their COSMHAD needs met
63  primarily within mental health services), has been advocated with the high prevalence of COSMHAD in these
64  services meaning it should be considered part of routine care(20, 21). Mainstreaming advocates the workforce
65  have the appropriate capabilities to offer treatment that addresses mental health and substance use
66  simultaneously and implementation requires support from local clinical leadership. Mainstreaming remains an
67  ambition of the recent mental health strategies (22-25) and drugs strategies(26-28) of all four devolved UK
68  nations.

69  Recent UK guidance recommends key agencies work together to develop care pathways that ensure people with
70  COSMHAD get the right help, in the right place, at the right time(29) with "no wrong door" for people to access
71  help. However implementing "mainstreaming" in UK mental health services has been variable and hindered by
72  factors including austerity, public spending reductions, competitive commissioning climates with community drug
73  and alcohol treatment provided outside of the National Health Service (NHS) and no ring-fenced budget for drug
74  and alcohol treatment(30). A variety of local models have evolved including senior leadership roles, link workers
75  and staff network models; which require considerable investment but remain unevaluated(31). Significant
76  uncertainty remains about how care should be delivered and under what contexts it works to meet the needs of
77  such a diverse group. A realist synthesis was undertaken to address this gap.

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79  Realist syntheses are a form of theory-based literature review pioneered by Pawson and Tilley(32) with reporting
80  standards developed under the RAMESES (Realist and Meta-Narrative Evidence Synthesis) project(33). Realist
81  approaches are theory driven and attend to the ways complex social interventions may have different effects for
82  different people, depending on the contexts they are introduced in. Realist reviews systematically and
83  transparently synthesise relevant literature to produce an explanatory framework of how programmes lead to their
84  outcomes using context-mechanism-outcome (CMO) configurations which are tested and refined as the synthesis
85  progresses. Data are relevant if they address the theory under test (relevance) and if the inference drawn has
86  sufficient weight to contribute to development, testing and refining of programme theories (PTs, rigour. The worth
87  of studies is thus established during the synthesis rather than through a pre-qualification exercise (34).

88  Services for people with COSMHAD typically require involvement of multiple agencies who deliver a
89  combination of interventions as part of an individual's treatment pathway. They are complex systems with
90  numerous compounding factors that can impact on outcomes including the severity of mental health or
91  drug/alcohol condition, individual characteristics, previous experience of health seeking and service factors.
92  Realist approaches offer the potential to describe why services for COSMHAD are successful or unsuccessful, in
93  complex social systems(32) through focusing on 'what works, for who, in which circumstances and why'.

94  The realist synthesis aim was to identify, test and refine PTs to explain how context shapes the mechanisms
95  through which UK service models for COSMHAD work, for whom and in what circumstances (PROSPERO
96  protocol CRD42020168667(35)).

## Methods

98  To develop initial programme theories (IPTs) to be tested and refined in the review, we began our realist
99  synthesis by triangulating findings from articles describing COSMHAD service provision in the UK, key UK
100 policy(20, 29) and a two-hour online workshop with clinicians, policy makers, managers and academic experts
101 (n=14). This produced a COSMHAD programme sketch and 16 potential programme theories in the form of
102 'if…then' statements.(36). The research team (n=9) worked to refine these 'if…then' statements into 11 Context

103 (C), Mechanism (M, including resource and reasoning) and Outcome (CMO) statements (referred to as IPTs) by
104 revisiting the key literature, policy and workshop transcript and engagement with formal theory. Mechanisms
105 are a combination of resources offered by the programme under study and the stakeholders reasoning in
106 response.(32) For the purpose of this review, we have disaggregated mechanisms into resource (the component
107 introduced in context) and reasoning as this can assist in with the identification of relevant contexts and
108 mechanisms and avoids conflating programme strategy (resource) with mechanism(37, 38).

*Search strategy and selection criteria*

110 Figure 1 details our approach to literature searching. Our search strategy combined terms from five categories 1)
111 SMI, 2) substance use, 3) co-occurrence, 4) service integration and 5) delivery of health services (see appendix
112 page 1). Seven health and social sciences databases (Medline, Cochrane Library, EMBASE, Web of Science all
113 databases, CINAHL, PsycInfo and HMIC) were searched up to 13th March 2020 (n=7640). We adopted an
114 iterative approach to searching through CLUSTER searching for sibling studies, citation tracking and
115 complementary theory searches as the review progressed(39) (n=368). After removal of duplicates, 5,099
116 manuscripts went through a two-stage screening process. Titles and abstracts were screened by two reviewers (JH,
117 TA) and included if they described services, treatment models or pathways (intervention) for adults (aged over 16
118 years) with SMI and problematic use of alcohol/drugs (population) in high income countries (context) published
119 in the English language. Due to the large number of papers identified and the contextual differences in specialist
120 services, we excluded studies delivered in specialist settings such as for veterans, prisoners, homeless populations,
121 and people living with HIV. Services providing care to these population within non-specialist mental health and
122 substance use services were still included in the review. Stage one selected 817 manuscripts which were
123 considered an "*initial sampling frame of papers*" (p.151) on service provision for COSMHAD(39).

124 The 817 full manuscripts were screened against the 11 initial programme theories (IPTs) (see panel) according to
125 their capacity to enable testing and refinement of the IPTs. Papers were selected when they 1) reported on
126 integration of services for COSMHAD 2) described features and functions of integrated service architecture
127 relevant to the IPT 3) provided causal insights into one or more IPT statements. All texts were screened by JH
128 with TA and LJ independently screening 10%. The three reviewers met regularly to discuss their decisions and
129 resolve disagreements. As a result, 132 manuscripts were included in the realist synthesis (summary table in
130 appendix page 4).

*Data analysis*

132 The final 132 manuscripts were mapped to the 11 IPT statements using a data extraction form, with some
133 aligning to multiple IPTs. The selected manuscripts were coded to each IPT using the linked memo function in
134 Nvivo (version 12) to create a transparent audit trail of data analysis decisions(40). We identified CMO
135 configurations directly from the literature as dyads (C-M/ M-O/ C-O) or triads (CMO)(41) following data
136 reduction processes described by Byng et al(42) (further detail included on appendix page 3).

137 Following refinement of the PTs, we undertook purposive searching to identify compatible formal theories to
138 assist in interpreting our realist synthesis at the micro, meso or macro level. Shortlisting of theories according to
139 Shearn et al's guidance (43) identified the Sustainable Integrated Chronic Care Models for multimorbidity
140 (SELFIE) framework. SELFIE is an international taxonomy of promising integrated care for persons with
141 multimorbidity which presents six components at the micro, meso and macro levels(44). Our synthesis found
142 evidence across three contextual components of the SELFIE framework which were used to group our PTs
143 according to 1) leadership: clear, committed leadership across all organisations involved in providing
144 COSMHAD care 2) workforce: clear expectations that staff are responsible for people with COSMHAD 3)
145 service delivery: structured coordination of pathways and protocols across involved organisations to assist in
146 integrating COSMHAD care.

## Results

148 Eleven PTs explaining how care models are integrated were identified (see panel): first contact and assessment
149 (PT1), staff attitudes (PT2), encouraging collaborative case management (PT3), continuous exposure to
150 COSMHAD from undergraduate training (PT4), continuous workforce development (PT5), opinion leaders
151 (PT6), formalised staff networks (PT7), coordinated care pathways (PT8), mental health led services (PT9),
152 evaluation and quality improvement (PT10) and recruiting and retaining skilled staff (PT11). Our overall PT

153  (figure 2) identified several contextual factors shaping the mechanisms through which services achieved
154  outcomes for people with COSMHAD (e.g., better service engagement, increased motivation towards treatment
155  goals). (44) Our 11 PTs are presented under three contextual headings taken from the SELFIE model.

*Leadership theories (PTs 3, 5, 6, 8, 10, 11)*

157  The SELFIE framework proposes supportive leaders with clear accountability, visions and ambitions can
158  stimulate successful integration for multi-morbidities(44). Six PTs demonstrated supportive leadership as an
159  important context for integrating care (PTs 3, 5, 6, 8, 10, 11). These PTs highlighted that integration for
160  COSMHAD requires leaders who were: committed and had authority to implement integrated care (PTs 6, 10),
161  effectively communicating a shared vision for treating COSMHAD (PT6), willing to develop and put formal
162  policies and pathways in place (PTs 3, 6, 8), appreciated the need for continuous workforce development (PTs 5,
163  11), and committed to work jointly across organisations (PTs 3, 8, 10, 11).

164  The realist synthesis identified leaders with effective COSMHAD service visions (context) who took action to
165  develop relevant policies, processes and procedures (mechanism- resources) lead staff to feel supported in taking
166  a whole person approach (PTs 3, 6). Seeing interventions work in practice increased staff empathy and reduced
167  scepticism, increased staff confidence in their skills to treat COSMHAD (PTs 5, 8), ensured staff felt valued and
168  secure (PTs 10, 11), and facilitated a multidisciplinary ethos (PT5) (mechanism – reasoning). For example, when
169  leaders implement (context) care protocols (PT3) that clearly describe coordination from initiation of care through
170  to referral/discharge(45-48) (mechanism – resource), staff felt supported in their roles(49) and enabled them to
171  use their skills and knowledge. Furthermore, it provided permission for staff to take a more pre-emptive,
172  preventative, whole-person approach to people with COSMHAD(50) (mechanism – reasoning). Similarly,
173  numerous studies(51-57) highlighted leadership that supports continuous workforce development for COSMHAD
174  (context) (PT5), combining more traditional "classroom-based" methods with sustained supervision and practice-
175  based learning (mechanism resource), can produce lasting changes in staff skills, values and confidence(51-57).
176  However, "*attitudes did not change until staff began to see evidence that clients responded to new
177  interventions"(54)* (p.7) (mechanism reasoning). The literature suggests workforce policies that ensure staff
178  retention (PT11), including clear job descriptions requiring practise-based experience (mechanism resource)(57-
179  60) ensured staff felt encouraged, legitimised and secure in their roles (mechanism – reasoning). These PTs are
180  supported by the SELFIE framework, which highlights that successful collaboration between organisations and
181  professionals requires belief and willingness in the collaboration, trust in one another, and mutual respect(44).

182  Outcomes commonly associated with the leadership PTs were improved care co-ordination and consistency,
183  leading to better individual engagement and motivation to work towards goals. Collaborative case management
184  (PT3), continuous workforce development (PT5) and recruitment and retention of skilled staff (PT11) lead to
185  improved therapeutic relationships. Retention of skilled staff was also identified as an outcome following the
186  development of workforce policies (PT11). These outcomes are supported by the SELFIE framework, where
187  shared-decision making is key at the micro-level of leadership to ensure care integration for comorbidities. This
188  shared decision making facilitates individualised care planning tailored to complex needs(44), reflected in the
189  synthesis' focus on developing good therapeutic relationships and motivation to achieve individuals' self-
190  identified treatment goals.

*Workforce theories (PTs 2, 4)*

192  The SELFIE framework identifies continuous professional development as an important aspect of integrated care
193  for multi-morbidity, including the creation of new professional roles (for example, consultant nurse for
194  COSMHAD) and continuous professional development(61). The two workforce related PTs identify that staff in
195  both mental health and substance use services must accept that offering comprehensive care to people presenting
196  with COSMHAD is part of routine care (and their role). This is facilitated by training to address staff attitudes
197  (PT2) and continuous supervised exposure to working with people with COSMHAD through pre-qualification,
198  post qualification and continuous professional development (PT4).

199  Mixed attitudes towards COSMHAD were identified among health care professionals, which varied according to
200  health discipline and experience (PT2)(62). For staff working in mental health services, this could be influenced
201  by how much exposure they have to people with COSMHAD during their undergraduate and postgraduate training
202  (PT4)(49, 63, 64).  Positive staff attitudes described were: being highly interested in working with people with
203  COSMHAD, expressing non-punitive beliefs about substance use, commitment to therapeutic relationships, and

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pragmatic, flexible and individually tailored approaches(49, 62, 65-72). The literature also identified a required desire to reconcile the structural, political and philosophical differences between mental health and substance use services at an organisational level to develop an appropriate and relevant approach to workforce development (mechanism – resource, PTs 2, 4). Differences in use of pharmacotherapies, ontological understandings of health, understandings of aetiology for COSMHAD, symptom classification frameworks and views on client autonomy manifest themselves in how substance use and mental health services structure delivery and set outcomes for treatment(47, 67, 68, 70, 71, 73-76). As Adams et al(62) summarised:

"*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*" (p.106)

The synthesis suggests acknowledging that treatment for people with COSMHAD is part of routine care is required at individual and organisational level (context) and presents fertile ground for workforce development (mechanism – resource). Several studies highlighted that team-based, immersive approaches to workforce development (mechanism – resource, PT2) allow staff to learn through practice. Team-based approaches were described as combining formal education, ongoing training, clear policy and procedure and changes to workplace culture(49, 59, 66, 77, 78). The synthesis highlighted that mental health staff undertaking professional qualifications, needed immersive workforce development from pre-qualification undergraduate level including experience working with people with COSMHAD during clinical placement/rotation (mechanism – resource, PT4)(49, 64, 79-81).

Research from both the UK and US indicated this immersive approach to workforce development led to increased feelings of ownership and investment among staff who became less sceptical and more invested in the interventions they were developing skills in when they saw people with COSMHAD responding positively to them (mechanism – reasoning, PT2 & PT4)(54, 66, 82, 83). Blakely et al's(54) study of the implementation of a team-based approach to motivational interview (MI) training reported an aptitude-attitude spiral, demonstrated by the quote below;(54)

"*As clinicians became proficient at MI [motivational interviewing] 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*" (p.8)

Addressing staff attitudes and values could lead to increased empathy towards the experiences of people with COSMHAD (PT4) as staff become more aware of why individuals have developed a substance use condition alongside SMI (PT2) and work effectively with this group via supervised practice (PT4) (outcomes). In the literature, this was found to increase staff retention. A US comparative study which implemented integrated COSMHAD care across multiple sites, concluded sites that "*emphasized professional growth opportunities…encourage staff to stay…increase empathy and decrease burnout*"(58) (p.482) had increased empathy and investment in approaches to treat COSMHAD, leading to better therapeutic relationships (outcome - PT2), which is recognised as an important facet of successful COSMHAD treatment(47, 49, 62, 68, 84, 85). Wieder et al(78) demonstrated this in their study of implementing integrated dual disorder treatment (IDDT) in Ohio where "*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*" (p.160)

*Service delivery theories (PTs 1, 7, 9)*

The SELFIE framework(44) highlights the importance of organisational and structural integration across health and social care sectors. It requires organisational transparency, ongoing communication and structural flexibility to meet the varied individual needs of those with COSMHAD. Three PTs were concerned with structural aspects of service delivery: ensuring a structured and satisfying first contact with services (PT1), formalised networking opportunities for staff across services to meet, communicate, build relationships and take action (PT7) and mental health clinicians taking the lead in care planning for COSMHAD (PT9).

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254 Staff accepting that COSMAHD is part of routine care (PT1) is seen as a necessary context for ensuring a
255 positive first contact (mechanism – resource). Adams et al(62) describe how *"professional ambivalence towards*
256 *comorbidity* [context]*…may influence the assessment process and subsequent interactions* [mechanism-
257 resource]*"* (p.102) and numerous studies highlighted the importance of using assessment protocols and
258 screening tools to help the clinician formulate a thorough picture of the person's life circumstances(46, 60, 86-
259 88). This in turn allows the clinician to develop a richer understanding of the person's situation, which
260 promotes compassion. Providing staff with formal network opportunities (PT7) to meet, communicate and build
261 relationships (context) will allow staff from different teams and services to work collaboratively for
262 COSMHAD (mechanism – resource). The evidence suggests these networks work best when they are formal,
263 structured, sustained and responsive to the complexity and variety of needs experienced by people with
264 COSMHAD(89), with numerous examples in the literature including steering committees(45, 90) staff learning
265 groups(91) communities of practice(92), collaborative case conferences(93-95) and large multidisciplinary
266 networks such as those in Leeds(46) and Manchester(96). Studies from Europe and the US found formalised
267 networking opportunities for COSMHAD (context) led to opportunities for multidisciplinary peer support and
268 ethos(93, 97-99). Awareness among mental health staff (PT9) of their responsibilities to care or people with
269 COSMHAD (context) is needed for mental health clinicians to lead care planning for these individuals
270 (mechanism – resource). Graham et al(100) in their study of integrating COSMHAD services through the
271 COMPASS liaison model in the UK, argue this requires "*integration of treatment both at the level of the*
272 *clinician and service*" (p.184) and will result in "*a conceptual shift within the organisation and those working*
273 *in it"(101)* (p.586) with a single mainstream clinician simultaneously addressing the needs of people with
274 COSMHAD (mechanism – resource)(100, 101).

275 Across these three PTs, implementing structured service delivery resources (assessment PT1, formal networks
276 PT7 and mental health led care planning PT9) was seen to increase the motivation, commitment and confidence
277 of staff in providing effective integrated care to people with COSMHAD (mechanism – reasoning). A qualitative
278 study evaluating new assessment procedures for COSMHAD across services (PT1) found that "*assessment*
279 *developed in-common*" (mechanism – resource) can lead to services becoming "*one service through a process of*
280 *referral, active communication (not always formal) and education of each other to provide mutual support*" (p.27)
281 (mechanism – reasoning)(50). A UK study of communities of practice for COSMHAD (PT7) described how
282 regular meetings gave staff collective support (mechanism – resource), which provided the energy and motivation
283 to continue coordinating care, for example identifying "*small examples of progress in a client to re-motivate the*
284 *presenter*" knowing that they were "*doing the right thing*" (p.138) (mechanism - reasoning)(92).

285 The outcomes associated with these PTs were improved service coordination, which lead to people with
286 COSMHAD receiving more consistent, non-contradictory, unfragmented care. As a result, the synthesis suggested
287 people would be more likely to remain engaged in care and motivated to work towards their individual goals.
288 Engeldhart et al(97) described their experiences of developing a service delivery committee for COSMHAD
289 (PT7), concluding that once members began using their existing resource in a more coordinated manner
290 (mechanism – resource), people with COSMHAD were "*increasingly welcomed, identified and engaged*" (p.115)
291 (outcomes). The outcomes from the synthesis align well with the SELFIE framework. The framework
292 demonstrates that integration at the micro-level requires service delivery to be person-centred, tailored and flexible
293 to the situation of the individual with multi-morbidities. Initial proactive care (e.g. at assessment, PT1) and
294 promotion of self-management (PTs 7, 9) provide the means for individuals with multi-morbidities to become
295 more pro-active, motivated and remain autonomous(44).

296 **Discussion**

297 COSMHAD is associated with adverse outcomes and UK policy advocates an integrated care approach which
298 ensures individuals receive support for their varied and complex needs at the right place and time.(20) Despite
299 this, considerable uncertainty remains on how to integrate COSMHAD care in the UK, with a predominance of
300 unevaluated local models. This realist review sought to develop PTs that increase our understanding of what
301 COSMHAD services might work in the UK, for whom and in what circumstances. Eleven PTs were grouped
302 into three overlapping themes: "leadership"; "workforce" and "service delivery".

303 UK policy ambitions of "mainstreaming" care for COSMHAD(22) requires staff to have the training and
304 capabilities to offer treatment that addresses mental health and substance use simultaneously. The synthesis
305 highlighted leadership was vital to this ambition. Leaders who communicated a shared vision of COSMHAD
306 integration better facilitated workforce development, joint working, and implementation of pathways and policies.

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307  A recent Health and Social Care Committee inquiry into NHS workforce burnout and resilience(102), recognised
308  the need for compassionate, inclusive and effective leadership to develop staff skills and improve health
309  services(103). Trzeciak et al's(104), Compassionomics framework hypothesises administrative leaders who value
310  compassionate approaches and implement resources to augment and remove the barriers to compassionate care
311  can improve staff wellbeing leading to better patient care and outcomes. Compassionate leadership has been
312  shown to increase staff belonging, autonomy and contribution(44, 105) and our PTs concurred that leadership
313  support gave staff confidence and autonomy to take a compassionate, whole-person approach to treating people
314  with COSMHAD. Staff experiencing compassionate leadership are better able to direct their support, giving
315  higher levels of patient satisfaction and quality of care(105) leading to improved therapeutic relationships between
316  staff and people with COSMHAD and increased retention of staff(104).

317  In line with the SELFIE framework(44), continuous professional development was an important aspect of
318  integrating care for COSMHAD. Staff attitudes towards COSMHAD influenced the extent to which staff
319  regarded working with people with COSMHAD as part of their role. Our synthesis identified varying attitudes
320  towards COSMHAD at an individual staff member (according to experience and exposure to people with
321  COSMHAD) and organisational level (due to structural, political, and philosophical differences between mental
322  health and substance use services). For example, low knowledge and exposure among mental health staff may
323  lead them to perceive substance use as a "choice" that exacerbates mental health symptomology and poor
324  compliance rather than a health problem deserving of help and compassion. Often the philosophical focus for
325  mental health services is abstinence (a requirement for inpatient settings), with limited attention given to harm
326  reduction strategies. The Health Stigma and Discrimination Framework recognises stigma co-occurs at multiple
327  socio-ecological levels (including interpersonal, organisational and political levels) and can lead to poor
328  outcomes for populations (including access to services, uptake and adherence to treatment) and health
329  organisations (including policies and availability and quality of health services)(106).

330  Interventions must target both the drivers of stigma and shift harmful attitudes once stigma has been
331  applied(106). This is reflected in our PTs which include training to address attitudes towards COSMHAD from
332  pre-registration level to ongoing workforce development. NICE guidance highlights a lack of high-quality
333  evidence on how staff training for COSMHAD can be implemented effectively(29). Our synthesis suggests
334  where there is existing willingness to engage with COSMHAD, team-based, immersive approaches which
335  combine formal training, ongoing supervision and clear policy can allow staff to learn through practice, leading
336  to increased ownership and investment as staff see interventions working(54) Our PTs demonstrated this sense
337  of ownership could lead to increased staff empathy, better therapeutic relationships and increased staff retention.
338  As demonstrated in figure 2, there is considerable overlap in outcomes between the workforce and leadership
339  related programme theories highlighting the multi-level action required to address COSMHAD-related
340  stigma(106) and compassionate leadership to embed continuous professional development into wider
341  organisational structure and culture(104).

342  In line with the SELFIE framework(44), our PTs proposed integrated care pathways with transparent
343  communication between mental health, substance use and wider services and structural flexibility to meet the
344  needs of people with COSMHAD. Our PTs covered first contact with services, formalised staff networks and
345  mental health clinician led care planning. Formalisation of care pathways increased staff motivation,
346  commitment, and confidence to provide integrated care across collaborating mental health and substance use
347  services. In our PTs this led to consistent and less fragmented care tailored towards individual needs of people
348  with COSMHAD, increasing their engagement and motivation to work towards their goals. This reflects the
349  commitment in  UK mental health strategies to developing trauma informed care for people with severe mental
350  health problems.(22-25) Trauma informed approaches aim to provide people with COSMHAD with an
351  environment that is safe, trusted, supportive, collaborative, empowering and responsive to their experiences and
352  needs. Services which are not trauma informed risk excluding those who have experienced trauma as
353  demonstrated in our synthesis where people with COSMHAD were too often perceived as "*system misfits*"(60)
354  experiencing a *"ping pong effect"(70)* between services before *"falling through the net"(62)* completely. As the
355  leadership and workforce themes demonstrate, this requires a cultural rather than behavioural shift. Training to
356  change individual attitudes and practice alone is not sufficient, rather system-level change in service delivery
357  supported by compassionate leadership is required to ensure integrated, effective COSMHAD care.

358  Realist reviews have several theoretical limitations. There are many stages, theories and settings associated with
359  complex interventions and so the reviewer must prioritise particular processes, theories and settings(107), Initial

decisions formulating our if/then questions for theory testing mean some theoretical perspectives and literature was inevitably omitted. Only English language studies were included and studies delivered exclusively in specialist settings (for example for prisoners or people living with HIV) were excluded. Realist reviews are also limited by the nature of the available empirical evidence, which tends to favour tangible processes and easily measured outcomes(107). Much of the evidence on COSMHAD service models come from the US, and they are not always directly transferable to the UK. Drawing on this international literature allowed us to identify broad contextual areas for successful integration (leadership workforce and service delivery). We have framed our synthesis within the UK context to meet the objectives of this study, however as integration of COSMHAD is an internationally advocated approach(11), we believe they are sufficiently broad to have relevance in other countries. Finally, the intention of realist synthesis is to deliver contextual advice rather than generalizable truths(107). The synthesis focused on how COSMHAD services integrate at a service provider level. While testing these theories led to outcomes related to increased engagement and motivation for people with COSMHAD, there may be other explanations for individuals choosing not to engage with integrated services which were not explored. The expertise of people with lived experience is crucial to understanding what works best in terms of service integration for COSMHAD and is required to further refine the programme theories. This synthesis one phase of a UK wide realist study, and PTs presented here will be tested and refined through qualitative engagement with health and social care staff, people with COSMHAD and their carers.

**Conclusion**

This realist synthesis of international literature derived explanatory theories to describe how different contextual factors shape the mechanisms through which services for people with COSMHAD can be integrated. The synthesis sheds light on the ongoing challenges of implementing current UK policy, providing insights into how integration could work, for whom and in which circumstances. The review highlights complex challenges defining and integrating care for COSMHAD. The varied, disparate provision of COSMHAD care across the UK means our PTs do not focus on a single model of service provision but consider the context, mechanisms, and outcomes relevant across the UK health system. This includes points along the COSMHAD care pathway (recommended by NICE(29) and PHE(20)) such as assessment, care planning and case management, and activities at workforce and leadership levels. Despite UK policy(22, 26) commitment to "mainstreaming" COSMHAD care, implementation of integrated service models remains fragmentary, compounded by challenges of austerity and competitive commissioning. This realist synthesis highlights that staff willingness to treat COSMHAD remains variable, with comprehensive workforce training, supervision and policy required to increase staff investment in providing integrated care. However, changing staff behaviour is insufficient in isolation, with our synthesis demonstrating a cultural shift in compassionate leadership and system delivery is essential to ensure people with COSMHAD receive compassionate, trauma informed care that meets their needs.

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**Panel: Final programme theories (PTs) for integrated services for Co-Occurring Serious Mental Health and Alcohol/Drug (COSMHAD)**

**Leadership and governance**

*PT3: encouraging collaborative case management*

Collaborative case management between services for people 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 people with COSMHAD (mechanism – reasoning). This will lead to an improved organisational system for people with COSMHAD with improved consistency of care and a more individually focused approach across the continuum of care (outcomes).

*PT5: 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 people with co-occurring disorders (mechanism - reasoning). This will lead to a better therapeutic

13

679 relationship between service users and health professionals leading to improved engagement and motivation to
680 change (outcome).

*PT6: opinion leaders*

682 Dedicated, respected leaders with the authority to implement integrated treatment are needed at all levels of the
683 organisation (from commissioning through to team leaders) to communicate a shared vision of co-occurring
684 disorders, prioritise implementation and make and disseminate administrative and policy changes (context). These
685 leaders will sustain awareness and expectations surrounding co-occurring disorders (mechanism – resource)
686 leading to an organisational climate where staff feel enthusiastic, motivated and supported to implement new
687 practices in their work (mechanism – reasoning). As a result, people with co-occurring disorders can engage with
688 consistent, appropriate support for their condition (outcome)

*PT 8: coordinated care pathways*

690 Committed and accountable leaders from NHS, Local Authorities and other partner organisations (context) should
691 support, design and consistently advance a collaborative co-ordinated care pathway which uses organisational
692 policies, functional procedures and defined outcomes to allow mental health, substance use and other relevant
693 service providers to support each other in providing care for people with co-occurring disorders (mechanism -
694 resource). This coordinated pathway will lead to increased collaboration between providers through shared goals
695 and formalised relationships (mechanism - reasoning) to deliver accessible, non-contradictory and consistent
696 interventions, services and goal setting which will rouse and maintain people with COSMHAD's motivation to
697 work towards their goals and remain engaged in treatment (outcome)

*PT10: evaluation and quality improvement*

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

*PT11: Recruiting and retaining talented staff*

706 Service commissioners from both mental health and substance use services need to work jointly (context) to
707 commit financial resources and organisational workforce policies (mechanism – resource 1) to ensure staff with
708 the requisite skills, knowledge and values for treating those with co-occurring disorders are recruited and retained
709 into services through appropriate selection, supervision and professional development (mechanism – resource 2).
710 This will ensure that skilled staff feel encouraged, secure and legitimised in their posts (mechanism - reasoning)
711 leading to more effective, better quality and undisrupted therapeutic relationships (outcome)
712

## Workforce

*PT2: Staff attitudes*

715 Successful collaboration between mental health and substance use services to address judgemental staff attitudes
716 towards people with COSMHAD requires desire to reconcile political, structural, and philosophical differences
717 between services (context). A team wide response to training is needed to address staff beliefs and attitudes
718 supported by clear policies and procedures to shift service philosophy (mechanism – resource). A team-based
719 training approach leads to increased feelings of ownership and involvement among staff who will become less
720 sceptical and more invested as they see people with COSMHAD responding positively to interventions
721 (mechanism – reasoning). This will result in enhanced staff empathy and better therapeutic relationships with
722 people with COSMHAD (outcomes).

*PT4: continuous exposure from undergraduate level*

14

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

734 **Service delivery**

735 *PT1: first contact and assessment*

736 If staff across all first-contact services for people with co-occurring mental health and substance use issue have
737 clear awareness that people with COSMHAD are the expectation and their responsibility to assess and refer them
738 into suitable treatment (context), then individuals will have a more satisfying and structured first contact with
739 services (mechanism- resource). people with co-occurring disorders will have less difficulties in entering
740 appropriate services (mechanism – reasoning) thus leading to increased optimism, confidence and willingness to
741 engage in treatment (outcome).

742 *PT7: formalised networking opportunities*

743 Formalised, structured and sustained opportunities for practitioners working with people with COSMHAD to
744 meet, communicate and build relationships and take action (e.g. through a network) (context) will lead to increased
745 awareness of other services' collective contributions, opportunities for peer support and a multidisciplinary ethos
746 (mechanism – resource). This will increase staff motivation, confidence and commitment to work collaboratively
747 when treating people with co-occurring disorders (mechanism – reasoning) leading to improved and more
748 welcoming care coordination, better provision of stage appropriate interventions including more immediate
749 referrals, assessments and care planning (outcome).

750 *PT9: mental health led services*

751 High prevalence of people with COSMHAD within mental health services suggests their needs should be
752 addressed in a mental health service setting with additional joint working from other services as needed (context).
753 Having mental health clinicians responsible for individual's care plan (mechanism - resource) means clinicians
754 will increase their skills and competencies in using empirically supported treatment with measurable outcomes
755 for co-occurring disorders. (mechanism - reasoning). By addressing the relationship between substance use and
756 mental health simultaneously, people with COSMHAD will experience a more consistent and flexible approach
757 to symptom reduction with tailored, non-conflicting goals (outcome)

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