Mental Health Professionals' Experiences of Provision of Health Behaviour Change Interventions to People with Schizophrenia. A Thematic Analysis.

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Abstract

People living with schizophrenia have disproportionately high rates of comorbidities and significantly reduced life expectancy as compared to the general population. The evidence suggests that the elevated risk of multi-morbidity and premature mortality in this group is largely behavioural and as such can be prevented.

A variety of health behaviour change interventions can be effective in managing morbidity and mortality risks in schizophrenia, and mental health professionals are best placed to deliver such interventions to this group of clients. The national clinical guidelines state that mental health services should be providing health behaviour change interventions. However, in practice such interventions are not routinely provided.

Literature suggests that unhelpful attitudes may be responsible for the lack of provision of such interventions in mental health. Overall, the findings from general mental health suggest that positive attitudes towards physical health interventions are not translated into practice, and that negative attitudes are a barrier. However, the literature evidence concerning mental health professionals' attitudes towards health behaviour change in schizophrenia is limited. More research is needed to explore and understand the pervasiveness of the disparity between clinical guidelines and practice.

The aim of this study was to fill this gap in the literature and qualitatively explore secondary mental health professionals' experiences of delivering health behaviour change interventions to people with Schizophrenia with a view to improving the current understanding of factors contributing to the disparity between clinical guidelines and practice previously reported in the literature.

Ten mental health professionals from secondary mental health services were interviewed using semi-structured interviews. Thematic analysis was used to analyse the data, and the COM-B was used as a framework to discuss the findings.

The main finding of this study was that the possible explanation for the gap between positive attitudes and provision of health behaviour change interventions was that although professionals expressed positive attitudes towards behaviour change interventions in schizophrenia in general, their attitudes towards delivering such interventions as individual clinicians varied. These attitudes seemed to have been mediated by the level of specialist knowledge and skills for facilitating behaviour change in this complex group of clients.

The implications of findings and recommendations for service level interventions to increase provision of health behaviour change interventions in schizophrenia are discussed.

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1. Literature Review

1.1 Schizophrenia

Schizophrenia is a complex but relatively low prevalence mental health disorder affecting approximately 3.3 in 1000 people (Saha et al., 2005). It is characterised by positive symptoms such as hallucinations and delusions, negative symptoms such as flattened affect and reduced motivation, as well as cognitive impairment (McCutcheon et al., 2019). According to the Global Burden of Disease Study, schizophrenia causes a substantial degree of disability, despite being a relatively low prevalence disorder (Charlson et al., 2018). The global prevalence of schizophrenia rose from 13.1 million cases in 1990 to 20.9 million cases in 2016, hereby contributing 13.4 million YLD (years lived with disability) to the burden of disease globally (Charlson et al., 2018).

The onset of schizophrenia typically falls in late adolescence or early adulthood (Charlson et al., 2018), but it can develop outside of this age bracket hereby making it a disorder of all ages. For example, Early Onset Schizophrenia (EOS) occurs between the ages of 13 and 18, whereas Very Early Onset Schizophrenia (VEOS) can develop in children before the age of 13 (Xu et al., 2020). Late Onset Psychosis (LOP) falls between the ages of 40 and 60, and Very Late Onset Schizophrenia Like Psychosis (VLOSLP) occurs in older population over the age of 60 (Suen et al., 2019). Although traditionally psychiatry has viewed early onset of schizophrenia as a predictor of poorer clinical and social outcomes (Remschmidt & Theisen, 2012), this view has been challenged in the recent years. For example, Xu et al. (2020) found in a 10 year follow up study that there was no association between early onset of schizophrenia and long term functional outcomes, which suggests that clinical

interventions could help to improve the lives of people living with schizophrenia regardless of the chronicity of the illness. Nonetheless, despite intense research and ongoing efforts to inform best practice the outcomes of treatment for schizophrenia remain largely suboptimal (Charlson et al., 2018). For example, Jääskeläinen et al. (2013) found in a systematic review of 50 outcome studies that only 13.5% met criteria for clinical and social recovery. Besides the poor recovery outcomes, people living with schizophrenia have disproportionately high rates of comorbidities and significantly reduced life expectancy across all ages as compared to the general population (Charlson et al., 2015; De Hert et al., 2011; Demyttenaere et al., 2004; Happel et al., 2016; Liu et al., 2017). It is also thought that the gap in mortality rates between those with and without schizophrenia continues to grow (Charlson et al., 2018).

There are multiple factors contributing to health inequalities in schizophrenia. For example, it is widely recognised that schizophrenia carries a social stigma which largely impacts on social inclusion, healthcare seeking behaviours and the trajectory of the disorder thus increasing the risk of co-morbidity and mortality in this group (Lampropoulos et al., 2019). Literature suggests that the issues relating to stigma and healthcare seeking behaviours in schizophrenia are culture sensitive. For example, it appears that individuals of Eastern ancestry experience higher mental health stigma as compared to those of Western ancestry (Cheng, 2015; Mirza et al., 2019), and that the cultural differences are linked to differences in attributions about the aetiology of mental illness (Krendl & Pescosolido, 2019). These differences in stigma were found to be reflected in healthcare seeking behaviours. For example, Han and Pong (2015) found that American college students of Asian ancestry were less

likely to seek help for their mental health as compared to their peers of European ancestry. As such, the evidence suggests that cultural differences affect patients' attitudes about health care and their ability to understand, manage, and cope with the course of an illness, the meaning of a diagnosis, and the consequences of treatment. Furthermore, the illness specific factors such as cognitive impairment, hallucinations and delusions can have an impact on the individual's sense of reality and thus their ability to accurately judge and understand the potential health risks and benefits of behaviour change. Further still, the effects of antipsychotic medication, such as reduced affect and drowsiness can promote social isolation and the same behaviours that are health risk factors in schizophrenia, such as sedentary life style and unhealthy diet.

The illness specific and social, as well as the wider cultural determinants of health and adversity experienced in this group pose barriers to effective health promotion and healthcare provision, and should be recognised and addressed by professionals working with this group (Freudenreich, 2020).

1.2 Health inequalities in Schizophrenia

Studies consistently demonstrate that whilst schizophrenia can affect any demographic group, its incidence is significantly increased in ethnic minority groups, especially African-Caribbean and Black African (Fearon et al., 2006; Kirkbride et al., 2012; Halvorsrud et al., 2019), and moderately increased in South-Asian groups (Kirkbride et al., 2012; Halvorsrud et al., 2019). Bhui et al. (2021) suggest that the persistence of these ethnic inequalities is driven, amongst others, by social determinants of poor health and social disadvantages and they argue the value of cultural sensitivity in healthcare delivery. Further to

this, schizophrenia affects 1.4 times more men than women, and occurs earlier in men (Picchioni & Murray, 2007), with the highest incidence occurring in young men between the ages of 15 and 25 (Hafner, 2019). King's Fund report (Williams et al., 2020) states that the incidence of psychitoc illnesses in Black men and Asian men is 3.2% and 1.3% as compared to 0.3% in White men in England. The report further states that the behavioural risks to health are more concentrated in these population groups, with those most disadvantaged engaging in multiple risky health behaviours (Williams et al., 2020), thus putting themselves at increased risk of multimorbidity and early mortality.

The literature provides a large body of evidence concerning health inequalities and physical health outcomes in schizophrenia (De Hert et al., 2011; Demyttenaere et al., 2004; Happel et al., 2016, Charlson et al. 2018). The evidence suggests that the causes of multi-morbidity and premature mortality in this group are largely behavioural, and as such can be prevented (Walker et al., 2015; World Health Organisation, 2009). For example, whilst unhealthy behaviours such as smoking, sedentary life style, poor nutrition and substance misuse account for a fourfold increase in risk of premature mortality in the general population (Happel et al., 2012), people living with schizophrenia are significantly more likely to engage in those risk behaviours because of limited knowledge and cognitive impairment, limited access to community resources, and poverty, placing themselves at even higher risk of morbidity and early mortality (De Hert et al., 2011). This combination of unfavourable behavioural, psychiatric, economic and social factors can reduce life expectancy in this group by estimated ten to twenty five years (Ames, 2016).

The most prevalent co-morbidities and leading causes of premature mortality in people living with schizophrenia include chronic diseases such as cardiovascular diseases, respiratory diseases, obesity, type II diabetes and some cancers (Laursen et al., 2014). The main behavioural factors reported as contributing to these long term conditions (LTC) and premature mortality in this group are sedentary lifestyle, poor diet choices, poor sleep hygiene, smoking and substance use (Demyttenaere et al., 2004; Happel et al., 2016). It is estimated that less than 15% of the excess deaths in this group are due to unnatural causes such as suicide (Charlson et al., 2015). It is not clear what percentage of suicides in this group are due to chronic illness, but it is widely recognised in the literature that chronic physical health conditions are a risk factor for the onset of suicidality in general adult population (Dean-Boucher et al., 2020). A previous systematic review of suicide risk factors in schizophrenia also found strong positive association between the presence of physical illness or drug and alcohol abuse and suicide risk in this group (Hor and Tylor, 2010). Furthermore, a large study by Ahmedani et al. (2017) found that while most physical health conditions increase the risk of suicide, having multiple conditions substantially increases the risk. These findings suggest that multimorbidity could be a factor contributing to suicidality in people with schizophrenia. Another factor contributing to the burden of physical health in severe mental disorders like schizophrenia is cognitive impairment. For example, Foguet-Boreu et al. (2019) compared patients with severe mental disorder who had cognitive impairment with those whose cognitive function was not impaired, and found that patients who had cognitive impairment also had significantly more cardiovascular risks.

Furthermore, second generation antipsychotics, with their varying degrees of weight gain propensity, have been found to pose a further risk of developing metabolic syndrome and subsequent cardiovascular disease and diabetes in this group (Bonfioli et al., 2012; Ventriglio et al., 2015). Weight gain as a side effect of antipsychotic medication has been found to be a main cause for medication non-adherence in this group (Wong et al., 2011). Yet mental health services do not seem to routinely offer health behaviour change interventions aimed at medication adherence in psychotic illnesses such as schizophrenia. It is estimated that up to fifty percent of individuals with SMI such as schizophrenia do not take their antipsychotic medication as prescribed, thus putting themselves at five times increased risk of relapse (Robinson et al., 2002; Wong et al., 2011). This inevitably complicates the management of physical health in this group as the focus of treatment for those non-adhering to treatment moves towards the management of acute psychotic symptoms.

1.3 Development of NHS Physical Health pathway for SMI

In 2002 a report was published in England which forecasted long term health care trends, including the key factors likely to impact on the health care provision over the next 20 years (Wanless, 2002). Amongst others the report looked at the increasing needs and expectations of the population and warned that if prevention was not taken seriously, by 2022 England would be faced with a high rise in preventable conditions such as obesity, diabetes, cardiovascular diseases and others. In 2014, twelve years on from Wanless' report, the NHS England Five Years Forward View (FYFV) acknowledged that this warning had not been taken notice of and that the burden of preventable diseases was

beginning to weigh on the NHS. At that point 70% of the health service budget was being spent on those largely preventable long term conditions (LTC).

In response to this the NHS England FYFV included plans for dramatic changes to the health care delivery models, emphasising prevention of diseases; increased control of their own care for patients through shared health and social care budgets; and breaking the barriers in how health care was provided between GP's and hospitals, between health services and social care, and between physical and mental health services. The integrated care model aimed to close the gap between health inequalities and access to services through provision of multifaceted, multi-agency health care model supporting people with multiple conditions and social care needs, not just single illnesses – care genuinely coordinated around patient's needs.

The prevention of diseases plan was based on the rise in burden of avoidable illnesses as driven by lifestyles, patterned by deprivation and associated social and economic inequalities. As such the burden was to be addressed by tackling lifestyle risks identified in the report such as smoking, alcohol use, sedentary lifestyle, unhealthy diet and lack of exercise – the major behavioural causes of LTC in SMI such as schizophrenia (NHS England Five Years Forward View, 2014). In 2012 a fifth of population in England smoked, a third misused alcohol, a third of men and half of women did not exercise, and two thirds of adults were overweight or obese (NHS England FYFV, 2014). Whilst this trend was a consequence of the existing health inequalities it was also maintaining the inequalities further. Moreover, it was contributing to the growing costs of related NHS treatments. As an example, around that time the NHS was spending more on bariatric surgery for obesity than on national roll-

out of evidence based lifestyle/health behaviour change interventions for obesity and diabetes (NHS England FYFV, 2014).

The FYFV influenced Commissioning for Quality and Innovation (NHS England CQUIN, 2014/2015) programme intended to deliver the five year plan and to drive transformational change in healthcare provision. Improving physical healthcare to reduce premature mortality in people with SMI such as schizophrenia was amongst the four national NHS CQUIN priorities, and has remained a priority in subsequent years (NHS England CQUIN, 2016/2017; 2017/2019; 2019/2020; 2020/2021). The scheme reflected NHS England commitment to reduce the 15 to 20 year premature mortality in people with psychotic illness like schizophrenia through improved assessment, treatment and communication between clinicians, and the aim that SMI patients receive the same healthcare interventions as the general population.

Other UK national policies recommendations reflected the necessity to address physical health in SMI in a bid to reduce health inequalities and excess mortality in this group (Department of Health, 2006; Royal College of Psychiatrists, 2013). The UK national standards for care for people with psychotic illness, as outlined in National Institute for Care and Excellence guidelines (NICE, 2014), specified that secondary care mental health settings should be offering physical health monitoring and interventions to clients with psychoses. However, despite the clear standards physical health in psychotic illness such as schizophrenia was poorly managed. According to National Audit of Schizophrenia (The Royal College of Psychiatrists, NAS) only 33% of patients received basic annual health checks, however with varying degrees of ongoing monitoring and responsive treatment (The Royal College of

Psychiatrists NAS 2, 2014). This meant that even when physical health monitoring was in place and revealed a health problem, action was not always taken. The way health professionals communicated with SMI patients and their carers was also found to be problematic and ineffective (The Royal College of Psychiatrists NAS 2, 2014). In 2019, NICE guidelines for prevention and care for people with psychoses were reviewed, but no changes made suggesting that the situation around care in psychoses remains largely unchanged (NICE, 2019). Similarly, a recent review of the 2009 position paper originally published by the European Psychiatric Association, the European Society of Cardiology and the European Association for the Study of Diabetes in a bid to improve cardio-metabolic care in SMI, reports that the initiative did not bring expected results (Galderisi et al., 2021). European experts in schizophrenia and cardio-metabolic diseases agree that cardio-metabolic risk amongst schizophrenia patients remains high, and they recommend lifestyle modification interventions as part of the strategy to address this health inequality in schizophrenia (Galderisi et al., 2021).

1.4 The role of Health Psychology in Schizophrenia

Traditionally schizophrenia has attracted more attention from Clinical Psychology, which focused on the understanding of the development, outcomes and management of clinical symptoms (BPS, 2017). In recent years increasingly more attention has been paid to the health inequalities experienced by people living with schizophrenia, which resulted in wider recognition of the problem across mental and physical health professions (NICE, 2014). The increased recognition of the health inequalities experienced by people living with schizophrenia has led to attempts to develop lifestyle interventions aimed

at improving physical outcomes in this group (Mazoruk et al., 2020). However, the problem with studies evaluating the effectiveness of lifestyle interventions is that they often lack transparency in what theory and behaviour change models were used to inform the intervention studied (Mitchie et al., 2011), thus making it difficult to understand what interventions are most effective for what kinds of health behaviour related problems.

The BPS Division of Health Psychology states that: "*The goal of health psychology is to study the psychological processes underlying health, illness and health care, and to apply these findings to the promotion and maintenance of health, the analysis and improvement of the health care system and health policy formation, the prevention of illness and disability, and the enhancement of outcomes for those who are ill or disabled*" (Division of Health Psychology, BPS). Therefore, without doubt, Health Psychology theory can contribute to a better understanding of health related behaviours in schizophrenia, as well as informing the development of effective, evidence based interventions to change unhealthy behaviours and improve physical health outcomes in this group.

1.5 Overview and critique of health psychology models

In order to understand the health behaviours in people living with schizophrenia it is necessary to have a model which explains the various factors contributing to the development and maintenance of health related behaviours. There have been over 80 behaviour change models identified in the literature (Michie et al., 2011; Davis et al., 2015), which contribute to understanding of why and how certain unhealthy behaviours occur, and which have been used to develop interventions aimed at changing those behaviours and improving health outcomes. Some of the most commonly used behaviour change models in

Health Psychology include Theory of Reasoned Action/ Theory of Planned Behaviour (Ajzen, 1991), Social Learning Theory (Bandura, 1977), Health Belief Model (Rosenstock et al., 1988), and Transtheoretical Model (Prochaska & DiClemente, 2005). Cumulatively, the models aim to predict behavioural change using components relating to individual factors such as intentions, attitudinal beliefs, self-efficacy, behavioural control, normative beliefs, risk related beliefs, commitment and planning (Noar & Zimmerman, 2005).

Overall, the literature demonstrates modest effects of model based interventions aimed at changing health behaviours, although interventions grounded in appropriate theory can be more effective (Davis et al., 2015). There is also a lack of clarity about what interventions work for what kind of health behaviours (Laverack, 2017), and despite the widespread use of health behaviour change models in health psychology there have been some critiques. Some of the critiques concern an overlap of variables between different models (Conner and Norman, 1996), issues with the logical construction of the models (Smedlund, 2000) and failure to explain much of the variance in behaviour (Sutton, 1998; Ogden, 2003), including factors such as impulsivity, habit, self-control, associative learning and emotional processing (Mitchie et al., 2011). Although, Ogden (2003) in a review of health behaviour change models concluded that whilst the models do have conceptual flaws and cannot be tested, they *'are useful and fruitful and provide a framework for the development of interventions designed to change health-related behaviours'*. At the same time, however, Ogden (2003) cautioned that the models do not meet the criteria for a good theory, and recommended that if they are to be used as theories they need to be critically appraised.

Another issue with the model based approach to health psychology is that it assumes that risky health behaviours lead to illness, and so changing those risky health behaviours can be an effective way to prevent or reduce illness. As such the model based approach assumes that in order for individuals to change their health behaviours, they need to gain understanding of their particular health problem, adopt key attitudes, learn a set of skills and gain access to relevant services and support. This reasoning may be attractive to decision makers because it offers a relatively simple, time and cost effective way of addressing high prevalence health problems, but is short sighted because *'single interventions that target a specific behavioural risk have little impact on the determinants that actually cause poor health, especially for vulnerable people'* (Laverack, 2017). Davis et al. (2015) also argued that most health behaviour change theories don't put enough emphasis on the context and social factors, focusing attention on those individual capabilities and motivations. Further to this, Taylor et al. (2006) in their review of health behaviour change models for NICE, concluded that the commonly used health behaviour change models fail to address various social, economic and environmental factors as predictors or determinants of health behaviour, thus neglecting opportunities for potentially cost-effective interventions aimed at changing the environmental and organisational determinants of health behaviours. As such it can contribute to health inequalities in some circumstances (Taylor et al., 2006).

Further to this, critical perspectives to health psychology argue the importance of situating health in a broader context of social, cultural, political and historical situations (Lyons & Chamberlain, 2017). Critical perspectives are

sensitive to the issues of distribution of power and the impact of power differentials on health behaviours, healthcare systems, and health policy (Prilleltensky & Prilleltensky, 2003; Lyons & Chamberlain, 2017). They address issues of social justice and the universal right to good health for people of all races, genders, ages, and socioeconomic positions. Critical health psychology does not contest the need to apply proven model based interventions for changing health behaviours, but it argues that interventions ought to acknowledge the broad context and address the original source of the problem in the society (Prilleltensky & Prilleltensky, 2003). Otherwise there is a risk that whilst individual and group health problems are catered for through provision of new (expensive) services, the original source of the problem in society remains unchanged and continues contributing to the maintenance of health inequalities (Prilleltensky & Prilleltensky, 2003). Prestwich et al. (2017) suggest that fostering critical perspective is essential in addressing the challenges faced by healthcare professions as well as governments in developing cost-effective (and yet contextualised) ways to manage health and social care budgets.

In an attempt to balance the critiques and limitations of particular health behaviour change models and critical perspectives to health psychology with a necessity to have a framework for understanding behaviours and developing interventions designed to change them, the researcher chose a COM-B model as a more comprehensive and integrated framework for understanding health related behaviours (Michie et al., 2011; 2014). Whilst this model is not free of limitations, the key one relating to its theoretical breadth, it attempts to integrate a wide range of theories and places an importance on the wider context in which health behaviours occur. Davis et al. (2015) suggested that drawing on a

wider range of theories integrating social, cultural and economic factors relating to health behaviour could increase the effectiveness of interventions aimed at changing health related behaviours. What follows is a brief description of the model and its critique.

Mitchie et al. (2011) systematically reviewed current behaviour change frameworks applicable to health behaviour and identified 19 frameworks across 83 behaviour change theories and found that none of these frameworks offered a comprehensive or integrated approach to behaviour change or was clearly linked to a behaviour change model. Based on this review Michie et al. (2011) developed a Behaviour Change Wheel (BCW) as a comprehensive guide to designing behaviour change interventions, improving the process of evaluating interventions and developing theory. At the centre of the BCW lies COM-B behaviour change model, which offers practitioners a straightforward way for identifying heath behaviours in the context in which they occur (Mitchie et al., 2014). The model consists of three components, *Capability* (the physical and psychological ability which facilitates engagement in any activity), *Motivation* (the mechanisms that energise and direct behaviour such as habitual or emotional responses, impulsivity and reflective processes involved in planning and decision making), and *Opportunity* (the contextual factors outside of individual control, i.e. physical opportunity offered by the environment and other social and cultural factors) which all interact together to produce *Behaviour* (any action involving the three components). Health behaviour change interventions based on this model aim at changing one or more of the components in the interactive COM-B system and “the casual links within the system can work to reduce or amplify the effect of particular interventions by leading to changes

elsewhere" (Michie et al., 2011). In the BCW, surrounding the core COM-B model are nine intervention functions (education, persuasion, incentivisation, coercion, training, enablement, modelling, environmental restructuring, and restriction) which are all dependant on the COM-B analysis (Michie et al., 2011). Finally, the outer circle of the wheel outlines seven policy options (environmental/social planning, communication/marketing, legislation, service provision, fiscal measures, and guidelines) which can be utilised to facilitate the delivery of intervention functions (Michie et al., 2014).

The advantage of the BCW is that it can be applied at individual and group levels through targeted interventions, as well as societal levels through changes in legislation or changes in the physical environment. Michie et al. (2014) proposed that although the framework is not a panacea for behaviour change it simplifies the selection and facilitates use of existing resources, and that it is a "systematic way of characterising interventions that enables outcomes to be linked to mechanism of action, and it can help to diagnose why an intervention might have failed to achieve its desired goal". Whilst the development of the BCW framework was met with commendation for a comprehensive and coherent toolkit for intervention design (Lefevre, 2016), it has also received considerable critique in the literature. For example Ogden (2016) argued that the protocols proposed within the BCW framework are too general to address the variability of individual patient experiences therefore creating gaps in the model. Ogden (2016) also critiqued the framework for attempting to remove the variability that exists within various health behaviour theories, thus moving practitioners away from their professional role where their professional opinion and ability to engage clients is an important part of

treatment protocol. Ogden's critique was partially supported by Peters and Kok (2016) who agreed with the importance of maintaining theoretical variability. Although COM-B model critiques are relatively less common in literature due to its theoretical breadth, fostering critical perspective remains essential whilst applying the model to understanding behaviour and developing behaviour change interventions (Prestwich et al., 2017).

COM-B framework has been widely used to develop theory based behaviour change interventions (Fulton et al., 2016; Hall et al., 2020), review effectiveness of existing interventions (Johnson et al., 2018) as well as for mapping national policies with a view of improving prevention programs (Croker et al., 2020; Seppälä et al., 2018) and synthesising information from systematic reviews to inform the choice of intervention components (Richardson et al., 2019). The relevance of the COM-B model to the current study is further discussed in the aims section at the end of this chapter.

1.6 Review of health behaviour change interventions in Schizophrenia

Review of literature concerning the effectiveness of health behaviour change interventions in schizophrenia demonstrates that overall a variety of psycho-educational, motivational and behavioural interventions can be effective in managing morbidity and mortality risks in this group (Happel et al., 2012, Mazoruk et al., 2020), as well as in outweighing the weight gain propensity of second generation antipsychotic medication (Mazoruk et al., 2020). For example, studies evaluating weight management interventions in populations with schizophrenia show significant reduction of weight, BMI and waist circumference in this group, with some also reporting subsequent decrease in cardiovascular risks (Attux et al., 2011; Daumit et al., 2011; Bartels et al., 2015;

Daumit et al., 2013; McKibbin, 2010). Similarly, studies focusing on interventions aiming to increase exercise behaviour report moderate strength evidence for effectiveness of such interventions on exercise behaviour and improved cardiovascular fitness (Beebe et al., 2011; Sailer et al., 2015; Sheewe et al., 2013). Interventions aimed at improving self-management of health in the population with schizophrenia also demonstrate effectiveness in improving physical health outcomes in this group (Meepring et al., 2016; Kilbourne et al., 2013). In addition to this, secondary findings of some of these studies suggest that there might be a potential added benefit of health behaviour change interventions on improved psychiatric outcomes (Heald, 2010; Lovell et al., 2014). Furthermore, there is evidence in the literature to suggest that health behaviour change interventions can bring an added benefit of improved cognitive function in this group. For example, research shows a link between cardiovascular risk factors such as weigh gain, dyslipidaemia, abnormal glucose levels, and hypertension, and impaired cognitive function, suggesting that improvement in these outcomes may improve psychiatric symptoms and overall quality of life (Balhara, 2011; De Hert et al., 2011). Other studies exploring the relationship between health behaviours such as exercise and clinical outcomes in schizophrenia indeed suggest that such interventions can benefit mentah health in patients with schizophrenia. For example, a review by Girdler et al. (2019) found that exercise therapy improved positive and negative symptoms, cognition and overall quality of life in schizophrenia. Moreover, it increased hippocampal volume and plasticity in the brains of patients with schizophrenia – the biochemical deficits not improved by antipsychotic medication (Girdler et al., 2019). Other reviews of studies concerning neural correlates of exercise in

schizophrenia found that whilst most studies focused on the hippocampal effects, there is also emerging evidence for other neural mechanisms underlying positive effects of physical exercise on the brain regions affected in schizophrenia, thus resulting in improved quality of life and overall functioning (van der Stouwe et al., 2019; Maurus et al., 2019). Furthermore, Fernández-Abascal et al. (2021) systematically reviewed and meta-analysed 59 randomised controlled trials on effectiveness of lifestyle interventions such as diet and exercise on physical and mental health, and found improvements (persisting at follow up) in physical outcomes as well as in psychotic symptoms severity, many cognitive domains, global functioning and quality of life. These findings are promising and might encourage mental health providers to consider health behaviour change interventions as part of mental as well as physical healthcare, thus reducing the divide between the two domains of healthcare.

In regards to the reviews investigating the effectiveness of health behaviour change interventions on physical health outcomes, the results of the studies included in these reviews should be interpreted with a degree of caution because of the broad range of designs, multiple health behaviours targeted and relatively low retention rates, as well as the risk of bias resulting from lack of protocol registration in more than half of the studies reviewed (Mazoruk et al., 2020). Olker at al. (2016) argued, in a meta-analytic review of data on weight management interventions from a total of 1779 participants with SMI, that in order to improve research and intervention outcomes in SMI "*it is imperative for future research to include adequate follow-up periods, provide protocols, and employ better control methods*". Of the 18 studies reviewed by Mazoruk et al.

(2020) only eight studies were controlled clinical trials which had protocols registered at inception.

Also, as previously discussed, the problem with studies evaluating the effectiveness of lifestyle interventions is that they often lack transparency in what theory and behaviour change models were used to inform the intervention studied (Michie et al., 2011). The studies reviewed by Mazoruk et al. (2020) largely lack clear theoretical grounding of interventions, and vary in terms of reported outcome measures thus making it difficult to understand what components of interventions are most effective for what kinds of health behaviour related problems. For example, of the reviewed studies only three based their intervention on behaviour change theory such as Self-Efficacy Theory (Beebe et al., 2011), Mental Contrasting and Implementation Intentions (Brown et al., 2011), and Cognitive Behavioural Theory (Barrowclough et al., 2010). The remaining studies largely described the interventions as based on Goal Setting, Motivational Enhancement or Motivational Interviewing (MI) principles to increase exercise behaviour, change dietary behaviour, resolve ambivalence to change substance use or increase self-care behaviours (Mazoruk et al., 2020).

Further to the above discussed evidence for effectiveness of health behaviour change interventions in schizophrenia it has also been found that the risk posed by antipsychotic medication can be outweighed by lifestyle (behavioural) changes, and can be managed through standard monitoring procedures such as regular blood tests, blood pressure, weight, and waist circumference measures. For example, literature suggests no differences in the effectiveness of weight management interventions between groups on

antipsychotic medication with a low, medium and high weight gain propensity, with positive outcomes reported across all groups (Attux et al., 2011; Brown et al., 2011; McKibbin, 2010). Still, in spite of the literature evidence, the perceived negative consequences of antipsychotic medication, such as weight gain, is considered a main cause for medication non-adherence in this group with up to fifty percent not taking antipsychotic medication as prescribed (Robinson et al., 2002; Wong et al., 2011). This evidence suggests that psychoeducational interventions aimed at medication adherence are lacking in mental health settings, which maintains the belief amongst people with SMI that antipsychotic medication inevitably causes weight gain and leads to ill health. Non-adherence to antipsychotic medication has been managed by services through depot medication administration which helps patients adhere to treatment because of reduced medication administration, although it does not prevent non-adherence as some patients do not turn up for depot clinics (Shi et al., 2007). Therefore, medication adherence is another key area for health behaviour change interventions in this group as the management of psychotic symptoms is without a doubt crucial in understanding and enabling self-management of physical health.

Undoubtedly, the above described findings contribute to a better understanding of effective ways for managing physical health in people living with Schizophrenia through tailored lifestyle interventions. Yet such health behaviour change interventions are not routinely offered in the mental health settings despite the wide recognition of the health inequalities experienced in schizophrenia (Himelhoch & Daumit, 2005; Anderson et al., 2013; Bartlem et al., 2014). Physical health monitoring appears to be the first line intervention to

address physical health risks in schizophrenia in mental health services, although it is also often inadequate (Baxter et al., 2016; Happell et al., 2016; Millar et al., 2014; Montejo, 2010).

1.7. Who should provide lifestyle interventions in Schizophrenia?

Although traditionally GP's were considered to be best placed to discuss health risks and lifestyle interventions with patients (NICE 2009), anecdotal evidence suggests that they may not be best placed to deliver health behaviour change interventions in schizophrenia. In contrast to mental health professionals, GP's may not have the knowledge and skills, and they do not tend to see this group of clients regularly or for longer than the standard ten minutes consultation which may not be sufficient to understand the context of unhealthy behaviours and to address them effectively. In contrast, mental health professionals are considered to be well placed to deliver lifestyle interventions (Meepring et al., 2016) because they typically have regular contact with this client group and can facilitate development of a therapeutic alliance where discussion about health and self-management can take place. Mental health professionals have a good understanding of the psychological nature of their clients' problems, what places them in an ideal position to deliver health behaviour change interventions (Meepring et al., 2016). In the UK, NICE guideline clearly states that *"people with psychosis or schizophrenia, especially those taking antipsychotics, should be offered a combined healthy eating and physical activity programme by their mental healthcare provider"* (NICE 2014; reviewed and upheld in 2019). In addition to this guideline NICE recommends that mental health providers offer smoking cessation and other behaviour change interventions related to cardio-metabolic health (NICE, 2014).

Nevertheless, despite the promising research evidence and clear national guidelines, health behaviour interventions are not routinely provided in mental health services (Himelhoch & Daumit, 2005; Anderson et al., 2013; Bartlem et al., 2014; Gronholm et al., 2017), with pharmacology, talking therapies and most recently physical health monitoring being the first choices of intervention.

1.8. Barriers to provision of health behaviour interventions in Schizophrenia

The above described literature evidence, national targets and recommendations for care in psychotic illnesses, and national audit results indicate that there is a gap between the knowledge of what works for improving physical health outcomes in schizophrenia, and the health outcomes that are actually achieved in this group. Even though the gap is slowly starting to close with the 4% increase in provision of annual health checks between 2012 and 2014 (NAS 2, 2014), the targets are still far from being met. The recommendation that mental health professionals are best placed to deliver health behaviour change interventions in schizophrenia (Meepring et al., 2016; NICE, 2014) is not reflected in routine provision of such interventions in mental health settings (Himelhoch & Daumit, 2005; Anderson et al., 2013; Bartlem et al., 2014; Gronholm et al., 2017). Sheals et al. (2016) suggests that unhelpful attitudes may be responsible.

In a large review of thirty eight studies looking at the attitudes of mental health professionals towards smoking Sheals et al. (2016) found unhelpful attitudes and misconceptions which may act as a barrier to provision of health behaviour change interventions, such as that patients are not interested in stopping smoking or that it would be too much for the patient to cope with. Of

16369 participants included in the review, 42.2% perceived barriers to delivering smoking cessation interventions, 40.5% had negative attitudes towards it, and 45% had permissive attitudes towards smoking. Literature also suggests that even when professionals who hold unhelpful attitudes do offer lifestyle interventions, the outcomes of those may be poorer as compared to interventions offered by professionals who hold positive attitudes. For example, Brown et al., (2014) suggest that intervention environment may act as a barrier or facilitator of weight loss intervention, and Niv et al., (2014) found significant differences in engagement and weight outcomes between groups referred from two different clinics, with a group referred by a clinic with positive attitudes towards weight loss program achieving significantly better results compared to a group referred from a clinic that was not invested in implementing weight loss program. This evidence suggests that the attitudes of professionals towards health behaviour change interventions may have a profound effect on engagement and effectiveness of such interventions.

The literature evidence exploring mental health professionals' attitudes towards delivery of health behaviour change interventions other than smoking is limited. A literature search revealed five cross-sectional studies (Howard and Gamble, 2011; Robson et al., 2013; Wheeler et al., 2014; Bartlem et al., 2016; Ganiah et al., 2017), one mixed method study from Australia, consisting of survey and a focus group data (Hyland et al., 2003), and one qualitative study exploring mental health care coordinators attitudes towards physical health monitoring (Gronholm et al., 2017). The studies shed some light on possible barriers and facilitators to provision of health behaviour change interventions in mental health settings.

Bartlem et al. (2016) found in a study investigating attitudes of multi-disciplinary mental health professionals towards provision of preventive care, that the majority of respondents had positive attitudes, confidence and skills towards delivering various health behaviour change interventions, however psychiatrists and other mental health professionals were less likely to report such interventions as being part of their role, as compared to nurses. Less than a half of participants believed that patients wanted to change unhelpful health behaviours, and a quarter believed that such care provision would negatively impact on the time left for acute care management. However, there was no significant association found between clinicians' attitudes and provision of such interventions. Bartlem et al. (2016) concluded that: "*Strategies are required to translate positive attitudes to improved client care and address attitudes which may hinder the provision of preventive care in community mental health"*. Robson et al. (2013) also found in a study investigating mental health nurses' attitudes to physical health care and its associations with practice and training, that mental health nurses had widely positive attitudes towards provision of such interventions with varying degrees of reported physical health practice, with post qualification training being associated with more involvement in physical health practice. Similar discrepancy between positive attitudes and involvement in health promotion was reported in inpatient nurses where, despite high levels of positive attitudes, a quarter reported lack of confidence in delivering such interventions (Howard and Gamble, 2011). Largely positive attitudes towards delivering drug and alcohol interventions to clients with comorbid mental health illness and substance misuse were also reported by multidisciplinary mental health professionals working across community and

inpatient settings (Wheeler et al., 2014), however, delivery of such interventions was limited due to reported gaps in confidence, knowledge and training.

In contrast to the above described literature evidence from the UK and Australia, Ganiah et al., (2017) found significant association between Jordanian mental health nurses' attitudes and their provision of interventions for physical health, with those reporting more positive attitudes engaging in practicing health promotion interventions. Although, the generalizability of this single study may be questionable due to the specific subset of the population studied.

Only two studies provided qualitative data relating to mental health professionals experiences of, and attitudes towards addressing physical health in SMI - a mixed method (survey and focus group) study by Hayland et al (2003) and a qualitative study by Gronholm et al. (2017). Hyland et al. (2003) investigated Australian mental health case managers' attitudes to the physical health issues of their patients. The study reported that respondents had overall good understanding of the impact of mental illness and antipsychotic medication on patients' physical health, but shared a "*sense of pessimism*" as to whether improvement in physical health of their patients was realistic, with the majority reporting attempts at interventions for improving physical health of their patients. However, there were inconsistencies reported in areas of physical health targeted, with preventive interventions being neglected. Gronholm et al. (2017) explored mental health care coordinators views and experiences of physical health monitoring in SMI. The study found that factors such as perceived role incongruity and burden of additional responsibility acted as barriers to physical health monitoring amongst mental health care coordinators, whilst perceived benefits of health monitoring for improving therapeutic

relationship helped to facilitate it. The key finding of the study was that performance monitoring policies facilitated mental health care coordinators' recognition of physical health needs in clients with SMI. However, at the same time the study found that in general the clinical guidelines were not always reflected in practice. For example, at the time the study data was collected the clinical guidelines (NICE, 2009) recommended that GPs were responsible for physical health monitoring and treatment, but this recommendation was not reflected in GP practice due to limited capacity and skills (Gronholm et al., 2017). As such, Gronholm et al. (2017) study confirmed the pervasiveness of the disparity between national clinical guidelines and routine practice.

1.9 The aim of this study

In summary, despite the research evidence and clear clinical guidelines for health behaviour change interventions in psychotic illness, provision of such interventions is not routinely offered in mental health services. The evidence relating to mental health professionals' experiences of delivering health behaviour change interventions to people with SMI such as schizophrenia is limited. Previous literature provides evidence in general mental health with only two studies focusing on professionals working mainly with clients with SMI such as schizophrenia (Hayland et al., 2003 and Gronholm et al., 2017). Overall, the findings suggest that positive attitudes are not translated into practice. Confidence, knowledge and skills, self-esteem, role congruity, burden of additional responsibility, education level, and misconceptions about patients with severe mental health have been previously identified as potential barriers to provision of health behaviour change interventions in SMI (Meepring et al., 2016; Howard and Gamble, 2011; Robson et al., 2013; Wheeler et al., 2014;

Bartlem et al., 2016; Ganiah et al., 2017; Hayland et al., 2003 and Gronholm et al., 2017). However, more research is needed to explore and understand the pervasiveness of the disparity between clinical guidelines and practice. Exploring mental health professionals' experiences of health behaviour change in schizophrenia may contribute to a better understanding of the previously reported barriers to provision of such interventions in mental health services, and help to explain the gap between the positive attitudes towards health behaviour change interventions and the provision of such interventions reported in previous studies.

To date there has been one mixed method study (Hayland et al., 2003) exploring mental health professionals attitudes to physical health interventions and one qualitative study exploring mental health care co-ordinators' views and experiences of physical health monitoring in SMI (Gronholm et al., 2017). A literature search did not reveal any qualitative studies exploring the disparity between positive attitudes towards health behaviour change interventions in schizophrenia and clinical practice amongst mental health professionals in secondary services. Thus the aim of this study was to fill this gap in the literature and qualitatively explore secondary mental health professionals' experiences of delivering health behaviour change interventions to people with Schizophrenia. It was expected that the rich qualitative data relating to these experiences might contribute to a better understanding of the gap between professionals' attitudes towards health behaviour change interventions and their provision in schizophrenia. It was expected that the findings of this study might provide evidence that would encourage a better understanding of these experiences that could then be used to inform the review and further

development of the current strategies for better integration of health behaviour change interventions into mental health settings. Such strategies could help translate the positive attitudes into practice, and address the negative attitudes that may hinder provision of health behaviour change interventions to people with SMI such as schizophrenia, within mental health settings.

The COM-B model of behaviour was used to make sense of mental health professionals' experiences of delivering health behaviour change interventions to patients with schizophrenia, with the view of identifying potential areas for intervention to increase the provision of health behaviour change interventions in mental health services. The COM-B model was chosen by the researcher because it emphasizes the role of context in behaviour (Michie et al., 2011) and as such fits well with the ontological critical realist position, and epistemological contextualist position taken by the researcher in this study. Both positions are discussed further in the methodology chapter, and the significance of the COM-B components is discussed along with the identified themes.

2. Methodology

2.1 Research Methods

The nature of this research study is exploratory and as such fits well into a qualitative paradigm. Qualitative research is concerned with words and images and aims to capture aspects of real life and to make sense of it through applying an interpretative framework to the data. It can be divided into two wide categories, experiential and critical (Reicher, 2000). Experiential qualitative research is concerned with participants' experiences, interpretations and meaning making which is seen as located in specific contexts. It views participants as experts on themselves and aims to reflect aspect of their worlds

as opposite to using the researcher's knowledge about participants to analyse and interpret the data (Braun & Clarke, 2013). Critical qualitative research, on the contrary, seeks to examine participants' experiences and meaning making in order to explore other phenomena, such as factors influencing or the effects of particular meanings or experiences. As such the researcher's knowledge and interpretation becomes more important than participants' (Braun & Clarke, 2013). Whilst experiential qualitative research focuses on language as a means of accessing participants' inner world, critical qualitative research views language as a mean of creating reality, i.e. language is viewed as creating reality rather than reflecting it (Weedon, 1997).

The approach taken in this research study was experiential where participants' experiences were explored through in depth semi-structured interviews.

2.2 Theoretical Framework and Approach

There are various methodologies used in qualitative research which share many general characteristics of the qualitative research paradigm, but differ in how the study is carried out and how the data is then interpreted (Braun & Clarke, 2013). In other words, the different methodologies have their own theoretical frameworks. The theoretical framework used in a study relies on the ontological and epistemological position taken by the researcher (Braun & Clarke, 2013). Broadly speaking, ontology is a theory about the nature of reality (i.e., how reality is conceptualised and whether it exists independently of human interpretation) and epistemology is a theory about the nature of knowledge (i.e., what is a valid 'knowledge' and how do we know what 'knowledge' to trust), (Braun & Clarke, 2013; Ritchie & Lewis, 2009).

Braun & Clarke (2013) refer to a continuum of ontological positions relevant to research, and describe ‘realism’ and ‘relativism’ as two opposite ends of the continuum. Taking the view that there is only one truth out there in the world, realism assumes that reality is absolutely independent from human interpretation. Researchers taking realist position assume that the world out there can be understood through research and the application of specific research techniques. This approach is commonly used by qualitative researchers (Braun & Clarke, 2013). Relativism, on the other hand, assumes that there are multiple constructed realities which are hooked on the ways individuals come to know them (i.e., reality is moulded by individual experiences in specific contexts), and that researchers can never gain access beyond these constructions. Relativism underpins some qualitative research, but is uncommon in quantitative research (Braun & Clarke, 2013). Along the ontological continuum, in between realism and relativism sits ‘critical realism’ which assumes that some universal truth does exist behind the socially constructed realities, but it can only be partially accesses through the subjective realities. Critical realism is a position commonly adopted in qualitative research and underpins various qualitative approaches, including thematic analysis (Braun & Clarke, 2013).

This research adopted a critical realist position as the study’s ontological theoretical framework, assuming that data can provide information about reality but can never mirror it (Beail & William, 2014). Critical realism takes the view that ontology (what we know) cannot be simply reduced to epistemology (how we know) because we can only ever know a part of what is ‘real’ in the world (Fletcher, 2017). Bhaskar (1975) suggested that acknowledging that what we

know about reality is partial and limited, is different from assuming that there is no reality. Critical realism assumes that a portion of reality exists beyond our awareness and knowledge of it. Thus, reality cannot be captured in its entirety by empirical measures or hermeneutical analysis (Archer et al., 1999). As such, realism about ontology (i.e., the nature of reality) is at the core of critical realism.

Epistemology is concerned with the nature of knowledge (i.e., what is possible to know) and what counts as 'legitimate' knowledge (Braun & Clarke, 2013). Broadly, epistemological positions can be divided into two camps – 'positivism' which assumes that reality is discovered through the process of research, and 'constructionism' which assumes that reality is created through the process of research (Braun & Clarke, 2013). Positivist (realist) position assumes that reality can be captured and valid knowledge collected through application of appropriate scientific methods that control variables and remove contamination (Braun & Clarke, 2013). Constructionist position, on the other hand, argues that there is no ultimate truth or knowledge out there in the world waiting to be discovered. Instead, reality is viewed as made up of 'knowledges' which are related to specific social and cultural contexts. As such knowledge of how things are is seen as a product of how we come to understand it (Braun & Clarke, 2013).

Between positivist and constructionist positions sits contextualism. Similar to critical realism, contextualism takes from constructionism the assumption that there is no single reality and that knowledge emerges from contexts, but retains from realism the interest to understand 'the truth'. Contextualism 'argues that although there is no scientific method to find 'the

truth', knowledge will be true in specific contexts (Braun & Clarke, 2013). Contextual research aims to explore how the social world is experienced by participants (Richie & Lewis, 2009). This study adopted contextualist epistemological approach, which is congruent with the study's critical realist ontological framework described above.

Finally, the theoretical approach chosen to understand behaviour is the COM-B model of behaviour (Mitchie et al., 2011). Congruent with the study's ontological and epistemological frameworks the COM-B model emphasises the role of context in understanding human behaviour. Mitchie et al. (2011) argue that context is at the heart of understanding behaviour and exploring ways to change it. Similarly, Flick (2009) argued that behaviour can only be understood in its context. The application of critical realist and contextualist approach to the analysis of mental health professionals' experiences of delivering life-style interventions to people with schizophrenia facilitates an understanding of the individuals' perspective located within the context of social, cultural and organisational influences.

2.3 Method of Data Analysis

There are various methods of qualitative data analysis. Broadly, qualitative methods range from descriptive methods to interpretative methods (Braun & Clarke, 2013). Descriptive methods are exploratory and focus on giving participants a voice as a mean of reflecting their reality, while interpretative methods are interrogative and go beyond a mere description of experience in order to gain an in-depth understanding of the contextual factors which influence the experiences (Braun & Clarke, 2013).

Some of the most common and accessible methods of qualitative data analysis in psychology are Grounded Theory (GT),(Glaser & Strauss, 1967), Interpretative Phenomenological Analysis (IPA), (Smith, 2009) and Thematic Analysis (TA), (Braun & Clarke, 2013). Others require more advanced skills and include Discursive Psychology (DP), Conversation Analysis (CA) and Narrative Analysis (NA) (Braun & Clarke, 2013). The methods of analysis considered for this research study were the most common methods used in psychology as they are recommended to those new to qualitative research (Braun & Clarke, 2013).

Grounded Theory, developed by Glaser & Strauss (1967), is an inductive and systematic methodology for collecting, analysing and conceptualising data with the aim of constructing a theory from the data. It is widely used in the field of psychology and social sciences, although has received criticism for its assumption that the researcher is merely an observer with no impact on how the data is interpreted (Willig, 2008). This method of analysis was not compatible with the design of this research study which used existing theory of behaviour change, the COM-B model, as a framework for analysing data.

Another commonly used method in qualitative research is Interpretative Phenomenological Analysis developed by Smith et al. (2009), which attempts to understand how individuals experience and make sense of particular phenomena in a given context. This method was not considered appropriate for this research study as it is most effective in offering insights into how individual persons (or small groups of people) in given contexts make sense of their worlds, rather than exploring data and thematic patterns across a larger number of participants (Willig, 2008; Braun & Clarke, 2013).

The method of data analysis used in this research study was Thematic Analysis.

Thematic Analysis was developed in the 1970's by Gerald Holton (Braun & Clarke, 2013) but had not been recognised as a distinctive method for data analysis in social sciences until recently (Braun & Clarke, 2006). Braun & Clarke (2006) proposed a systematic, six-step approach to identifying, analysing and reporting patterns and themes in data, thus 'naming and claiming' TA within the field of psychology. In contrast to other qualitative approaches, which can be described as methodologies or theoretically informed frameworks, TA is best understood as a theoretically flexible method of data analysis (Braun & Clarke, 2013). TA acknowledges the active role of researcher in identifying patterns of meaning (i.e. 'researchers cannot free themselves of their theoretical and epistemological commitments, and data are not coded in an epistemological vacuum.'; Braun & Clarke, 2006), as opposite to the assumption that patterns of meaning are waiting to be discovered within the data, as claimed by Grounded Theory (Braun & Clarke, 2006). TA aids an analysis of the ways individuals make sense of their experiences in the given context, in other words how a given social context influences the individual meaning making. In doing that it maintains the focus on the material and other limits of 'reality' (Braun & Clarke, 2006; 2013). As such, TA is a contextualist method which sits within theoretical orientation of critical realism, design to provide an organisational framework for analysing, interpreting and reporting data in qualitative research. Critics, such as Biggerstaff (2012) and Willig (2008) suggest that although TA's scope is too limited to provide an opportunity for an in-depth data analysis, it is particularly useful for categorising and summarising themes identified in the data. As such

TA is a particularly useful qualitative approach to explore under-researched phenomena, which provides a broad overview of the main themes across the data (Braun & Clarke, 2006; 2013). As this study aims to investigate under-researched phenomena, TA allowed a rich thematic description of the dataset (Braun and Clarke, 2013). A semantic approach was used to identify themes, what means that themes were identified with a 'surface meaning' (Braun and Clarke, 2006) without trying to interpret anything beyond what was explicitly said. The data were organised and described according to semantic themes and patterns. As suggested by Braun and Clarke (2006), the summary of identified themes and patterns was followed by an interpretation with an attempt to theorise the significance of the patterns and their meanings and implications in the context of previous literature.

The six-step systematic process of thematic analysis described by Braun & Clarke (2006; 2012) was used to guide the analysis of data in this study. The first step in data analysis involves transcription of the data and familiarisation with the data. This follows by generating initial codes, searching for themes, reviewing themes, defining and naming themes (and sub-themes), and finally producing the report.

2.4 Research Design

2.4.1 Participants

Purposive sampling was used to recruit participants because it allows recruitment of participants who can provide in-depth and detailed information about the phenomenon under investigation, i.e. mental health professionals' experiences of delivering lifestyle change interventions to people with schizophrenia. The invitation to participate was sent via email to all mental

health professionals working in Adult Community Mental Health Services within one of the mental health trusts in England. It included information sheet outlining the study background, aims of the study and inclusion criteria for participation. The criteria were that participants be registered mental health professionals (i.e. Psychiatrists, Social Workers, Community Psychiatric Nurses and Psychologists) working clinically with clients with a formal diagnosis of schizophrenia as defined by Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, 2013 and who are prescribed with any type of antipsychotic medication (see Appendix 1).

In total 10 mental health professionals agreed to participate in semi-structured interviews. The original time frame for recruitment was extended due to non-response following first recruitment attempt. All participants consented, in a written form, to participation in the study which involved audio recorded interviews.

In order to maintain confidentiality and anonymity only basic demographic data were collected and presented as an aggregate presentation of the group's ethnicity, gender, age group, and profession (Table 1).

Table 1. Participant demographic data.

Participant	Pseudonym	Profession	Gender	Age group	Ethnicity
1	Dana	Social worker	Female	30-40	White British
2	Bonie	Psychiatrist	Female	30-40	Black African
3	John	Psychiatric Nurse	Male	40-50	White British
4	Natalie	Social Worker	Female	30-40	White Other
5	Laura	Social Worker	Female	20-30	Black British
6	Catherine	Social Worker	Female	50-60	White British

7	Isabel	Psychiatric Nurse	Female	50-60	Black African
8	Barbara	Psychologist	Female	40-50	White Other
9	Sophie	Social Worker	Female	40-50	Black African
10	Sonia	Psychiatric Nurse/ CBT therapist	Female	30-40	White Other

The number of participants sufficient for a Professional Doctorate TA study ranges between ten and twenty (Braun & Clarke, 2013). The initial aim of the study was to recruit twenty participants as Braun & Clarke (2013) suggest that larger number of participants in a study utilising TA increases the likelihood of publication in more respected journals. However, the recruitment process proved even more difficult due to the COVID-19 pandemic which resulted in changes to how mental health services operate, with many community mental health professionals being re-deployed to acute services. The researcher decided that given the study time-frame and uncertainty about when community mental health services would return to normal, it was sufficient to collect ten interviews. This decision was in line with recommendations for a Professional Doctorate project sample size suggested by Braun & Clarke (2013).

2.4.2 Data Collection

The original title of this study, *'Mental health professionals' attitudes of provision of health behaviour change interventions to people with Schizophrenia. A thematic analysis'*, arose from findings of systematic review of the effectiveness of health behaviour change interventions in managing physical health risks in psychotic illness such as schizophrenia, completed by this researcher (Mazoruk et al., 2020; Appendix 2). However, following a discussion with supervisors the title evolved to *'Mental health professionals' experiences of*

provision of health behaviour change interventions to people with Schizophrenia. A thematic analysis.' The original 'attitudes' were replaced with 'experiences' in order to allow more scope in the analysis. It was thought that although attitudes were likely to come out of it, the broad concept of experiences would allow other psychological concepts to arise too, what could contribute to a better understanding of the issue.

Health behaviour change interventions were defined as any lifestyle interventions aimed at prevention or managing health risks, including interventions aimed at diet, exercise, drug and alcohol misuse, medication adherence, sleep hygiene and self-management. Ethical approval for this study was granted by the University of The West of England (Appendix 3) and the NHS Health Research Authority (Appendix 4). The method for data collection compromised an in depth semi-structured interview. The interview schedule (Appendix 5) consisted of four parts: Part 1 – Experiences of, and attitudes towards provision of Health Behaviour Change interventions (14 questions); Part 2 - Perceived barriers and facilitators to provision of Health Behaviour Change interventions (8 questions); Part 3 - Supervision, training and organisational agenda (6 questions); Part 4 - Any other comments (1 question). All questions included in the interview were open ended to allow free expression (see Appendix 6 see for transcribed interview example).

The interview schedule was informed by the findings of previous research findings (Meepring et al., 2016; Howard and Gamble, 2011; Robson et al., 2013; Wheeler et al., 2014; Bartlem et al., 2016; Ganiah et al., 2017; Hayland et al., 2003 and Gronholm et al., 2017). Part one of the interview schedule investigated participants' experiences of, and attitudes towards

working with people with schizophrenia in secondary mental health service. This part explored participants' roles within the team because previous research suggested that perceived role incongruity might prevent mental health professionals from engaging with health behaviour change interventions (Bartlem et al., 2016; Gronholm et al., 2017). It also explored participants' understanding of health behaviours and health inequalities in schizophrenia because previous findings suggested that gaps in education level can hinder provision of such interventions (Hyland et al., 2003; Robson et al., 2013; Howard and Gamble, 2011; and Wheeler et al., 2014). Finally, this part explored participants' views (and attitudes) on and experiences of delivering health behaviour change interventions to patients with schizophrenia, in order to explore the discrepancy reported in previous studies between attitudes and practice (Bartlem et al., 2016; Robson et al., 2013; Howard and Gamble, 2011; and Wheeler et al., 2014). Part two of the interview schedule focused on an in-depth exploration of perceived barriers and facilitators to provision of health behaviour change interventions in secondary care. It was hoped that this exploration would help to evaluate previous findings as well as produce knew knowledge and understanding of mental health professionals' experiences. This part also explored professionals' perceptions of their patients' attitudes towards changing health behaviours because Meepring et al. (2016) found that misconceptions about what patients can and can't do can pose a barrier to provision of health behaviour change interventions. Part three of the interview schedule explored the organisational agenda around physical health in schizophrenia. This was with a view of evaluating how the national guidance is reflected in organisational policies, training and supervision, and exploring how

mental health professionals' experiences of health behaviour change sit in the context of the organisational agenda. It was hoped that this would contribute to a better understanding of the persistent discrepancy between national guidelines and clinical practice reported in previous literature (Gronholm et al., 2017). Finally, part four invited free expression of any additional comments in order to allow for any other relevant issues to arise.

It was anticipated that mental health professionals' experiences of delivering health behaviour change interventions may be reflective of, but not limited to their attitudes, as reported by previous research. It was anticipated that the accounts of experiences would reflect a broader spectrum of factors influencing the provision of health behaviour change interventions, also including mental health professionals' perceptions of clients' perspective and organizational agenda. The interview schedule (see Appendix 5) was used as a guide rather than a list of questions to be adhered to throughout the interview.

The interview schedule was discussed and agreed with supervisors. This included piloting the interview through test running it with a colleague psychiatrist in order to ensure that the schedule was coherent, comprehensive and non-repetitive.

The semi-structured interviews were approximately 1 hour long, although some interviews took longer than others. It was planned that for participants' convenience and safety all interviews be conducted face to face in pre-booked confidential therapy rooms in participants' work bases. However, due to the changes to work arrangements caused by the COVID pandemic some interviews were conducted via secure online video-conference platform. As such the study used mixed in person and online interviews, where seven

interviews were conducted in person and three online. For the in person interviews, the researcher met the individual participants in pre-booked therapy rooms in their work bases. For the interviews conducted online the researcher met participants through a pre-scheduled secure video conference call. The interview process began by introductions and a brief reminder of the study aim, confidentiality, right to withdraw and consent to audio record. The researcher then led the interview by asking the interview questions. Prior to ending interview the participants were offered a debrief.

Whilst the researcher received positive feedback from all participants in the study and there were no technical issues experienced during the online interviews, it is important to acknowledge the potential issue of differences in interview modes (and thus participants' experience) having an effect on data collection (Rubin & Rubin, 2011; Hermanowicz, 2002). For example, in a study evaluating participant and researcher experiences of zoom as data collection method, Archibald et al. (2019) found that both participants and researchers rated the experience as highly satisfactory and preferred over other interview modes. However, another large study analysing 300 interviews (Johnson et al., 2019) found that although the two modes of interviewing do not differ significantly in subjective ratings, length or substantive coding, the in person interviews have clear advantages in producing conversation turns and word dense transcripts. They concluded that '*although remote interviews might be necessary or advantageous in some situations, they likely do often come at a cost to the richness of information produced by the interviews'* (Johnson et al., 2019). **2.4.3 Procedure**

Potential participants were identified by the researcher through global email search for each community mental health team group email address within the mental health trust participating in the study. Emails with invitation to participate (Appendix 7) were sent to all adult community mental health team leaders and then cascaded to all team members following communications with team leaders. An information sheet (Appendix 1) was included in the invitation email to all identified staff. Those expressing interest to participate were emailed a consent form (Appendix 8) and asked to sign it and return to the researcher prior to the interview. The potential participants were all given opportunity to ask questions about the study, prior to signing the consent form. None volunteered to participate in the study in response to the email invitation.

Following the non-response the recruitment was discussed in progression viva and recruitment period extended. Progression viva is an oral examination as part of the Professional Doctorate at The University of The West of England. It is preceded by submission of progression report outlining study progress at one year time points. The progress of the research is assessed against the original study plan and timetable. It was agreed during the progression viva that because of the difficulties encountered by the researcher in recruiting participants for the study, the recruitment period be extended. It was also agreed that a more active approach be taken to recruit participants. The researcher then visited individual teams and spoke to staff about the research. The researcher presented to the teams the rationale for the study, study background and procedure. Fifteen mental health professionals expressed interest to participate, of which 10 completed the interview. All participants consented to audio-recording and transcription of interviews for

research purposes. In order to maintain anonymity only basic demographic data were collected and presented as an aggregate presentation of the group's ethnicity, gender age and profession. There was no identifiable information, such as participant's names, recorded during the interview.

All identifiable personal data, such as in the consent form were stored on a password protected NHS computer. Personal data were managed in line with the trust's information governance policy (Appendix 9). All participants were given the right to withdraw prior to data analysis within a month from their interview, however none withdrew their consent.

All interviews were transcribed by the researcher as part of the familiarisation with the data process.

2.4.4 Quality Assurance

In order to ensure that research within the natural sciences is trustworthy, the concepts of reliability and validity must be adhered to (Ritchie & Lewis, 2003). In order to ensure reliability of a study the research findings must be replicable upon repetition of the study procedures, whereas validity means that the findings match the purpose of the study (Willig, 2008). However, the concepts of reliability and validity have greater applicability in quantitative research (Beail and Williams, 2014). In qualitative research, quality assurance methods have been developed in order to ensure that studies are reliable, although not all qualitative approaches are inclusive of quality assurance methods (Beail and Williams, 2014). For example, Tracy & Hinrichs (2017) proposed that "qualitative work should be assessed on the worthiness of its topic, rich rigor in data collection and analysis, sincerity on the part of the researcher, credibility of the resulting claims, the significance of its contribution

to existing literature, the resonance of its findings, and its ethical execution." Thus, in order to assure quality of the current study the researcher followed these eight 'Big Tent' criteria for quality in qualitative research (Tracy, 2010; Tracy & Hinrichs, 2017). For the purpose of this study, thematic analysis (Braun & Clarke, 2013) was used as a method of data analysis. To assure quality of the analysis the researcher followed Braun & Clarke (2006) criteria necessary for good thematic analysis (see diagram in Vossler & Moller, 2006, p. 196). The criteria provide a rigorous method for analysing data and concern transcription, coding, analysis, overall, and written report, as outlined below.

A) Transcription

1. The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for 'accuracy'.

B) Coding

2. Each data item has been given equal attention in the coding process.

3. Themes have not been generated from a few vivid examples (an anecdotal approach) but, instead, the coding process has been thorough, inclusive and comprehensive. 4. All relevant extracts for all each theme have been collated.

5. Themes have been checked against each other and back to the original data set. 6. Themes are internally coherent, consistent, and distinctive.

C) Analysis

7. Data have been analysed rather than just paraphrased or described. 8. Analysis and data match each other – the extracts illustrate the analytic claims.

9. Analysis tells a convincing and well-organised story about the data and topic.

10. A good balance between analytic narrative and illustrative extracts is provided.

D) Overall

11. Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it a once-over-lightly.

E) Written report

12. The assumptions about TA are clearly explicated. 13. There is a good fit between what you claim you do, and what you show you have done – i.e., described method and reported analysis are consistent. 14. The language and concepts used in the report are consistent with the epistemological position of the analysis. 15. The researcher is positioned as active in the research process; themes do not just 'emerge'.

In the process of analysing data, the researcher acknowledged that the process of analysis is also influenced by the researcher's skills to critically analyse the data (Braun & Clarke 2013). This along with the researcher's ontological and epistemological framework applied to the research process was captured in a reflective account below.

Data from the ten semi structured interviews were analysed by the researcher using Braun & Clarke (2006; 2013) six step model for thematic analysis. The first step involved familiarising self with data through listening to and transcribing audio recorded interviews. The second step involved reading and re-reading the data and assigning preliminary codes to data items in order to describe the content. In the third step the researcher searched for patterns in codes across the interviews and conceptualised themes. The fourth step involved reviewing the themes, and in step five the researcher defined and classified themes and sub-themes. The final step was the production of the

report. The final conceptualisation of themes and sub themes is presented in Table 1.

2.5 Reflective Practice

I am aware that my position as a researcher, along with my skills to critically analyse the data influenced the process of data analysis. Aware of the possible risk of researcher bias I followed self-reflection guidance seriously (Fook, 2007; Braun & Clarke, 2013) in order to reduce it. Fook (2007) and Braun & Clarke (2013) suggest that reflecting on one's own practice is essential in understanding how one is located within the research and how this impacts on the research process. At the same time, however, I was aware that the researcher's position is part of the analysis in qualitative process. Further to this, it is also important to note that as a researcher I am not in control of how the findings may be used by other people (Willig, 2008), and that qualitative research carries the risk of subjective interpretations and so other people conducting analysis on the same data set might have come up with different interpretations (Sandelowski, 1995).

My interest in health behaviours in schizophrenia began some ten years ago when I volunteered in mental health charity to facilitate a wellbeing group based on the NHS five ways to wellbeing guide. A large proportion of the group had a diagnosis of schizophrenia and exhibited a number of unhealthy behaviours which affected their health and wellbeing, but at the same time they found it difficult to make changes to improve their health. However, this interest did not crystallise until I was in my first year of health psychology doctoral training. At the time I also worked in an adult community mental health service with various presentations including schizophrenia. I usually delivered

psychological interventions and care co-ordination to clients with anxiety, depression, obsessive-compulsive disorders and personality disorders, much less frequently schizophrenia. I was once asked to work with a client with schizophrenia to help him change health behaviours because his blood markers indicated high risk of cardiovascular failure. This work proved challenging as at the time I knew very little about health behaviour change in schizophrenia, like most of my colleagues in the mental health service. I then decided to systematically review the effectiveness of health behaviour change interventions in schizophrenia as part of my doctoral research project. I found that such interventions can be effective in this group (Mazoruk et al., 2020), but that despite the research evidence which was also reflected in national clinical guidelines there was no routine provision of health behaviour change interventions in mental health services. My own experience of working in a mental health trust in 2016 was such that whilst physical health monitoring (i.e. annual health checks) was in the process of implementation, there was no provision of health behaviour change interventions in the trust, and my colleagues had very little awareness of the importance of such interventions in schizophrenia. Thus, when I conceptualised this research in 2017 I hoped that it would be of much clinical importance to explore such a niche area. To my surprise, when I finally embarked on the interviewing process in the late 2019 and early 2020, quite a bit has changed in the way my colleague mental health professionals thought about physical health in schizophrenia. I realised that I had an assumption that professionals would express negative attitudes towards and poor knowledge about health behaviour change in schizophrenia. To my surprise, the professionals I interviewed had a very good understanding of

physical health risks and outcomes in schizophrenia, with the majority also expressing positive attitudes and attempts at delivering health behaviour change interventions to clients with schizophrenia. I was aware that I had to suspend my judgement when interviewing participants because their experiences differed from my (then not realised) assumptions about them. I attempted to examine the data with an open mind in order to be aware of my assumptions and to prevent them from leading me to seek confirmation of my opinions about how mental health services address physical health in schizophrenia. At times I became aware of my desire to control the data and analyse it in a direction to reflect my previous clinical experience. This awareness helped me to distance myself from the data and gave me an opportunity to look at the data more objectively. Although, I am aware that an absolute objectivity might have not been achieved.

Finally, I have not conducted a qualitative research before. Previous to this study my research experience was mainly quantitative and I found the process of transitioning to qualitative research challenging. Firstly, I found it challenging to familiarise myself with various qualitative research approaches, and select the most appropriate to my study. However, the most difficult part of the process for me was transcription of the interviews which proved to be a long and time consuming process and in sharp contrast to quantitative analysis which I have been used to. On the other hand, I finally appreciated the importance of interviews transcription as part of the process of immersing myself in the data because listening to the interviews again and again helped me immensely with understanding participants' experiences. This might have not been possible to the same extent if I used a transcription agency as I initially

planned. This process helped me understand how meaning can get lost in translation.

3. Analysis

The analysis was two-fold. In the first instance, the data analysis was guided by the COM-B model of behaviour. Four themes were identified. In the second instance, the data was re-analysed without the preconceptions from the COM-B model in order to investigate whether any significant themes might have been overlooked by the model. An additional theme (theme 5) was identified.

3.1 Overview of the themes

Five main themes with sub-themes were identified in the data (Table 1):

(1) **Knowledge and skills**, with two sub-themes (1a) *Knowledge about physical health outcomes and health behaviours in schizophrenia* and (1b) *Knowledge and skills for delivering Health Behaviour Change interventions.*

(2) **Attitudes**, with three sub-themes (2a) *Positive*, (2b) *Permissive* and (2c) *Resistant to change*.

(3) **Nature of the job**, with two sub-themes (3a) Time pressure and risk management, and (3b) Staff wellbeing and care provision

(4) **Other support to deliver health behaviour change in schizophrenia,** with two sub-themes (4a) Limited resources (4b) Working with primary care (GP) and other services.

(5) **Power to decide,** with two sub-themes (5a) Problem with power distribution and (5b) Service user experience.

Table 2. Themes and sub-themes

Themes	Subthemes
Mental health professionals' experiences of provision of health behaviour change interventions to people with Schizophrenia. A thematic analysis.	
1. Knowledge and skills	a. Knowledge about physical health outcomes and health behaviours in schizophrenia b. Knowledge and skills for delivering Health Behaviour Change interventions
2. Attitudes	a. Positive - 'it makes all the difference' b. Permissive - 'what else have they got' c. Resistant to change - 'they don't want to change'
3. Nature of the job	a. Time pressure and risk management b. Staff wellbeing and care provision
4. Other support to deliver health behaviour change in schizophrenia	a. Limited resources b. Working with primary care (GP) and other services
5. Power to decide	a. Problem with power distribution b. Service user experience

The first four themes and sub-themes were conceptualised within the COM-B model of behaviour framework (Mitchie et al, 2011). The questions included in the semi-structured interviews were also guided by this model of behaviour (see Appendix 5). The COM-B model proposes that behaviour is a function of three components, namely physical and psychological *Capability,* social and physical *Opportunity*, and reflexive and automatic *Motivation*. All three components were emphasised in the first theme, *Knowledge and skills,* where participants talked about their understanding of and varying abilities to deliver health behaviour change interventions to clients with schizophrenia (mental *capability*). They spoke about the lack of training and specialist

supervision (limited *opportunity*) to develop skills for delivering behaviour change interventions, which in turn hinders the provision of such interventions. On the other hand they spoke about how they use what they already know to help clients change some unhealthy behaviours (*motivation*), and also about how they would use supervision to talk about physical health risks when they become magnified (*motivation/opportunity*). The second theme, *Attitudes*, reflects professionals' intentions and choices (reflective *motivation*) and their habitual and emotional responses (automatic *motivation*) to deliver health behaviour change interventions in the context of working in mental health service, with a challenging group of clients. Mitchie et al. (2011) emphasises the role of context in understanding behaviour and exploring ways to change it when developing behaviour change interventions. Another example of the role of context (and *opportunity*) is reflected in the third theme, *The nature of the job*, where participants talk about the characteristics and requirements of the job as limiting opportunities for delivering health behaviour change interventions. Finally, the fourth theme, *Other support to deliver health behaviour change in schizophrenia,* reflects the limited resources (*opportunity*) to facilitate health behaviour change in schizophrenia. Participants talked about the existing support and resources which enable opportunities to engage in offering health behaviour change interventions, but also about resources that are lacking and therefore blocking opportunities to facilitate health behaviour change in people with schizophrenia.

The last theme, *The power to decide*, was conceptualised after data was re-analysed without the preconceptions from COM-B model. Participants talked about the issues of power in relation to how decisions about health and health

related interventions in schizophrenia are made, and who has the power to make them. They talked about the problem with assessing patient's capacity to make unwise health-related decisions in the context of schizophrenia, and the related issue of acting in the client's best interest.

3.2. Theme 1. Knowledge and skills

3.2.1 Overview of the theme

Participants shared their knowledge and understanding of schizophrenia and physical health implications. Despite varying degrees of familiarity with specific national and local policies relating to physical health in schizophrenia, participants demonstrated a good understanding of the health challenges faced by people with schizophrenia.

Participants talked about schizophrenia as a complex and chronic mental health illness which affects people's functioning, both in relation to activities of daily living and in relation to engaging in the community. They talked about negative and positive symptoms of schizophrenia such as impaired cognitive function, low motivation, stunted responses, self-neglect (negative symptoms) and hearing voices and paranoid beliefs (positive symptoms). Participants talked about how the negative and positive symptoms affect client's health behaviours and their capability to understand and manage the physical health risks. They also talked about the effects of antipsychotic medication on physical health, which coupled with unhealthy behaviours poses high risk to health. What they said is reflected in subtheme 1a, *knowledge about physical health outcomes and health behaviours in schizophrenia*.

Participants demonstrated good awareness of current research concerning morbidity and mortality in schizophrenia and the clinical guidelines for provision

of physical health monitoring and for delivering lifestyle interventions. They talked about how this information was being disseminated through multidisciplinary meetings and e-mails to remind staff about the importance of addressing physical health in schizophrenia. Participants also talked about the importance of having mental health knowledge to tailor health behaviour interventions to this group of clients. However, they also talked about knowing what advice to offer but not always having the knowledge and skills to deliver health behaviour change interventions. What participants said is reflected in subtheme 1b, *knowledge and skills for delivering health behaviour change interventions*.

3.2.2. Sub-theme 1a) Knowledge about physical health outcomes and health behaviours in schizophrenia

When asked about the physical health outcomes in schizophrenia participants spoke about the increased physical health risks and a shorter life expectancy in people with schizophrenia as compared to general population. Participants talked about individual clients presenting with different and often co-morbid health issues ranging from more prevalent such as obesity and diabetes, cardiovascular diseases and lung diseases to less prevalent such as fibromyalgia, irritable bowel syndrome, thyroid problems, dental problems and many others. Participants talked about the importance of addressing physical health problems in schizophrenia as a way of preventing deterioration in both physical and mental health, and preventing early death from ill physical health. What participants talked about is well summarised in what one psychiatrist said. She (2) said that patients with schizophrenia tend to *'die from physical health*

causes earlier than they should, not because of mental ill health but physical health.' She then went on to explain the reasons behind it:

> *'One, because schizophrenia kind of predisposes you to physical health problems on its own. (...) But then when we also give them antipsychotics we also predispose them to other physical challenges. Like our drugs, you know, could predispose to diabetes, to increase cholesterol and so possibly heart problems. So schizophrenia itself has its health challenges. Our treatment also worsens the health challenges that they face.'* (Bonie, participant 2)

When asked about health behaviours in people with schizophrenia participants talked about the majority of clients engaging in numerous unhealthy behaviours which put them at risk of ill health on its own, but which also compound the health risks posed by antipsychotic medication. Participants also talked about what drives and maintains these unhealthy behaviours in schizophrenia. However, they also acknowledged that whilst most clients neglect their health, there is a small group of clients with schizophrenia who can, as one social worker (6) said, *'become obsessive about their physical health'* and look after their health well.

Amongst the unhealthy behaviours discussed by participants, smoking was a behaviour talked about as the most prevalent and the most difficult to change. One social worker (5) said *'Ah… smoking… smoking is a big one'*, another (1) said that *'it seems that people with this diagnosis tend to smoke more than the general population.'* A psychiatrist (2) added that *'it seems as if smoking is like self-medication for them, it helps with their symptoms.'* One psychologist (8) echoed this in saying that there is a link between psychosis and smoking which

is well evidenced in the literature. She said that *'smoking seems to cause some sort of a soothing um effect with people with psychosis that for some reason it makes them feel better.'* The psychiatrist (2) further explained that there is research evidence demonstrating that people with schizophrenia are '*a lot more times more likely to be smokers'*. She (2) said that *'smoking is a big, big risk'* for patients with schizophrenia because of its interaction with antipsychotic medication. She (2) explained that:

> *'Smoking will affect their medication in the sense that the more the person smokes the less available the drug will be to their system. If the person reduces their smoking habits then they have more drug available for their system. And we have to closely monitor this. Because if the patient suddenly reduces their smoking then they have more drug in their system and they are more likely to have more side effects. And for clozapine the side effects are mainly heart related. (…) I think that's one of the biggest challenges that we have with respect to schizophrenia patients, smoking and smoking cessation.'* (Bonie, participant 2)

Participants also talked about problematic drug and alcohol use in some people with schizophrenia and how it affects their mental and physical health. One social worker (1) said:

> *'There are people with schizophrenia who use drugs and (…) some of them are the most difficult people to work with actually. Because their symptoms are kind of like erratic. It kind of exacerbates it* [mental health]*.'* (Dana, participant 1)

Similar to smoking, participants talked about substance use as a way of self-medicating symptoms of schizophrenia. For example, one psychologist (8) said

that '*quite a lot of people with psychosis they're trying to get rid of the voices or the psychotic experiences through using drugs or cannabis (…) or alcohol'* and that *'that's got a very detrimental effect on the health.'* Another psychiatric nurse (7) added that *'some patients they may have psychological issue that is making them to drink and to take recreational drugs.'*

Another problematic health behaviour discussed by participants was the tendency in people with schizophrenia to eat unhealthy diet and have sedentary lifestyle. What participants said about diet and exercise is very well reflected in what this professional (3) said:

> *'By its very nature the antipsychotic medication is going to make you put on weight (…). They're going to put on weight, then putting on weight is going to make them probably less inclined to exercise. Um the medication they're on might make them quite sedated which makes them even less inclined to do any exercise. (…) They're going to reach for things that are sweet things, that are fatty things that aren't good for them because they're having these cravings from the medications they are taking.'* (John, participant 3)

He (3) also added that *'a lot of service users when you ask what their diet is I'd say more than half of them are microwaving their meals.'* Participants also talked about the role of negative symptoms of schizophrenia in maintaining low motivation in general, but also about low confidence, lack of knowledge and skills, and other life circumstances which may get in the way of healthy living. For example, one social worker (6) said that sometimes it is *'not knowing what to eat, how to eat healthily.'* Another (1) added that they *'maybe don't have confidence that they can cook for themselves and therefore they eat takeaways*

every night and they don't see a different way of doing it'. A psychiatric nurse (10) also referred to the chronicity of the condition and said that *'it is difficult to break habits that you've developed, you know you've developed over 20 years'*. One psychologist (8) concluded that it might be for many other reasons that people have unhealthy lifestyles:

> *'That could be for many reasons. Um because most of them are not able to work so they are on benefits so they're not able to even eat healthily sometimes. You know they might be eating basic foods or whatever they can afford. Yeah or um living alone and not necessarily cooking that much for themselves because they're living alone and there is no one else around.'* (Barbara, participant 8)

One participant (9) also talked about unhealthy behaviours as part of wider self-neglect problem in schizophrenia, which is not limited to unhealthy lifestyle but extends to all areas of people's lives such as *'personal health hygiene, personal care, um food choices, um (…) the tidiness of their home, their clothing.'*

Another behaviour discussed by participants as problematic was non-engagement and non-adherence to medication. For example, one psychiatric nurse (7) said that *'most of our patients they really do not go to their GP, when they have an appointment they are less likely to go.'* A psychologist (8) added that '*yeah depending how um unwell their mental health is it will also impact on their ability to attend their appointments.'* Participants talked about how paranoid beliefs, when unwell, can also get in the way of engagement. For example, one social worker (6) said that *'because the delusional beliefs or paranoid thoughts they might not really kind of think that you're actually trying to help them'.* Participants also talked about the complex problem with medication

non-adherence which can result from fears of medication side effects such as weight gain, but which then can lead to relapse and increase in those paranoid thoughts that get in way of engagement. As one psychiatrist (2) said: *'Medication adherence, that's a hard one (laugh). Schizophrenia patients, 60% of them stop taking the medication by the end of the first year.'*

Participants also talked about the role of anxiety as a factor contributing to the development and maintenance of unhealthy behaviours in schizophrenia. For example, one psychiatrist (2) talked about how social anxiety can lead to isolation and thus sedentary lifestyle. She (2) said that *'many of them might have anxieties, they don't want to go out, you know they don't want to mix with people so um they are not as physically active as other people.'* One psychologist (8) also talked about the role of anxiety and stress in compounding the risk of antipsychotic medication on cardiovascular system. She (8) said that:

> *'High levels of stress as well would have an impact on your heart rate. That can lead to heart attacks, strokes. That's probably a big one as well because there's lots of anxiety and stress in psychosis as well.'* (Barbara, participant 8)

3.2.3 Subtheme 1b) Knowledge and skills for delivering Health Behaviour Change interventions

Participants talked about their professional backgrounds and how skills and knowledge for delivering health behaviour change interventions differ between the professions within the multidisciplinary team. One social worker (6) said that *'there are always going to be people that are slightly more skilled in doing that than others'.* A psychologist (8) added that the difference in professional roles '*might determine how much you might focus on that physical*

aspects as well'. When asked about training related to health behaviour change there was general agreement that, as one psychiatric nurse (10) said *'you know actually I think that's lacking'.* One psychiatrist (2) echoed this in saying that:

> *'Um it's not like there's any official training, it's part of, I guess, all the general knowledge that you've got to gain in your training as a doctor; that you gather from life. No real training'.* (Bonie, participant 2)

Another social worker (6) also said that:

'A lot of it is what you know yourself (…) a lot of it is experience. It's just because you know it because you've experienced that you know throughout your career. But I don't know for a 22 year olds coming into social work whether you know… do they know what questions to ask? (…) *I don't think University would give them that that kind of background.'* (Catherine, participant 6)

She then added that:

> *'Yeah there isn't. I don't think we've got any kind of overall training or whatever about lifestyle changes.'* (Catherine, participant 6)

Yet another social worker (1) said that while there is not much training available to staff, there is some. She also said that she had Motivational Interviewing training in her Social Work training at University:

> *'Not very much. My motivational interviewing training was with in my social work training, not in the trust. Um but I think there is a motivational interviewing course that is offered. Um but I don't know. And then there is a physical health conference once a year that people can go to learn about what's on offer and why it's important. Yeah they do offer some training.'* (Dana, participant 1)

One psychologist (8) said that the only health behaviour change training that she has ever received, which was in her previous post as a support worker, was '*when I was sent off to this smoking cessation training'.* She (8) said that:

> *'In the 10 years I've been there that was the only thing that had ever been offered and obviously I only went because I volunteered as well (…) but I've not had any other training apart from that.'* (Barbara, participant 8)

Participants also talked about supervision and that physical health is not a regular item on the agenda in supervision. For example, when asked about whether physical health is being discussed in supervision one social worker (1) said that *'not very much'*. She then went on to explain that:

> *'I think there is so much focus on risk, like immediate risk and you know like I was saying earlier the longer term stuff is it's just more likely to fall by the way side coz you're firefighting.'* (Dana, participant 1)

When asked about supervision for health behaviour change another social worker (4) said that *'I don't know I've never had any, I don't know what nurses get.'* However, participants also said that when there is a particular risk to health then they would bring it up in supervision or with senior clinical nurse. For example, one psychiatric nurse (7) said that *'if you have any concerns with any of your patients then you can talk about it in your supervision.'*

Overall, doctors, nurses and occupational therapists were seen by participants as most skilled in delivering advice, interventions or signposting to appropriate services for health behaviour related problems. There was an agreement in saying that doctors have the knowledge to deliver advice about

physical health and the implications of unhealthy behaviours on pharmacological treatment. For example, one social worker (1) explained that:

> *'The doctors are quite good at giving all that evidence for its impact, like if someone is on Clozapine then explaining how smoking may impact that, or drinking may impact the Clozapine.'* (Dana, pgarticipant 1)

She also added that:

> *'Doctors are quite good at bringing it up at their outpatient appointments, so physical health is talked about every time they see a doctor'.* (Participant 1)

Psychiatric nurses who are part of the physical health monitoring clinic were also thought to be equipped in the right knowledge and skills to give advice on health behaviours. As one social worker (1) said:

> *'They obviously do the tests and they give people information, and they know about specific NHS interventions as well as like they can do referrals to Slimming World and gyms and things like that.'* (Dana, participant 1)

Whilst doctors and nurses were seen as best placed to give information and advice relating to heath behaviours and physical health outcomes, occupational therapists were praised for their skills in motivating clients to change unhealthy behaviours. For example, ne psychiatric nurse and CBT therapist (10) said:

> *'OT's are trained amazingly they know mental health inside out and they also know a lot about these interventions and how to motivate people (…) they are so much better trained than the nurses are. OT's are brilliant at running the groups (…) I would always go to OT's to ask you know how do I get someone to do that, how can we change this you*

know, absolutely anything that's practical as well in terms of motivating people.' (Sonia, participant 10)

There was a general agreement amongst participants that because of the differences in skills and knowledge between professionals, delivering health behaviour change interventions should be a team effort. One social worker (1) said that behaviour change is a long process and that:

'[doctors and nurses]*know about the kind of health side of things and then the care coordinator can work and, you know overtime chipping away I guess, implementing the advice that doctors and others have given.'* (Dana, participant 1)

A psychiatrist (2) echoed this in saying that *'it's a kind of sifting net when I'm seeing the patient'* and that it would be helpful if *'there is somebody else who could also potentially intervene at another point.'* She also thought that *'health professional who has the greatest contact with the patient should probably be most involved in providing these interventions.'* Although, some professionals also thought that they did not have enough knowledge to deliver health behaviour change interventions and that having some sort of expertise in the team would be helpful. For example one social worker (6) said:

'You can offer sort of like advice about diet and things but, you know, are you giving the right advice I suppose. So probably there does need to be some sort of expertise within a team that can go give that information if it's something more specific.' (Catherine, participant 6)

When asked about what advice or interventions they deliver as individuals in their everyday contact with clients, participants' responses varied. Most participants said that they didn't have specialist knowledge or skills and

that they used common knowledge about what is healthy and what it not healthy. As one social worker (5) said:

> '*It's the sort things that you know that you should do to look after yourself so it wouldn't come from any sort of special book or training, it's just things that you know is good for you.'* (Laura, participant 5)

Some participants had relevant background or skills, although there were others who said that they didn't have the relevant knowledge or background to deliver health behaviour related interventions. Social workers talked about using a Wellbeing Plan which is a structured document completed in collaboration with the client and which includes physical health care. For example, one social worker (1) said:

> *'Yeah all the wellbeing plans here have 'other ways to stay healthy and well' which I always think covers physical health. So when you do a wellbeing plan with someone then it's like your goals, how you're going to get there, what support I need, other ways to stay healthy and well. And that's the bit where I then spend time talking about like alcohol or drugs or smoking or diet or behaviour changes like that.'* (Dana, participant 1)

She (1) also added that:

> *'You're kind of trained as a social worker on the cycle of change and ways of asking questions and showing understanding and that kind of thing.'* (Dana, participant 1)

At the same time she (1) expressed difficulty knowing what helpful skills she has in saying that *'I don't know, I find it hard to know what skills I've got and how they help.'*

Participants also talked about Social Outcomes Assessment which helps to identify areas of need, including physical health, and when support is needed to help people with behaviour change. What this social worker (1) said reflects what's been said by her colleagues:

> *'So like from a social worker point of view doing social outcomes assessments and recognising where someone can't make those changes on their own. Maybe they can't get out into the community on their own in order to do exercise or whatever it is, or buy the right food. And then putting in a Personal Budget to have social care to help with that, at least in the short term.* (Dana, participant 1)

She then gave an example from her clinical practice:

> *'like the person I mentioned who does go to the gym three times a week now. That was initially paid for by a Personal Budget and then now because he's motivated to keep it up the personal budget is dropping away and he's going to pay for himself.'* (Dana, participant 1)

Other participants talked about doing the best they can to identify physical health needs and help clients make positive changes, whether it's through referring them on to other services, working with their families or supporting them in their home environment. For example, one psychiatric nurse (7) said:

> *'Yeah when we look at their physical health needs we look at their weight and BMI. If it's higher than their height and what it should be then we have to put a plan in place. So the plan could be to encourage them to go to the gym, (…) if they're overweight we might refer them to a dietician.* (Isabel, participant 7)

She then talked about the importance of *'working with patients in the way that you get them to do the best that they can do'* at the time. She further explained that:

> *'If they come from a place of I can't do then you have the responsibility as a clinical nurse or doctor or whatever we are that you try to shift them from I can't do to begin to think that actually I can take a baby step and do a little bit. (…) the focus is always to deliver a person centred care that is meeting the realistic physical and mental health* [goals] (Isabel, participant 7)

Finally, she (7) also added that '*I'm trying to work with the with the family and their friends in some cases, carers, to make sure that that patient's needs are met'* and that *'I try to visit my patients at home at least maybe once in a month or once in two months to see their living environment.'*

Another professional (3) who is involved in the physical health monitoring clinic talked about using positive encouragement to motivate people to change their unhealthy behaviours, although he also said that it is not enough for everyone. He said:

> *'So we think that active encouragement does that work. I think so to a certain extent. If you've given real positive feedback to them and we really over egg it. We really say look how you've done here, look your cholesterol has come down, your diabetes marker has come down significantly from the year before. I'll be really interested to see how it is this time. I'll give you a ring once I've got the results, I'll let you know. So that we go for positive encouragement.'* (John, participant 3)

He then continued:

‘*And um does it make a difference with everybody? No. Are some people coming in and we give them advice and you know when they walk out the door that it’s not going to make any difference? I think some of those who have walked out the door and forget about it might benefit from somebody actively engaging them at that point.’* (John, participant 3)

It appeared that professionals tended to deliver certain kinds of interventions themselves and to refer on for others. Participants differed in what interventions they chose to deliver themselves. For example, one psychiatrist (2) talked about delivering medication adherence and smoking cessation interventions to clients but referring on to GP for exercise interventions. This is what she said about medication adherence interventions she delivers:

‘It’s a difficult one. (…) Just working with them and talking about why they don’t adhere to the drugs I'm trying to see if you can address the reasons behind the non-adherence. Is quite helpful because some of them it would be because they’ve been adding weight, on something like Olanzapine. So increased weight and trying to encourage patients to be more active, to eat more healthily to fight side effects. (…). You ask and then talk with them about modifying the habits if there are any of those target behaviours. But if that's not possible then trying to see if there are alternative drugs.’ (Bonie, participant 2)

She than talked about how she delivers smoking cessation interventions:

‘You know just making them aware of the alternatives so that if they don't want to deal with the withdrawal effects can still get the nicotine but they're not smoking. Because it's actually the smoking that’s the problem, they’re not getting the nicotine and then all the other substances with

smoke. So just making them aware of the alternatives because some of them don't know. Um and then supporting them with trying those alternatives and saying which one works for them.' (Bonie, participant 2)

In relation to exercise the same psychiatrist (2) said that *'we usually will ask the GP's to give them like exercise prescription'* and that *'there's not much more that you can do for a patient in respect to exercise. '*

Contrary to this, one Social Worker (6) talked about using the Wellbeing Plan to encourage clients to engage in physical activity through various community activities. She said *'you know it serves two purposes to get out and do something that's healthy'.* However, she said that for specific health behaviour change intervention such as smoking cessation *'I probably would direct them to our, you know, for physical check to our clinic or to the GP's and services that they provide there.'*

Another professional (9) talked about not having the appropriate background knowledge to deliver heath behaviour change interventions, but still encouraging clients to make positive changes through addressing self-neglect and helping them with meal plans and looking after themselves and their home environments. She said:

'For example I can come up with a menu plan, a meal plan. Most of them are on microwave meals. (…) Most of them need education just to incorporate healthy aspects of the meals. I do chip in. I guess I would say in a minimal way. (…) For example if you eat from your plate just wash it there and then so it doesn't get piled. (…) Yeah so that's what I tend to do and then do the exposure with hem gradually, so if it's plates then

wash one at a time. And you know that kind of intervention.' (Sophie, participant 9)

She then concluded that *'I may just give the basics, (…) a nurse would be much more helpful than me'.* (Sophie, participant 9)

Another social worker (4) talked about not engaging in health behaviour change because of not having the background or set of skills for it:

'So these things are cascaded to us and I think I understand the importance of it. I just find it difficult to do any more than I am doing because it don't have the background skills and knowledge for this. I'm not a health professional, I am the social worker. Does that make sense?' (Natalie, participant 4)

Other professionals talked about using own initiative to incorporate health behaviour change into their work, despite not having the appropriate background or skills. They talked about how their own healthy lifestyle and the knowledge they have accumulated whilst looking after their own health has helped them to also encourage it in clients. For example, one counselling psychologist (8) said that:

'*I mean I'm just very focused on physical activity probably because I think it's important in my life as well, so similar with my clients.'* (Barbara, participant 8)

She then explained how she might incorporate health behaviour change into her work:

'Yeah I mean even as a psychologist I always try and adopt a holistic approach. Even though of course I have to offer mainly the psychological interventions but I always talk about physical activity to my clients.

(…)Um yeah or taking a more holistic approach to healthy mind, healthy body healthy mind. (Barbara, participant 8)

She then explained how she facilitates the behaviour change in clients:

'(…) yes so I'll never just say oh do this and and let them go. I'll try and do a lot of work to try and… that engagement and motivation into why I might engage into this physical activity, with some psychoeducation'. (Barbara, participant 8)

A psychiatric nurse and CBT therapist (10) talked about how she incorporates health behaviour interventions into her CBT-P (Cognitive Behavioural Therapy for Psychosis) sessions because she also leads a healthy lifestyle and recognises the benefits of it. She explained that CBT-P is more for managing voices but as a model it is *'very holistic so it would account for any area of someone's life'. She then explained that 'if someone is obese or somebody wants to stop smoking yeah that's something we would focus on, it just depends on the needs of that person'.* Both professionals also talked about other practitioners in their teams who lead unhealthy lifestyles and how they may find it hard to address unhealthy behaviours in their clients. The psychologist (8) said that:

'The problem is… I mean there's quite a lot of staff that are quite unhealthy themselves or overweight or smoking or drinking etcetera. So that's kinda tricky because if you're overweight or you got an unhealthy lifestyle how can you go and tell the service users you should eat better or you shouldn't smoke? Yes I think that would be quite tricky.' (Barbara, participant 8)

This was echoed in what this social worker (6) said about her being overweight and how it might affect the way she delivers health behaviour advice to clients. She said that '*if I say something about obesity and they look at me they are sort of not going to be convinced of… of it really you know… so I tend to sort of like go from a slightly different angle'.*

The psychiatric nurse (10) also said *that 'there are a lot of nurses who don't exercise who don't eat healthily so aa they might have less of a knowledge.'*

Another professional (3) echoed this and suggested that:

> *'Maybe provide more training for people about physical health. I think that would take that barrier away cause I think some people maybe don't think along those lines, but often it's people that in their personal lives fitness and diet is important to them um for whatever reason. Um they might have more knowledge and they might encourage physical exercise and you know exercise more, and diet.'* (John, participant 3)

Reflecting on the differences in knowledge and skills one social worker (5) concluded that *'it is probably within each individual's knowledge and knowing what to ask for and where to signpost people or how to provide that support.'* And another (8) also added that due to the service being a mental health service provider, *'members of staff will probably place more emphasis on the use of cannabis or substances because they will directly affect the psychotic symptoms'.* This was also reflected in what others thought.

Finally, regardless of the professional background or the level of knowledge and skills, participants agreed that trusting professional relationship was the key to helping clients make any changes. What one psychiatric nurse

(10) said about advice she was once given, reflects what other participants talked about. She said:

> *'When I first started as a nurse in mental health I was given a really good advice by a psychiatrist and actually it's worked so well with people with schizophrenia. He said to me it doesn't matter what skill you have, how technically you are, how knowledgeable you are, what technical skill you have um what... you know any tools you may have or knowledge in mental health. With people with schizophrenia and bipolar it all depends on how much they trust you (…) as long as they trust you, you can make changes in people's lives. If they don't trust you (…) it's nearly impossible. I think I've seen it in practice.'* (Sonia, participant 10)

Another social worker (1) also said that *'there is the building the relationship side which is going to be key for someone to hear what you've got to say I guess.'*

3.3. Theme 2. Attitudes

3.3.1. Overview of the theme

Whilst expressing their attitudes towards delivering health behaviour change interventions to clients with schizophrenia, participants also talked about their clients' attitudes to making health behaviour changes. Participants talked about their clients as a varied group, with different levels of functioning at different times, and varied abilities to accept and engage in health behaviour change interventions. What this social worker (1) said reflects well what others said about how they find working with this group of clients:

> *'I don't want to generalise people cause I know that they're really like so different coz they got their different personalities and stuff, but if they've*

got quite a lot of negative symptoms they can be quite withdrawn and can be stunted in their responses to things. So it's kind of hard to just have a chat with them (…)Um and some people find it hard to change (…) But yes people who still got their positive symptoms and say they are paranoid or a bit delusional about things, and that can be really hard coz they could be very guarded and they don't want to tell you anything. They don't want to let you in. Yeah that's why they are one of the hardest groups of people to work with.' (Dana, participant 1)

A psychologist (8) further explained that working with this group of clients is difficult because:

'I mean it is difficult I think for many, many reasons. First of all, because most of them have a very bad experience in services. Not always but most of them do. Because they've either been sectioned or maybe they didn't like the way… having to take medications… or maybe they've not been able to get the support that they need. You know for various reasons they haven't always had good experience in mental health services.' (Barbara, participant 8)

What this social worker (1) said reflects what others said about the client's attitudes to changing their unhealthy behaviours:

'Yeah it's really varied but in general haven't found much enthusiasm for making changes. And tends to be yeah… I mean if you're feeling low in mood which often people with schizophrenia would, coz they are treated for the kind of positive symptoms and they'll be low in mood and demotivated and they don't really see the point so they're not trying to improve their physical health.' (Dana, participant 1)

In general participants expressed positive attitudes towards the provision of health behaviour change interventions to clients with schizophrenia. However, professionals differed in their attitudes towards offering and delivering such interventions as part of their roles. Some professionals expressed positive attitudes and talked about bringing up physical health in every appointment as part of their holistic approach and a way of motivating and encouraging clients to change over time. Others had more permissive attitudes and thought that this group does not have much else going on their lives or that if it doesn't come from the client that means that the client is not ready to make a change. There were also some professionals who said that it was not within their role to address physical health risks or that they had too much going on in their jobs as it was.

Furthermore, some professionals expressed different attitudes towards different health behaviours. For example, they might have had permissive attitude towards smoking but not towards drugs or alcohol. Professionals also talked about how their attitudes may be changing depending on severity of symptoms. For example, they may become more permissive in regards to smoking during hospital admissions when the client uses smoking as a coping mechanism. Some professionals also discussed attitudes of their colleagues. For example, they said that other professionals may focus more on addressing drug and alcohol use because if affects psychotic symptoms and mental health is the focus of all interventions. Others thought that those professionals who value healthy lifestyle in their own lives are more likely to have a positive attitude and to deliver health related interventions, whereas those who lead unhealthy lifestyles might hold permissive or even negative attitudes and

therefore not engage in delivery of health related interventions. Yet others talked about some professionals being resistant to change themselves and thus resisting taking up new responsibilities such as addressing physical health needs in the context of working in a mental health service.

3.3.2. Subtheme 2a) Positive - 'It makes all the difference'

Participants expressed positive attitudes towards delivering health behaviour change interventions, despite the difficulties motivating clients to change. For example, one social worker (6) said that *'you can't look at someone's mental health without thinking about their physical health as well.'* She then added that *'I think it's kind of integral part of what we do.'* When asked about how provision of health behaviour interventions fits in her role, one psychiatrist (2) said that *'it is embedded in it because yeah… like I wouldn't see any patient without addressing any of those issues because they are so important.* A psychologist (8) echoed this in saying that *'I always try and adopt a holistic approach'.*

Participants also talked about the importance of getting clients on board in order to help them change their unhealthy behaviours. They talked about how difficult it is to get people on board, but also how much difference it makes when they keep trying and people eventually start making small changes. For example this psychologist (8) said:

> *'The effects of antipsychotic medications (…) make people feel very, very tired. So they don't have the energy sometimes, and that's a struggle for me to try and motivate people you know when they do take the antipsychotics and they do feel really tired and sleepy… to try and do some form of physical activity (…) But usually when you do try and are*

able to motivate them to do that they do actually start feeling a little bit better (…) Um so I think yeah… there needs to be an emphasis on the physical wellbeing in every intervention um really.' (Barbara, participant 8)

This psychiatrist (2) agreed with the importance of emphasising health behaviour change with clients with schizophrenia, she said that *'It's critical, It's absolutely essential.'* She also echoed what the psychologist said:

'(…) a lot of it has to be driven by the patient. It is not something you can impose on someone. Yeah we can monitor but if there's no sense of personal responsibility that a patient takes on, like the smoking cessation, things like exercise, we can encourage people to exercise but if they don't come on board with it then it's no use. Um like inadequate diet and everything. So I think that the behavioural health education… it's absolutely critical for our mental health patients. It makes all the difference.' (Bonie, participant 2)

This psychiatric nurse (7) also talked about the importance of seeing beyond the limitations of the mental illness when supporting clients with behaviour change:

'I think the most important thing is not to see the illness (…) when you see a person rather than the illness the nature of the illness disappears in your interaction, in your clinical intervention. You see a human being and then you look at how you can support this human being to regain their potentials and and and support them to do whatever it is that they want to do.' (Isabel, participant 7)

Participants' positive attitudes were also reflected in how they talked about working with resistance to change when trying to address unhealthy behaviours. For example, this psychiatric nurse (7) said that:

> '*it's just about working with patient in the way that you get them to do the best that they can do'* and that *'if they come from a place of I can't do then you have the responsibility as a clinical nurse or doctor or whatever we are that you try to shift them from I can't do to begin to think that actually I can take a baby step and do a little bit'.* (Isabel, participant 7)

Another social worker (1) said that in her experience it can be a long process for people with schizophrenia to go through the stages of change and that *'normally it's not one thing that is going to tip them over into contemplation'* and that *'you need to talk about it regularly.'* She then added that:

> *'Um yeah sometimes it can be infuriating. Coz you are trying to be supportive or help them stay well and you know the resistance can sometimes come with anger at you as well. Um… so that it can feel like ok they're threatened or… yeah like you don't want to bring up again. Um… other times it can… you know that kind of laugh in reaction to your suggestion like yeah, yeah whatever (laugh). But I don't mind and I will bring it up again.'* (Dana, participant 1)

Another social worker (6) echoed this, but also talked about having to know when to bring it up again and when to refrain from it based on how the client is, so that the therapeutic relationship doesn't break. She said that she would '*probably* [do] *both of those at different times'* and that *'I suppose you've got work with what you can do at that point in time'.* She also talked about the complexity of working with behaviour change when clients experience paranoid

thoughts about their health or the help they are being offered and she concluded that *'there are different approaches you'd need with different people for different situations.'* Another professional (10) talked about the importance of being patient with the long process of behaviour change in schizophrenia, and also accepting that not all clients will engage in it. She said:

> *'It takes time you know with people it does take time. It takes time and commitment to… and you can get… as a staff member even if people don't turn up you can't give up because one day they will… they may. It just takes that, you know, it takes that time and patience. You just need to be really, really patient. Because it's so easy to say oh they're are not interested, they don't wanna do it… but of course not because they haven't done it for 20 years (…) and some people might not come.'*
>
> (Sonia, participant 10)

Participants also talked about the importance of all staff taking responsibility for identifying all physical health needs and unhealthy behaviours in clients with schizophrenia even if individual professionals are unable to then deliver the required interventions themselves. They talked about the dangers of neglecting clients' health issues if assumptions are made that it is somebody else's job. For example, this social worker (6) said that it is important *'because we could all just make assumptions that (…) it's someone else's job'* and that *'it's pretty important that we just pick up on things and not make assumptions that it's being addressed.'* In similar way, she talked about the way behaviour change interventions are delivered. What she said reflects what others also talked about:

'I think sometimes we're in danger of sort of saying oh yeah gym membership… but if they're not actually going or, you know, if there's some barriers to actually accessing that is not really resolved (…) you know the person's got to actually work with someone to actually make it work for them (…) so I think it's facilitating people, you know helping people to actually do what they plan to do.' (Catherine, participant 6)

A psychiatric nurse (7) concluded that *'our responsibility is to identify needs'* and '*to look at the needs in terms of risk (…) and then to put a plan in place.'* When planning how to address unhealthy behaviours some professionals were confident in their knowledge and skills to deliver health behaviour change advice to clients. For example, this professional (10) said that:

'I would be comfortable giving the advice and actually seeing the person for what they need at the time when I'm seeing them.' (Sonia, participant 10)

Others felt confident to deliver advice for some behaviours, but would refer on for others. For example, one doctor (2) talked about addressing smoking and substance use in her appointments because they interfere with medication and that is her speciality, but referring onto GP for exercise related interventions. She said that *'each time they come I will try and find out so do you smoke, do you drink?'* and that *'it's a standard because they have implications for you know efficiency in terms of drug therapy.'* She then continued by saying that she would then *'talk with them about modifying the habits if there are any of those target behaviours'.* However, when talking about encouraging clients to exercise she said that:

'We usually will ask the GP's to give them like exercise prescription. (…) Yes the GP gives them, then they can go to the gym without having to pay for it. So that is good incentive to go, you know, and exercise.'

(Bonie, participant 2)

Still others, who did not feel that they had the knowledge and skills to deliver health behaviour change interventions, would find other ways of helping clients address their health behaviours because they thought that it was important. For example, this social worker (6) said that she would speak to an appropriate person in the team and *'ask someone's advice on that'*. She then continued saying that:

'I mean if it's on medication I'd ask a doctor you know (…) to support that person. But if it's about their physical health, you know, I might direct someone somewhere else. But the most important thing is that everyone sort of picks up on things and don't just assume that everyone else has.'

(Catherine, participant 6)

3.3.3. Subtheme b) Permissive - 'what else have they got'

Some of those professionals who had positive attitudes towards health behaviour change interventions, talked about becoming more permissive towards unhealthy behaviours under certain circumstances. For example, this psychiatrist (2) talked about circumstances surrounding inpatient admission when mental health deteriorates:

'I've had experiences where some people would kick off, you know, and threaten to leave if they don't get to smoke. And, you know, they don't want to consider vaping or any of the other replacement therapies. And sometimes we give in, you know, and let them go out for a smoke. Yeah.

Um… some of them are so ill of course that, you know those things are not really on their mind at those times.' (Bonie, participant 2)

Another social worker (6) echoed this in saying that *'obviously it always becomes a big issue about smoking with admissions and stuff like that.'*

Others expressed permissive attitudes towards unhealthy behaviours in general. For example this social worker (5) said that:

'(…) the physical health stuff might just be right at the back of your mind as you say okay I know this person smokes but they're probably not going to stop. I know this person doesn't eat healthfully but all I can do is really remind them each time I see them. There's very little more I can do. (…) as care coordinator only certain people that I would speak to about their physical health, and those are the people that I was really concerned about and their physical health.' (Laura, participant 5)

Another social worker (4) also said that:

'You know we do talk to them about smoking. They don't want to stop smoking. None of the patients I've ever met with schizophrenia wanted to stop smoking. And you kind of think well what else have they got? Because we tell them they're not allowed to drink, you know, or use drugs and this and that. And they've got not a lot going on in their lives so why would they want to stop smoking coz it occupies their time. It makes sense to me that way.' (Natalie, participant 4)

Some professionals also talked about their colleagues' attitudes. They said that their colleagues may focus more on behaviours directly affecting mental health and be permissive towards others. For example, this social worker (6) said that they can be *'a bit tunnel visioned into looking at the mental*

health needs rather than thinking of the whole person situation.' This psychologist (8) further explained that:

> *'I think members of staff will probably place more emphasis on the use of cannabis or substances because they will directly affect the psychotic symptoms. (…) I think that's definitely a bit of a problem cause I think yeah in mental health you primarily target those because you're trying to treat the mental health. But actually the person with psychosis might be more at risk from the physical health, from the other ones… high levels of stress or smoking or eating or no exercise.'* (Barbara, participant 8).

This was also reflected in what this social worker (4) said when asked what she thought were the least important unhealthy behaviours in this client group:

> *'Um For me personally I think… I would say smoking, but I know that smoking obviously causes a lot of problems like... and I have had people with COPD and emphysema as a result of smoking. But I think smoking is less um significant than drug use for this group of patients.*' (Natalie, participant 4)

Finally, some participants said that professionals who don't value healthy lifestyle in their own lives are also more permissive towards unhealthy behaviours of their clients. What this professional (3) said reflects what others said; he said that if '*it's not important in their lives that they're not going to preach it as much.'*

3.3.4. Subtheme 2c) Resistant – 'they don't want to change'

A minority of participants expressed resistance to offering health behaviour change interventions. Some expressed resistance towards some health behaviours but not others. For example, this social worker (5) would offer

advice relating to diet and exercise but not smoking because she assumed that it has already been done by others:

> *'So with the smoking I've actually never said that to a client because I just feel they're probably (…) I think you've probably heard it before you don't need me to say it again (…) I think more generally I would I would give advice around healthy eating and exercise rather than the smoking cause I feel like the smoking issue that's something they've probably heard from their GP, they've probably heard it from their psychiatrist family and friends. They don't also need me talking about smoking yeah.'* (Laura, participant 5)

She also talked about how her young age gets in the way of clients engaging with her advice, and how this leaves her not knowing how to respond. She said:

> *'They can see I'm young. I'm mostly younger than most of the people I work with. They're like oh you don't know… like you're still young, you've got your whole life ahead of you (…) I just… I don't know sort of what to say when they say that.'* (Laura, participant 5)

When asked about how delivering health behaviour change interventions fits into her role in general she (5) said that *'it doesn't fit into my role only because I'm a social worker, but I think for other professions it more so fits in their role'.* This social worker (4) also said that health behaviour change does not fit into her role, assuming that it was done as part of the annual physical health check. She said:

> *'No I've never got involved in doing that. That would all be done by whoever is doing the annual health check. I mean I can offer to refer them. I've never done it because no one has ever accepted my offer. And*

it's the same with CGL [drug and alcohol service]*. I have made referrals to CGL in the past but that's about it really. Yeah.'* (Natalie, participant 4)

She explained that this is because:

'Because you've got so many other things you need to worry about. There's just so much pressure on you to complete all these other things. And I just think what I'm not… I don't think I should be responsible for physical health as well as everything else.' (Natalie, participant 4)

When asked about what other things may get in the way of delivering health behaviour interventions she (4) said that '*I think client attitude is the major one'*. She (4) talked about clients being in denial or resistant to change, and said that *'what can you do if you can't force them'.* She also brought up the issue of having to use mental health legislation sometimes to assess clients' capacity to make unwise decisions relating to physical health risks. She talked about having to *'weigh up the persons human rights as well as their physical health'* and said:

'I think my dilemma as a social worker in general terms not just about physical health is that there needs to be a line where you say this person if they weren't under the mental health system they would be allowed to do whatever they wanted to do. And we have to have some sort of limit of how much we control these people's lives. And I'm sure there's people out there that are living perfectly happy and refusing treatment for whatever else, but we are not involved because they're not under mental health services. Does that make sense?' (Natalie, participant 4)

Finally, some participants talked about why their colleagues may be resistant towards health behaviour change interventions. For example, this

nurse CBT practitioner (10) said that *'people generally don't like change'* and that *'it takes time for clients (…) but the same goes for staff.'* She further explained that:

> *'Especially people who have done this job for years, they don't like changes (…) If you talk to people who have been in the service for thirty years they will say you can't teach an old dog new tricks. So they don't do it. They just… it takes it takes long time you know for people to actually… They are resistant. But you know with a lot of support and patience and not getting angry (laugh) from others, from staff um you know they end up doing it… but it takes time.'* (Sonia, participant 10)

3.4. Theme 3. The nature of the job

3.4.1. Overview of the theme

Participants talked about the stressful nature of the job. They described having to manage multiple risks relating to their clients mental health, safeguarding and others, whilst also facilitating their clients recovery. Participants talked about having to do this for many clients on their caseloads and thus having to prioritise immediate risks due to time pressure. Health behaviours were talked about as longer term risks which may *'fall by the side'.* What participants said is reflected in subtheme 3a*, Time pressure and risk management*. Participants also talked about the impact of the job stress on staff wellbeing and staff rotation, and how this in turn can affect client care. What participants said is reflected in subtheme 3b, *staff wellbeing and care provision.*

3.4.2. Subtheme 3a) Time pressure and risk management

When asked what gets in the way of delivering health behaviour change interventions in every day work, this social worker (6) said that it is *'um probably*

time… lack of [it]*'.* Another professional (9) agreed with this in saying that *'if I have to offer that intervention then that will be time constrained (…) time is a problem'* and that because of limited time *'you may not carry it on to the maximum that you would have wished to'.* Another social worker (1) echoed this in saying that she would offer health behaviour change interventions when she had the time to do it, but that it might be difficult *'when dealing with crisis'.* She then went on talking about the difficulty of addressing unhealthy behaviours in the context of risk management, and explained that:

> *'This is not an immediate risk. There is a risk long term for sure. Because you're kind of fire-fighting in care co-ordination. So it's hard to deal with something that is longer term.'* (Dana, participant 1)

This social worker (5) also said that *'we already have so many things to do'*. She then went on explaining what the job involves and how clients' needs and risks have to be prioritised:

> *'As a care coordinator you're responsible for making sure that you see that person and that they're okay (…) you need to make sure that their social care needs are okay, that their personal budgets, everything like that is functioning (…) updating risk assessments… that there's no safeguarding concerns. You need to do all of that and then you're doing all of that for 30 people. You're attending meetings for these people cause they might have other things going on.'* (Laura, participant 5)

She then inferred that:

> *'There's lots of things that a care coordinator has to do for that person day in day out. (…) the physical health stuff might just be right at the back of your mind (…) if it's someone that I saw that ok they're not*

making the best food choices they're smoking but their kids are also you know they're also neglecting their kids… their kids are a priority - their health is a priority.' (Laura, participant 5)

This nurse (7) said that her *'contact with clients is mainly based on risk management'* and another social worker (1) concluded that *'you know if I had like half the caseload that would probably take away some of the barriers.'*

This social worker (1) also said that in general the structure for delivering health behaviour change interventions is in place because physical health is talked about in doctor appointments, at annual physical health checks, and various other points but because of the slow nature of behaviour change it is difficult to incorporate it within the fast paced, outcome based nature of the job:

'I think because behaviour change is such a slow moving thing I think… um… and the work is quite fast paced it can feel like oh well they're just not going to do it, and then [you] give up maybe. (…) because there's so many pressing issues on you and on your time, you've stretched all the time in different places.' (Dana, participant 1)

She then added that:

'There's something about where you might be investing half an hour an hour into doing something where the results aren't very clear, then it may end up getting dropped off your priority list' (Dana, participant 1)

She (1) finally concluded that although *'there is the recognition that is hard to measure the work you're doing',* that:

'it would feel as a worker that you're wasting precious time to do something that's not going anywhere just because you've got so many other things to do.' (Dana, participant 1)

Participants also talked about how addressing health behaviours can sometimes feel 'tick boxy' because of the busy nature of the job in a mental health service. For example, this social worker (1) said:

> *'Like mention this and once you've mentioned it that's alright, rather than like working on it (…). Not because anyone's explicitly saying it but it does feel like well as long as you've mentioned it and you've ticked the box then you've done your job, which isn't great.* (Dana, participant 1)

Participants also talked about time consuming nature of the admin work that they have to complete for each client. For example, One nurse (7) talked about the requirement to record everything she does as a way of proving that actions related to care planning and managing risks have been completed. She said that:

> *'It is because each time you see your patient if there's psychological mental health needs changes then you need to update your risk assessment (…)you need to update all the other paperwork that is associated to that patient (…) and it's a lot of paper work'.* (Isabel, participant 7)

She (7) added that a lot of the work *'is about record keeping'* and that *'if it's not written (…) it doesn't exist'.*

Other professionals agreed that time is a barrier, but instead of dropping low priority things from their lists they talked about working over-time to do their jobs well. For example, this social worker (5) said that:

> *'I didn't let my admin work get in in the way of contact with clients. What I would do is probably stay longer hours to catch up on paperwork (…)*

that's just how I felt I should do things coz I felt my job is to you know see people, support them with their needs'. (Laura, participant 5)

Another professional (10) also said that she used to work long hours, both in order to do her job well but also in order to manage all the demands placed on her. She said:

'I mean to be honest I probably worked sixty hours a week as a nurse for years to be able to manage it all and do it well you know. Because you feel you feel like you want to provide quality not just quantity.' (Sonia, participant 10)

Participants also shared their thoughts about how health behaviour change could be facilitated through a joint team effort if staff had the time to do it. What this social worker (1) said reflects what other said:

'It should be a team effort I think. Because nurses are doing the physical health (…) And then doctors and, you know can explain and give the information as well about the medication or how it's going to impact them on their life. (…) and then the care coordinator can work and, you know overtime chipping away I guess, implementing the advice that doctors and others have given. Yeah. Sometimes support workers can also be there to... if they maybe struggle with confidence to first of all go to the gym then the sport worker might be able to help them the first few times. In an ideal world, this is how it could work but it's just the time to do that.' (Dana, participant 1)

Participants also talked about how they used to have more time to support clients with lifestyle changes and how helpful it was. For example, this nurse (7) said:

'(…)if one has time it would have been nice to be able to go with the patient go to the superstore and then pick some [food]… which we used to do it those days. You know do some shopping with them, go home and cook with them to actually show them that if you cook this food it can be just as yummy as your pizza and (…) you are losing weight (…) Or even take a walk with them…and you know that would have been nice to be able to have the time to put in that kind of care plan.' (Participant 7)

This nurse (10) also added that:

'*Back then I was a little bit more freer and I was even able to… as a nurse I was even able to set up like a sports group… aa so we went swimming… um sometimes we went for walks and sometimes some people even went cycling'* (Sonia, participant 10)

She (10) then added that there came a point when *'the services restructured and the services were cut so we couldn't provide it anymore.'*Finally, some participants did not see a role for them in health behaviour change and thought that there should be a designated health behaviour change person in the team. For example, this social worker (4) said that *'personally I think it should be a designated person and it should be a nurse because they've been taught the skills.'*

3.4.3 Subtheme 3b) Staff wellbeing and care provision

Participants also talked about how the stressful nature of the job affects staff wellbeing and work performance, thus contributing to staff rotation. For example this professional (10) talked about her previous job as a psychiatric nurse and how working over-time affected her mental health:

'I ended up working like crazy hours and then obviously you don't get paid for it… and you know… but the problem is if you keep doing it then the service thinks you are managing it but actually you're not… and then I myself developed panic attacks and anxiety attacks.' (Sonia, participant 10)

She (10) then added that:

'The service is very busy and people expect… you know when as a staff member you work so hard um sometimes your own health… and you need to like look after your health as well…aa so that probably could get in the way'. (Sonia, participant 10)

Participants also talked about how staff rotation affects provision of care. They said that for this specific group of clients health behaviour change intervention, like any other, is more likely to be accepted if it comes from a person they know and trust, and that staff rotation gets in the way of building therapeutic relationships with clients. For example, this social worker (1) said:

'I mean there is the building the relationship side which is going to be key for someone to hear what you've got to say I guess. And I guess in care coordination the idea, although it doesn't happen very much because the work's too stressful, is for people to be there long term so that they've got like a key person who has known them for a long time. That's like a huge benefit for care coordination when it's done well.' (Dana, participant 1)

This nurse (7) also talked about the importance of looking after staff health and wellbeing as a way of managing the work related stresses and strengthening work relationships in the team:

'We have what we call a staff bonding month (…) So we wanted to bring it because we recognise that the nature of our job can be very stressful. The nature of our job is very demanding because of the nature of clients that we are working with. And at the same time staff mental and emotional wellbeing also needs to be looked after… so we have things like we have reflective practice whereby we meet I think it's once a month and we look at issues and people have the freedom to genuinely say what they feel'. (Isabel, participant 7)

3.5. Theme 4. Other support to deliver health behaviour change

3.5.1. Overview of the theme

Finally, participants talked about limited resources to support health behaviour change in clients with schizophrenia, both within the service and in the community. What they said is reflected in subtheme 4a, *Limited resources*. Participants also talked about working relationships with GP's and other services and how communication issues can get in the way of facilitating health behaviour change. What they said is reflected in subtheme 4b, *Working with primary care (GP) and other services.*

3.5.2. Subtheme 4a) Limited resources

Participants talked about how provision of physical health related interventions has improved in mental health services over the past few years, and how the trust keeps in line with the national guidelines and targets. For example, this nurse (10) said that:

> *'Nowadays if I compare it to like now and back seven years ago we have a lot more services in place like physical health check clinics'*. (Sonia, participant 10)

This social worker (4) added that:

'There is a physical health policy and it's in the CPA policy as well for the physical health, and what you need to offer and what you need to do in order for it to be a proper Cquin target thing.' (Natalie, participant 4)

However, the improvements in how physical health risks in schizophrenia are monitored in mental health services were seen as insufficient to facilitate health behaviour change in people with schizophrenia. The main reason for this was the complexity of the illness and lack of specialist resources to support the process of health behaviour change in schizophrenia. For example, this nurse (10) said that:

'You know the NICE guideline recommends um that you should have physical health check if you're on any antipsychotic medication (…) so the physical check I think that's been covered by the NHS or the aa you know the community mental health team… um… but in terms of like any activity in the community doesn't exist.' (Sonia, participant 10)

She (10) then added that staff are asked to signpost clients to appropriate services but there is *'nowhere to signpost to'.*

What this social worker (1) said about limited resources to support health behaviour change in schizophrenia reflects what others said:

'A lot of community mental health teams they rely on community resources (…) So whereas maybe in ADTU [Adult Day Treatment Unit] *would have like groups all day everyday that people can join in. (…) We don't have much of that, we've got one physical health group which meets for like an eight week period and then they'll have a break. And people can only do it once.'* (Dana, participant 1)

She then continued talking about community resources not being suitable for all clients with schizophrenia. What she said then also reflects what others said:

> *'Um so you kind of relying on people using resources in the community and these people can often be very marginalised and vulnerable, and they're probably not going to be going along to your average badminton club to play. (…) they wouldn't feel comfortable or, yeah, they'd be treated differently. And also from... like sometimes because maybe they're hearing voices they can be really distracted. (…) they can move a bit more slowly than people who aren't on an antipsychotic. (…) so it's kind of hard to continue something in the community because you rely on community resources.'* (Dana, participant 1)

Finally she added that:

> *'It's all done from a good place this idea of not keeping people institutionalised and having stuff part of society, which is obviously they should be part of society, but sometimes there need to be provision for people who maybe can't access the groups and activities that most people can.'* (Dana, participant 1)

This professional (3), who is involved in the physical health monitoring clinic, talked about how the physical health of clients on antipsychotic medication is monitored across the trust through regular physical health checks, and how any concerns are addressed through joint working with GP. He also said that he uses every opportunity to encourage clients to change unhealthy behaviours but that '*providing it* [health behaviour change intervention] *is a very different thing because our hands are tied'* and that *'I think that there are limitations plugging them into services that can help them.'* He then added that

in his opinion it would help to have '*somebody that works with a targeted group of service users who would benefit from it.'* What he then said about the benefits of keeping health behaviour change within mental health services reflects what others said:

> *'I think from my experience keeping things in house. (…)I think you have to have a knowledge of mental health to be able to tailor what they need. There is no… yes we used to send people to Weight Watchers but they maybe weren't tailored for mental health service users. I think if you keep that in house you've got better chance cause you've built up a relationship rather than sending them to a generic service provider.'* (John, participant 3)

Others echoed this and shared ideas as to how the provision of health behaviour change interventions could be improved through increasing in-house resources. Some, like this social worker (5), suggested regular monthly drop-ins where clients *'can come learn about healthy eating habits'* and is *'focused on physical health rather than their mental health.'* Others talked about targeted group interventions or at least having health behaviour change packs with guidance for professionals as to how to support clients through behaviour changes. For example, this social worker (6) said that it would be helpful to have:

> *'some groups and some packs or something that just help us to explore… even if it's just exploring emotions around some* things*. Coz I think that's where a lot of like diet groups and things like that sort of like realise that actually there's reasons why people do certain things, and it's not just a matter of saying give that up'* (Catherine, participant 6)

Yet others suggested having more physical activities for clients within the service, or even providing a place where clients could exercise. For example, this professional (3) said:

> *'Um could the trust provide somewhere for people to go that's maybe not as intimidating as gyms round the corner and things like that? (…) A gym somewhere that's a little more… less intimidating than your average gym that you could go to that they might you know they could just drop in and that could be a social thing. They could learn about healthy eating while they're there.'* (John, participant 3)

He then added:

> *'(…) maybe even having agreement with local swimming pools that again that member of staff can take that group of people down. They can do things like that I think there's plenty that can be done.'* (John, participant 3)

This psychologist (8) also talked about how she would like to be able to incorporate body or movement approaches into her therapeutic work with clients with schizophrenia but that *'it's quite limited what I'm allowed to do in the NHS'* and that it does not '*fit in with the evidence practice in the NHS.*'

Some participants thought that more could have been done to support the behaviour change. They also said that sometimes it can feel like a tick box exercise. For example, this social worker (1) said that:

> *'Well they've got Cquin targets I know that. So they're putting energy and resources into it I think. Um yeah I mean whether that comes from place of care or from meeting targets I don't know but maybe it doesn't matter. Well it probably does matter coz if it's just about meeting targets you're*

just ticking a box aren't you? But if you actually care you want to do it to a high quality in high quality way.' (Dana, participant 1)

In contrary to this, this psychiatrist (2) said that:

'We constantly keep getting emails from consultants about making sure that we are actually not just ticking those boxes about physical health interventions when we see patients, but actually the issues will be discussed.' (Bonie, participant 2)

3.5.3. Subtheme b) Working with Primary Care (GP) and other services

Participants talked about that despite there being a process in place for a joint working between secondary mental health services and GP, the communication gap still exists. This psychiatrist (2) began by explaining how mental health services share information with GP's:

'Generally we will communicate with them whenever we see a patient, whether they are an inpatient or whether we see them in the clinic. And um keep them up to date on what we're doing and what we expect them to be doing too in regards to the patient's physical health. So if there are medications that will require regular ECG's or regular blood tests then we will let them know and then see if the checks are done.' (Bonie, participant 2)

She then added that depending on the location the communication between community mental health teams and GP's *'can be good or it can be bad'* but that *'generally there is, from our end anyway there's a lot of information to the GP's.'*

This professional (3) further explained that:

'When we do a physical health assessment the whole report we do is copied over to them [GP] *and our doctor will write letter (…) any interventions that are needed then obviously… the bloods if their blood pressure's not right, if we refer them smoking cessation, if we refer them for drug and alcohol intervention the GP will be aware of that'* (John, participant 3).

He then concluded that:

'*What the GP does with that information I don't know (…) but certainly from our side and the clinic that I work with yes the GP has all the information.'* (John, participant 3)

This nurse (10) said that the communication *'depends on the [GP] surgery'* but in her experience it has been problematic. She said:

'I mean there's a problem with the system because apparently they have piles of letters from our psychiatrists. So every every time there's a change of medication (…) every single time personally I had to chase it up because the patient would ring me and say GP didn't receive the outpatient letter from the psychiatrist prescribing medication, making the changes in medication. Every time I had to go into our system and back then it was to re-fax it now email it… and it really cuts into your time massively.' (Sonia, participant 10)

This social worker (1) also said that communication between the service and GP is *'not that good.'* She said that:

'As a care coordinator when I have to call a GP I have to call the same number as anyone who's trying to book an appointment and so on hold for long time (…) [then] *they want you to email to prove who you are and*

then it might take a few days before you get any response, quite difficult.' (Dana, participant 1)

Another social worker (5) said that this issue has been raised but no changes made so far. She said:

'Many people have actually raised this, having like a contact number for GP's for professionals that we could call (…) and then we would be done in 5 minutes rather than being on hold for 30 minutes and then not even being able to speak to a doctor because they're saying they're not available.' (Laura, participant 5)

The social worker (1) then further explained how this communication issue can get in the way of facilitating health behaviour change. She said:

'I had occasional people I have worked with where they've got clear physical health problems which… and mental health problems which are interacting quite clearly. That's not schizophrenia though this particular patient. But it could happen with that you know, so with really poorly controlled diabetes and a mental health problem which might be affecting their motivation to change. And then there is… there have been professionals meetings for that kind of thing. But generally day to day I don't feel like I know the GP's. (…) I don't really know what they've been offering. Coz they don't write to us (…) unless it was about their mental health.' (Dana, participant 1)

This social worker (5) also said that because GP's don't write back to the mental health service with feedback regarding physical health interventions it *'became another job for the care coordinator to follow up on these things'*. She then concluded that:

'If there was something that could be done between primary care secondary care for physical health that would be good… but I don't think we're there yet.' (Laura, participant 5)

Another social worker (4) also commented on this issue and said that although mental health workers are expected to follow up GP actions, it is not feasible for them to do so. She said:

'*Interestingly there was a service user incident recently and one of the recommendations was that we didn't follow up with the GP. We raised it with the GP but we didn't follow up to see if they did anything. I don't think that's fair because we've raised it with the GP. We can't follow up every single action. (…) it is just not feasible. It is hard enough to send, especially if you're not doing it with the doctor it's hard enough to send the information and try and decipher what is what. (…)I'm not a doctor and then to be told ah well you need to follow up to make sure the GP did something?* (Natalie, participant 4)

This social worker (6) said that *'I think it* [communication] *could be a lot better'* and that *'I don't know why it isn't really'.* She continued by saying that:

'GP's have loads of knowledge of people which we don't really properly share. I mean it's a bit archaic really the way we communicate with doctors I think. You know there has to be a letter that's posted and it's you know… in the world of emails and nhs.net really communication could be a lot more sort of fluid and kind of helpful, but I suppose on the flipside we've got confidentiality issues. But um… I think we could improve it significantly really, sort of bridge that gap between the two [services].' (Catherine, participant 6)

Participants shared thoughts about how this communication could be improved. For example, this social worker (6) said that:

> *'It would've been really good to have kind of worked in geographical areas with the consultants teams, and could've really built up working relationships with the GP's.'* (Catherine, participant 6)

Participants also discussed new initiatives which have been rolled out as a way of bridging the gap between primary and secondary services, but there was a shared sense of pessimism in regards to the effectiveness of these initiatives. For example, participants talked about GP Plus initiative which works on the principle of having a mental health worker within GP surgeries, who would be a link between GP's and secondary services. This social worker (6) said that it is *'sort of like pioneering kind of getting to sort of working with them* [GP's] *sort of more closely'*, and that *'I think it's probably patchy'*. Another professional (8) said that although the GP plus practitioner she worked with was very helpful, she did not find out the information she needed because *'there's no update into the GP system at all'.* She said that *'not only our system doesn't have the information, even their system wasn't actually up to date'.* Participants also talked about another initiative between primary and secondary care, namely Multi Speciality Teams (MST), which consist of various professionals such as GP's, speciality nurses, speciality doctors and others, and which was set up with a view of addressing complex physical and mental health cases. This social worker (6) talked about the issue of the support being available only short term. She said:

> *'One of our service users who has sort of become agoraphobic but you can tell just by looking at him that he's got loads of physical things going*

on, which is always put down to medication even though he is a really low dose (…) He went to the MST the multi specialists team thing…so we talked about (…) mental health, physical health, social care…so to try and get a kind of holistic approach looking at all the different needs. So then he had a nurse come out to see the person and [was] also referred to the OT… so to try and work together. But it kind of tends to fizzle out and then we're kind of left with the person again.' (Catherine, participant 6)

Participants also talked about the difficulty communicating with other specialist services within the NHS. For example, this psychologist (8) said:

'Another struggle I've got now is someone has been sent off to some pain management clinic, persistent pain management clinic and I have no idea what they do, I have no contact with them (…) I'd get no information. Sometimes they take medication off clients as well and… so it doesn't have to be GP… wherever whatever that service might be…um… I mean I had a client who had a dislocated shoulder and had years of operations but I never ever spoke to any of his consultants' (Barbara, participant 8)

She then added that:

'*The only time it did happen was [when] we had a client who had cancer, but I think because there was a lot of problems, her treatment was very closely implicated to her mental health [and] they had to engage with us*. *That was probably the only time that I felt that an external service was really trying to engage with us'.* (Barbara, participant 8)

Finally, participants talked about the difficulty working with drug and alcohol services since they became separate from NHS services. This social worker (1) talked about the difficulty working with clients with schizophrenia who also use drugs, and how the problem is compounded by limited communication with drug and alcohol services. She said that it would help to have *'better links with drug and alcohol services, definitely'*. She then added:

> *'Drug and alcohol service used to be in house and now is completely separate and we have so little contact with them and it's so hard to share information. It's really tricky to kind of have them on board as well.'*
>
> (Dana, participant 1)

3.6. Theme 5. Power to decide

3.6.1. Overview of the theme

Two participants talked about the issue with power distribution and how power is used by the organisation to make decisions about who should be treated, when and how. One participant talked about the limitations of mental health legislation to enforce physical health treatment on patients who are at risk but refuse to engage. However, whilst she thought that treatment orders are indeed needed to provide care and protect vulnerable adults who lack capacity, she also questioned the extend of its use in the context of human right to make unwise decisions about own life and health. Another participant talked about the issue with power to decide what therapies are available in mental health services, and the limited power mental health professionals have to incorporate alternative therapies within the NHS structures.

3.6.2. Subtheme 5a) Problem with power distribution

One social worker (4) talked about the complex issue of treating physical health in patients with schizophrenia within mental health settings. She distinguished between patients who misattribute their physical symptoms due to psychotic beliefs and thus may lack capacity, and patients who are more chronic and object to treatment because their physical health is not important to them.

For example, she talked about a patient with incontinence problems who:

> *'He refuses to go to urology to have investigations and things like that because in his mind his belief is that he's not incontinent and it's someone coming in at night and doing this. And it's very, very difficult to manage that.'* (Natalia, participant 4)

She then talked about the issue with using mental health legislation to treat such patients. She (4) said that 'we are limited in our powers under the Mental Health Act because Mental Health Act is for mental disorder not physical illness'. She added that the Capacity Act could be used but only when the client truly does not have the capacity to decide. She then continued talking about the urology patient example:

> *'I would say he didn't have capacity. But again how do you then enforce him to have urology investigations under the capacity act? I mean you would be talking about restraining him in order to have an investigation. It's not… you couldn't do it under a best interest. It would have to go to the Court of Protection and stuff like that. And you had to weigh up the persons human rights as well as their physical health. (…) I'm not saying he doesn't need the investigation, I think he does, but how do we do it if he's objecting?* (Natalia, participant 4)

She then contrasted this example with an example of a chronic patient who refused a necessary dental surgery because she was scared of it and it was not important to her, and who was deemed to have the capacity to make that decision. She (4) further reflected on her experiences working with patients with schizophrenia and concluded that:

> *'I think my dilemma as a social worker, in general terms not just about physical health, is that there needs to be a line where you say - this person if they weren't under the mental health system they would be allowed to do whatever they wanted to do. And we have to have some sort of limit of how much we control these people's lives. And I'm sure there's people out there that are living perfectly happy and refusing treatment for whatever else, but we are not involved because they're not under mental health services.'* (Natalia, participant 4)

Finally, she reflected more broadly on the power inequalities in mental health service, where services execute the power to impose decisions on patients in the name of their best interest, but she questioned the validity of it:

> *'Because we tell them they're not allowed to drink, you know, or use drugs and this and that. And they've got not a lot going on in their lives so why would they want to stop smoking coz it occupies their time. It makes sense to me that way.'* (Natalia, participant 4)

One psychologist (8) also talked about the issue with who has the power to decide what therapies are best for patients with schizophrenia and how these decisions are made. She talked about the evidence based approach to interventions in the NHS and how it limits mental health professionals' choice of therapy approach. She said:

'Who has the power to make these decisions? Um… you know where has this evidence come from? Does it mean it's right?' (Barbara, participant 8)

She (8) talked about embodiment approaches to therapy and movement therapies for improving health and wellbeing, which she thought could be beneficial to clients with schizophrenia, but which are not considered evidence based in the NHS and thus not recommended. She gave a couple of examples of patients with schizophrenia who managed their mental and physical wellbeing well through embodied approaches such yoga and tai chi. She further explained that:

'We are embodied in this body so even our mind is in this body (…) It's that duality of the west that we've got mind and body. Well it's not mind and body it's the body and without the body there's nothing so you know that that's the way that I see it. (…) [But] that divide is there and there's probably not enough focus given on the body'. (Barbara, participant 8)

She then expressed her concern about offering interventions outside of the evidence base approach and how this would be perceived within the NHS structures:

'But how is that gonna fit in with the evidence practice in the NHS? They will be like well are you not doing CBT? And I'll be like no I'm doing some sort of a movement therapy (…) And am I even gonna be allowed to do that? (…) um so that's a tricky one really (…) especially in the NHS, what they think is evidence based. (Barbara, participant 8)

3.6.2 Subtheme 5b) Service user perspective

Finally, the psychologist (8) also talked about the importance of understanding and acknowledging the service user perspective in decision making. In discussing this issue she reflected what the social worker (4) said about organisational power to decide about treatment. She then expanded on the importance of understanding individual service user experiences as a context for understanding their behaviour, and for making decisions about treatment. She said:

> *'Most of them have a very bad experience in in services (…) because they've either been sectioned or maybe they didn't like the way… having to take medication, or maybe they've not been able to get the support that they needed. (…) For various reasons they haven't always had good experience in mental health services (…). They've [also] got lots of negative experiences in day to day life because of the stigma attached. They become very isolated from society because sometimes I think quite a lot of people are frightened of psychosis if they don't understand it.'*
>
> (Barbara, participant 8)

She (8) then explained that these experiences can impact on health care seeking behaviours because service users may believe that *'it's better not to talk about what's going on because people might think I'm mad or I'm unwell or I might get sectioned or whatever.*' She also talked about how the power inequality, where service users are being told what to do, may reinforce these beliefs:

> *'I guess what they [service users] usually get from other health professionals is - did you take your meds? have you done this? have you done that? rather than - what have you been doing? or what do you think*

about this? or how does it feel not being able to do that? or you know that type of thing. And I think sometimes it makes them feel that they're a little bit more like observed by [the] system rather than someone truly caring about them. (Barbara, participant 8)

4. Discussion

4.1. Summary of background and the aim of the study

It is widely recognised that people living with schizophrenia have disproportionately high rates of comorbidities and significantly reduced life expectancy across all ages as compared to the general population (Charlson et al., 2015; De Hert et al., 2011; Demyttenaere et al., 2004; Happel et al., 2016; Liu et al., 2017). The evidence suggests that the elevated risk of multi-morbidity and premature mortality in this group is largely caused by unhealthy behaviours such as smoking, sedentary lifestyle, poor nutrition, poor sleep hygiene, and substance misuse (Demyttenaere et al., 2004; Happel et al., 2016), because people living with schizophrenia are significantly more likely to engage in those risk behaviours due to limited knowledge and cognitive impairment, limited access to community resources, and poverty (De Hert et al., 2011). However, it is also recognised that because the multi-morbidity and early mortality risks in this group are largely behavioural they can be prevented (Walker et al., 2015; World Health Organisation, 2009).

Overall, a review of literature concerning the effectiveness of health behaviour change interventions in schizophrenia suggests that a variety of psycho-educational, motivational and behavioural interventions can be effective in managing morbidity and mortality risks in this group (Happel et al., 2012, Mazoruk et al., 2020). Literature evidence also suggest that because of the

complexity of presentation in schizophrenia mental health professionals are best placed to deliver health behaviour change interventions to this group of clients (Meepring et al., 2016), and the national clinical guidelines clearly state that mental health services should be providing health behaviour change interventions as well as physical health monitoring (NICE, 2014; 2019). However, in practice such interventions are not routinely provided in mental health settings (Himelhoch & Daumit, 2005; Anderson et al., 2013; Bartlem et al., 2014), and the gap in mortality rates between those with and without schizophrenia continues to grow (Charlson et al., 2018). European experts in schizophrenia spectrum disorders and in cardiovascular and metabolic diseases report no improvement in the management of cardiometabolic risk factors in schizophrenia since 2009 to date, and recommend inclusion of lifestyle modification to manage those risks (Galderisi et al., 2021).

Sheals et al. (2016) suggests that unhelpful attitudes of mental health professionals may be responsible for the lack of provision of such interventions in mental health. However, the literature evidence concerning mental health professionals' attitudes towards health behaviour change in schizophrenia is limited. Previous literature provides evidence in general mental health (Meepring et al., 2016; Howard and Gamble, 2011; Robson et al., 2013; Wheeler et al., 2014; Bartlem et al., 2016; Ganiah et al., 2017) with only two studies focusing on professionals working mainly with clients with SMI such as schizophrenia (Hayland et al., 2003 and Gronholm et al., 2017). Overall, the findings suggest that positive attitudes are not translated into practice. Confidence, knowledge and skills, self-esteem, role congruity, burden of additional responsibility, education level, and misconceptions about patients

with severe mental health have been previously identified as potential barriers to provision of health behaviour change interventions in SMI. However, more research is needed to explore and understand the pervasiveness of the disparity between clinical guidelines and practice.

Thus this study aimed to fill this gap in the literature and qualitatively explore secondary mental health professionals' experiences of delivering health behaviour change interventions to people with Schizophrenia, with a view of improving the current understanding of factors contributing to the disparity between clinical guidelines and practice previously reported in the literature, and identifying potential areas for intervention to improve the provision of health behaviour change interventions in mental health services.

The picture emerging from the thematic analysis of interviews with mental health professionals is complex. What follows is a discussion of findings in the context of COM-B model of behaviour which is used to explain the potential gaps in provision of health behaviour change interventions in schizophrenia. The findings are discussed in the context of previous literature and an attempt is made to identify potential areas for a service-level intervention which could improve the provision of health behaviour change in schizophrenia in mental health services.

4.2. Discussion of findings in the context of COM-B model and previous literature

The discussion is organised according to themes identified in the thematic analysis of the study. The COM-B model is applied to the themes to discuss mental health professionals' *capability, motivation* and *opportunities* to provide health behaviour change interventions to clients with schizophrenia, and

to identify potential areas for intervention to increase such provision amongst mental health professionals.

4.2.1. Knowledge and skills

Overall, participants demonstrated a very good understanding of physical health risks and health outcomes in schizophrenia, and of the importance of monitoring physical health and addressing unhealthy behaviours in this group in order to close the gap in health inequalities between people with schizophrenia and the general population (*mental capability*). Participants also reported that physical health management was encouraged by the mental health trust and that information about physical health in SMI was cascaded to them through emails and various multidisciplinary meetings, with some professional groups reporting receiving email prompts from senior management as a reminder to include physical health in their interventions (*opportunity*). The COM-B model suggests that for any behaviour to occur there needs to be an interaction between *capability*, *motivation* and *opportunity* in order to generate that behaviour (Mitchie et al., 2011). According to the model the causal interaction is such that the *capability* and *opportunity* influence *motivation*. As such, the knowledge about health risks and outcomes (*mental capability*), and external prompts to encourage physical health interventions (*opportunity*) reported by participants seem to influence the *motivation* to deliver health behaviour change interventions as most participants also reported attempts at health behaviour change interventions.

However, although participants had the knowledge about physical health outcomes in schizophrenia (*mental capability*) they reported varying levels of knowledge and skills for facilitating health behaviour change in this client group

(limited *mental and physical capability*). Participants reported having general knowledge about health behaviours which they acquired from personal and professional experience, but lacking specialist training and supervision to develop the necessary knowledge and skills to facilitate health behaviour change (blocked *opportunities*). Thus, it appears that the differences in background knowledge and skills influenced individual *motivation* in different ways across participants, and resulted in inconsistencies reported across professionals in the types of behaviour change interventions they offered as individuals. It also suggests that those professionals who had insufficient knowledge and skills to understand and facilitate health behaviour change, would also have low motivation to do so, which was reflected in the findings of this study.

This finding may explain similar inconsistencies in physical health areas targeted by mental health professionals as reported in a mixed method study by Hayland et al. (2003). Hyland et al. also found that professionals had a good understanding of the risks and physical health outcomes in schizophrenia and attempted to deliver interventions for physical health, but differed in the physical health areas they targeted. The finding of the current study suggests that the inconsistencies in health behaviours targeted reported by professionals may be explained by varying levels of knowledge and skills for facilitating health behaviour change, because professionals may chose those behaviours that they understand and are confident to address them. Michie et al. (2011) define *capability* to engage in behaviour as individual's physical and psychological capacity to engage in the given activity, which includes having the necessary knowledge and skills. As such it appears that, overall, although professionals

have the knowledge about the behavioural health risks and resulting physical health outcomes in schizophrenia, they do not have the necessary knowledge and skills to facilitate health behaviour change. Similar findings come from other qualitative studies which explored mental health clinicians' attitudes towards physical health interventions in SMI. For example, Robson et al. (2013) found discrepancy between positive attitudes towards physical health care and actual physical health practice reported by mental health nurses, with post qualification training in physical health being associated with more involvement in physical health practice. Howard and Gamble (2011) and Wheeler et al. (2014) also found that despite positive attitudes reported by professionals, involvement in health promotion or substance misuse interventions respectively, was hindered by lack of confidence, knowledge and training. These findings support the finding of the current study that provision of specialist training and supervision could increase mental health professionals' ability (mental and physical *capability*) to facilitate health behaviour change and thus increase engagement in delivering health behaviour change interventions.

4.2.2. Attitudes

In general, participants in the current study expressed positive attitudes towards provision of health behaviour change interventions in schizophrenia, and this reflects findings of the previous cross-sectional studies investigating mental health professionals' attitudes to physical health interventions in general mental health (Bartlem et al., 2016; Robson et al., 2013; Howard and Gamble, 2011; Ganiah et al., 2017 and Wheeler et al., 2014). However, there was a difference between participants' attitudes towards inclusion of health behaviour change interventions as part of the mental health service efforts to deliver

holistic and integrated care, and their attitudes and *motivation* towards delivering such interventions as individual clinicians within the service. In a study by Gronholm et al. (2017), mental health care coordinators reported a sense of overstepping their roles when attending to client's physical health beyond the usual monitoring and coordination of health care, whilst also demonstrating a good understanding of the benefits of health behaviour change interventions in SMI. Other professionals, such as GP's, were seen as better placed to deliver such interventions. Although Gronholm et al. (2017) did not explore attitudes specifically, this finding suggests possible similar division between general attitudes towards health behaviour change in schizophrenia and attitudes towards assuming individual clinical responsibility for it. This finding may help to understand the disparity between the general positive attitudes and clinical practice reported in previous studies (Bartlem et al., 2016; Robson et al., 2013; Howard and Gamble, 2011 and Wheeler et al., 2014). It seems that whilst in general mental health professionals view inclusion of health behaviour change interventions as important, their attitudes towards taking it on as part of their roles can vary.

In the current study, those participants who demonstrated understanding of the complex process of behaviour change in schizophrenia (*mental capacity*) tended to have increased *reflexive motivation* (i.e. conscious and analytical decision making involving evaluations and plans) and thus more positive attitudes towards offering health behaviour change interventions or advice as individual clinicians. Whilst the focus of interventions was still dictated by their existing knowledge and skills (*mental and physical capability*) those participants also reported attempts to refer clients to other services when the client's needs

exceeded their capacity to facilitate health behaviour change. Gronholm et al. (2017) also found that whilst mental health care-coordinators perceived engagement in physical health interventions as overstepping their roles, those who believed that it would have positive effect on clients global wellbeing engaged in such interventions more. However, whilst the majority of respondents in a study by Gronholm et al. (2017) perceived integrating physical health interventions as beyond their roles, the majority of participants in the current study perceived it as integral part of their roles.

On the other hand, those participants in the current study who reported not having sufficient knowledge and skills (limited *physical and mental capability*) expressed low *reflexive motivation* to engage in health behaviour change intervention and thus resistant attitudes towards it. The resistant attitudes were also associated with habitual processes (*automatic motivation*), such as being used to delivering interventions congruent with professional role which did not involve behaviour change, and emotional responses (*automatic motivation),* such as feeling that it would be too much work to add another responsibility to the already high workload. Those with resistant attitudes also perceived client's attitudes as the biggest barrier. Previous studies also found that role congruence and clients' interest in change corresponded with positive attitudes towards health related interventions in general mental health, whereas a belief that delivering preventive physical health care would negatively impact on acute mental health care delivery did not (Bartlem et al., 2016). The focus group data from a mixed method study by Hayland et al. (2003) also found that overall mental health professionals believed that their core role was to assess and treat mental health, and that other areas such as physical health were of

secondary importance, what subsequently hindered the provision of such interventions. Similarly, Gronholm et al. (2017) found that mental health care coordinators believed that their role is to coordinate health care.

In the current study, resistant and permissive attitudes towards unhealthy behaviours were also associated with misconceptions and unhelpful assumptions about clients, their mental health and the resulting ability to engage in health behaviour change (*mental capability*), such as that clients have not much else going on in their lives or do not want to change. Sheals et al. (2016) also found, in a large review of mental health professionals attitudes towards smoking that professionals held unhelpful attitudes and misconceptions such as that patients are not interested in stopping smoking or that it would be too much for the patient to cope with. Sheals et al. (2016) found that of 16369 participants included in the review, 45% had permissive attitudes towards smoking and 40.5% had negative attitudes towards delivering smoking cessation interventions. Studies exploring mental health professionals' attitudes to health behaviour interventions including but not limited to smoking cessation, suggest that whilst professionals may hold negative attitudes towards provision of any health behaviour change interventions they tend to be more permissive towards smoking than other behaviours in clients with SMI. For example, Robson et al. (2012) found that mental health nurses had largely positive attitudes towards physical health care with varying degrees of physical health practice, but were more ambivalent towards provision of smoking cessation and cancer screening than other physical health interventions. Hayland et al. (2003) also found in a mixed method study, that whilst professionals initially expressed proactive attitude towards smoking cessation, upon further discussion it

appeared that professionals held a belief that smoking cessation is difficult to achieve in this group and that smoking is more acceptable in this population because it might be one of very few pleasures in their lives and it may also help to alleviate distress associated with mental health. Similar to the above described studies, the current study found that whilst participants had positive attitudes towards other health behaviour interventions, some expressed permissive attitudes towards smoking and did not offer smoking cessation advice because they held unhelpful beliefs about the clients and their motivation or ability to quit (*mental capability*), but they did offer advice relating to other behaviours such as exercise and diet.

These findings demonstrate that mental health professionals can hold different attitudes towards different health behaviours and health related interventions. As the COM-B analysis suggests, the varying levels of knowledge and skills (*mental and physical capacity*) relating to different areas of health and health behaviours may be responsible for the variation in attitudes and *motivation* towards health behaviour change interventions across a range of behaviours associated with physical health outcomes in schizophrenia. Thus, increasing professionals' *capability* to understand and deliver health behaviour change, through provision of specialist training and supervision, may improve the provision of health behaviour change interventions in schizophrenia. This evidence also suggests that particular focus on smoking cessation in schizophrenia is needed.

An interesting finding of this study, not previously discussed in the literature concerning mental health professionals attitudes towards health behaviour change, was that professionals not only reported different attitudes

towards different health behaviours, but that their attitudes to the same behaviour sometimes changed depending on the *context* in which the behaviour occurred. For example, positive attitudes towards delivering smoking cessation tended to change into permissive attitudes towards smoking in the *context* of deterioration in mental health and around hospital admission, when client's resistance to change was increased due to increase in psychotic symptoms. Literature suggests that readiness to change health behaviours in schizophrenia corresponds with engagement in the change process (Gorczynski et al., 2010; Romain and Abdel-Baki, 2017). As such the permissive attitudes towards smoking around hospital admission reported in this study could be explained by clients' increased resistance to change and their lack of readiness to engage, coupled with clinicians limited knowledge and skills (*mental and physical capability*) to facilitate the process of change in this particular *context*. Nonetheless, this finding also confirms that national clinical guideline for smoking cessation in SMI for both community and in-patient settings (NICE, 2014) is still not reflected in practice. The guidance clearly states that nicotine replacement therapy be offered to those who do not want to stop smoking in inpatient settings. Hayland et al. (2003) offer some insight into this issue. Whilst professionals participating in the study's focus group thought that hospital admission was indeed not an appropriate time for smoking cessation, they also expressed a concern that inpatient staff may use cigarettes to calm patients down (Hayland et al., 2003). This was seen as colluding and contributing to the maintenance of the unhealthy behaviour. Participants in the current study also said that smoking becomes an issue upon admission, and that sometimes when patients are unwell and cause disruption when not allowed to smoke on the

ward, professionals give in and let them smoke in order to manage the disruptive behaviour. Another study exploring Jordanian mental health nurses attitudes towards health behaviour change interventions found that whilst majority had positive attitudes towards smoking cessation and even thought that staff should not be allowed to smoke on healthcare premises, 22% believed that staff and clients smoking together helps to build a therapeutic relationship (Ganiah et al., 2017). These findings offer some insight into the unhelpful beliefs and assumptions (limited *mental capability*) behind the negative attitudes to provision of smoking cessation in schizophrenia, suggesting that interventions aimed at increasing knowledge and skills for behaviour change in schizophrenia could help to address the negative attitudes that hinder it.

In the current study, therapeutic relationship was reported as the key to the provision of health behaviour change interventions in schizophrenia, as participants believed that clients would only accept such intervention from someone they trust. Participants reported having to weigh up the pros and cons for discussing health behaviour change with clients with schizophrenia because of the impact it might have on the therapeutic relationship. They talked about the risk of disengagement and relapse caused by the breakup in therapeutic relationship. Participants in this study also talked about clients' beliefs that smoking and other substance use help them manage symptoms, and that this coupled with their cognitive impairment makes it difficult to address the behaviour. The importance of therapeutic relationship and the difficulty in overcoming barriers caused by the nature of the illness was also reported by mental health professionals in studies by Hayland et al., (2003) and Gronholm et al. (2017). Again, this suggests that specialist training for health behaviour

change in schizophrenia is required in mental health settings to help professionals facilitate the process of change in this complex mental health condition. There is some evidence in the literature to suggest that adapting interventions that aim at behavioural change whilst focusing on the therapeutic relationship can be effective in facilitating behaviour change in schizophrenia (Fenton et al., 1997; Fiszdon et al., 2016). For example, Motivational Interviewing theory proposed by Miller and Rose (2009) specify active behaviour change components as "*a relational component focused on empathy and the interpersonal spirit of MI, and a technical component involving the differential evocation and reinforcement of client change talk*". Although overall literature evidence shows mixed results, there are several studies and randomised controlled trials demonstrating promising results in the effectiveness of MI in health behaviour change in schizophrenia (Barkhof et al., 2012; Kemp et al., 1996; Kemp et al., 1998; O'Donnell et al., 2003). It has also been found that whilst an MI based intervention in SMI was effective in increasing readiness to change, it was counterproductive for those who were not ready to make dietary changes (Fulton et al., 2019). This finding suggests that more emphasis should be placed on assessing readiness to change and identifying those who are most likely to benefit from the intervention at a given time.

Mitchie et al. (2011) emphasized the role of *context* when designing behaviour change interventions. This suggests that training in assessing readiness for change might facilitate selection of, and focus resources on, those clients who are ready to make behavioural changes. It may also help to match specific interventions with client's level of readiness. This in turn could increase

the rates of successful interventions and thus reinforce provision of health behaviour change intervention in mental health professionals. The COM-B model suggests that whilst *capability* and *opportunity* influence *motivation* to enact behaviour, the enactment of behaviour can alter *capability* and thus increase or decrease *motivation* for further enactment. As such successful delivery of health behaviour change intervention can increase or reinforce *capability* and thus the *motivation* to re-enact the behaviour. Conversely, unsuccessful delivery of health behaviour change interventions can impact negatively on motivation and lead to disengagement from providing such interventions. This was also reflected in what participants said in this study. For example, some of those participants in the current study who expressed resistant attitudes also reported having engaged in health behaviour advice in the past, but stopped because it was not successful. Conversely, those who have seen changes continued engaging in delivery of health behaviour change interventions.

Participants in this study also thought that some professionals might engage in addressing those health behaviours which directly impact on symptoms of schizophrenia, such as medication non-adherence and substance misuse, because the general focus of the service is on mental health. This reflects the belief amongst mental health professionals in Hayland et al. study (2003) that their role is to assess and manage mental health, and everything else is secondary. This suggests that as such the nature of mental health services might be creating more *opportunities* for facilitating changes in those behaviours that directly affect mental health symptoms, thus limiting *opportunities* for others. As such it could also contribute to the maintenance of

the low motivation (and negative attitudes) resulting from limited knowledge and skills (*mental and physical capability*) and thus create a barrier to integration of health behaviour change into mental health services.

The above discussed findings may contribute to further understanding of the gap between positive attitudes expressed by mental health professionals and the provision of health behaviour change interventions reported in previous studies (Bartlem et al., 2016; Robson et al., 2013; Howard and Gamble, 2011; and Wheeler et al., 2014). The findings suggest that professionals may express positive attitudes towards provision of health behaviour change interventions in mental health because they have the knowledge of the behavioural risks and physical health outcomes in this group and they understand the role of health behaviour change in managing those risks and outcomes. However, their attitudes and *motivation* to deliver such interventions as individuals vary and appears to be mediated by their existing knowledge (mental *capability*), including misconceptions and unhelpful assumptions about clients and their ability to change, and specialist skills for assessing readiness to change and selecting and facilitating health behaviour change interventions adapted to a population with schizophrenia (mental and physical *capability*).

4.2.3. The nature of the job

Participants in this study talked about not always having enough time (limited *opportunity*) to engage in health behaviour change interventions because the nature of the job is fast paced and based on risk management. They said that because of high caseloads the time pressure is high and they have to prioritise immediate risks over longer term risks. Health behaviours were seen as a long term risk and therefore tended to fall by the side as a low

priority intervention. Similar experiences were reported by mental health care coordinators in a study by Gronholm et al. (2017), who also described managing overly high caseloads which impacted on the time available for interventions ‘with physical health monitoring and interventions often falling below other priorities’ (Gronholm et al., 2017). Bartlem et al. (2016) also found, in a study exploring mental health clinicians’ attitudes towards delivering health behaviour interventions, that one third of professionals believed that delivering such interventions impacted negatively on the time available for acute care. Mental health care coordinators interviewed in a study by Gronholm et al. (2017) also reported that the time consuming nature of the electronic patient record system impacted on their workload and ability to deliver physical health related interventions.

Similar to what participants in the current study reported in relation to prioritising risks, Hayland et al. (2003) found that participants in their study attend to physical health issues when it became evident that there was a problem thus indicating a risk, and not as a routine. This finding is somewhat surprising because living with a physical health condition has been widely recognised as a factor increasing the risk of suicide, and as such should be routinely included in risk management plans. It is not clear what percentage of suicides in schizophrenia are due to chronic illness, but it is widely recognised in the literature that chronic physical health conditions are a risk factor for the onset of suicidality in general adult population (Dean-Boucher et al., 2020). In schizophrenia the overall risk of suicide is high with over 40% attempting to end their live at some point during their lifetime and estimated five to ten percent completing it (Beck-Felts, 2020). A systematic review of suicide risk factors in

schizophrenia found strong positive association between the presence of physical illness or drug and alcohol abuse and suicide risk in this group (Hor and Tylor, 2010). Furthermore, a large study by Ahmedani et al. (2017) also found that while most physical health conditions increase the risk of suicide, having multiple conditions substantially increases the risk. These findings suggest that multimorbidity is a factor contributing to suicidality in people with schizophrenia, and as such should be included in risk management plans. As the multimorbidity in this group is largely behavioural (Walker et al., 2015; World Health Organisation, 2009) this risk can be managed through provision of health behaviour change interventions tailored to the needs of this group. None of the professionals interviewed in the current study talked about living with a physical health condition or substance misuse as increasing risk of suicide, although participants talked about it impacting on mental health in general. This suggests that there might be gaps in knowledge and skills (limited *capability*) for identifying and managing physical health related risks of suicide in schizophrenia. Health behaviour change interventions may help to manage risk of suicide associated with long term conditions through addressing behavioural risks for such conditions. Furthermore, Beck-Felts et al. (2020) suggested that the available pharmacological and psychotherapeutic interventions offer limited risk reduction benefits and proposed a novel exercise intervention aimed at ameliorating this risk of suicide in schizophrenia. According to Beck-Felts et al. (2020) aerobic exercise has been effective in improving a number of predictors of suicide risks such as depressed mood and sleep problems, and as such may help to reduce suicide risk in this highly sedentary group. Although the results of

their multi-site, single-blind, randomized clinical trial *Suicide Reduction in Schizophrenia via Exercise (SUnRISE)* are yet to be published.

Participants in this study also talked about the 'tick boxy' nature of physical health care in mental health services. For example, some participants said that because the work is outcome based and health behaviour change outcomes are hard to achieve in schizophrenia, professionals may feel discouraged from working on behaviour change and feel that once they have mentioned it the job is done. On the other hand others said that the management ensures that staff are reminded about the importance of discussing behavioural changes with clients and not just ticking the boxes. As such, it seems that *opportunities* are created for mental health professionals to consider health behaviour change interventions. Gronholm et al. (2017) found that whilst mental health care coordinators interviewed in their study also felt that physical health care was tick boxy, it also helped to ensure that physical health screening was offered to clients with SMI. As such, staff performance monitoring procedures were found to be a primary motivator for ensuring physical health monitoring in SMI, not client's welfare. The encouraging finding of the current study was that the majority of respondents perceived physical health care and health behaviour change as integral to providing holistic and integrated mental and physical care.

Participants also talked about the stressful nature of the job as contributing to staff rotation, which makes it difficult to develop trusting relationships with clients where any behaviour change could happen (limited *opportunity*). Mental health care coordinators interviewed in a study by Gronholm et al. (2017) also reported frustration in relation to staffing levels and

its impact on the their workloads and thus the ability to provide health monitoring and related interventions. Although it was encouraging to find in the current study that participants reported various initiatives aimed at improving staff wellbeing.

4.2.4. Other support to deliver health behaviour change in schizophrenia

The fourth theme reflects the limited resources (limited *opportunity*) to facilitate health behaviour change in schizophrenia. Participants in this study talked about existing support and resources which enable opportunities to engage in providing health behaviour change advice, but also about resources that are lacking and therefore blocking *opportunities* to facilitate health behaviour change in people with schizophrenia. It was encouraging to find that physical health monitoring was an integral part of service provision, and that there was a clear structure in place to ensure regular physical health checks for clients with psychotic illness, such as implementation of the trust's physical health and CPA policies with the aim of meeting physical health CQUIN targets. This finding is in contrast to previous findings reporting lack of structure or processes for translating national guidelines and policies into practice and integrating physical health care into mental health services (Hayland et al., 2003; NAS 2, 2014; Gronholm et al., 2017) where health monitoring was offered ad hoc as opposite to routine practice. Participants in this study believed that integrating physical health monitoring into the mental health service created more opportunities to think about health behaviour change in schizophrenia and helped to manage health risks and identify unhealthy behaviours. However, whilst physical health monitoring was perceived as a positive change to how physical health in SMI is managed within mental health services, it was believed

to be insufficient to facilitate health behaviour change due to the remit of the physical health monitoring clinics, and also because of the limited in-house and community resources (limited *opportunity*).

Participants in this study said that whilst there seem to be resources available in in-patient settings, such as various exercise and healthy eating groups, community mental health services largely rely on community resources, which are often not suitable for clients with schizophrenia. For example, participants talked about the difficulties clients with schizophrenia have in accessing community resources because of the symptoms they experience such as hearing voices, feeling anxious or having low self-esteem, getting easily distracted, having decreased agility due to sedating effects of medication and others, which make them vulnerable to stigmatisation and marginalisation in the society. Similar barriers to accessing services in the community were also found in previous studies. For example, case managers interviewed in the study by Hyland et al. (2003) talked about people with SMI having less tolerance to wait in line like other people due to restlessness, and also not having the ability to negotiate the general healthcare system. Gronholm et al. (2017) found that mental health care coordinators believed that lack of funding to provide in-house services was a barrier to provision of health promoting interventions in mental health services. Participants in Gronholm et al. (2017) study thought that the lack of in-house services limited health promotion to verbal promotion which was considered ineffective in this group of clients. Thus, it appears that the illness related barriers to accessing community resources, together with lack of specialist in-house resources to health promoting interventions (blocked *opportunity*) contribute to the maintenance of the health inequalities

experienced by people with schizophrenia. Lampropoulos et al. (2019) found that stigmatization is likely to impact on social inclusion, care seeking behaviours and the trajectory of the disorder thus increasing the risk of co-morbidity and mortality in this group. Freudenreich (2020) suggested that social determinants of health and adversity experienced in this group pose barriers to care provision which should be recognised and addressed by professionals working with this group. Participants in this study echoed this and suggested ideas for incorporating health promoting resources into mental health services, but also expressed some doubts as to whether it was realistic due to funding issues.

Participants in this study also talked about difficulties working in partnership with other services, such as GP's, drug and alcohol services and other specialist services as barriers to provision of integrated care (limited *opportunity*). For example, they said that despite there being a clear process in place for joint working with GP's in primary care, the communication gap still existed. Participants talked about always writing to GP as part of the physical health monitoring and CPA in order to communicate outcomes and GP actions, but rarely receiving communication back from GP's. They talked about often not knowing whether GP's actions and recommendations for health related interventions have been completed, and having to follow up with GP's, which was adding to their already high workloads. For example, they said that when GP's do not action recommendations to changes in medication or when there is another urgent matter, it is not easy to get hold of the GP as professionals have to use the same number as the general public, which means waiting in a queue. In similar way participants did not know whether GP's follow through with

recommendations for health behaviour change interventions such as smoking cessation or exercise. In addition to this, participants talked about poor links between mental health services and other specialist services, such as drug and alcohol services, which poses another barrier to provision of holistic care (limited *opportunity*). The issue with poor links between mental health services and GP's and other services reported by participants in the current study seems to be a persistent one. Participants interviewed in the study by Hayland et al. (2003) also reported weak links with GP's and other services as a barrier to provision of integrated care. Furthermore, Gronholm et al. (2017) reported that even when national clinical guidelines (NICE, 2009) recommended that GPs were responsible for physical health monitoring and treatment this recommendation was not reflected in GP practice due to limited capacity and skills (Gronholm et al., 2017). However, the encouraging finding of the current study is that there were new initiatives being implemented to improve the links between services such as GP Plus practitioner and Multi-speciality Teams, which aim to facilitate multidisciplinary working and managing complex cases.

4.2.5. Power to decide

Finally, the fifth theme reflects the issue of power distribution in mental health services. This theme was identified following re-investigation of the data without the preconceptions from the COM-B model. Although testing the limitations of COM-B model is beyond the remit of this study it is important to acknowledge that this finding confirms that there are limitations to the model based approach to health psychology as argued by critical approaches (Prilleltensky & Prilleltensky, 2003; Prestwich et al., 2017). This means that had the data not been re-analysed without the preconceptions of COM-B model the

important theme of power relations would not have been identified within the model.

The two participants who brought up the issue of power distribution in mental health services talked about how the unequal distribution of power can diminish patient individual choice and their role in recovery. They suggested that this may contribute to the maintanence of health inequalities through silencing the important voices of service users, or that it can impact on their quality of life through making them adhere to treatments to which they object. One participant made a point that there are many people with schizophrenia living in the community who are not accessing services and therefore have the autonomy to make decisions about their health. Similarly, in discussing the issue of power Prilleltensky and Prilleltensky (2003) critiqued the failure of mainstream health psychology to explore and understand patients' lived experiences and the feasibility to adhere to prescribed treatment within the context of the diverse life circumstances. They further argued that health should not be defined as 'simply regaining the ability to perform' because if it is then professionals run the risk of 'collectively defining a set of outcomes' for patients (Prilleltensky and Prilleltensky, 2003).

4.2.6. Discussion summary in the context of COM-B model

Using the COM-B model of behaviour as an overarching framework for understanding participants' behaviour of delivering health behaviour change interventions to clients with schizophrenia has facilitated an understanding of the factors that impact on provision of such interventions in mental health services. Removing the preconceptions of the model from analysis allowed for the identification of the issue of power distribution in mental health settings, and

thus pointed to the limitation of the COM-B model. Nonetheless, even though model based approach to health psychology has been critiqued for its limitations to explain all aspects of health, it has not been contested. Instead, critical health psychology argues for the importance of situating health and health related intervention in the context of power differentials (Prestwich et al., 2017). This context needs to be remembered when discussing the findings in the context of the COM-B model.

Capability: The evidence from interviews with participants suggests that whilst mental health professionals have the knowledge about the behavioural health risks and resulting physical health outcomes in schizophrenia, they do not always have the necessary knowledge and skills to facilitate health behaviour change (limited *capability*). In the current study, resistant and permissive attitudes towards unhealthy behaviours were also associated with misconceptions and unhelpful assumptions about clients, their mental health and the resulting ability to engage in health behaviour change (limited *capability*). The evidence also suggests that participants may have gaps in knowledge and skills for identifying and managing risks associated with long term conditions (limited *capability*).

Motivation: The findings of this study suggest that differences in background knowledge and skills influenced individual *motivation* in different ways across participants, and resulted in inconsistencies reported across professionals in the types of behaviour change interventions they offered as individuals. Those participants who demonstrated understanding of the complex process of behaviour change in schizophrenia tended to have increased *reflexive motivation* and thus more positive attitudes towards offering health behaviour

change interventions as individual clinicians, although the focus of interventions was still dictated by their existing knowledge and skills. Conversely, those participants who reported not having sufficient knowledge and skills expressed low *reflexive motivation* to engage in health behaviour change intervention and thus resistant attitudes towards it. The resistant attitudes were also associated with habitual processes (*automatic motivation*), such as being used to delivering interventions congruent with professional role which did not involve behaviour change, and emotional responses (*automatic motivation),* such as feeling that it would be too much work to add another responsibility to the already high workload.

Opportunity: Specialist behaviour change training and supervision were identified as lacking, thus blocking *opportunities* to develop skills for assessment and intervention in health behaviour change. Whilst physical health monitoring was perceived as an opportunity to think about health behaviour change, it was believed to be insufficient to facilitate health behaviour change due to the remit of the physical health monitoring clinics, and also because of the lack of specialist in-house and community resources (blocked *opportunities*). Weak working relationships with GP's and other services were also perceived as a barrier to facilitating health behaviour change. Time constrain, high caseloads and staff rotation were also factors considered to limit opportunities for health behaviour change.

Overall, the COM-B model has facilitated an understanding of the interplay between *capability, motivation* and *opportunity* and its impact on delivery of health behaviour change interventions by mental health professionals. The COM-B model sits in the heart of behaviour change wheel,

which aims to provide a tool for identifying how the interaction of COM-B components needs to be modified in order to improve the provision of health behaviour change interventions by mental health professionals. As identified in this study, the components that need to be targeted are *capability* (specialist knowledge and skills for the assessment and intervention in health behaviour change in schizophrenia), *motivation* (knowledge and skills, attitudes) and *opportunity* (specialist training and supervision, resources, improved working relationships with other services). The *functional intervention* ring of the behaviour change wheel provides a choice of possible interventions. The findings of this study suggest that of these functional interventions specialist *training* in health behaviour change might help to improve provision of such interventions amongst mental health professionals. *Persuasion* may be a useful intervention with mental health professionals when focusing on their role in facilitating health behaviour change in schizophrenia. *Incentivisation* and *education* may be useful strategies in working with those professionals with limited knowledge and resistant attitudes. And specific *regulations* might help to enable in-house services for health behaviour change in mental health services. Finally, the outer rim of the behaviour change wheel outlines seven policy strategies that may be helpful in facilitating those functional interventions. *Service provision* within mental health services may be a way of supporting specialist *training* (and supervision), and educational and incentivisational interventions. *Communication* and *marketing* might also be a useful ways of supporting educational interventions. Specific *regulations* for provision of health behaviour change in mental health services, coupled with *provision* of specialist behaviour change *training* might enable in-house resources.

5. Research Limitations & Recommendations

The section's aim is to explore the limitations of this research project, and finally conclude with recommendations.

5.1. Research Limitations

This study attempted to explore a wide area of mental health professionals' experiences of delivering health behaviour change to clients with schizophrenia. It is acknowledged that whilst the study captured main themes relating to barriers and facilitators of provision of health behaviour change interventions by mental health professionals, there might have been specific, in-depth aspects that have not been captured. For example, critics, such as Biggerstaff (2012) and Willig (2008) suggest that TA's scope is too limited to provide an opportunity for an in-depth data analysis. However, they agree that TA is particularly useful for categorising and summarising themes identified in the data (Biggerstaff, 2012; Willig, 2008). As such TA is a particularly useful qualitative approach to explore under-researched phenomena, which provides a broad overview of the main themes across the data (Braun & Clarke, 2006; 2013), and the same was aimed for in this research study.

However, the main criticism of this study relates to the small sample size. It was initially intended to collect twenty interviews in order to increase the likelihood of the publishability of this study in a respected journal (Braun & Clarke, 2013), but only ten have been collected as the recruitment process in this professional group proved difficult. Although it is possible that more interviews could have provided a richer dataset, it was not feasible to extend the recruitment any further due to the time frame of this doctoral research project. Braun and Clarke (2013) suggest that ten interviews is a sufficient sample size

for a professional doctoral research study. Moreover, the data generated from those ten interviews provided a comprehensive material for an in depth thematic analysis and enabled the researcher to answer the research question. Similar studies utilising thematic analysis included seven (Gronholm et al., 2017) and twelve (Galvin et al., 2015) participants.

Another possible limitation that needs to be acknowledged is a sample bias. The recruitment process was difficult because mental health professionals did not have the time to participate due to the busy nature of their jobs in secondary mental health services. Thus it is possible that those participants who volunteered to participate were more motivated in general and that their experiences of provision of health behaviour change might not be reflective of the experiences of those professionals who refused participation.

Finally, this study did not explore experiences of patients with schizophrenia who are active agents in health behaviour change intervnetions. As such it might have unintentionally reflected the unequal distribution of power in mental health services.

5.2. Recommendations

The findings of this research indicated that in general participants were more likely to engage in delivering health behaviour change interventions to clients with schizophrenia when they had the necessary knowledge and skills, opportunities, time, and access to resources. It appeared that engagement in delivering such interventions was hindered by limited knowledge (reflected in unhelpful beliefs and misconceptions about clients and their ability to change) and limited opportunities such as specialist training and supervision, resources and poor working relationships with other services. Based on the COM-B

analysis of the findings it is suggested that the following service level interventions might help to improve the provision of health behaviour change interventions in schizophrenia:

1. Specialist *training* in health behaviour change to impart the necessary skills for facilitating behaviour change in this particular group of clients.
2. *Persuasion* to induce positive feelings about mental health professionals' role in delivering health behaviour change interventions in schizophrenia and thus to stimulate the behaviour.
3. *Incentivisation* to create an expectation of reward for engagement in provision of health behaviour change interventions.
4. *Education* to increase the knowledge of behavioural health outcomes in schizophrenia, and the understanding of the role of health behaviour change interventions in managing those outcomes. This strategy may be particularly useful in working with those professionals with limited knowledge and resistant attitudes.

The COM-B analysis further suggested that identifying all these potential intervention functions might help the policy makers to select appropriate policy strategies for facilitating those service level interventions. The analysis of this study suggests that the following policy strategies could be effective:

1. *Service provision* – delivery of the specialist health behaviour change *training* (and supervision), and educational and incentivised interventions aimed at increasing engagement in health behaviour change interventions amongst mental health professionals in secondary care.

2. Communication and *marketing* – using print or electronic media to support educational interventions and promote engagement in provision of health behaviour change interventions.

3. R*egulations* – establishing rules and guidelines for provision of health behaviour change in mental health services; for example who, when and how should be providing health behaviour change interventions.

Such specific *regulations* coupled with *provision* of specialist behaviour change *training* might enable in-house resources. For example, trained professionals could facilitate specialist group health behaviour change interventions within the mental health service. It is also recommended that more research is needed in order to understand what specific interventions are effective in facilitating health behaviour change in clients with schizophrenia. This knowledge might enable a development of specialist training programmes aimed at mental health professionals working with health behaviour change in schizophrenia. Michie et al. (2011) suggested that the problem with studies evaluating the effectiveness of lifestyle interventions is that they often lack transparency in what theory and behaviour change models were used to inform the intervention studied, thus making it difficult to understand what interventions are most effective for what kinds of health behaviour related problems.

Olker at al. (2016) also argued, in a meta-analytic review of data on weight management interventions from a total of 1779 participants with SMI, that in order to improve research and intervention outcomes in SMI "*it is imperative for future research to include adequate follow-up periods, provide protocols, and employ better control methods*".

Finally, more research is needed in order to further explore both mental health professionals' and service users' experiences of health behaviour change in schizophrenia. Further evidence would help to evaluate the findings of this and previous qualitative studies, to expand the understanding made in this study, and to review the recommendations proposed in this study. It is also recommended that future research situates behaviour in the context of power relations. Exploring the issue of power in mental healt settings could also help to understand mental health professionals' attitudes better. For example, it is possible that permissive attitudes towards unhealthy behaviours could be reflective of respecting the patient's right to make unwise decisions rather than lack of care. But more research is needed to explore the issue of power.

6. Conclusion

Literature demonstrates a clear link between health behaviours and poor physical health outcomes, multi-morbidity and early mortality in people living with schizophrenia. It also suggests that health behaviour change interventions can be effective in preventing ill health and managing existing physical health risks, with further possible benefits on other clinical outcomes. However, despite the research evidence and national clinical guidelines for provision of health behaviour change interventions such interventions are not routinely provided in mental health services. There is limited research exploring the gap (and its pervasiveness) between national clinical guidance and provision of health behaviour change interventions. The existing evidence suggests that positive attitudes towards health behaviour change are not translated into practice and that negative attitudes hinder it, and calls for further research to explore the

problem further to help address the negative attitudes and translate the positive attitudes into practice.

This research study explored mental health professionals' experiences in depth with a view of exploring their attitudes and other factors contributing to the problem with provision of health behaviour change interventions in schizophrenia. It applied a theoretical model of behaviour (COM-B model) which describes behaviour as a function of an individual's capability and motivation, influenced by environmental opportunities. This theoretical model of behaviour was chosen because it provided a broad framework for understanding mental health professionals' behaviour of delivering health behaviour change interventions to clients with schizophrenia, and was coherent with the researcher's epistemological and ontological position.

The main finding of this study was that the possible explanation for the gap between positive attitudes and provision of health behaviour change interventions was that although professionals expressed positive attitudes towards behaviour health interventions in schizophrenia in general, their attitudes towards delivering such interventions as individual clinicians varied. The attitudes seemed to have been mediated by the level of specialist knowledge and skills for facilitating behaviour change in this complex group of clients. This was reflected in the inconsistencies reported in provision of such interventions across professionals, whereby professionals tended to deliver interventions they had the knowledge and skills to facilitate, and refrained from offering interventions they did not have the skills for. I was also found that those professionals who held unhelpful beliefs and misconceptions about clients

with schizophrenia and their ability to change also had negative attitudes and did not engage in delivering health behaviour change interventions.

What is unique about this study is that it uses a widely recognised behavioural framework to analyse the behaviour of mental health professionals and based on this analysis it suggests possible points of service level intervention to increase provision of health behaviour change interventions to clients with schizophrenia.

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Appendix 1 – Participant Information Sheet

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Academic Year 2018 – 2019

IRAS Project ID: 252880
Version 1.1
Date 14/04/2019

INFORMATION SHEET

'Mental health professionals' experiences of provision of health behaviour change interventions to people with Schizophrenia. A qualitative study.'

You are invited to take part in a qualitative research study. Before you decide to participate, it is important for you to understand why the research is being done and what it will involve. Please take your time to read the following information carefully, and discuss it with others if you wish. Feel free to contact the researcher if there is anything that is not clear or if you would like more information. Take your time to decide whether or not you wish to take part.

This study is a student study and the data collected will be used for the researcher's doctoral thesis. This study aims to explore the experiences of mental health professionals of provision of health behaviour change interventions to clients with Schizophrenia. Health behaviour change interventions cover a whole range of interventions aimed at affecting individual's actions related to their own health (ex. smoking cessation, medication adherence, diet and exercise, drug and alcohol etc.). There is a limited evidence in the literature relating to the experiences of provision of such interventions amongst mental health professionals working with clients with Schizophrenia, and this research might contribute to better understanding of mental health professionals' views, and explore perceived barriers and facilitators to provision of health behaviour change interventions in psychiatric settings.

If you agree to take part in this research, you will be asked to participate in an interview with the researcher. It will take up to an hour to complete the interview. The interview will be recorded and transcribed for research purposes. In order to maintain anonymity, only basic demographic data will be collected and presented as an aggregate presentation of the group's ethnicity, gender, age and profession. All recordings will be destroyed once transcribed. There are no right or wrong answers to the questions and you will be encouraged to answer all questions as honestly and accurately as you can.

Participation in this research is entirely voluntary. You do not have to take part if you do not wish to do so. If you decide to take part you may withdraw your consent for participation without giving a reason before data analysis begin in September 2019, by letting the researcher or project supervisor know.

All responses from participants will be anonymous and the data will be only used for the purposes of the researcher's doctoral thesis and the results may be published. All proposals for research using human participants are reviewed by an Ethics Committee before they can proceed.

General Data Protection Regulation (GDPR):

University of the West of England (UWE) is the sponsor for this study based in United Kingdom. We will be using information from you in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. We will keep identifiable information about you for three months after the study has finished.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will use the minimum personally-identifiable information possible.

You can find out more about how we use your information by contacting UWE general research information point at researchethics@uwe.ac.uk. [redacted] NHS Foundation Trust [redacted] will keep your details confidential and will not pass this information to UWE. [redacted] will use this information as needed, to contact you about the research study, and make sure that relevant information about the study is recorded, and to oversee the quality of the study. Certain individuals from UWE and regulatory organisations may look at your research records to check the accuracy of the research study. UWE will only receive information without any identifying information. The people who analyse the information will not be able to identify you.

[redacted] will keep identifiable information about you from this study for three months after the study has finished.

Thank you for taking the time to read this information sheet.

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Appendix 2 – Systematic Review

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REVIEW

Perspectives in PSYCHIATRIC CARE WILEY

The effectiveness of health behavior change interventions in managing physical health in people with a psychotic illness: A systematic review

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Abstract

Purpose: People living with psychotic illness disproportionately experience more comorbidities and have a markedly shorter life expectancy compared to the general population. This review evaluates the effectiveness of health behavior change interventions in improving health outcomes in this group.

Design and Methods: All studies included objective physical health measures or health behaviors as the main outcome measures and experimental design with baseline and follow-up quantitative data. Only studies of moderate and strong quality were included. Narrative synthesis was undertaken.

Findings: Included studies utilized a range of methodological designs and outcome measures. The majority reported significant intervention effect on most outcome measures.

Practice Implications: Health behavior change interventions can be effective in improving health outcomes in people with psychotic illness, with the potential benefit of improved psychiatric outcomes.

1 | INTRODUCTION

1.1 | Rationale

People living with serious mental illness, and psychotic illness in particular, disproportionately experience more comorbidities and have a markedly shorter life expectancy compared to the general population.[1,2] They also have higher than expected rates of infectious diseases, non-insulin-dependent diabetes, respiratory, and cardiovascular diseases.[3] Evidence suggests that individuals in the general population who exhibit unhealthy behaviors such as smoking, sedentary behavior, poor nutrition, and substance misuse are four times more likely to experience premature mortality.[4] It is known that people with psychotic illness are significantly more likely to engage in such behaviors due to limited knowledge of healthy lifestyles, cognitive impairment, limited access to community resources, and poverty, thereby, placing themselves at even higher risk of morbidity and early mortality.[5] It is estimated that people living with serious psychiatric disorders have a reduced life expectancy of 10 to 25 years.[6] Chronic physical health conditions, such as cardiovascular disease, respiratory disease, obesity, and diabetes are reported to be the most prevalent comorbidities and leading causes of mortality in this group of people.[7,8] According to the Global Burden of Disease Study, schizophrenia causes a high degree of disability, which accounts for 1.1% of the total DALYs (disability-adjusted life years) and 2.8% of YLDs (years lived with disability).[9]

Inactivity, poor diet choices, poor sleep hygiene, and smoking and substance use are among the main behavioral factors contributing to ill health in this group.[1,2] The unfavorable weight gain profile of many second generation antipsychotics increases the risk of ill health such as metabolic syndrome, leading to cardiovascular disease and diabetes.[10] Moreover, cardiovascular risk factors such as dyslipidemia, abnormal glucose levels, and hypertension have been linked to

impaired cognitive function, suggesting that improving general physical well-being may improve psychiatric symptoms and the overall quality of life.[5,11] The negative consequences of antipsychotic medication, such as weight gain, extrapyramidal effects, and sexual dysfunction are also considered a main cause for medication nonadherence in this group of patients, and are subjectively rated as more distressing than sedation and vegetative effects of antipsychotic medication.[12] It is estimated that 50% of individuals with severe mental illness do not take antipsychotic medication as prescribed, putting themselves at five times increased risk of relapse.[13,14] A recommendation for the management of nonadherence to antipsychotic medication is depot medication, which can help patients adhere to treatment because of the reduced frequency of medication administration, however, the administration system does not prevent nonadherence—some patients do not turn up for depot appointments.[15]

Gates et al[16] argue that achieving better physical health outcomes in people with psychotic illness requires not only significant reduction in health behavior and medication-induced risks, but also addressing the problem of low motivation, often accompanying symptomatology in psychotic illness, such as anhedonia.[17] Literature suggests that a variety of psychoeducational, motivational, and behavioral interventions can be effective in managing morbidity and mortality risks in people with psychotic illness, with the potential added benefit of improved psychiatric outcomes.[18,19] However, despite the promising evidence from previous studies, and targets set by NHS England,[20] health behavior change interventions in psychotic illness are still scarce in psychiatric settings, with pharmacology, talking therapies, and most recently physical health monitoring, being the first choices of treatment.[21]

Studies targeting multiple health behaviors in people with psychotic illness are limited. The majority address populations with serious mental illness as a whole, and those focusing on psychotic illness typically target cardiometabolic risks through weight loss. There is a need to distinguish between different groups of psychiatric disorders according to disorder-associated risks, such as the specific behavioral, symptomatological, and pharmacological risks associated with the psychotic disorder group.[16] Therefore, this review focused on studies targeting health risks through various behavior change interventions where the study population consisted of at least 80% percent of participants with psychotic illness.

1.2 | Objectives

The main objective of this review was to evaluate the current evidence of the effectiveness of health behavior change interventions in improving physical health in people with severe mental health illness, focusing on the psychotic spectrum. The secondary aim of the review was to evaluate whether effectiveness of such interventions varies according to the type of antipsychotic medication (high weight gain propensity medications vs moderate and low weight gain propensity medications).

2 | METHODS

2.1 | Protocol and registration

This systematic review was registered with PROSPERO, Centre for Reviews and Dissemination, on 17 May 2017. The registration number is CRD42017067333.

2.2 | Inclusion/Exclusion criteria

Studies included in this review met the following inclusion criteria: (i) target population was between 18 and 70 years of age; (ii) target population had a main diagnosis of psychotic illness (such as schizophrenia, schizoaffective disorder, delusional disorder, schizotypal personality disorder, schizophreniform disorder, brief psychotic disorder, psychosis not otherwise specified, as well as psychosis associated with substance use or medical conditions, and bipolar disorder). Studies were included only if 80% or more of the study population had a primary diagnosis of psychotic illness; (iii) evaluated a health behavior change intervention, defined as aiming to improve physical health through change in health behaviors, such as diet, exercise, smoking cessation, and alcohol/drug reduction; (iv) include objective physical health measures (ie, weight, BMI) or health behaviors (ie, smoking, physical activity) as main outcome measures; (v) include experimental design with pre-intervention and postintervention quantitative data to allow evaluation of changes from baseline to follow up; (vi) using pharmacological therapy as an addition to behavioral intervention only; (vii) and published in a peer-reviewed English journal between December 2010 and July 2017.

Studies were excluded if (i) over 20% of study population had a primary diagnosis other than psychotic illness (ie, major depression, anxiety, PTSD); and utilized pharmacological intervention only.

Different study designs meeting the above criteria were included in the review to gain an understanding of the range of health behavior change interventions and their effectiveness in population with psychotic illness.

The diagnoses included in this review met the following criteria: (i) involved negative symptoms, cognitive impairment, emotional and neuropsychiatric disturbances such as hallucinations and delusions; and (ii) were treated with antipsychotic medication. Studies included in this review did not recruit participants who were actively psychotic. Active psychosis is an acute state which alters people's perception and interpretation of reality, for example through delusions and hallucinations, and as such distorts information processing. Active psychosis can be a feature in psychotic ilness such as schizophrenia, but schizophrenia in its chronic form includes a spectrum of other so called positive and negative symptoms such as hearing voices and anhedonia. These symptoms are usually managed long term with antipsychotic medication and as such allow sufficient degree of contact with reality.

2.3 | Information sources

An extensive search strategy was applied to ensure identification of all possible studies for inclusion. CINAHL (via Ebsco-Host), HMIC,

BNI, Embase, Medline, PsycInfo, AMED, PsycARTICLES, Web of Science and Cochrane databases were searched individually through the UWE Library Database. In addition, CINAHL (via Ebsco-Host), HMIC, BNI, Embase, Medline, PsycInfo, AMED were searched individually through the NICE Healthcare Database. Initially, the search included studies published between 2000 and 2017 but, following identification of a similar review covering the period from 1960 to November 2010,[4] the search was limited to studies published between December 2010 and June 2017. The last search was performed on 1 July 2017 for all the above databases except for Web of Science, which had been decommissioned at that point.

2.4 | Search method

The following search formula was applied in searching each individual database:

((mental AND health) OR (mental AND disorder*) OR (mental AND illness) OR (psychosis) OR (psychotic AND illness) OR (schizophreni*)) AND (((health AND behavio*) AND change) OR ((behavio* AND change) AND intervention*) OR (behavio* AND change*) OR (lifestyle AND change*) OR ((life AND style) AND change*) OR (lifestyle AND intervention*) OR ((life AND style) AND intervention*)) AND (((physical AND health) AND improv*) OR (health AND improve*) OR ((physical AND health) AND outcome*) OR (health AND outcome*)) AND ((effect*) OR (impact))

2.5 | Study selection

All references identified through the searches were exported to RefWorks (a web-based commercial reference management software package) including database and search date. The studies were then screened in three phases: (i) title screening with the aim to exclude irrelevant studies; (ii) abstract screening to exclude studies that did not meet the inclusion criteria; and (iii) full article screening to identify articles for quality assessment and potential inclusion. The agreement on the inclusion of dubious studies was reached through discussion between two reviewers.

2.6 | Data collection process

Data extraction forms were developed, based on the data included in previous studies and aims of the current review, and pilot tested. Key data were extracted and included as heading in Table 1. The extracted data were independently assessed and confirmed by coinvestigators.

2.7 | Risk of bias in individual studies

The methodological quality of studies, including risk of bias, was assessed using an existing Quality Assessment Tool for Quantitative Studies.[40] Based on the EPHPP quality assessment ratings, studies were considered as strong, moderate, or weak. Studies rated as weak were excluded from the review to minimize the potential effect of biased outcomes on the results. The quality assessment was independently carried out and confirmed by coinvestigators.

2.8 | Synthesis of results

It was not possible to calculate the effect sizes due to the variability in methodologies, missing outcome data, and small sample sizes across studies. Therefore, a narrative synthesis of study characteristics was completed. The synthesis was guided by the four steps outlined by Popay et al,[41] which include developing an understanding of how the intervention works, developing a preliminary synthesis, exploring relationships within the data, and finally evaluating the robustness of the synthesis. Difference in means was used as a primary summary measure alongside study quality rating.

3 | RESULTS

The final set of studies included in the review resulted in 18 articles (Figure 1).

3.1 | Study characteristics

Intervention characteristics, results, and quality rating of individual studies are presented in Table 1.

Overall, there were 3510 participants at baseline and the average study retention at last follow up was 81.6%. The average age of participants was 43.3 (one study did not report), and 57.3% were male. Thirteen studies provided ethnicity data and the overall percentage was calculated as 68.6% White/Caucasian. Overall, 91% of participants had a main diagnosis of psychotic illness; the majority were diagnosed with schizophrenia, schizoaffective disorder, psychotic disorder, delusional disorder or schizophreniform disorder (68.6%), followed by bipolar disorder (20.4%) and multiple diagnoses (1.7%). Nine percent had other diagnoses, such as major depression and anxiety. The majority of studies targeted participants from community and outpatient settings (n = 17). One study was conducted in a multicentre inpatient setting.

Ten studies employed a randomized controlled trial design, four studies involved pre-post study design, two had quasi-experimental design, one was a quasi-randomized controlled trial, and one employed a 2×2 between subjects design. The majority of studies used two group design (n = 14), followed by one group design (n = 3), and three group design (n = 1). Ten studies performed analyses by the actual intervention received, while eight analyzed the results by allocation status using intention-to-treat analyses. The included studies were of moderate (n = 9) and strong (n = 9) quality.

All studies reported the length of intervention and follow up. The average length of intervention was 37 weeks, ranging from 4 to 78 weeks. The majority of studies collected data at the end of intervention (n = 12). The follow-up times of the remaining six studies ranged from 6 to 12 months after intervention.

TABLE 1 Individual studies characteristics.

Author; Publication Year; Country of Study	Methodology; Study Setting	Intervention (I); Control (C); Baseline sample (n =)	Duration	Main behaviour targeted; Main outcomes	Main findings	Retention (at last follow up); Analysis by intention-to-treat or actual intervention received	Study quality
Attux et al;[22] **Brazil**	Quasi experimental design, one group before and after (results from national multicentric study); Community	(I)- 12 weekly 1 h long group weight management program focused on nutrition advice, lifestyle, physical activity and self-esteem. Involved relatives. (n = 1,071) (C)- No control	12 wk	Diet and exercise; Changes in weight, waist circumference and blood pressure, Secondary: engagement in physical activity	Significant weight loss of (mean difference: 0.41, 95% CI: 0.18 to 0.64, P = 0.001) and significant BMI reduction (mean difference: 0.13, 95% CI: 0.04 to 0.22, P = 0.006). Significant increase in the proportion of patients engaging in exercise post intervention, from) from 51.5% to 70.8%, (P < 0.001). No sig differences in blood pressure post intervention. Patients on 1st and 2nd generation antipsychotics showed no significant differences in weight loss (P = 0.904) or BMI reduction (P =0.658)	73%; Actual intervention received analyses	Moderate
Bartels et al;[23] **USA**	Quasi randomised controlled trial; Community	(I)- 12 mo In Shape health promotion intervention including gym membership and personal health coach. Individual fitness plan utilizing shared planning and goal setting. Coaches offered personal, 45–60 min long, weekly sessions at a local fitness club. Sessions included fitness training, support, reinforcement for physical activity and personalized dietary advice. (n=104) (C)- 12 mo fitness club membership alone +18 mo follow up. (n=106)	12mo intervention + follow up at 18 mo	Diet and exercise; Primary: Weight, Cardiorespiratory fitness Secondary: BMI, physical activity, diet, blood pressure, serum lipid levels.	At 12 mo, 51% of intervention subjects showed Clinically significant reduction in cardiovascular risk defined as weight loss ≥5% OR increase of 0.50 m [164 feet] on the 6-min walk test, compared to 38% of the control group. Similar rates noted at 18mo: 46% of intervention subjects compared to 37% in the control group. At 12 mo intervention subjects increased the distance on the 6-min walk test by a mean 28.5 feet compared to decrease by a mean of 64.1 feet in control group (P = 0.037). At 12 mo intervention subjects lost a mean of 1.2kg/m2 in BMI, compared to mean loss of 0.1kg/m2 (P = 0.034) in control group. Intervention subjects lost a mean 1.7 inch in waist circumference compared to a mean loss of 1.4 inch (P = 0.022) in control. No between-group differences in blood pressure or lipids.	77.5%; Intention-to-treat analyses	Strong

(Continues)

TABLE 1 (Continued)

Author; Publication Year; Country of Study	Methodology; Study Setting	Intervention (I); Control (C); Baseline sample (n =)	Duration	Main behaviour targeted; Main outcomes	Main findings	Retention (at last follow up); Analysis by intention-to-treat or actual intervention received	Study quality
Barrowclough et al;[24] **UK**	Two centre, open, rater blind randomised controlled trial; Outpatient (Secondary Care)	(I)-Integrated motivational interviewing and cognitive behavioural therapy plus standard care. Intervention had two stages. In stage one, *Motivation Building*, emphasis was on engagement and then exploring and resolving ambivalence for change is substance use. In stage two, *Action*, change was supported and facilitated using cognitive behavioural framework. Up to 26 therapy sessions were delivered over 12 mo. (n = 164) (C)- Usual care (n = 163)	12 mo intervention + follow up at 24 mo	Substance use; Death or admission in 12 mo after intervention, Changes in substance use	No effect of intervention on hospital admissions or deaths at 18 mo (23.3% of intervention group and 20.2% of control admitted or deceased (adjusted odds ratio 1.16, 95% confidence interval 0.68 to 1.99; $P = 0.579$). No effect of intervention on the frequency of substance use or the perceived negative consequences of misuse. Intervention had a statistically significant effect on amount used per day (adjusted ORs for main substance 1.50, 95% CI, 1.08 to 2.09; $P = 0.016$; and all substances 1.48, 95% CI, 1.07 to 2.05; $P = 0.017$), and on readiness to change at 12 mo (adjusted OR, 2.05, 95%CI,1.26 to 3.31; $P = 0.004$; but not maintained at 24 mo: 0.78, 95% CI, 0.48 to 1.28; $P = 0.320$). The intervention had no effect on clinical outcomes such as relapses, psychotic symptoms, functioning, and self-harm.	75%;Intention-to-treat analyses	Strong
Beebe et al;[25] **USA**	2 groups before and after; Outpatient	(I)- Four, 1 h long weekly meetings consisting of motivational intervention designed to increase exercise behaviour, incorporating content based upon self-efficacy theory. Followed by 16 wk of 3 x weekly walking intervention. (n = 48) (C)- Four, 1 h long weekly meetings focused on health behaviours such as medication adherence and smoking cessation, but not exercise. Followed by 16 wk walking intervention, identical to intervention group. (n = 49)	20 wk	Exercise; Changes in exercise behaviour	Participants in intervention group attended more walking groups over longer period and had increased walking time compared to subjects in control group. Proportion of walking sessions attended in both groups was significantly correlated with overall attendance ($r = 0.38$, $P = 0.001$) and persistence ($r = -0.29$, $P = 0.01$), as well as walking times.	81.4%; Actual intervention received analyses	Strong

(Continues)

TABLE 1 (Continued)

Author; Publication Year; Country of Study	Methodology; Study Setting	Intervention (I); Control (C); Baseline sample (n =)	Duration	Main behaviour targeted; Main outcomes	Main findings	Retention (at last follow up); Analysis by intention-to-treat or actual intervention received	Study quality
Brown et al;[26] **USA**	A Randomised Controlled Trial; Community	(I)- A 12-mo intervention incorporating evidence-based weight loss strategies and psychiatric rehabilitation principles: social and instrumental support, goal setting, skills and transfer training, and compensatory strategies for cognitive impairments. Divided into three phases: Intensive Phase (3 mo weekly contact), Maintenance Phase (3 mo, monthly 3h contact), Intermittent Support Phase (6 mo weekly phone calls and monthly mailings with tips, reminders and encouragement) (n = 47) (C)- Usual Care (n = 42)	12 mo	Diet and exercise; Changes in weight	Intervention subjects showed greater reduction in weight on average compared to control group at 3 mo (5.3 and 4.4 pounds respectively) and 6 mo (weight gain of 0.1 pounds and weight loss of 0.9 pounds respectively) ($F = 5.74$, $df = 2$ and 82, $P = 0.005$). The results were not maintained at 12 mo. There were no differences in results based on the type of antipsychotic medication. Weight loss programs that address cognitive impairments that may accompany serious mental illness can be effective.	65%; Actual intervention received analyses	Moderate
Daumit et al;[27] **USA**	Single arm cohort study (before and after); Outpatient Psychiatric Rehab Centre	(I)- The intervention included three components: Weight management counselling sessions (one 45 min group weight loss session per week, and one individual session with the intervention lead every six weeks); Group physical activity sessions (weekly 45 min sessions focusing on moderate intensity physical activity in an aerobic dance type); Education for kitchen staff to provide healthier on-site meals. (n = 63)	6 mo	Diet and exercise; Changes in weight, waist circumference and the 6 Minute Walk Test	Significant reduction in weight by mean 4.5 pounds (SD 12.8) from a baseline mean of 210.9 lbs (SD 43.9), $P<0.014$. Participants lost an average of 1.9% of body weight and 3.1 cm (SD 5.6) of waist circumference. Participants increased the scores on the six minute walk test by an average eight percent. Intervention had positive effect on depression scores on the CES-D at follow up.	82%: Actual intervention received analyses	Moderate

(Continues)

TABLE 1 (Continued)

Author; Publication Year; Country of Study	Methodology; Study Setting	Intervention (I); Control (C); Baseline sample (n =)	Duration	Main behaviour targeted; Main outcomes	Main findings	Retention (at last follow up); Analysis by intention-to-treat or actual intervention received	Study quality
Daumit et al;[28] **USA**	2 groups before and after; Outpatient	(I)- The intervention included group weight-management sessions and individual weight-management sessions emphasizing reduction in caloric intake, eating five portions of fruits and vegetables daily, choosing smaller portions and healthy snacks, and participating in moderate-intensity aerobic exercise. It also included group exercise sessions. (n = 144) (C)- Standard nutrition and physical-activity information provided at baseline. Health classes were offered quarterly, with content unrelated to weight (eg, cancer screening).(n = 147)	18 mo	Diet and Exercise; Changes in weight	Continuous reduction in body weight was observed in the intervention group over 18 mo, which was significantly different from the control at each follow up (6, 12 and 18 mo). The mean between-group difference in body weight post intervention was −3.2 kg (−7.0 lb, P = 0.002). 37.8% of the intervention subjects lost ≥5% of baseline weight, compared with 22.7% in control (P = 0.009).	95%; Intention-to-treat analyses	Strong
Erickson et al;[29] **USA**	A Randomised controlled Trial; Community	(I)- 8 weekly 60min long Balanced Lifestyle classes utilising Motivational Interviewing followed by 15 to 60min individual nutritional counselling with dietitian, plus 10 monthly meeting thereafter until week 52 (12 mo). (n = 62) (C)- Usual Care consisting of weight monitoring and provision of self-help. (n = 59)	12 mo	Diet and exercise; Changes in weight, body fat %, waist circumference and lipid profile	Both groups showed reduction in weight at 12 mo. Intervention subjects showed an average 1.04cm decrease in waist circumference compared to 0.25cm increase in control (F (1,1244) = 11.9, P< 0.001)). Intervention subjects had lowered body fat by average 0.4% compared to 0.2% in control (F (1,1121) = 4.3, P = 0.038)). Statistically significant between-group differences were observed in BMI reduction (F (1,1246) = 13.9, P< 0.001)). Changes in lipid values were non sig (HDL-cholesterol, triglycerides) or sig in the opposite direction to the hypothesised changes (cholesterol, LDL-cholesterol). Intervention subjects showed	41%; Intention-to-treat analyses	Moderate

(Continues)

TABLE 1 (Continued)

Author; Publication Year; Country of Study	Methodology; Study Setting	Intervention (I); Control (C); Baseline sample (n =)	Duration	Main behaviour targeted; Main outcomes	Main findings	Retention (at last follow up); Analysis by intention-to-treat or actual intervention received	Study quality
					reduction in daily calories intake from 2055 to 1650 (P<0.001).		
Gillhoff et al;[30] **USA**	A Randomised Controlled Trial; Outpatient	(I)- 11 group sessions and weekly fitness training over 5 mo period, designed for persons with Bipolar Disorder and consisting of consists of 3 modules (Lifestyle, Nutrition, Physical activity). *Lifestyle* focused on weight control and relapse prevention in context of bipolar. *Nutrition* included education and cooking classes. *Physical activity* took place at a gym and included personal trainer and personalized weekly instructions to exercise. (n = 26) (C)- Usual Care (n = 24)	5 mo intervention + follow up at 11 mo	Diet and exercise; Changes in BMI, body weight, cardiovascular and metabolic parameters	The intervention had significant effect on reduction in BMI over time (P = 0.03), with significant and stable between-group mean difference of 0.7 kg/m^2 (95% CI, 0.2–1.3) post intervention (at 5 mo) and 0.8 kg/m^2 (95% CI, 0.1–1.6) at follow-up (6 mo after intervention). No significant effect was observed on cardiovascular and metabolic parameters (all nonsignificant). The reduction in BMI was observed only in female patients (P = 0.003).	84%; Intention-to-treat analyses	Strong
Green et al;[31] **USA**	A Randomised Controlled Trial; Community	(I)- 6 mo of weekly 2hrs group intervention including 20min exercise, goal of 25 min moderate physical activity per day, dietary record keeping + monthly maintenance sessions focused on weight loss maintenance, problem solving and motivational enhancement – supplemented with monthly individual telephone sessions with group leaders. (n = 104) (C)- Usual Care (n = 96)	6 mo intervention + follow up at 12 mo	Diet and exercise; Changes in weight and risk of diabetes (in fasting glucose)	Intervention group lost 4.4 kg more than control after 6 mo (95% CI=-6.96 kg to -1.78 kg) and 2.6 kg more than control after 12 mo (from baseline) (95%CI=-5.14 kg to -0.07 kg). As expected there was no significant changes in weight between groups during maintenance (6-12) (1.77 kg, 95% CI=-0.87 kg to 4.40 kg) At 12 mo fasting glucose decreased in the intervention group from 106.3 mg/dL to 100.4 mg/dL and increased in the control group from 106 mg/dL to 109.5 mg/dL.	85%; Intention-to-treat analyses	Strong

(Continues)

TABLE 1 (Continued)

Author; Publication Year; Country of Study	Methodology; Study Setting	Intervention (I); Control (C); Baseline sample (n =)	Duration	Main behaviour targeted; Main outcomes	Main findings	Retention (at last follow up); Analysis by intention-to-treat or actual intervention received	Study quality
Iglesias-Garcia et al;[32] **Spain**	2 groups before and after study; Community	(I)- Structured, 12 wk, 1 h weekly group education program providing information and counselling on three domains: nutrition, exercise and healthy habits, and self-esteem. (n = 8) (C)- The control group attended the clinic once a week, only to assess the anthropometric parameters. (n = 7)	12 wk	Diet and exercise; Changes in weight, BMI, waist circumference and vital signs (blood pressure and pulse).	There were no significant differences observed in weight and BMI reduction over the study period. Intervention subjects showed a small weight loss in the first 4 wk, which was not maintained post intervention. Small but significant reduction in waist circumference was observed in both groups post intervention, but the difference between groups was not significant.	93%; Actual intervention received analyses	Moderate
Kilbourne et al;[33] **USA**	A Randomised Controlled Trial; Outpatient	(I)- 4 wk of 2hrs long weekly self-management sessions focused on goals and health behaviour change in the context of CV risks and Bipolar Disorder, followed by tailored monthly contacts combining health behaviour change strategies, medical care management, registry tracking, and provider guideline support. (n = 58) (C)- enhanced usual care included quarterly wellness newsletters sent during 12 mo period in addition to standard treatment. (n = 60)	12 mo intervention + follow up at 24 mo	Self-management including diet and exercise; Blood pressure, Cholesterol, physical health related quality of life	At 24 mo intervention subjects had reduced systolic (ß= -3.1, $P = 0.04$), diastolic blood pressure (ß= -2.1, $P = 0.04$) and reduced manic symptoms (ß= -23.9, $P = 0.01$) as compared to control. The intervention had no effect on the other primary outcomes. There were no significant differences in other secondary outcomes including HDL, LDL, BMI, depressive symptoms, or functioning.	88%; Actual intervention received analyses	Strong
McKibbin et al;[34] **USA**	A randomized pre-test, posttest control group design; Community	(I)- Diabetes Awareness and Rehabilitation Training comprised a 24-wk intervention with three modules: (1) Basic Diabetes Education; (2) Nutrition; (3) Lifestyle Exercise. Each	6 mo intervention + follow up at 12 mo	Diet and exercise; Changes in weight, BMI and waist circumference	Compared to control group, intervention subjects showed significantly greater reduction in BMI and waist circumference at 12-mo follow up. Intervention group showed an average of 1 point reduction in BMI while control showed 1.5 point	81.3%; Actual intervention received analyses	Moderate

(Continues)

TABLE 1 (Continued)

Author; Publication Year; Country of Study	Methodology; Study Setting	Intervention (I); Control (C); Baseline sample (n =)	Duration	Main behaviour targeted; Main outcomes	Main findings	Retention (at last follow up); Analysis by intention-to-treat or actual intervention received	Study quality
		module contained four 90-min manualized sessions. Participants met in groups withsix to eight of their peers and one diabetes-trained mental health professional. Behavioural change strategies were used including self-monitoring (eg, pedometers), modelling, practice (ie, healthy food sampling), goal setting and reinforcement (ie, raffle tickets). (n = 26) (C)- Usual Care plus diabetes management information brochures (ie, basic diabetes education, nutrition, exercise). (n=26)			increase in BMI. Intervention subjects lost an average of 5 pounds in body weight (M = 5.7, SD = 12.8) while control gained an average of 7 pounds (M = 7.0, SD = 10.6). The changes in weight and BMI did not differ based on the type of antipsychotic medication.		
Meepring et al;[35] **Thailand**	A quasi experimental before and after study, one group; Outpatient	(I)- Thai version of Health Improvement Profile (HIP) was developed to adapt to Thai patients (HIP-T). HIT-T was used as a health check tool to assess physical health of the participants and to inform individualized care plans that were implemented during subsequent outpatient appointments over 12 mo. Motivational Interviewing communication style was used in delivering intervention. Advice and information on healthy lifestyle was discussed by mental health nurses in	12 mo	Self-management of flagged risks; BMI and blood pressure Secondary outcomes: red flagged HIP-T items	Significant reduction in BMI of mean 0.78 kg/m2 (P< 0.001; a small effect size of Cohen's d = 0.23) and in weight of mean 1.13 kg (P< 0.001; a small effects of Cohen's d = 0.10) post intervention (12 mo). The statistically significant reduction of 1.77% of mean total body weight did not reach the minimum 5% clinical significance level. An increase in diastolic blood pressure by 2.47 mm Hg was observed post intervention (P = 0.003; a small effect size of Cohen's d= 0.28), but it did not exceed the healthy range (<80 mm Hg). In 21.9% of participants reduction in BMI resulted in moving to a healthier MBI class. The 335 red-flagged items (health risks) identified at baseline (mean = 3.19, SD=2.60)	100%;Actual intervention received analyses	Moderate

(Continues)

TABLE 1 (Continued)

Author; Publication Year; Country of Study	Methodology; Study Setting	Intervention (I); Control (C); Baseline sample (n =)	Duration	Main behaviour targeted; Main outcomes	Main findings	Retention (at last follow up); Analysis by intention-to-treat or actual intervention received	Study quality
		sessions. On average participants attended 4 appointments over a year, however in cases of potential risks more frequent appointments were given, up to 6 appointments over a year. (n = 105)			reduced to 244 at 12 mo (mean 2.32; SD = 2.10) and the change was significant (Z= -5.90, *P*<0.001).		
Sailer et al;[36] **Multicentre: Germany and Switzerland**	A Pilot, controlled 2 x 2 between subjects design; Inpatient	(I)- Mental Contrasting and Implementation Intentions (MCII) Participants listed positive outcomes they associated with attending the exercise sessions and obstacles – contrasting. They identified most significant obstacle and devised a specific solution for this obstacle and formulated a plan. Subgroups: Autonomy-Focused setting vs Highly Structured setting (n = 19) (C)- Reading a text emphasizing the short- and long-term benefits of exercising, and containing information about the clinic's jogging program and highlighted the fact that obstacles may occur that require one to prepare in advance. Participants wrote down a goal to attend the jogging sessions and later repeated it to reinforce the intention. (n = 17) Both	4 wk; Dependant on the duration of stay in the hospital. Analysis cut at the first 4 wk.	Exercise; Attendance at jogging sessions, persistence, changes over time in clinical and control variables	In the autonomy-focused setting the number of sessions attended was higher in MCII subjects (M = 68.75 %, SD = 12.50) compared to control (M=35.94 %, SD = 30.21), F [1, 24] = 5.72, *P* = 0.025, ηp2=0.20. In the highly structured setting there were no differences in attendance rates observed between MCII subjects and control, potentially due to the ceiling effect. In the autonomy-focused setting, MCII subjects showed increased persistence (M = 87.50 %, SD = 14.43) as compared to control (M= 46.88 %, SD = 38.82), F [1, 24] = 6.36, *P* = 0.019, ηp2 = 0.22. In the highly structured setting there were no differences in persistence observed between MCII and control groups. There was a significant reduction observed on BDI scores, from 13.75 (SD = 8.52) to 9.77 (SD = 9.17), F [1, 33]=8.08, *P* = 0.008, in the total sample. Significant reduction was also observed on PANSS scores from 19.08 (SD=5.97) to 15.78 (SD = 5.34), F [1, 33] = 13.79, *P*=0.001. There were no significant between-group differences from baseline to post treatment.	100%; Actual intervention received analyses	Moderate

(Continues)

TABLE 1 (Continued)

Author; Publication Year; Country of Study	Methodology; Study Setting	Intervention (I); Control (C); Baseline sample (n =)	Duration	Main behaviour targeted; Main outcomes	Main findings	Retention (at last follow up); Analysis by intention-to-treat or actual intervention received	Study quality
		groups received equal time and attention.					
Sheewe et al;[37] **Netherlands**	A Randomised Controlled Trial; Community	(I)- Exercise therapy program delivered uniformly according to a strict protocol and supervised by a psychomotor therapist specialised in psychiatry. Information on amount of training and compliance were registered in a logbook. Participants were prescribed an hour of exercise twice weekly for 6 mo. (n=31) (C)- One hour of Occupational Therapy twice weekly for 6 mo. Information on the amount of moderate to vigorous physical activity outside the intervention was obtained monthly. (n=32) Both groups received equal time and attention.	6 mo	Exercise; Changes in symptoms, Cardiovascular fitness	A trend-level effect on depressive symptoms was observed in the intervention group ($P = 0.07$), and a significant effect on cardiovascular fitness (measured by Wpeak, $P < 0.01$) as compared to control. Per protocol analyses showed effect of intervention on reduction in symptoms of schizophrenia ($P = 0.001$), depression ($P = 0.012$), need of care ($P = 0.050$), and increased cardiovascular fitness ($P < 0.001$), compared to control. No effect on metabolic syndrome risk factors was found, with an exception of a trend reduction in triglycerides ($P = 0.08$).	61.9%; Intention-to-treat analysis	Strong
Speyer et al;[38] **Denmark**	A randomized, parallel-group, superiority, multi-centre trial with blinded outcome assessment (CHANGE trial); Outpatient	(I1) Lifestyle coaching - a tailored, manual-based intervention targeting physical inactivity, unhealthy dietary habits and smoking, and facilitating contact to the patient's general practitioner to secure medical treatment of somatic comorbidities. Based on the theory of stages of change,	12 mo	Diet, exercise and smoking; 10-y risk of cardiovascular disease assessed posttreatment and standardized to age 60	There were no significant between-group differences in 10-y risk of cardiovascular disease at 12 mo, with a mean risk of 8.4±6.7% in the intervention group, 8.5±7.5% in the care coordination group, and 8.0±6.5% in the treatment as usual group ($P = 0.41$). No intervention effect was observed for any of the secondary or exploratory outcomes, such as cardiorespiratory fitness, physical activity, weight, diet and smoking.	86%; Intention-to-treat analyses	Strong

(Continues)

TABLE 1 (Continued)

Author; Publication Year; Country of Study	Methodology; Study Setting	Intervention (I); Control (C); Baseline sample (n =)	Duration	Main behaviour targeted; Main outcomes	Main findings	Retention (at last follow up); Analysis by intention-to-treat or actual intervention received	Study quality
		motivational interviewing and an assertive approach adapted from the assertive community treatment. + Care coordination and treatment as usual (see below). (n=138) (I2) Care coordination - manual-based intervention comprising personal meetings, phone calls and text messages, and facilitation of contact with primary care. + treatment as usual (see below) (n = 142) (C)- Treatment as usual - treating abnormal results from the mandatory yearly screening of metabolic risk factors by the GP. (n = 148)					
Usher et al;[39] **Australia**	A multisite randomised controlled trial; Community	(I)- Education booklet + weekly 1h education (healthy lifestyle/lifestyle change/diet) followed by 30min exercise. The intervention utilised Motivational Interviewing principles. (n=51) (C)- Education booklet only (n=50)	12 wk	Diet and exercise; Changes in weight, BMI and waist circumference	The changes observed over the study period were nonsignificant on all outcome measures: There was 0.74 kg reduction in body weight observed in intervention group (SD=3.87, $P = 0.729$), compared to 0.17 kg (SD=3.36, $P = 0.729$) in control; a mean BMI reduction of 0.25 (SD = 1.34; $P = 0.435$) in intervention group, compared to 0.06 (SD = 1.17, $P = 0.435$) in control; and a mean girth reduction of 1.23 cm (SD = 5.24, P=0.217) in intervention group, compared to control 0.15 (SD = 3.22,$P = 0.217$).	100%; Actual intervention received analyses	Moderate

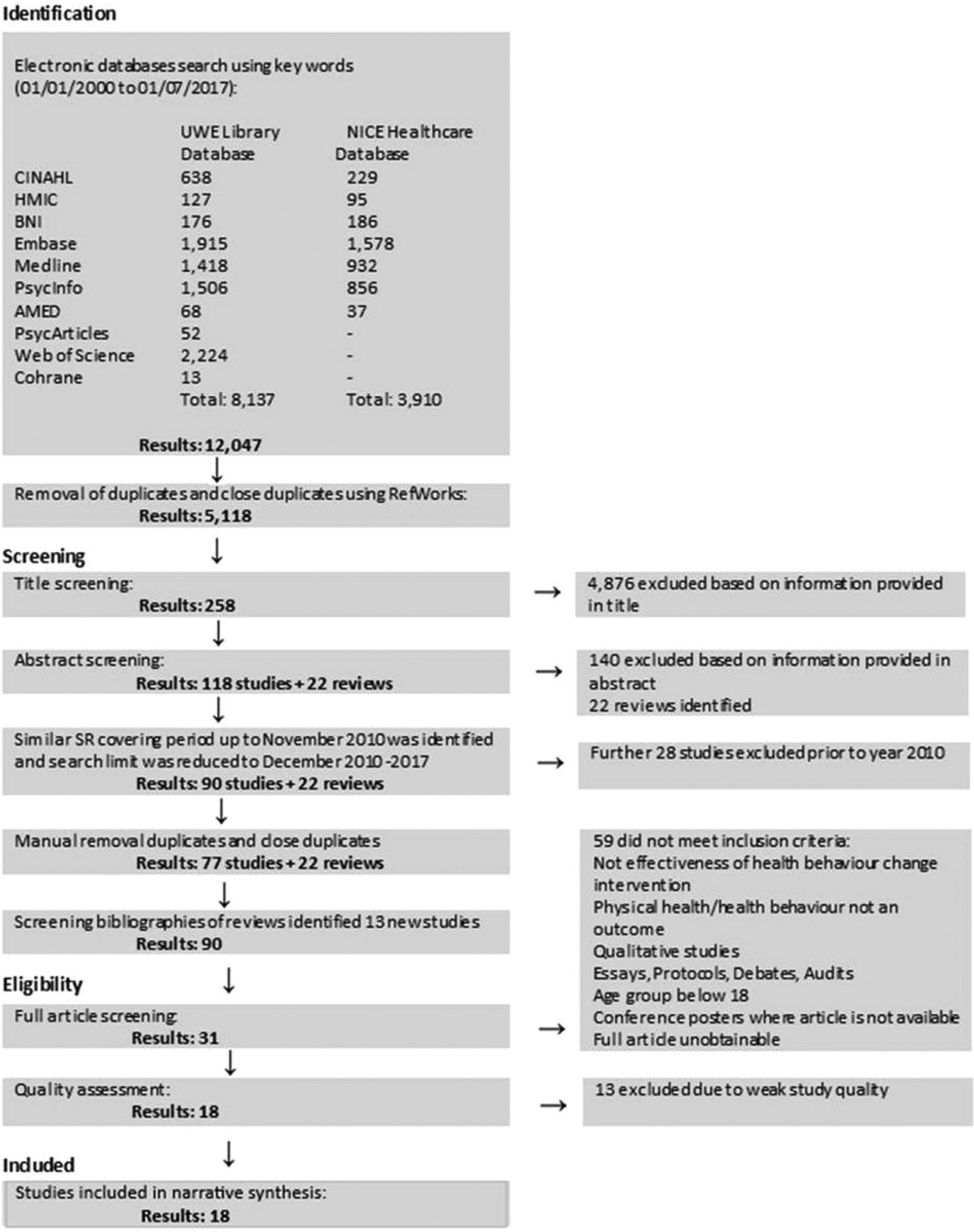

FIGURE 1 Stages of the review

Seven studies utilized a group based intervention approach, five opted for individual intervention approaches, and six used a combination of both. A majority of studies utilized a mixture of psycho-education, health behavior change advice, and motivational techniques (ie, healthy lifestyle education, exercise programs, and goal setting). One study used exercise therapy alone.

The included studies targeted a number of health behaviors and physical health outcomes. Twelve studies targeted weight management through changes in diet and exercise. Of those, four targeted multiple health outcomes such as smoking and 10-year risk of cardiovascular disease, risk of diabetes, cardiovascular and metabolic parameters, and cardiorespiratory fitness as main study outcomes. Three studies targeted exercise behavior and fitness alone, two focused on self-management of health risks, and the remaining one targeted substance use.

Ten studies came from USA, four from mainland Europe, and one each from Australia, Asia, Brazil, and the UK.

Finally, three studies investigated the potential impact of the weight gain propensity of antipsychotic medication on the intervention outcomes.

3.2 | Risk of bias across studies

Publication bias and selective reporting within studies are a common threat to the validity of quantitative reviews.[42] One way of minimizing this risk is a registration of trials before inception and full disclosure of planned outcomes in the final report. In this review, only eight studies were reported as trials registered at inception[24,28-30,33,36-38] and therefore the risks of publication bias and selective reporting of results have to be taken into account when summarizing findings.

3.3 | Synthesis of results

The following synthesis of results is presented by the type of intervention (ie, weight management, exercise, self-management of health risks and substance misuse). The main outcome measures are reported within each intervention type, and the results together with strength of evidence synthesized across studies.

3.3.1 | Weight management

The majority of studies (n = 12) involved weight management interventions aimed at weight loss, reduction in BMI and waist circumference, and improvement on the 6-minute walk test, through changes in diet and exercise behavior. The two one-group studies reported moderate strength evidence of significant weight loss[22,27] and significant reduction in BMI[22] and waist circumference.[27] The proportion of participants engaging in physical activity significantly increased as a result of the intervention[22] and the distance on the 6-minute walk test increased by an average 8%. No significant changes in blood pressure were noted between the preintervention and postintervention measures. In addition, Daumit et al[27] reported moderate evidence of the effectiveness of weight-management intervention on clinical symptoms of depression.

Within the 10 two or more-group design studies, the results were mixed. Three studies reported strong[23,28] and moderate[34] evidence of significant between-group differences in weight loss after intervention, which were maintained at follow up. Two studies reported strong[31] and moderate[26] evidence of significant changes in weight loss after intervention, which were not maintained at follow-up. One study reported moderate evidence that both intervention and control groups lost weight, with no significant between-group differences.[29] Finally, four studies reported strong[30,38] and moderate[32,39] evidence of no intervention effect on weight loss.

Three studies reported strong[23] and moderate[29,34] evidence of significant, between-group differences in BMI and waist circumference after intervention, with one showing maintenance of this effect at the follow-up.[34] One study found strong evidence of significant between-group differences in BMI, but not in waist circumference.[30] Three studies found strong[31] and moderate[32,39] evidence of no significant differences in BMI, and two found strong[31] and moderate[39] evidence of no significant differences in waist circumference between groups. One study reported strong evidence of significant between-group differences on the 6-minute walk test,[23] other studies did not report on this.

In addition, one study reported strong evidence of significant reduction in cardiovascular risk,[23] but another two reported strong evidence of no effect on cardiovascular parameters and cardiovascular fitness.[30,38] Also, one study reported strong evidence of no effect of intervention on risk of diabetes.[31] Another study reported strong evidence of no intervention effect on diet and smoking status.[36]

In summary, the synthesis presents moderate to strong evidence of overall effectiveness of weight-management interventions. The strongest evidence supports effectiveness of intervention on weight loss, followed by BMI reduction and decrease in waist circumference. The majority of studies utilized a combination of healthy lifestyle education, motivational techniques, and exercise. Only three studies employed education/motivation with ongoing support alone.

3.3.2 | Exercise

Three of the included studies targeted exercise behavior, mainly through motivational interventions aiming at increasing self-efficacy, or including implementation intentions and mental contrasting behavior change models. One study reported strong evidence of significant between-group differences in cardiovascular fitness.[37] Another study reported strong evidence of significant between-group differences in attendance, persistence, and minutes walked.[25] Two studies reported moderate[36] and strong[37] evidence of significant effect of intervention on clinical symptoms, such as depression and positive and negative symptomatology in schizophrenia. In addition, one study reported strong evidence of significantly reduced need of care, including reduced number of hospitalizations.[37]

Overall, the studies focusing on exercise interventions report strong evidence of effectiveness of such interventions on exercise behavior and improved fitness. In addition, there is moderate to strong evidence of effectiveness of this type of intervention on clinical symptoms.

3.3.3 | Self-management of health

Two studies targeted self-management of health risks through motivational and goal setting interventions. Both showed mixed results with significant improvements on some outcomes but no effect on others. In the one-group design study, Meepring et al[35] reported moderate evidence of significant reduction in BMI, body weight, and red-flagged health items (risks) from baseline to follow up, but slight increase in blood pressure, although this remained within normal limits.

In the two-group design study, Kilbourne et al[33] reported strong evidence of improved blood pressure parameters and manic symptoms, but no effect on cholesterol (HDL and LDL), BMI, depressive symptoms, health related quality of life, or functioning.

In summary, the studies present moderate to strong evidence for the effectiveness of interventions in improving self-management of health risks in populations with psychotic illness.

3.3.4 | Substance misuse

One study targeted substance use through motivational interviewing and cognitive behavioral therapy.[24] The study reported strong evidence of no significant effect on reduction in the number of substance use related deaths or hospitalizations, frequency of substance use, perception of negative consequences, relapses, psychotic symptoms, overall functioning, and self-harming behavior. There were significant between-group differences reported on the amount of substance used per day and on readiness to change immediately after intervention ended, which were not maintained 12 months later.

This study presented strong evidence for the effectiveness of the intervention in facilitating readiness to change, but no direct effect of intervention on primary outcomes.

3.3.5 | Impact of intervention setting

Interestingly, the one study conducted within an inpatient setting reported moderate evidence of increased attendance and persistence at exercise sessions but only in a setting where patients had autonomy (ie, freedom to choose and plan activities), in highly structured settings there were no differences between groups.[36] In addition, not predicted discrepancy between responses to intervention across sites was found in the study targeting weight loss conducted by Brown et al,[26] which was later published in a separate paper. Brown et al[43] reported much greater differences in weight loss when sites were considered and compared to between groups differences in the original paper,[26] with participants from urban sites showing greater weight loss than participants in suburban sites. The paper argued that the difference in response between sites was likely due to environmental differences as there were no significant individual differences between participants across sites. However, as this outcome was not predicted, there were no specific data collected on sites characteristics.

In summary, these unanticipated outcomes suggest that the environment in which interventions are delivered may have a profound impact on the outcomes.

3.4 | Secondary outcomes of the synthesis

3.4.1 | Impact of antipsychotic medication

The secondary aim of this review was to investigate whether the type of antipsychotic medication (high weight gain propensity vs moderate or low weight gain propensity) is likely to influence outcome of health behavior change intervention.

Three of the included studies investigated impact of the weight gain propensity of second generation antipsychotic medication[22,26,34] and all three reported moderate evidence of no significant effect of the type of medication on weight loss or reduction in BMI or waist circumference. Another study which included participants on high weight gain propensity medication, showed significant reduction in BMI which was maintained at follow up.[30]

This evidence suggests that medication with high weight gain propensity does not impact on outcomes of weight-management interventions.

4 | DISCUSSION

4.1 | Summary of evidence

The review included an up to date research evidence on the effectiveness of health behavior change interventions in managing physical health in people with psychotic illness. The 18 papers included in the synthesis varied in behaviors and outcomes targeted and covered a range of different methodological designs. The methodological quality of the studies was evenly spread between moderate and strong, studies of weak quality were excluded from the review to minimize the risk of bias within studies.

There were slightly more male participants across studies and the vast majority were of White origin (although five studies did not report ethnicity and this result may therefore be skewed). The majority of studies were conducted in the USA, less than a quarter came from Continental Europe, and only one from the UK. The generalizability of the results is therefore questionable.

4.2 | Intervention focus

Poor health behaviors have been established as major contributors to chronic physical health conditions, such as cardiovascular disease, respiratory disease, obesity, and diabetes—the most prevalent comorbidities and leading causes of mortality in people with serious mental illness such as schizophrenia.[7,8] The main behavioral factors

reported as contributing to ill health in this group are sedentary lifestyle, poor diet choices, poor sleep hygiene, smoking, and substance use.[1,2] Overall, this review demonstrates that a variety of psychoeducational, motivational, and behavioral interventions targeting poor health behaviors can be effective in managing morbidity and mortality risks in people with psychotic illness. For example, studies evaluating weight-management interventions showed significant reduction of weight, BMI, and waist circumference in this group, with some also reporting subsequent decrease in cardiovascular risks.[22,23,27,28,34] Similarly, studies evaluating exercise interventions, through motivational interventions aimed at self-efficacy, showed increase in cardiovascular fitness and in exercise behavior.[25,37] In addition to improvement in physical health parameters, some of these studies demonstrated significant improvement in clinical symptoms such as depression and positive and negative symptoms of schizophrenia[36,37] suggesting that interventions utilizing motivational approaches can be effective in addressing the problem of low motivation often accompanying symptomatology in psychotic illness, such as anhedonia.[16,17] Similarly, previous studies suggested that health behavior change interventions aimed at improvement in physical health outcomes may improve psychiatric symptoms and overall quality of life.[5,11] Nonetheless, literature evidence for effectiveness of health behavior change interventions in psychotic ilness is limited, and the variety of study designs and interventions presented in existing research makes it difficult to conclude what works best for whom. For example, none of the studies included in this review investigated the impact of illness severity on intervention outcome. It can be hypothesized that the less severe symptoms, the better intervention outcomes, but more studies are needed to verify this hypothesis. Equally, there can be other factors involved in mediating the effectiveness of health behavior change interventions in this group, such as culture, support networks and family involvement, duration and complexity of illness, self-efficacy and so on, which are also lacking in studies included in this review. Moreover, social determinants of health behaviors such as employment, socioeconomic status, housing, and access to healthcare were not controlled for in this review, which is a limitation as these factors can impact on the intervention outcomes. For example, it is known that social issues such as lower educational attainment and low socioeconomic status contribute both for smoking and mental illness.[44] Also, the review did not control for the impact of treatment availability and insurance coverage on the outcomes. The studies included in this review were carried out in various countries with different healthcare systems and it needs to be acknowledged that there may have been differences in outcomes that were mediated by these factors.

The secondary aim of this review was to investigate the impact of the type of antipsychotic medication (high weight gain propensity vs moderate or low weight gain propensity) on the outcome of health behavior change intervention. Literature suggests that the varying degrees of weight gain propensity of second generation antipsychotics pose a risk of developing metabolic syndrome and subsequent cardiovascular disease and diabetes.[10] Four studies included in this review indicate that such risk can be outweighed by addressing poor health behaviors, and that there are no differences in the effectiveness of weight-management interventions between groups on antipsychotic medication with a low, medium, and high weight gain propensity, with positive outcomes reported across all groups.[22,26,30,34] However, in spite of the literature evidence, the perceived negative consequences of antipsychotic medication, such as weight gain and decreased libido are considered a main cause for medication nonadherence in this group. It is estimated that up to 50% of individuals with severe mental illness such as schizophrenia do not take their antipsychotic medication as prescribed, putting themselves at five times increased risk of relapse.[13,14] This evidence suggests that psychoeducational interventions aimed at medication adherence are lacking in mental health settings, what maintains the belief amongst psychiatric clients that antipsychotic medication inevitably causes weight gain and leads to ill health. Self-management interventions have the potential to increase medication adherence[13] and may be a key to improved quality of life.[14,45] This review demonstrates evidence for the effectiveness of interventions in improving self-management of some health risks in populations with psychotic illness,[33,35] although medication adherence was not the focus in any of the studies included in this reviewed. Other studies targeting utilization of healthcare in populations with serious mental illness (including but not exclusively of psychotic illness) suggest that interventions involving modeling, coaching, and consumer skills building are effective in improving self-management of health (including detection of health conditions) and increasing confidence in self-management of healthcare utilization.[46,47]

In addition to the hypothesized findings, two studies included in this review reported differences in outcomes between study settings, suggesting that intervention environment may act as a barrier or facilitator of health behavior change.[43] It was hypothesized that the attitudes of treating clinicians towards behavior change interventions may have an effect on engagement and effectiveness of such interventions,[48] and that this attitude effect may reflect a wider neglect of physical health of this group amongst health professionals. For example, a systematic review on deficits in cardiac care in patients with schizophrenia found that this patient group was less likely to receive treatment for common cardiovascular problems compared to population with no mental health problems.[49] Within psychiatric settings, mental health professionals are considered to be well placed to deliver health behavior change interventions,[35] but their attitudes may act as a barrier. For example, in a large review Sheals et al[50] found that 42.2% of mental health clinicians perceived barriers to smoking cessation interventions, 40.5% had negative attitudes towards it, and 45% had permissive attitudes towards smoking. The clinicians included in the review held unhelpful attitudes and misconceptions about health behavior change interventions such as that patients are not interested in stopping smoking or that it would be too much for a patient to cope with.

Evidence for mental health professionals' attitudes towards health behavior change interventions other than smoking is limited, but points to confidence, knowledge and skills, self-esteem, role

congruity, education level, and misconceptions about patients with severe mental health as potential barriers to provision of such interventions, and also suggests that positive attitudes are not translated into practice.[51-56] This may partially explain why despite the promising evidence from previous studies, health behavior interventions are not routinely provided in mental health settings.[57-59]

5 | RECOMMENDATIONS FOR FUTURE RESEARCH

The studies included in this review present evidence of overall effectiveness of health behavior change interventions in managing physical health in population with psychotic illness. Future research should aim to utilize the most commonly used intervention modalities and methodology for the specific behaviors targeted as this would allow for better comparison of the results. Studies of strong quality and large samples are still limited in numbers, which is mainly due to the difficulties engaging this group of patients and also high drop-out rates. In addition, the provider of the healthcare interventions was not controlled for, it is possible that treatment seeking behavior and accessibility and availability of treatment may have influenced the results. Nonetheless, larger and well controlled trials are needed to establish what the most effective components of health behavior change interventions are in population with psychotic illness.

In addition, in this review, only five studies assessed impact of the intervention on clinical symptoms. It might be helpful if future studies included clinical outcome measures to verify these findings. Similarly, inclusion of intervention sites characteristics in future research might help verify the nonhypothesized findings described in this review.

6 | LIMITATIONS

This review presents a narrative synthesis of the included studies. Due to a variety of designs and behaviors, targeted meta-analysis of data was not possible. Also, the review included studies published in peer-reviewed journals in English language only. Only eight studies were trials registered at inception, which poses a potential risk of bias across the remaining 10 studies such as selective reporting and publication bias.[42] Therefore, the results of this review need to be taken with a degree of caution. In addition, it can be argued that the quality assessment used in this review for appraisal of individual studies is different from the risk of bias assessment per se[60] and that the moderate and strong quality of studies included in this review may not truly reflect the level of bias within studies. In future reviews, an additional use of risks of bias assessment may further minimize the risks by ensuring both good methodological quality and assessment of specific biases. In addition, this review did not include studies of poor quality which poses a risk of omitting promising but poorly researched interventions. It also did not control for the impact of social determinants of health behaviors on intervention outcomes.

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CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

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Appendix 3 – Ethical Approval from UWE

Appendix 4 – Approval from HRA (NHS Health Research Authority)

Ymchwil Iechyd a Gofal Cymru
Health and Care Research Wales

NHS
Health Research Authority

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24 April 2019

Dear Mr Bath

HRA and Health and Care Research Wales (HCRW) Approval Letter

Study title:	**Mental health professionals' experiences of provision of health behaviour change interventions to people with Schizophrenia. A qualitative study.**
IRAS project ID:	**252880**
Protocol number:	**N/A**
REC reference:	**19/HRA/0845**
Sponsor	**University of The West of England**

I am pleased to confirm that **HRA and Health and Care Research Wales (HCRW) Approval** has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

Please now work with participating NHS organisations to confirm capacity and capability, in line with the instructions provided in the "Information to support study set up" section towards the end of this letter.

How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?
HRA and HCRW Approval does not apply to NHS/HSC organisations within Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report

(including this letter) have been sent to the coordinating centre of each participating nation. The relevant national coordinating function/s will contact you as appropriate.

Please see IRAS Help for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

How should I work with participating non-NHS organisations?
HRA and HCRW Approval does not apply to non-NHS organisations. You should work with your non-NHS organisations to obtain local agreement in accordance with their procedures.

What are my notification responsibilities during the study?

The attached document *"After HRA Approval – guidance for sponsors and investigators"* gives detailed guidance on reporting expectations for studies with HRA and HCRW Approval, including:

- Registration of Research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics and is updated in the light of changes in reporting expectations or procedures.

Who should I contact for further information?
Please do not hesitate to contact me for assistance with this application. My contact details are below.

Your IRAS project ID is **252880**. Please quote this on all correspondence.

Yours sincerely,

Steph Blacklock

Approvals Manager

Email: hra.approval@nhs.net

Copy to: *Mrs Leigh Taylor, Sponsor Contact*

List of Documents

The final document set assessed and approved by HRA and HCRW Approval is listed below.

Document	*Version*	*Date*
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Indemnity evidence]	1.0	16 July 2018
Interview schedules or topic guides for participants [Interview schedule]	1.0	21 January 2019
IRAS Application Form [IRAS_Form_14012019]		14 January 2019
IRAS Application Form XML file [IRAS_Form_14012019]		14 January 2019
Letters of invitation to participant [Invitation email]	1.0	22 January 2019
Other [Study Protocol]	1.0	20 January 2019
Other [Indemnity evidence]	1.0	16 July 2018
Other [Trancription Agency Policies]	1.0	18 April 2018
Other [Transcription Agency Policies]	0.3	24 May 2018
Other [PI CV - Mazoruk]	1.0	21 November 2018
Participant consent form [Consent Form]	1.0	21 January 2019
Participant information sheet (PIS) [Information sheet]	1.1	14 April 2019
Research protocol or project proposal [Project confirmation]	1.0	30 July 2018
Summary CV for Chief Investigator (CI) [CV - Bath]	1.0	20 September 2018

IRAS project ID	252880

Information to support study set up

The below provides all parties with information to support the arranging and confirming of capacity and capability with participating NHS organisations in England and Wales. This is intended to be an accurate reflection of the study at the time of issue of this letter.

Types of participating NHS organisation	Expectations related to confirmation of capacity and capability	Agreement to be used	Funding arrangements	Oversight expectations	HR Good Practice Resource Pack expectations
There is only one participating NHS organisation therefore there is only one site type.	Organisations will not be required to formally confirm capacity and capability, and research procedures may begin 35 days after provision of the local information pack, provided the following conditions are met. • You have contacted participating NHS organisations (see below for details)	Although formal confirmation of capacity and capability is not expected of all or some organisations participating in this study, and such organisations would therefore be assumed to have confirmed their capacity and capability should they not respond to the contrary, we would ask that these organisations pro-actively engage	No study funding will be provided to sites.	The Chief Investigator will be responsible for all research activities performed at study sites.	No Honorary Research Contracts, Letters of Access or pre-engagement checks are expected for local staff employed by the participating NHS organisations. Where arrangements are not already in place, research staff not employed by the NHS host organisation undertaking any of the research activities listed in the research application would be expected to obtain a Letter of Access based on standard DBS checks and occupational health clearance.

	• HRA and HCRW Approval has been issued • The NHS organisation has not provided a reason as to why they cannot participate • The NHS organisation has not requested additional time to confirm. You may start the research prior to the above deadline if HRA and HCRW Approval has been issued and the site positively confirms that the research may proceed. You should now provide the local information pack for your study to your participating NHS	with the sponsor in order to confirm at as early a date as possible. Confirmation in such cases should be by email to the CI and Sponsor confirming participation based on the relevant Statement of Activities and information within this letter.			

	organisations. A current list of R&D contacts is accessible at the NHS RD Forum website and these contacts MUST be used for this purpose. The password to access the R&D contact list is Redhouse1.				

Other information to aid study set-up and delivery

This details any other information that may be helpful to sponsors and participating NHS organisations in England and Wales in study set-up.
This study does not intend to apply for NIHR portfolio adoption.

Appendix 5 – Interview Schedule

Interview schedule

Preamble:

The purpose of this qualitative study is to explore and understand mental health professionals' experiences of provision of health behaviour change interventions to population with psychotic illness. At present, research evidence in this area is limited to a few quantitative studies. This study may help to better understand professionals' experiences, views, perceived barriers and facilitators to provision of health behaviour change interventions in psychiatric settings.

Explanation of Health Behaviour Change interventions.

The interview will take up to an hour.

Permission to record.

Questions:

Part 1 – Experiences of, and attitudes towards provision of Health Behaviour Change interventions

Role within the team:

1. What does your role involve in day to day contact with clients?
2. How is your time distributed between contact with clients and admin work?
3. What is it like to work with clients who have Schizophrenia?
4. What is it like to engage this group of clients and build a rapport?

Views on provision of health behaviour change interventions (lifestyle interventions) to clients with Schizophrenia

5. What do you think about the physical health needs in this group of clients?
6. What are your views on provision of physical health related interventions (lifestyle interventions) to clients with Schizophrenia?
7. Which unhealthy behaviours or health risks may concern this group of clients?
8. What is your experience of offering physical health related or lifestyle interventions to clients with Schizophrenia, if any?
9. What kinds of physical health related interventions do you deliver, if any?
10. What do you think may be the purpose of offering such interventions to clients with Schizophrenia?
11. What kinds of health related interventions do you think are most important for this group of clients, and why?
12. What kinds of health related interventions do you think are the least important for this group of clients, and why?

13. How does the provision of health related interventions fit into your role and your set of skills?
14. Who should be providing health related interventions in mental health settings?

Part 2. Perceived barriers and facilitators to provision of Health Behaviour Change interventions

Barriers

1. What may be the barriers to provision of such interventions in psychiatric settings?
2. What gets in a way in your day to day work?

Facilitators

3. What are the facilitators of provision of such interventions in psychiatric settings?
4. What helps you to deliver such interventions in your work?
5. What else do you think could help or make it easier for you to incorporate such interventions into your daily practice?

Perceived clients' attitudes towards Health Behaviour Change Interventions

6. From your experience what are the clients' attitudes to making healthy lifestyle changes?
7. How do clients react to suggestions of lifestyle changes, such as diet, exercise, smoking cessation, medication adherence?
8. What do you do when you encounter resistance from a client?

Part 3. Supervision, training and organisational agenda

Organisational agenda

1. What is the organisational agenda relating to the physical health of people with Schizophrenia?
2. How is the physical health of clients with Schizophrenia reflected in the organisation's policies?
3. What is the provision of training in delivering health related interventions? A
4. What supervision/support do you receive for the provision of health related interventions?
5. What is the communication between mental health services and primary care (GP) like?
6. If you could improve or change anything about the way physical health in this group of clients is currently addressed what would it be?

Part 4. Any other comments

Would you like to make any other comments?

1. Have I missed anything out – is there anything else you think I should ask?

Appendix 6 – Example Interview (Interview 1)

Interview 1

R: So I'm going to refer to health behaviour change interventions which are lifestyle interventions which include anything from like diet interventions or exercise, smoking cessation, medication adherence, anything like that. So the first part is about you're role within the team.

R: What does your role involve in your day to day contact with clients?

I: Okay. Well my role has just changed but I'm going to refer to my role that I was in before because I've got no experience in my new role yet. Um so my role has been as a carge coordinator in the adult community mental health team and my background is social work so… that's my training.

R: Ok, great. And how is your time distributed between contact with clients and admin work within your role?

I: It's a good question. Um (pause). It's probably sixty fourty. Sixty contact with clients fourty admin.

R: Um and what is it like for you to work with clients who have schizophrenia? Do you have experience working with this group?

I: I do. Yeah it's really varied. Um I find that it's a really varied group of people. I guess it depends on how well they are. Because some people who have worked with the schizophrenia are fully functioning and well and insightful. Other people are insightful but still not that well. Or like they've got like… they're disabled by the maybe the negative symptoms of schizophrenia. Some people are kind of aware but they are still very unwell with positive symptoms. But kind of it's managed somehow but even though they still experience these symptoms. And then other people a very unwell and have no insight into… yeah so it's really varied.

R: Ok, um what is it like to engage this group of clients and build a rapport with them when you first meet them?

I: Um it can be hard coz they can be a bit… I don't want to generalise people cause I know that they're really like so different coz they got their different personalities and stuff, but if they've got quite a lot of negative symptoms they can be quite withdrawn and can be stunted in their responses to things. So it's kind of hard to just have a chat with them about day to day stuff coz they're quite flat in their response or they don't say very much in response. Um and some people find it hard to change. As well as when you're like the new care coordinator then it can be difficult when they are in transition. But yes people who still got their positive symptoms and say they are paranoid or a bit delusional about things and that can be really hard coz they could be very guarded and they don't want to tell you anything. They don't want to let you in. Yeah that's why they are one of the hardest groups of people to work with. Yeah coz the ones that you kind of worry about, the ones who need support the most are the ones who won't allow you in. And it can feel more coercive which is horrible. Coz you trying to..like you kind of have to be involved because they might be legally bound to medication or whatever. And so it can feel coercive and then it's really hard to build a raport because they know that you've got that power over them. So it's really difficult to kind of just have an equal relationship which you might have with other service users.

R: And what do you think about the physical health needs in his group of clients?

I: Yeah they tend to have you know… I know that they're more likely to die young from physical health problems. Um their medication often makes them put on weight. Um low motivation to do exercise, low motivation in general from negative symptoms. They can be less likely to do exercise and diet to, you know help them be stable and physically well. So yeah they tend to not have great physical health.

R: What are your views on the provision of behaviour change interventions or lifestyle interventions to this group of clients?

I: I mean I think it's good to offer. Um yeah. We do have a physical health check clinic for people on CPA where all of these things are offered. I'm not sure whether there's that much time to kind of do the maybe motivational interviewing side of it. And I think that has to come down to the care coordinators rather than in the physical health check because appointments are not long enough for that. Um and that can be quite difficult to… There have been some, I have worked with a few people who they've got to the physical health clinic had been given the 12 week programme, weight loss program that's on the NHS website. And they've actually done it and lost weight. Yeah so it's a 12 week weight loss programme, 12 week exercise program, like a 12 week combined 150 page document or something that takes you through week one, what to do. And they have do this themselves. Yeah so is quite daunting. But there was one person who did it and it was really good. Um and it is being told to people that this is an option.

R: And is this something you would then follow up in your care co-ordination?

I: Yeah if you have time to do that… when dealing with crisis. This is not an immediate risk. There is a risk long term for sure. Because you're kind of fire-fighting in care coordination. So it's hard to deal with something that is longer term.

R: So the next one is about which unhealthy behaviours or health risks may concern this group of clients?

I: Yeah there's also drug use. I don't know if it's part of this physical health behaviour change?

R: Yes it is.

I: There are people with schizophrenia who use drugs and they…some of them are the most difficult people to work with actually. Because their symptoms are kind of like erratic. It kind of depends on when they use drugs partly. It kind of exacerbates it. And there's sometimes little motivation to change because what they've maybe got in the rest of their lives is not very much going on. And they can also be quite vulnerable to other people's suggestions and persuasion. And may get to the sort of problem like debt, eviction, that kind of stuff.

R: And what's your experience of offering or discussing with people about lifestyle interventions?

I: I've found it difficult to get much progress in general. Um yeah. I've found that if it's come from the person and they've come and said I want to lose weight of whatever it is then it tends to… so someone who was really keen on losing weight has lost weight, go to the gym regular now. This was the person who did the 12 week program. Um I'm trying to think of other people who have made behavioural changes. Um.. but they forward with the question. If it comes from me as in asking them question about what they do and the outcome… maybe it's

my motivational interviewing style which is not very successful but… Yeah some people just don't see the point of changing or some people are in complete denial about it. Or people don't have any hope that it will be any different. Like people who maybe don't have confidence that they can cook for themselves and therefore they eat takeaways every night and they don't see a different way of doing it. But even when it's talked about they are kind of quite sure that there right. I've worked with people who can be quite set in their ways.

R: Ok, so the next one is - what kind of physical health related interventions do you deliver or offer? If any.

I: Physical health interventions?

R: Yes.

I: I find that the, yeah the doctors are quite good at giving all that evidence for its impact. Like if someone is on Clozapine then explaining how smoking my impact that, or drinking may impact the Clozapine. I still haven't seen much change. Like again I think it's coz it's got to come from them originally. If you go to docs appointment and they tell you all the things wrong with….well… or maybe it's a longer lasting… So say a doctor tells you that and maybe it will take 5 years for that to sink in. And then you might get back to it and think like maybe I should really do something about it, remember what that doctor said. I don't know I think it's such a… These kind of behaviour changes happen over such a long period of time and they take a lot of kind of small things until someone comes in and says I want to do something about it. I just find it difficult when I know but they… if they changed this thing that it would be healthier for them but they've got no inclination at that point then that's not…

R: It sounds like you do talk about

I: Yeah all the wellbeing plans here have 'other ways to stay healthy and well' which I always think covers physical health. So when you do a wellbeing plan with someone then it's like your goals, how you're going to get there, what support I need, other ways to stay healthy and well. And that's the bit where I then spend time talking about like alcohol or drugs or smoking or diet or behaviour changes like that. And they get a copy. Yeah. But often people aren't interested in what's there. Or they will say something like Oh yeah I should do more exercise but maybe are not invested in it. But I do think that these things happen over a… over a long time frame. And it's like you mention little things here and there. You know it's like, here this is going completely off topic but say like the climate change for the general population. We've been going on about the climate change for about 30 years. And it chipping away, chipping away and now people care. But it takes a long time.

R: Sometimes change happens over a long period of time

I: Yeah, the cycle of change and people are in pre contemplation at the time but it's not… normally it's not one thing that is going to tip them over into contemplation and… you need to tak about it regularly.

R: The next question is - what do you think maybe the purpose of offering lifestyle interventions to clients with schizophrenia, which you have already answered to be fair.

I: Because of the health risks. And I mean lifestyle as well can be having more of a routine to help with feeling purposeful and better in mood as well. These the kind of conversations we're also having in terms of goals in the wellbeing plan. And that may be a lifestyle change, not just

a care package, like someone may want to volunteer or work. And that's another thing that I've… yeah building a routine and having things to do and working towards being purposeful.

R: And what kind of health related interventions do you think are most important for this group of clients and why?

I: Um. I mean probably to do with… I don't know… weight loss, exercise and smoking probably all massive ones.

R: Is it because it's related to the medication, the risks?

I: Yeah and also smoking just coz it seems that people with this diagnosis tend to smoke more than the general population. I don't know if that's a fact. That's just going from anecdote. That's just going from my own experience with a number of people with schizophrenia that visited who smoke. And obviously all of those things make people at high risk of heart disease and cancers and stuff so… Yeah they are the ones that I think of the most I think. And apart from this if someone's taking some kind of illicit substance like, you know taking crack cocaine on a weekly basis then that's like the most significant thing to work on at that time. You kind of have to choose your battles a bit.

R: Sure… And what kind of interventions do you think are the least important for this group of clients and why?

I: For physical health? Emm (pause) I don't know the least because there are probably a lot of people who have diabetes, so need to be careful about that. I mean it might be that some people, I'm not trying to work with them to get towards getting them to employment. Does that count as a lifestyle change? Because they're not at the point that they would be able to do that if they are still exhibiting positive symptoms and that's not going to be a priority. But building in activities which are just enjoyable would be.

R: How does the provision of health related intervention fit into your role and set of skills as a social worker?

I: Umm I think it comes.. I mean there is the building the relationship side which is going to be key for someone to hear what you've got to say I guess. And I guess in care coordination the idea, although it doesn't happen very much because the works too stressful, is for people to be there long term so that they've got like a key person who has known them for a long time. That's like a huge benefit for care coordination when it's done well. And umm yeah you're kind of trained as a social worker on the cycle of change and ways of asking questions and showing understanding and that kind of thing. I don't know, I find it hard to know what skills I've got and how they help.

R: And who do you think should be providing health related interventions in mental health settings?

I: Who should be offering them?

R: Yeah

I: It should be a team effort I think. Because nurses are doing the physical health, and I know nurses aren't care co-ordinators but I'm just talking about the clinic nurses. They obviously do the tests and they give people information, and they know about specific NHS interventions as well as like they can do referrals to Slimming World and gyms and things like that. And then

doctors and, you know can explain and give the information as well about the medication or how it's going to impact them on their life. Yeah they know about the kind of health side of things and then the cake coordinator can work and, you know overtime chipping away I guess, implementing the advice that doctors and others have given. Yeah. Sometimes support workers can also be there to.. if they maybe struggle with confidence to first of all go to the gym then the sport worker might be able to help them the first few times. In an ideal world, this is how it could work but it's just the time to do that. Yeah, I mean I know people who have had personal budgets as well. So like from a social worker point of view doing social outcomes assessments and recognising where someone can't make those changes on their own. Maybe they can't get out into the community on their own in order to do exercise or whatever is, or buy the right food. And then putting in a personal budget to have social care to help with that, at least in the short term. That.. like the person I mentioned who does go to the gym 3 times a week now. That was initially paid for by a personal budget and then now because he's motivated to keep it up the personal budget is dropping away and he's going to pay for himself. Yeah so that kind of thing. I guess it's the social work training to think about social outcomes assessment, personal budget. Yeah so if you've got the time and energy and the right people around then you can do things. But it requires… I still think that it needs to come from the person as well. Yeah because they are the ones who have to make the change, aren't they?

R: What do you think maybe the barriers to providing lifestyle interventions in psychiatric settings like mental health community team?

I: What are the barriers? Time (laugh). Yeah I mean I think doctors are quite good at bringing it up at their outpatient appointments. So physical health is talked about every time they see a doctor and as I say it's.. so the structures are kind of there to talk about it. Like all of the GP letters, it's all about physical health. Or the wellbeing plans say a bit about physical health. Or the structures are there to talk about it, but because it's such a slow moving… I think because behaviour change is such a slow moving thing I think… um… and the work is quite fast paced. It can feel like oh well they're just not going to do it, and then give up maybe. Because I think um yeah I think they can be… because there's so many pressing issues on you and on your time, you've stretched all the time in different places. There's something about where you might be investing half an hour an hour into doing something where the results aren't very clear, then it may end up getting dropped off your priority list. Because you kind of need to show that you're… I mean less than other teams, like the wellbeing team I know it's all outcome based and you have to prove this, this and this. We're less like that in secondary mental health so there is the recognition that is hard to measure the work you're doing I think. But I still think that it would feel as a worker that you're wasting precious time to do something that's not going anywhere. Just because you've got so many other things to do.

R: And what gets in the way of delivering lifestyle interventions in your everyday work?

I: Um we also don't offer physical health... we do have one physical health group, the leisure group. [redacted] they run OT leisure group, they meet at the gym, they play badminton and stuff. So I think a lot of community mental health teams they rely on community resources rather than offering things in the house. So whereas maybe in ADTU would have like groups all day everyday that people can join in. And maybe they have a physical health group and then exercise groups and things like that. We don't have much of that, we've got one physical health group which meets for like an 8 week period and then they'll have a break. And people can only do it once. Um so you kind of relying on people using

resources is in the community and these people can often be very marginalised and vulnerable, and they're probably not going to be going along to you're average badminton club to play. Even though they might love badminton they wouldn't feel comfortable or, yeah, they'd be treated differently. And also from.. like sometimes because maybe they're hearing voices they can be really distracted. Or they are also not going to be playing at a level maybe that other people are. Or they can be, they can move a bit more slowly than people who aren't on an antipsychotic. And so they could play with other people who are also at that level, but people who tend to play as adults who go on to do things like that tend to be able to play so it's kind of hard to continue something in the community because you rely on community resources. Yeah and it's all done from a good place this idea of not keeping people institutionalised and having stuff part of society, which is obviously they should be part of society but sometimes there need to be provision for people who maybe can't access the groups and activities that most people can. You know coz there are barriers for accessing from their agility or you know, that's just one example, or from stigma. Or times that things happen. Because maybe that they take antipsychotics in the evening that makes them really sleepy from at 9:00 PM or 8:00 PM and evening activities might happen around that time. So it's just all sorts of things like that.

R: OK so these were the barriers and what do you think are the facilitators of provision of such interventions in community settings?

I: Yeah I mean rather than on the ward, people are living in homes or they have to walk to places and get out to fresh air more often, use public transport. So perhaps they have a bit more activity in their everyday life. In terms of community mental health teams what are the facilitators? Hmm. There are some structural things like I said about it's kind of written into our plans that we have to complete so we have to think about these things. You have think about it in your wellbeing plan and your GP letter. And the CPA structure. You have to do a physical health check annually where these things are talked about. I guess these are the main ones that help.

R: Is there anything else that helps you in your everyday work to deliver such interventions? Like talking to nurses or..

I: Yeah so we've got a good team here so we talk to each other. And so we kind of know what's on offer I think. Um and there are, you know there's lots of stuff like public health campaigns aren't there to help. There is all sorts of free support to stop smoking. GP's are on board to try and help people get more exercise, particularly if they are on medications and put on weight, so you get free help with that kind of thing. So there are kind of there are resource is available but I think it's about whether people want to use them and that comes down to whether they are invested in their own lives or into society in some way.

R: Yeah I just thought. So I first came up with this research idea 3 years ago and I think things have changed so much since then. Because it seems like there are more resources available now to people then they were then I think from what you say which is nice to hear. Or maybe I wasn't aware of them then.

I: Yeah and we have more of these outdoor gym free gym things, parks. Not that I ever see anyone using them. So it's like there are things there but I don't know how much of a difference it is making.

R: And again like you said it may be that it's just a process and people need to, it needs to sink in basically you know that these things are there to use and not just look at.

I: Yeah

R: Is there anything else that you think could help or make it easier for you to incorporate lifestyle interventions into your everyday work anything? Anything that is missing?

I: Better links with drug and alcohol services. Definitely. I know that it used to be used to be in [redacted] and I'm probably not supposed to mention [redacted]. Anyway that they are… that it used to be in house and now is completely separate and we have so little contact with them and it's so hard to share information. So is really tricky to kind of have them on board as well. Um I think I'm sure there are more things available as well that I don't know about. I don't know how what the best way to learn about these things is. And I know they do a physical health conference annually as well with the trust. Which have been to once. So you kind of learn about things there, what's available a bit. Because they have stands and things from people like [redacted] health walks and there was one on frailty. Um I mean I think it comes down to time because there are so many things we would want to do. You know if I had like half the caseload that would probably take away some of the barriers.

R: So high caseload sounds like another buyer as well

I: Yeah

R: And from your experience what are the clients' attitudes to making healthy changes in their lifestyle? and it kind of answered it

I: Yeah it's really varied but in general haven't found much enthusiasm for making changes. And tends to be yeah. I mean if you're feeling low in mood which often people what schizophrenia who would, coz they are treated for the kind of positive symptoms and they'll be low in mood and demotivated and they don't really see the point so they're not trying to improve their physical health.

R: How do they normally react to suggestions or when you try and discuss making changes with them?

I: Um yeah so some people complete denial. Like drug use about drug use. They would just say I don't use even though you see them. So it can be a complete denial um. Yeah or just like no I'm not interested or some people kind of pay lip service to it and they're like yeah yeah I should do that yeah and then nothing. And that's it normally. It's just that it's hard to bring them all together in a unified answer.

R: And what's it like for you what do you do when you meet that resistance from clients? you offer something in they're like no I'm not taking drugs even though you know that they do, what's that like?

I: Um yeah sometimes it can be infuriating. Coz you are trying to be supportive or help them stay well and you know the resistance can sometimes come with anger at you as well. Um so that it can feel like ok they're threatened or. Yeah like you don't want to bring up again. Um other times it can you know that kind of laugh in reaction to your suggestion like yeah yeah whatever (laugh) but I don't mind and I will bring it up again. But the laugh about it and I guess I find it hard to then be like serious. Coz I kind of coz we have got that report sometimes it's kind of yes it's hard to change it to a serious topic if they're not treating it like one.

R: And when you experience that anger and resistance from a client that does it sometimes stop you from sort of bringing it up again or?

I: Yes.

R: Yeah it's difficult?

I: Sometimes, yeah like particularly if you've got other things that you need to address you kind of want to make sure you don't bring this other stuff up to break the relationship.

R: Is that the most important, the relationship?

I: Yeah, I mean not to the point that you don't bring up difficult things but kind of only bring them up when you can.

R: Yeah coz if the relationship breaks then

I: Yeah then there is nothing to work on.

R: Ok so the last few questions are more about the organisation. What do you think is the organisational agenda relating to the physical health needs of people with schizophrenia?

I: Well they've got cquin targets I know that. So they're putting energy and resources into it I think. Um yeah I mean whether that comes from place of care or from meeting targets I don't know but maybe it doesn't matter. Well it probably does matter coz if it's just about meeting targets you're just ticking a box aren't you? But if you actually care you want to do it to a high quality in high quality way. But sometimes it can feel like it's a bit tick boxy. Like mention this and once you've mentioned it that's alright, rather than like working on it. That's what I mean by partly by if you don't, if there is no outcome from what you're doing then you'll end up dropping it. Not because anyone's explicitly saying it but it does feel like well as long as you've mentioned it and you've ticked the box then you've done your job, which isn't great. I don't know how else they could do it though, because like if it isn't based on outcome you can't really make it happen either. And then it wouldn't really be fair of them to expect that so I don't know. They're kind of stuck in between rock and hard place they've got to mention it you know but they understand that is not necessarily going to happen. But then maybe there is not the motivation to work harder than just ticking a box.

R: Yeah It makes sense, it's a complex issue

I: Yeah

R: So it sounds like the physical health agenda is reflected in the organization's policies and stuff

I: Yeah definitely. So things like the CPA, you know having to have an annual physical health check. We do talk about it.

R: And what's the provision of training for sort of delivering health related interventions to people with schizophrenia?

I: Not very much. My motivational interviewing training was with in my social weight training not in the trust. Um but I think there is a motivational interviewing course that is offered. Um but I don't and then there is a physical health conference once a year that people can go to to learn about what's on offer and why it's important. Yeah they do offer some training.

R: Ok, and what sort of supervision or other support do you receive for the provision of health related interventions in your role?

I: Not very much. I think there is so much focus on risk like immediate risk and you know like I was saying earlier the longer term stuff is it's just more likely to fall by the way side coz you're firefighting. So more safer vision is about like managing risk right here right now. Just getting through your cases and the huge amount of work admin you've got to complete rather than like being supervised on making this kind of long term progress. Yeah.

R: Okay. And what was the communication like between the mental health service and sort of primary care like GP?

I: Not that good. Um like as a care coordinator when I have to call a GP I have to call it the same as anyone who's trying to book an appointment and so on hold for long time. Um and then yeah they want you to email to prove who you are and then it might take a few days before you get any response. Quite difficult. I had occasional people I have worked with where they've got clear physical health problems which and mental health problems which are interacting quiet clearly. That's not schizophrenia though this particular patient. But it could happen with that you know so with really poorly controlled diabetes and a mental health problem which might be affecting their motivation to change. And then there is there have been professionals meetings for that kind of thing. But generally day to day I don't feel like I know the GP's. And I think they get the letters from us but they're so long they probably don't read them coz they haven't got time. We always share information with them but you don't know what they I don't really know what they've been offering. Coz they don't write to us to say we've just done a whatever we've just seen this person and we've talked to him about this. Unless it was about their mental health. Yeah.

R: And so if you could improve or change anything about the way physical health in this group of clients is currently addressed what would it be?

I: Um have more in house activities people can do which would get them more active and they'd have more to do with their day. And have better communication with drug and alcohol services. I think they would be the two main ones. Yeah

R: And the last question. Is there anything else that you would like to add? Any thing I did not ask that cross your mind any other comments

I: I don't think so.

R: Well, thank you very much.

I: Thanks

Appendix 7 – Email invitation to participate

From: MAZORUK, Sabina [redacted]
Sent: 14 July 2019 12:58
To: [redacted]
Cc: [redacted]
Subject: Invitation to participate in a study

Dear [redacted],

I hope this email finds you well. Can I please ask you to distribute this invitation to participate in a study to the [redacted] Adult Community Teams:

Study title: 'Mental health professionals' experiences of provision of health behaviour change interventions to people with Schizophrenia. A qualitative study.'

My name is Sabina Mazoruk and I am a Trainee Health Psychologist at the University of the West of England. As part of my degree I will be conducting a qualitative study exploring mental health professionals' experiences of offering/delivering health behaviour change interventions to people with Schizophrenia. Health behaviour change interventions are lifestyle change interventions/advice aimed at improving people's physical health and wellbeing. They include, but are not limited to, smoking cessation, alcohol reduction, exercise, dietary changes, weight management, medication and/or treatment adherence, sleep hygiene etc. I am looking to interview CPN's, Social Workers, Doctors, Psychologists and other registered practitioners who would be willing to participate in an interview discussing the above topic.

Literature evidence in this area is limited and I hope that this study might contribute to a better understanding of mental health professionals' experiences, and explore perceived barriers and facilitators to provision of health behaviour change interventions to people with Schizophrenia.

If you are interested to take part in the study please contact me by responding to this email. For further information about the study please see the attached study information sheet.

Yours sincerely,
Sabina Mazoruk

Trainee Health Psychologist

Appendix 8 – Participant consent sheet

Department of Health and Social Sciences
University of the West of England
Frenchay Campus
Coldharbour Lane
Bristol
BS16 1QY

Academic Year 2019 – 2020

CONSENT TO PARTICIPATE

Research title: Mental health professionals' attitudes towards provision of health behaviour change interventions to clients with psychotic illness.

Researcher's name and email: Sabina Mazoruk, [redacted]@live.uwe.ac.uk

Director of Studies name and email: Julian Bath, [redacted]@uwe.ac.uk

- I have understood the details of the research as explained to me by the researcher, and confirm that I have consented to act as a participant.
- I have been given contact details for the researcher in the information sheet.
- I understand that my participation is entirely voluntary, the data collected during the research will not be identifiable, and I have the right to withdraw from participating in the project at any time before data analysis commence in March 2020 without any obligation to explain my reasons for doing so.
- I further understand that the data I provide may be used for analysis and subsequent publication including doctoral thesis and an article in a peer reviewed journal, and I provide my consent for it.

_____ _____

Print name Sign Name

_____

Date

Appendix 9 – Information Governance Policy

[redacted]

Information Governance Policy

This policy aims to ensure that standards of information handling are met by the creation and maintenance of appropriate policies and guidelines.

[redacted] Policy

Version	7
Executive Lead	Executive Director – Innovation and Transformation
Lead Author	Head of Information Governance and Compliance
Approved Date	23/05/2018
Approved By	Information Management & Technology/Information Governance Group
Ratified Date	23/05/2018
Ratified By	Information Management & Technology/Information Governance Group
Issue Date	23/05/2018
Expiry Date	23/05/2021
Target Audience	All staff who working within [redacted]

Document on a Page			
Title of document	Information Governance Policy		
Document Type	Policy		
Ratifying Committee	IM&T Senior Managers Meeting		
Version	**Approval Date**	**Review Date**	**Lead Author**
7	23/05/2018	23/05/2021	Head of Information Rights & Compliance
Staff need to know about this policy because (complete in 50 words)	**All staff need to be aware of Information Governance and what it encompasses.**		
Staff are encouraged to read the whole policy but I (the Author) have chosen three key messages from the document to share:	• **Information Governance is everyone's responsibility;** • **YOU are responsible for your actions including ensuring that you are only accessing personal data appropriately in line with what is required in your job role** • **Staff should be aware of changes in Data Protection Legislation brought in under the General Data Protection Regulations (GDPR) in May 2018.**		
Summary of significant changes from previous version are:	**Annual Review** **Inclusion of Data Protection Legislation changes and GDPR**		

Contents Page

PART 1 – Preliminary Issues:

1. Introduction

[redacted] NHS Foundation Trust [redacted] recognises the need for an appropriate balance between openness and confidentiality in the management and use of information. The Trust fully supports the principles of corporate governance and recognises its public accountability, but equally places importance on the confidentiality of, and the security arrangements to safeguard, both personal information about service users, staff and commercially sensitive information. The Trust also recognises the need to share service user information with other health organisations and other agencies in a controlled manner consistent with the interests of the service user and, in some circumstances, the public interest.

The Trust believes that accurate, timely and relevant information is essential to deliver the highest quality health care. As such it is the responsibility of all staff to ensure and promote the quality of information and to actively use information in decision making processes. This policy outlines the interlinked strands within information governance and refers to the standards to be employed relating to this.

The 4 key interlinked strands to the information governance policy are:

- Information security
- Legal compliance
- Openness
- Quality assurance

From 25 May 2018 the EU General Data Protection Regulations (GDPR) comes into effect. This is being complemented with domestic legislation, which will become the new Data Protection Act (DPA). Until the new Act receives Royal Assent, this policy continues to refer to either the GDPR or the more generic term of 'new Data Protection legislation'.

Under GDPR, the data protection principles set out the main responsibilities for organisations. These six principles are:

1. Fairly, lawfully and transparently
2. For specified purposes
3. Using the minimum amount necessary
4. Accurately
5. For only as long as it is needed
6. Securely.

The GDPR provides the following rights for individuals:

1. Information about how their information is being processed
2. The rights to have access to their information
3. The right to rectification when information is wrong
4. The right to erasure when it is appropriate to do so
5. The right to restrict processing

6. The right to data portability
7. The right to object to processing
8. The right to appropriate decision-making.

In health and social care, there are six Caldicott Principles that organisations should follow to ensure that information that can identify an individual is protected and only used when it is appropriate to do so:

1. Justify the purpose(s)
2. Don't use it unless it is absolutely necessary
3. Use the minimum necessary
4. Access should be on a strict need to know basis
5. Everyone with access to it should be aware of their responsibilities
6. Comply with the law
7. The duty to share information can be as important as the duty to protect patient confidentiality.

2. Objectives

The aim of the policy is as follows:

1. To ensure that standards of information handling are met through the development of policies that specifically show how information is:
   - Held securely and confidentially
   - Obtained fairly and efficiently
   - Recorded accurately and reliably
   - Used effectively and ethically
   - Disclosed or shared appropriately and lawfully

2. To promote and assist management audits

3. To ensure all employees are aware of their individual responsibilities

4. To ensure procedures are monitored for their effectiveness

Information is a vital asset clinically and for the efficient management of services, resources and performance. It is therefore important that an appropriately robust policy framework is in place. Information Governance and Data Security Awareness stipulates the way in which information, in particular Personal Identifiable Data (PID), should be handled. PID is:

- Personal information about identifiable individuals, which should be kept private
- The legal definition of personal and special categories of data
- Information 'given in confidence' and 'that which is owed a duty of confidence'.

Under the new Data Protection legislation, Personal Data is defined as:

Any information relating to an identified or identifiable natural person ('data subject'); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical,

physiological, genetic, mental, economic, cultural or social identity of that natural person.

And Special Categories of Personal Data is defined as:

Racial or ethnic origin, political opinions, religious or philosophical beliefs, or trade union membership, and the processing of genetic data, biometric data for the purpose of uniquely identifying a natural person, data concerning health or data concerning a natural person's sex life or sexual orientation.

Information Governance (IG) also enables the Trust to ensure that all confidential information is dealt with legally, securely and efficiently, in order to deliver the best possible care to its Service Users.

3. Scope

This Policy will apply to all Trust employees and to Non-Executive Directors.

4. Definitions

Information Asset - An Information Asset is a body of information, defined and managed as a single unit so it can be understood, shared and protected by the Trust

CQC - Care Quality Commission, regulate, inspect and review all health and adult social care services in England

NHSLA - The NHS Litigation Authority handles negligence claims and works to improve risk management practices in the NHS.

Data Protection & Security Toolkit - An online system which allows NHS organisations and partners to assess themselves against Department of Health Information Governance policies and standards. It also allows members of the public to view participating organisations' Toolkit assessments.

5. Duties and Responsibilities

Chief Executive

The Chief Executive as Accountable Officer of the organisation has overall accountability and responsibility for information governance and is required to provide assurance through the Statement of Internal Control that all risks, including those relating to information, are effectively managed and mitigated.

Board of Directors

The Board has responsibility for the management of all records created and held by the Trust. This is devolved through the management line to all staff employed by the Trust. The IM & T/IG Programme Group reports to the Executive Team on all aspects of information governance. The Trust also has responsibility for social care records as well as health care records.

The Executive Director for Innovation and Transformation has the lead responsibility for the Trust's Information Governance. Responsibilities include ensuring the management of care records, and the transfer of service user identifiable information, are correct and lawful.

Senior Information Risk Officer (SIRO)
Senior level ownership of information risk is a key factor in successfully raising the profile of information risks and to embedding information risk management into the overall risk management culture of the Trust. Senior leadership through the appointment of a Senior information Risk Owner (SIRO) demonstrates the importance of ensuring information security remains high on the Board agenda.

The SIRO is the Director for Innovation and Transformation and is expected to understand how the strategic business goals of the organisation may be impacted by information risks. The SIRO will act as an advocate for information risk on the Board and in internal discussions and will provide written advice to the Accounting Officer on the content of their annual Statement of Compliance (SIC) in regard to information risk. This role is supported by the Head of Information Governance & Compliance, the Risk Manager, Head of IM&T and the Caldicott Guardian, although ownership of the Information Risk Policy and risk assessment process will remain with the SIRO.

Information Asset Owners (IAO)
The Information Asset Owner (IAO) is a senior member of staff who is the nominated owner for one or more identified information assets of the organisation. It is a core IG objective that all Information Assets of the organisation are identified and that the business importance of those assets is established.

The IAO is expected to understand the overall business goals of the organisation and how the information assets they own contribute to and affect these goals. The IAO will therefore document, understand and monitor:

- What information assets are held, and for what purposes;
- How information is created, amended or added to over time;
- Who has access to the information and why.

Caldicott Guardian
The Director for Quality & Safety is the Trust's Caldicott Guardian responsible for ensuring that person identifiable clinical information is received, stored and used in line with the organisation's obligations to Data Protection Legislation, the Caldicott Principles (below) and the NHS Digital Data Protection & Security Toolkit.

The Caldicott Guardian must be made aware of all procedures that relate to the use of patient information.

Following the Caldicott2 Review, the Trust has ensured the relevant recommendations made as a result of the review have been embedded into the Trusts Information Governance policies; relevant audit results are reported to the Caldicott Guardian, IM&T/IG Programme Group. See section 1 for the Caldicott principles

Associate Director of Information Management & Technology (IM&T)
The Head of IM&T is responsible for identifying and arranging the implementation of any device configuration requirements that the organisation may need. This will enable compliance with NHS Information Governance standards and IT security policy and procedures.

Head of Information Rights & Compliance
The Head of Information Governance and Compliance has responsibility for developing, maintaining and monitoring the Trust's information management strategy and processes. They ensure the Trust complies with Information Rights Law, including Data Protection Legislation and Freedom of Information Act 2000. They are the Trust's registered Data Protection Officer and are responsible for ensuring the management of all records and requests for access to health records are correct and lawful.

Information Governance Manager
The Information Governance Manager has operational responsibility for Information Rights & Compliance throughout the Trust. They are responsible for the implementation of the Information Rights & Compliance Programme and action plans in line with strategy, policies and requirements of the NHS Data Security & Protection Toolkit and CQC standards. They manage the Team's Information Rights Specialists to ensure the information assurance programme is rolled out throughout the Trust and deputise for the Head of Information Rights & Compliance.

Information Rights & Compliance Team
The Information Rights & Compliance Team undertakes the daily operations for the Trusts implementation of the Information Rights & Compliance Strategy and raises awareness of the importance of Information Governance across the Trust. They report to the Information Governance Manager.

Information Management & Technology/Information Governance (IM&T/IG) Programme Group
IM&T/IG Programme Group is responsible for overseeing the IM&T and IG work programme, policies, standards, procedures and guidance, coordinating and raising awareness of Information Governance within the organisation.

Information Management & Technology Management Meeting
This Group acts as a sub group of the Information Management & Technology/Information Governance Programme Group. It will ensure alignments are made between IM&T and IG issues and the Trust's IM&T strategy.

Change Advisory Board (CAB)
The Change Advisory Board (CAB) is an authoritative and representative group of people who are responsible for assessing, from both a business and a technical viewpoint, all high impact Requests for Change (RFCs). All IM&T related change requests are reviewed by the CAB who will ensure that standardised methods and procedures are used for efficient and prompt handling of all Changes, in order to

minimise the impact of Change related incidents upon service quality. The CAB will escalate any issues that are unable to be resolved within the Change Management process to the Senior IM&T management group where appropriate.

Managers and Staff
Individual members of staff and staff teams are accountable for:

- The content of records they make
- ensuring records meet the standards set by the Trust
- maintaining confidentiality of records/information
- safe storage of records
- ensuring they access training with regard to record keeping and maintenance

Part 2 – What needs to be done and who by

6. Information Security

- The Trust has established and maintains policies for the effective and secure management of its information assets and resources.
- The Trust will undertake or commission annual assessments and audits of its information and IT security arrangements, by means of penetration tests carried out by Hertfordshire Bedfordshire and Luton ICT Services (HBL ICT) who work to the requirements of the Data Protection & Security Toolkit. All results are fed to the HBL ICT Security Forum and notified to AD IM&T as appropriate.
- The Trust promotes effective confidentiality and security practice to its staff through policies, procedures and training.
- The Trust has established and maintains incident reporting procedures, monitors and investigates all reported instances of actual or potential breaches of confidentiality and security.

7. Openness and Transparency

The Trust recognises the need for an appropriate balance between openness and confidentiality in the management and use of information. Information will be defined and where appropriate kept confidential, underpinning the Caldicott Principles and the regulations outlined in Data Protection Legislation.

- Service users have appropriate ready access to information relating to their own care, their options for treatment and their rights as service users.
- Non-confidential information on the Trust and its services is available to the public through a variety of media, in line with the Freedom of Information Act 2000.
- The Trust has established and maintains policies to ensure compliance with the Freedom of Information Act 2000.
- The Trust has clear procedures and arrangements for liaison with the press and broadcasting media.
- The Trust has clear procedures and arrangements for handling queries from service users and the public.

8. Legal Compliance

- The Trust regards all identifiable personal information relating to service users and staff as confidential except where national policy on accountability and openness require otherwise. Compliance with legal and regulatory frameworks will be achieved, monitored and maintained and the organisation will establish and maintain policies and procedures to ensure compliance with Data Protection Legislation, Human Rights Act 1998, the Common Law Duty of Confidentiality and the Freedom of Information Act 2000. The organisation will establish and maintain policies for the controlled and appropriate sharing of service user's information with other agencies, taking account of any relevant legislation.
- The Trust will undertake or commission annual assessments and audits of its compliance with legal requirements for example the Information Governance Annual Audit, Care Records Management and Corporate Records Audits.

9. Information Quality Assurance

The Trust will establish and maintain policies and procedures for information quality assurance and the effective management of all records held

- The Trust will undertake or commission annual assessments and audits of its information quality and records management arrangements
- Managers are expected to take ownership of, and ensure that the quality of information within their services meets Trust standards
- Wherever possible, information quality should be assured at the point of collection
- Data standards will be set through clear and consistent definition of data items, in accordance with national standards.
- The Trust will promote information quality and effective records management through policies, procedures/user manuals and training

10. Training

Training and staff awareness is a vital component of Information Governance; with appropriate training HPFT can be assured that employees are adequately informed how to:

- Respect service user's information rights.
- Use personal information appropriately and legally.
- Create, file and store corporate records in line with the best practice records management standards.
- Share good practice ideas across departmental boundaries and avoid duplication through shared efforts
- Seek assistance if required.

Training on the content and management of records is part of the annual mandatory training plan and is included in the induction programme for new staff.

The training is offered to all staff through Oracle Learning Management (OLM), this allows staff to complete their training through e-learning.

Course	For	Renewal Period	Delivery Mode
Data Security Awareness Training	All Staff	Annually	E-Learning and Face to Face
Care records and Confidentiality Training	Managers and Clinicians	Every 3 years	E-learning

11. Embedding a culture of Equality & RESPECT

The Trust promotes fairness and RESPECT in relation to the treatment, care & support of service users, carers and staff.

RESPECT means ensuring that the particular needs of 'protected groups' are upheld at all times and individually assessed on entry to the service. This includes the needs of people based on their age, disability, ethnicity, gender, gender reassignment status, relationship status, religion or belief, sexual orientation and in some instances, pregnancy and maternity.

Working in this way builds a culture where service users can flourish and be fully involved in their care and where staff and carers receive appropriate support. Where discrimination, inappropriate behaviour or some other barrier occurs, the Trust expects the full cooperation of staff in addressing and recording these issues through appropriate Trust processes.

RULE: Access to and provision of services must therefore take full account of needs relating to all protected groups listed above and care and support for service users, carers and staff should be planned that takes into account individual needs. Where staff need further information regarding these groups, they should speak to their manager or a member of the Trust Inclusion & Engagement team.

12. Process for monitoring compliance with this document

The Trust is responsible to review/monitor of all the requirements for Information Governance within the NHSLA Standards/Care Quality Commission (CQC) Standards and Information Governance Toolkit:

Key process for which compliance or effectiveness is being monitored	Monitoring method (i.e. audit, report, on-going committee review, survey etc.)	Job title and department of person responsible for leading the monitoring	Frequency of the monitoring activity	Monitoring Committee responsible for receiving the monitoring report/audit results etc.	Committee responsible for ensuring that action plans are completed
Check policy for compliance with the Data Protection & Security Toolkit	Annual Review	Information Governance Manager	Yearly	IM&T/IG Programme Group and Policy Panel	IM&T/IG Programme Group and Policy Panel
The Trust will undertake independent Internal Audit of IG Requirements	Annual Internal Audit	Head of Information Governance and Compliance	Yearly	Integrated Governance Committee	Integrated Governance Committee

Information Governance and Compliance Team have responsibilities for conducting the care records and corporate records monitoring/audit on a rolling basis	Audit	Head of Information Governance and Compliance	Yearly	IM&T/IG Programme Group	IM&T/IG Programme Group
Information Governance and Compliance Team have responsibility for conducting spot checks to ensure service user records are being appropriately accessed.	Audit	Head of Information Governance and Compliance	Monthly	IM&T/IG Programme Group	IM&T/IG Programme Group
The Information Governance and Compliance Team will undertake periodic spot checks with regard to information security	Spot Checks	Head of Information Governance and Compliance	Spot Checks	IM&T Management Meeting and IM&T/IG Programme Group	IM&T Management Meeting and IM&T/IG Programme Group
The Trust through the Information Governance Lead has a robust action plan to demonstrate year on year improvements	Action Plans	Head of Information Governance and Compliance	Yearly	IM&T/IG Programme Group and Executive Team	IM&T/IG Programme Group and Executive Team

The IM&T/IG Programme Group is responsible for ensuring that Information Governance is embedded within the organisation	Audits and Action Plans	Head of Information Governance and Compliance	On Going	IM&T/IG Programme Group and Executive Team	IM&T/IG Programme Group and Executive Team

Part 3 – Document Control & Standards Information

13. Version Control

Every procedural document must have a version control table showing the current version and previous versions to aid tracking and ensure that staff are working to the current document.

A Full Review results in the reviewed version becoming the next whole number e.g. Version 2.

An Interim Update where minor changes are made takes the next part number e.g. Version 2.1.

The date and the author, together with the current version number, following the rules above, are also stated on the front cover once ratified and this published version remains live until the next new version is published.

The full date the new version is published is noted in the document's version control table and the superseded document is taken off the Policy Website, as of that date to be archived and listed on the Archive Database.

Version control for the Procedural Document Management System

Version	Date of Issue	Author	Status	Comment
Version	**Date of Issue**	**Author**	**Status**	**Comment**
V2, Draft 1	11 June 2007	Head of Information and Access to Records	Superseded	Updated strategy and policy to reflect changes in reporting system Sent to J Hepburn for comments and to add implementation plan 2007/08
V2, Draft 1	2 Oct 2007	Head of Information and Access to Records	Superseded	Agreed at Workforce & Organisational Development Group
V2	30 Oct 2007	Head of Information and Access to Records	Superseded	Signed off by Exec Team
V2.1 draft	25th Jan 2009	Information Governance Officer	Superseded	Currently draft
V2.1	26th May 2009	Information Governance Officer	Superseded	Signed off by Exec Team
V3	June 2010	Information Governance Officer	Superseded	Annual Review
V3	24 June 2010	Information Governance	Superseded	Ratified by IG&R Group

		Officer		
	8th July 2010	Information Governance Officer	Superseded	Ratified by WODG
V3.1	13th July 2010	Information Governance Officer	Superseded	Minor Changes to Duties
V3.2	20th July 2010	Information Governance Officer	Superseded	Ratified by Exec, uploaded to Trustspace
V3.3	March 2011	Information Governance Officer	Superseded	Amendment following Internal Audit
V3.3	March 2011	Information Governance Officer	Superseded	Ratified by IG&R,
	May 2011	Head of Information and Access to Records	Superseded	EIA Approved 9/5/2011
V4	May 2012	Head of Information and Access to Records	Superseded	Annual Review Approved by IG&R Group 12th July 2012
V5	10th March 2014	Head of Information Management and Compliance	Superseded	Annual Review Approved by IM&T/IG Programme Group
V6	3rd February 2015	Senior Information Governance Analyst	Current	Annual Review
V6.1		Senior Information Governance Analyst	Draft	Six month review
V6.2		Information Governance Manager	Draft	Annual Review
V6.3	Dec 2016	Senior Information Governance Officer	Draft	Annual Review
V7	May 2018	Interim Head of Information	Superseded	GDPR Review

		Rights & Compliance		

14. Relevant Standards

a) Data Protection & Security Toolkit Requirements
b) Care Quality Commission (CQC)
c) NHSLA
d) **Equality and RESPECT:** The Trust operates a policy of fairness and RESPECT in relation to the treatment and care of service users and carers; and support for staff.

15. Associated Documents

- Access to Personal Records Policy
- Care Records Management Policy
- Corporate Records Management Policy
- Confidentiality Statement
- CPA Integrated Care Programme Approach and Care Management
- Data Quality Policy
- Data Protection Impact Assessment Policy
- Information Risk Policy
- Information Security Policy
- Learning from Incidents Policy
- Freedom of Information Act 2000 Policy & Procedure
- Protection and Use of Service User Information Policy
- Written & Electronic Communications Policy
- Social Media Policy

16. Supporting References

Information Governance is the framework which brings together all of the requirements, standards and best practice that apply to the handling of electronic information. The areas that are included within Information Governance are:

- NHSDigital: What You Should Know About Information Governance Booklet
- DH:Guidance for NHS Boards – Information Governance
- Report of the Caldicot2 Review – Information: To share or not to share? The Information Governance Review
- Data accreditation and data quality
- Consent to sharing of personal information
- ISO27001 – Information security management
- Common law duty of confidentiality
- Data Protection Legislation
- Records Management
- The Freedom of Information Act 2000
- Human Rights Act 1998 (Article 8)
- Professional Standards
- The Access to Health Records Act 1990

17. Consultation

Approval and ratification process for this document by IM&T/IG Programme Group and HPFT Policy Panel.

Job Title of person consulted for initial Policy	
IM&T/IG Programme Group	Caldicott
Head of Infrastructure HBLICT	SIRO
IM&T Managers	Head of Information Rights and Compliance
Service Line Leads	Trust Risk Manager
HR Manager	Information Governance Manager
	Senior Information Governance Officers