

Research Space

Project report

First review report

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FIRST REVIEW REPORT

Title

An experience-based co-designed intervention for improving the physical health of people with severe mental illness living in the community.

Introduction

People with severe mental illness (SMI) such as schizophrenia, bipolar disorder, and major depression continue to experience poor physical health than the general population. The prevalence of comorbid physical health conditions is significantly higher in the SMI population (Haddad *et al.*, 2016), compared to the general population. They are 2 to 3 times more likely to be overweight or obese, have onset diabetes mellitus, hypertension, metabolic syndrome and respiratory diseases (Haddad *et al.*, 2016; Ross *et al.*, 2018). In general, people with SMI also experience more risks to remaining physically well with conditions which are mostly triggered or caused by symptoms of mental illness and the side effects from psychotropic medications (Mechling *et al.*, 2019). Moreover, lifestyle factors, also play a major role in these disparities. Smoking rates are approximately twice as high and alcohol misuse and obesity rates are about 50% higher than for those in the general population (Prochaska, Das, and Young-Wolff, 2017; Dickerson *et al.*, 2018). Besides genetic disposition to illness and lifestyle factors, exposure to physical health risks have been identified via environmental as well as social circumstances such as poverty, unemployment, and poor housing (Shah *et al.*, 2011; World Health Organization (WHO) and Calouste Gulbenkian Foundation, 2014).

In turn, each of the above physical health comorbidities has the potential to contribute to cardiovascular or coronary heart diseases and with the most common co-morbid conditions being those known to significantly affect outcomes of COVID-19 infection (Chen *et al.*, 2020), and adversely affecting daily functioning, contributing to social exclusion from education and employment opportunities (Merikangas *et al.*, 2007; Moreno *et al.*, 2020), and ultimately high mortality rates amongst this patient group. Hence, life expectancy of people with SMI is substantially lower compared to the general population with rates estimated at 15 – 25 years depending on gender and

diagnosis (Trainor and Leavey, 2016; Hjorthoj *et al.*, 2017), with reported experience of higher mortality rate of approximately 2.2 times that of the general population. About 60% of this excess mortality is primarily due to poorly managed physical health relating to preventable, early-onset or induced metabolic and cardiovascular diseases (CVD) (Mai *et al.*, 2011; Correll *et al.*, 2017), as well as infectious diseases such as Tuberculosis, HIV/AIDS, Hepatitis B and C, and respiratory diseases relating to coronary viruses (Doherty *et al.*, 2013; Fekadu, 2015; Wagner *et al.*, 2017; Chen *et al.*, 2020).

Policy development

Global level

In response to this public health challenge, various organisations and governments have developed policy documents recommending for mental health services to prioritise the physical health of the SMI population. For example, recognising that preventable physical health conditions lead to premature mortality in adults with SMI, the World Health Organisation's (WHO) Global Action Plan 2013-2020 (WHO, 2018) for the prevention and control of non-communicable diseases (NCDs) set a target of 25% reduction in premature mortality from major NCDs by 2025, and developed guidelines for the management of physical health conditions in the SMI population. Developed for service delivery at all levels including primary care, specialist services such as community mental health teams and hospitals, the agency recommends an integrated prevention and treatment for both mental disorders and other chronic diseases in order to reach this target (WHO, 2018). Similar commitment reaffirming the role of social support network and community participation in health improvement have been noted in other international statements (World Health Organisation Regional Office for Europe, 2015). It is worth noting, however, that translating these aspirational commitments into meaningful, effective programmes that work represents the greatest challenge for health care commissioners and providers (Laverack, 2006).

National level

Prior to the WHO guidelines, the importance of lifestyle changes in the prevention and maintenance of good physical health in the SMI population had been acknowledged in several policy documents in the UK. For instance, in a white paper '*Healthy Lives, Healthy People*', the Department of Health (DoH, 2010) articulated its strategy for public health in England by planning to commit resources to protect the population from serious health threats. Evidently, the proposals in this white paper were in direct response to Professor Sir Michael Marmot's '*Fair Society, Healthy Lives*' report which had been published in 2010 priorly (Marmot *et al.*, 2010). Framed around these key points – *healthy lives and healthy people* – the strategy sets out as its key focus creating a 'wellness' service as well as strengthening both national and local leadership to ensure that people are supported to live healthier lives by tackling the wider determinants of health (DoH, 2010).

The *Healthy Lives, Healthy People* white paper was to be followed a year later by the '*No Health Without Mental Health*' (DoH, 2011) policy document, which outlines key approaches for delivering better health outcomes. Just as recommendations made in this document suggested that more people with physical health conditions should be supported to mitigate the risk of developing mental illness, these approaches are similarly intended to ensure that fewer people with mental health illness should have poor physical health or die prematurely (DoH, 2011).

For the then Coalition Government's strategy in 2011 for transforming mental health, good physical health outcomes for the SMI population were identified as one of the six objectives for addressing the disparity between mental health and physical health. Following up on the reference to parity of esteem, the first time the principle was included in the *No Health Without Mental Health* policy document (Mental Health Foundation, 2013), and enshrined in the Health and Social Care Act of 2012, the UK's National Health Service (NHS) Mandate for 2014/15 clearly stated to "put mental health on a par with physical health" (DoH, 2013, p. 7). Recognising that mental health did not have the level of priority accorded to physical health – in terms of both staffing and funding – a fresh mindset was engendered within the UK's National Health Service (NHS) and beyond which set out to provide an equal status to mental health and physical health. In the ensuing policy document entitled '*The Five Year Forward View of Mental Health*' (NHS England, 2016), the NHS infamous 'parity of esteem' document highlighted how "two-thirds" of the premature deaths amongst the SMI

population are from what the document describes as “avoidable physical illnesses, including heart disease and cancer, many of which are caused by smoking” (NHS England, 2016, p. 6).

Since the publication of these policy documents alluded to above, separate guidance documents for improving physical healthcare for people living with SMI have been published by NHS England (2018), the National Institute for Health and Clinical Excellence (2018), as well as a brief guide on training recommendations from the Care Quality Commission (CQC) (2019) and, in similar vein, ideas for integrated service models for bringing together physical and mental health (Naylor *et al.*, 2016), and the NHS Long Term Plan which prioritised mental health alongside diabetes, stroke, CVD, maternity and neonatal health, and cancer (NHS England, 2019).

Indeed, the recommendations in the various policy documents mentioned above represent an unequivocal recognition that there is an urgent priority to make the same level of physical health care available to people with SMI as is available to the general population. However, there remains barriers to attaining positive physical health outcomes for people with SMI (Rodgers *et al.*, 2018), and these have detracted service commissioners and providers from satisfactory healthcare delivery for this population group up to date (Care Quality Commission (CQC) (2020). As noted in a number of reports, including the multi-disciplinary and multi-sectoral physical health Working Group (2016), these barriers include system issues relating to burgeoning caseloads of community mental health services, resource pressures, poor partnership working and through to staff skills.

While systematic reviews have shown broader healthy lifestyle interventions such as physical exercise and healthy eating are known to have positive impact on physical health outcomes, with an added benefit of reducing the symptoms of mental illness, enhancing self-efficacy, and improvement in overall quality of life, the vast majority of these are not delivering the intended outcomes as highlighted by these reviews (Loh *et al.*, 2006; Cabassa *et al.*, 2010; Lamontagne-Godwin *et al.*, 2018). Indeed, research has highlighted issues relating to methodological designs and implementation strategies for these failings as concluded in a Cochrane review by Tully *et al.* (2018), thus presenting a challenge to the delivery of commitments in any long-term plan or forward view.

The role of family and social support networks

While evidence abound highlighting the role of social support network (family, peers, and others) in improving the health of individuals with SMI in general (Gottlieb, 1985; Aschbrenner *et al.*, 2016; Brooks *et al.*, 2020), there is very little evidence of routine dissemination of evidence-based social support interventions such as family or peer-support for addressing the physical health needs of this group across the UK (Stubbs *et al.*, 2016; Webber and Fendt-Newlin, 2017). This gap in service delivery has serious implications for overall health outcomes for this population group, resulting in a significant proportion of people with SMI unable to make the necessary changes in lifestyle or behaviour intended and, therefore, continue to experience poor physical health. Addressing this gap requires developing effective, sustainable, and scalable interventions with improved user-led involvement at the centre in the existing mental health system. Indeed, this approach may warrant changes both at systemic level and in the practices, attitudes, beliefs of healthcare professionals about adopting innovative ways of service delivery which embrace working with social support networks of service users including families and friends (The McPin Foundation, 2018).

As a point of departure, this study proposes how interventions designed with the involvement of key stakeholders such as family caregivers and friends of people with SMI using **personal wellbeing network mapping** may have the potential to promote the physical health of this patient population by identifying such barriers as highlighted above, increasing access to and the uptake of primary care services, and enhancing decision-making about adopting and maintaining positive physical health care choices.

Purpose

The main purpose of this study is to design an **intervention that increases the capacity of families** (and wider social support network) of individuals with SMI living in the community, so families and other support groups of this client population are better prepared to support the individual to increase, for example, their uptake of or

engagement in/with health behaviour practices or healthcare services that will improve their physical health.

Aims (Revised)

The current study aims to:

1. co-develop a localised model for a family co-facilitated intervention for improving the physical health of individuals with SMI
2. demonstrate via an evidence-based Theory of Change how the components of the intervention interact to deliver the improvement (i.e., mapping out assumptions, inputs, mechanisms, and outcomes)
3. inform the development of a future implementation trial to assess feasibility of a pilot study with respect to supporting community dwelling individuals with SMI improve their physical health; OR (understand what factors might act as barriers and facilitators to the implementation of the intervention in practice)

The output for this PhD thesis details a description of work done for the above three aims.

Design framework

Most often, intervention developers have failed to use a systematic process to develop, specify, or report complex interventions (Michie *et al.*, 2009). Adopting a systematic approach for developing complex interventions is important for gaining a better understanding of the contextual factors and the underlying mechanism for any observed effects (Lakshman *et al.*, 2014), as well as for effective implementation in the `real-world' across target groups and settings (O'Cathain *et al.*, 2019, p. 1).

A number of frameworks have been proposed to address some of the strategic decision-making, activities, and operational complexities in designing complex interventions. These include the Strategic Planning Process (Bryson *et al.*, 1979), Precede-Proceed (Green *et al.*, 1980), and more recently the UK Medical Research Council (MRC) framework on developing and evaluating complex interventions (Craig *et al.*, 2008).

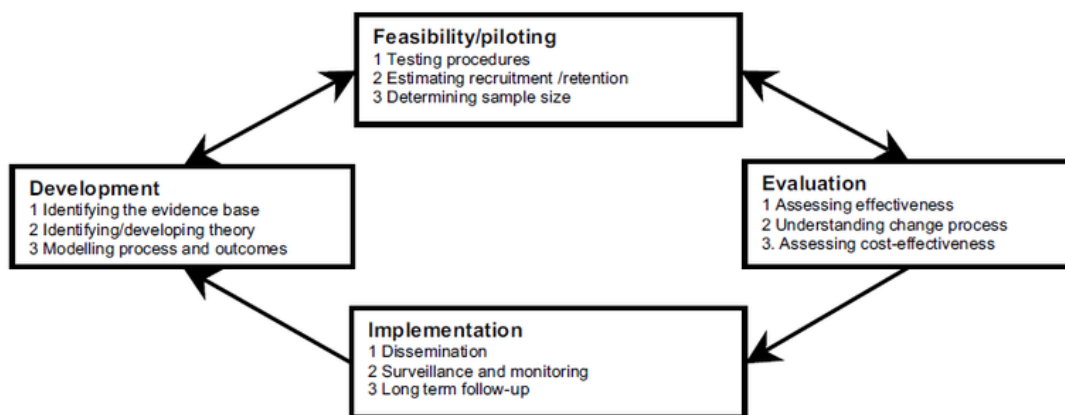
For guidance on structuring the development process of the intervention for this study, the researcher has adopted the MRC framework, originally published in 2000 and updated in 2008 (Craig *et al.*, 2008). The 2008 MRC framework characterises the

process of developing a complex intervention in terms of four guiding phases, which are identified as follows: *i) the development phase; ii) the feasibility/piloting phase; iii) the evaluation phase; and iv) the implementation phase* (Craig *et al.*, 2008, p. 8) (Fig. 1). Underlying this framework are key principles and actions (Appendix I) which all developers are urged to consider. Furthermore, it is advised that decisions about these actions should be made in light of their relevance and importance to the research problem or context, both at the beginning of, and throughout, the development process (Craig *et al.*, 2008, p. 13).

Indeed, the simplicity of representing the process of intervention development in phases enhances the usefulness of the MRC framework. Craig *et al.* (2013), however, caution that any suggestion of depicting the actual process in practice as a linear or cyclical sequence is deceptive. Nonetheless, by extending the phases to include three others have furthered the enhancement of the framework by ensuring developers can look forward to future processes of implementation and evaluation while engaging in iterative dynamic actions across these phases (O’Cathain *et al.*, 2019, p. 1).

This project will focus on the first stage of the 2008 MRC framework: developing the intervention. In the next section of this chapter, the actions undertaken by this study for this stage will be mapped onto the framework, summarised in Table 1 and outlined in more detail below.

Figure 1 Key stages and elements of the MRC framework



Research Questions:

1. **What changes in processes and practices should be considered for an effective family-facilitated intervention for improving physical health outcomes in individuals with SMI living in the community?**
 - a. **Responses the researcher hopes the study will provide:**
 - i. physical health care information, knowledge and skills needs of the family caregivers and service users
 - ii. physical health caregiving practices of the family caregivers
 - iii. understanding of care recipients for a health behaviour change
 - iv. co-production work involving SUs (Service Users) families and healthcare professionals (principles and practices)
2. **How do the components interact to produce the outcomes?**
 - a. **Responses the researcher hopes the study will provide:**
 - i. ToC mapping out assumptions, inputs, mechanisms, and outputs
3. **What are the effects (anticipated and unanticipated) which follow from this change in behaviour and practice?**
 - a. **Responses the researcher hopes the study will provide:**
 - i. Improved physical health outcomes and wellbeing/quality of life
 - ii. Improved mental health outcomes
 - iii. Non-health outcomes:
 - Changes in systems and practices (at individual, family, and service levels)
 - Changes in social capital at target group level
4. **What barriers and facilitators would need to be considered for an effective implementation of the intervention?**
 - a. **Responses the researcher hopes the study will provide:**
 - i. Contexts (especially given this is a localised model, so all or as many aspects as possible would need to be considered/evaluated using, for example, the CFIR)
 - ii. Acceptability (to service users, carers, and other relevant stakeholder groups)
 - iii. Accessibility

Theoretical Background/Landscape/Territory

Introduction

To facilitate the review of the theoretical landscape, it is helpful first to provide a brief explanation of the meaning and usefulness of theories in research, and then proceed to outline the conceptual backgrounds for selected theories identified for informing this study. The use of theory is a fundamental aspect of knowledge production in healthcare research. Different terminologies have been used in the literature to

describe the various approaches to describe theory. These include terms such as “big truths” (Saldana and Omasta, 2018, p. 257), “reason-giving” (Davidoff *et al.*, 2015, p. 228), and “lens” (Collins and Stockton, 2018, p. 1). In qualitative research methods, for instance, terms such as “conceptual framework, theoretical framework, paradigm, and epistemology” (Collins and Stockton, 2018, p. 1) have been widely used.

Regardless of the varieties of description, and as with all instances of human endeavour and observed phenomena, theories allow the thorough examination of complicated problems and social issues by providing the lens through which related aspects such as the literature and data in a study are viewed. This enables researchers to explain and understand phenomena and, in some cases, to predict or to challenge and extend existing knowledge (Abend, 2008). By extension, the role and value of theory cannot be over-emphasised, not least, because of its usefulness in strengthening interventions and in facilitating their effectiveness as would be revealed in the following section.

Improving the physical health of people with SMI depends on designing and implementing a successful behaviour change intervention informed by an appropriate evidence-based framework (Michie *et al.*, 2011). However, behaviour itself is complex, and interventions designed to change behaviour must reflect this complexity. Many interventions that aim to improve physical health outcomes in people in various settings fail because the behaviour of the recipients of such interventions is not well understood and, often, not reflected in the design of interventions (Lambe *et al.*, 2020). Yet, for others, methods for understanding these behaviours often tend to emphasise experimental approaches to objectively isolate key drivers of behaviour and do not always account for conceptual frameworks for understanding contextual variables that explain how and why the intervention works (Davies *et al.*, 2010; Lambe *et al.*, 2020).

It is well established in behaviour change literature that a range of internal or psychological factors (e.g., one’s own beliefs and emotions) and external factors (e.g., one’s environment) are involved in changing existing behaviours and learning new ones (Lakshman *et al.*, 2014), not least because changing behaviour hinges upon how people actually think, make decisions, and take actions (Datta and Mullainathan, 2014). Thus, understanding the influence of these different factors, and their relationships to one another, will allow intervention developers to identify appropriate

behaviour change techniques and strategies that have the greatest potential for achieving/delivering the intended health outcomes.

To this end, and in keeping with the identity of complex interventions, this study proposes to use the socio-ecological systems theory as an over-arching framework to provide the theoretical background needed for capturing what Lambe *et al.* (2020, p. 2) described as “multi-level systems” that have influence on the behaviour and decision making of affected individuals with respect to target behaviour.

This framework would be integrated with other models of interest from behavioural insights, an empirically grounded knowledge based on cognitive psychology, behavioural sciences and social sciences about how people behave and make choices (Datta and Mullainathan, 2014), to include the Behaviour Change Wheel (BCW) (Michie *et al.*, 2011, p. 1), Social Cognitive Theory of Learning (SCTL) (Bandura, 2001), Self-determination Theory (SDT) (Deci and Ryan, 2010), and Behaviour Activation (BA) (Richards, 2010). These models will also inform the data analysis for this study by providing complementary explanatory insights into how the active components of the intervention may have influenced the behaviours of both the families (intervention deliverers) and the service users (intervention recipients).

Social-ecological systems theory

In a socio-ecological system, behaviour change is believed to be determined by a convolution of contextual factors that are intricately intertwined with one another. Various terminologies have been used to describe these contextual factors including ones such as intervention characteristics, individual characteristics, and inner and outer settings (Damschroder *et al.*, 2009), or macro, meso, and micro (Greenhalgh *et al.*, 2018; Nilsen and Bernhardsson, 2019). Also, these factors are sometimes delineated as barriers or facilitators in specific actors or systems across the various levels in a given ecological structure (Owoeye *et al.*, 2020). However, clinicians and researchers often tend to focus solely on the individual or patient-related factors, and to the extent that other factors that may influence an individual’s capacity for change are neglected despite their relative magnitude (Taylor *et al.*, 2006; Cowie *et al.*, 2020). Essentially, evidence-based interventions (EBI) that adopt approaches that endeavour to understand people in their wider context, and their needs, motivations and

behaviours tend to be more successful at delivering the intended outcomes when careful consideration is also paid to the potential interactions among these factors (Taylor *et al.*, 2006; Nilsen and Bernhardsson, 2019).

To reflect the complexity of socio-ecological systems within which behaviour change occurs, both in terms of the implications for designing the relevant EBI and its subsequent dissemination and implementation (D&I), one would have to turn to the post-World War One sociological scientists associated with the Chicago School (Turner, 1988). In what was a direct response to models of developmental psychologists which propagated a narrow scope for understanding and influencing behaviour change by situating the focus solely within the individual (Taylor *et al.*, 2006; Cowie *et al.*, 2020), these post-war socio-ecological systems models were developed to bridge the gap in those behavioural theories and to aid our understanding of the dynamic interrelations among the various personal as well as environmental factors of health behaviour choices. From a capability perspective, these individual choices are best understood by examining them within the determinant structures of society, including the existing community and its social relationships, service design and functions, housing, the market economy amongst others (Salmon *et al.*, 2020).

Drawing our attention to this complexity in relation to implications for D&I, it is unsurprising that implementation science advocates adopting a broad and comprehensive analysis of the context within which any such behaviour change intervention should occur. In reflecting this stance, Owoeye *et al.* (2020, p. 4-5) outlined a broad classification of the contextual factors for implementing an attending complex intervention as follows: i) individual/patient-related factors (e.g., knowledge, beliefs, perceptions, motivations, outcome expectations, self-efficacy, behavioural intention, personality); ii) team/group-related factors (e.g., social norms, pressures and expectations, role modelling, collective efficacy, cohesion, diversity, composition); iii) systems-related factors (e.g., organisational culture and climate, leadership, resource capacity and the built environment, readiness, support for actors, external policies, communication, industry standards); iv) socio-economic and demographic factors (e.g., socioeconomic status, educational status, marital status, race, social support, culture, sex, age); v) condition-related factors (e.g., risk proclivity, severity of disease/symptoms, level of disability, rate of progression, consequences of diseases, presence of comorbidities); vi) EBI-related factors (e.g., intervention, duration,

intervention complexity, evidence of efficacy/effectiveness, immediacy of beneficial effects, side effects); and vii) policy factors (e.g., policymaker knowledge and attitudes about the EBI, policymaker experience with the EBI, economic constraints, public opinion about EBI, interest/lobby group pressure).

Summary of the key tenets for the Behaviour Change Wheel Model

In their seminal work, which captures both the aforementioned factors comprehensively, Michie *et al.* (2011) developed a new approach for understanding behaviour change. Known as the Behaviour Change Wheel (BCW), Michie *et al.* (2011, p. 1) situated a 'behaviour system' at the hub of this wheel, encircled by nine intervention functions, and then by seven policy categories that could enable those interventions (Fig. 2).

The first part of this behaviour change model is represented by an inner core of the wheel. Described as the model's behaviour equation, this innermost core proposes that an individual's behaviour (B) is a function of their capability (C), the opportunity (O) available to them, and their motivation (M). Shortened by this equation, $B=COM$, the capability of the individual relates to their underlying psychological and physical abilities. The opportunity in this case relates to aspects of the individual's social and physical environments, while their motivation is described as the automatic and reflective processes of the individual. In summary, by stating that all three conditions are necessary and should be sufficiently present for a particular behaviour to be achieved, the hub provides a comprehensive causal analysis for explaining why a given behaviour is performed.

The second part/level of the model represents the nine intervention functions namely, education, persuasion, incentivisation, training, enablement, coercion, restrictions, environmental restructuring, and modelling (Michie *et al.*, 2011, p. 7). Aimed at addressing deficits underlying the conditions that make up the hub (COM), each of these intervention functions has the potential to change a particular target behaviour by affecting one or more of the conditions for that behaviour.

Michie *et al.* (2011) emphasised the careful selection of intervention function (or set of intervention functions for that matter) that has the most likelihood of effectiveness in

changing a particular behaviour. Essentially, Michie *et al.* (2011, p. 8) explained how a carefully selected intervention function allows for links to be established with the “more fine-grained specific behaviour change techniques (BCTs)” which represent the active components of an intervention designed to change behaviour. Thus, for any one intervention function in the BCW, several BCTs may exist just as the same BCT may serve more than one intervention functions. For example, whereas one may choose to provide information and advice as part of an educational approach, others may use the same BCTs in an enablement approach for promoting the physical health of their clients.

The third and final part of the BCW is the outer ring of the wheel comprising of the seven policy categories. These serve to enable those interventions that affect a target behaviour to occur. While these seven policy categories are in no way exhaustive and might have been articulated with national policy in mind, they can be of significant use in supporting behaviour change at other levels including organisational and individual levels.

Philosophical stance, methodology, and methods

According to the theory which underlines any scientific investigation or research inquiry, the path to knowledge synthesis can be characterised by a set of constructs, namely its underpinning worldview or philosophical assumptions, an overarching methodology for the research, and the intended research methods (Slevitch, 2011). In research, a worldview or philosophical stance relates to *a set of broad philosophical and meta-theoretical assumptions concerning the nature of reality (ontology) and knowledge (epistemology)* (Lincoln and Guba, 1990). Creswell (2014, p. 6) describes a worldview as a “general orientation about the world and the nature of the research that the researcher holds”. “This orientation is, in turn, informed by the subject discipline and by their beliefs; that is, whether they see ‘reality’ as objective, or socially constructed.

Lincoln and Guba (1990) note that, when conducting research of any kind, it is important for the researcher to consider (and to make explicit) their view of the world as defined by these two perspectives – ontology and epistemology – and its relation to the knowledge synthesis exercise they embark upon. This is important

because one's view of the world represents the compass which guides the conduct of one's research as well as the interpretation of the findings. In other words, while the context or disciplinary field within which a study is situated is as important, the approach a researcher may choose to adopt is influenced to a greater extent by what they believe about reality or construe knowledge to be (Creswell, 2014; Slevitch, 2011). As such, the relationships amongst these constructs have been sequentially delineated as follows: ontology defines epistemology, which in turn defines methodology, which then determines applied methods (Slevitch, 2011, p. 75). That is to say, one's belief or assumptions about reality defines what is understood as legitimate knowledge and the means by which such knowledge is obtained, which in turn determines the principles of scientific investigation, and which then determines the research techniques, tools or strategies they employ or methods they use regarding the practical implementation of the study (Guba and Lincoln, 1994; Koshy *et al.*, 2011).

In research, worldview has been identified by two main paradigms: positivism and constructivism (Creswell, 2014). The positivist paradigm contends that reality is objective and can be gained from observable data (Creswell, 2014). Rooted in the philosophical doctrine of realism or what is commonly referred to as "naïve realism" (Guba and Lincoln, 1994, p. 109). The positivist paradigm presents ontological reality as an having an independent existence – free of time and context – and which can be captured by obeying the immutable natural laws and mechanics that guide this existence (Guba and Lincoln, 1994, p. 109). It situates the 'knower' (or investigator) and the 'known' (the object of the investigation) as separate entities. By this dualist epistemological perspective, Guba and Lincoln (1994) maintains that any research inquiry can converge on the "truth" without influencing it or being influenced by it. Encounters of such nature are only considered problematic (and represent issues relating to validity) where the investigator, knowingly or unknowingly, introduces influences that may be interpreted as threats or biases. So, where recognised or even suspected the investigator must demonstrate that appropriate actions have been taken to reduce or eliminate such threats. Thus, methodological approaches for studying reality under the positivist paradigm tend to favour quantitative methods using experimental designs which are characterised by hypothesis generation and a focus on sample size and statistical manipulations (Slevitch, 2011). Critics, however,

consider such a posture as detached and cold for being too deterministic and reductive (Berg, 2007; Shank and Brown, 2007; Johnson and Christensen, 2012).

Constructivism (also known as interpretivism), on the other hand, situates reality within the human consciousness (Bhattacharjee, 2012). It contends that reality is intangible, dependent and socially constructed (Creswell, 2014). Informed by the philosophical perception of idealism/relativism, this worldview posits that there is no external reality independent of human consciousness (Niiniluoto, 1991; Sale, Lohfeld, and Brazil, 2002). Furthermore, this ontological perspective presents reality as confined within the bounds of time and context and, hence, may have the feature of individual or shared ownership due to the multiple meanings of “truth” as knowledge thus generated (Slevitch, 2011; Bhattacharjee, 2012). The truth, as constructed by this approach, cannot be more or less absolute; and such constructions of knowledge are as modifiable just as they are considered rich, informed and sophisticated (Guba and Lincoln, 1994). Epistemologically speaking, because the ‘knower’ and the ‘object’ of study are represented as one intricately enmeshed entity, the inquirer can only offer their interpretation of reality as is influenced by their “values, interests and purpose”; and by extension the interpretation of others based on the others’ “values, interests and purpose” (Slevitch, 2011, p. 77). ‘Truth’, therefore, is both time- and context-bound, and the two cannot be de-coupled (Slevitch, 2011). The ensuing in-depth and rich constructs stem from an understanding of the phenomenon as perceived by the participants (Bryman, 1988). Thus, an epistemological endeavour tends to embrace methodological approaches based on a qualitative tradition which emphasises transferability at the expense of a pursuit of objectivity and generalisability (Bhattacharjee, 2012). In the view of proponents of this worldview, achieving both conditions of objectivity and generalisability is impossible, rendering sample size only important for an evaluative potential to provide relevant and rich descriptions rather than for representativeness (Hellstrom, 2008; Creswell and Poth, 2016). Such designs may include qualitative procedures of inquiry that use hermeneutics, narrative, phenomenological, ethnographical, or co-production studies (Howard and Thomas-Hughes, 2020), and attending techniques of observations, focus group discussions/interviews, participatory activities, inter alia (Creswell and Poth, 2016).

Methodology

Coproduction has been adopted as the overarching methodological approach for developing this intervention. First emerging in the United States in the 1970s, the term coproduction has been used in various settings to describe a collaborative model of care or service delivery (Bell and Pahl, 2017); Howard and Thomas-Hughes, 2020); a partnership between citizens and service professionals (Organisation for Economic Co-operation and Development or OECD, 2011); participation in decision-making and service design (The Involve Foundation, 2018); and as an approach to conducting research (Reed *et al.*, 2020). It is therefore unsurprising that the definition adopted for coproduction does vary and depends on the setting in which it is applied. Consequently, the term has been known by many names, including co-inquiry, participatory action research (Openjuru *et al.*, 2015), and public and patient involvement (PPI) (Evans *et al.*, 2019).

Turning now to some of these definitions, The Point of Care Foundation (2019) defines co-production as:

“an approach which enables researchers, patients, healthcare professionals, and other service users to co-design services and/or care pathways, together in partnership. This involves gathering experiential knowledge or rich data from a variety of sources through a variety of methods including in-depth interviewing, observations, and group discussions to identify key touch points and assigning positive or negative feelings”.

The Care Act of 2014 defines co-production as:

“when you as an individual influence the support and services you receive, or when groups of people get together to influence the way that services are designed, commissioned, and delivered” (Department of Health and Social Care, 2014).

In another definition provided by Think Local Act Personal (TLAP) (2016), the term coproduction is defined as:

“an approach where people, family members, carers, organisations, and commissioners work together in an equal way, sharing influence, skills and experience to design, deliver, and monitor services and projects”.

According to the definition advanced by the New Economics Foundation (Slay and Stephens, 2013), coproduction is a

.... “relationship where professionals and citizens share power to design, plan, assess and deliver support together. It recognises that everyone has a vital contribution to make in order to improve quality of life for people and communities”.

Unlike traditional research approaches which adopted a passive or detached relationship between intervention developer and the users of the synthesised evidence, coproduction focuses on inclusion by working with the target population and other stakeholders through every stage of the research process. As an inclusive methodology, various authors have outlined some basic ideals as underlining values or principles for adopting coproduction approach. For example, in ‘Public Services Inside Out’, Boyle *et al.* (2010, p. 3) outlined six important aspects that a coproduction approach should reflect, namely *i) recognising people as assets; ii) building on existing capabilities; iii) establishing mutual responsibilities between professionals and the public; iv) encouraging social and peer-support networks; v) blurring boundaries between providers and receivers of services; and vi) facilitating, rather than delivering to, people.* Similarly, the principles of “equality, diversity, accessibility and reciprocity” have been identified as crucial ingredients for any coproduction work to be successful (Evans *et al.*, 2011). Together, these principles emphasise a non-hierarchical and participatory approach where no clear distinction should exist between the ‘researcher’ and the ‘subject’ or the people for whom the research is undertaken (Howard and Thomas-Hughes, 2020). Thus, by focusing on people rather than process, coproduction ensures that the voices of participants in any research endeavour are represented with regards to their input into the research focus, design, methods, and results.

With a focus on the family and service users, a coproduction methodology affords the target population of this intervention the opportunity to participate more meaningfully

in the intervention theory decision-making process right from the crucial stage of designing and throughout the development process (Reed *et al.*, 2020). Essentially, integrating and synthesising knowledge by widening active participation and input from various stakeholders to ensure a multiplicity of knowledge sources will build on the partnership and collaboration between the researcher, professionals, service users and their families working on the intervention project. This study is unique in that sense because it sets out, from the beginning, to actively consult and engage a wide spectrum of stakeholders in a user-led involvement, co-designing of a care package that has an authentic base with the potential for informing the desired cognitive or instrumental changes in both the conventional and the non-conventional practice setting.

Indeed, the developer of this study is keenly aware of their role and responsibility in this partnership, especially when it concerns working with vulnerable individuals and participants from a wide range of contexts. In accordance with the principles of co-production as highlighted by The McPin Foundation (2018), concerns about issues of power relations, reciprocity, respecting and valuing the knowledge of all stakeholders working together on a research project are considered important both for the wellbeing of participants and for the uptake of the intervention. Such concerns, as echoed by Burton (2021), should foreground an implementation process and throughout the knowledge production cycle. As building and maintaining such partnerships is crucial for implementation success and in advancing the field of implementation science, intervention developers are thus admonished to pay close attention to their own leadership development needs and capabilities as implementation researchers (Proctor *et al.*, 2019; Burton, 2021). Detailed examples of such improvement capabilities have been outlined in the UK's Researcher Development Framework (Vitae, 2011) and in 'The Habits of an Improver' (Lucas and Nacer, 2015).

Methods

As stated above, the intervention for this project will be a co-produced social support programme to improve the physical health of people with SMI using well-being network mapping delivered by families. This section will discuss the methods used for gathering information and for aiding the attending processes. The information gathered will then be used to develop a theory of change which will delineate the

expected mechanism for the proposed change. In effect, the proposed intervention will highlight facilitators of, as well as addressing barriers (including stigma, perceptions of providers, attitudes towards mental illness, service availability/acceptability, etc) to accessing physical health-enhancing practices and community services by employing behaviour activation through the use of a wellbeing (network) map and goal setting. This section will also outline the expected behaviour change outcomes this intervention intends to produce.

- **Literature review**

A scoping review will be conducted using the Arksey and O'Malley (2005) framework to explore what is known about existing interventions designed to improve physical health outcomes in people with SMI living in the community, and to identify and understand what features of these health interventions are associated with improved physical health outcomes and better quality of life.

- **Contextual analysis for intervention design**

The relevant constructs for contextual understanding will be identified via stakeholder reports. Informed by the Consolidated Framework for Implementation Research (CFIR) (Damschroder *et al.*, 2009), the domain constructs will be incorporated in the data gathering process from stakeholders via interviews, focus group discussions, and surveys. A rating process will be utilised to assess the relative importance stakeholders may feel these constructs are to the implementation of a family-led intervention. Moreover, other sources (published and grey literature) will be explored via the scoping review to identify barriers or facilitators identified in studies that met the inclusion criteria.

- **Data collection**

Mostly, qualitative data will be collected using experience-based focus group discussions, and interviews with families and key stakeholders. This will ensure identification of relevant information relating to patient needs/resources, and how any barriers and facilitators are accurately identified by the service or Trust, for example, the extent to which the Trust uses the Commissioning for Quality & Innovation (CQUIN) performance-related payment framework (NHS England, 2018) and other policy initiatives to spread intervention.

Quantitative data will also be collected, for example, number of participants recruited for the co-production workshops. In keeping with both the ontological and epistemological traditions for this study, this data will be used only for evaluating feasibility and not for representativeness (O’Cathain *et al.*, 2015). Observation or field notes will also be kept as these will be useful for conducting process evaluation (O’Cathain *et al.*, 2015). Co-design workshops will be held to evaluate and help shape the implementability of the designed intervention.

A synopsis of the plan for designing the intervention

The Family Behavioural Activation (FBA) programme has been conceptualised as an approach which emphasises the importance of engaging family (and by extension other stakeholders in the social network of individuals with SMI) in becoming active change agents. By recognising, promoting, and enhancing families’ abilities or strengths, the FBA programme aims to utilise these family resources to support individuals with SMI meet their physical health needs by activating these individuals to access and utilise community resources (e.g., primary care, leisure services, etc) for enhancing physical health. Thus, the programme uses the concept of empowerment in an integrated way both as an outcome and as an implementation strategy.

The setting for the FBA programme is a community mental health service within an NHS Trust in London, and the actors have been identified as participants and consumers who will develop, deliver, and enact the intervention activities. These actors will include families, service users, the study researcher, clinicians in the participating community mental health team, professionals from primary and social care services, and other members of the wider social support network of adults with SMI receiving care from the participating team.

The actions for this study will follow the stages of the MRC framework. All activities under the first phase of this framework (the development phase) will be spread across two stages. Stage 1 will involve conducting a scoping review of the literature using the Arksey & O’Malley (2005) framework. Stage 2 will involve developing the intervention with the co-production working group, guided by the notion which situates families as in need of information relating to the physical health needs of service users living in

the community. Recognizing the needs of the family requires the intervention to focus on providing appropriate information, skills, and support for capacity strengthening (Berkowitz *et al.*, 1984; Vaughn and Leff, 1985). These needs will be met in this study by conducting interviews and focus group discussions involving the participants identified above. The information obtained from these interviews and discussions will then be used for developing a theory of change, and in the production of a training manual for delivering the intervention in practice.

Although not intended to be delivered as part of this study, an outline of how the intervention could be tested in the next phase of the MRC framework – Phase 2 or the pilot phase. Under this phase, family participants will be identified and recruited to receive the FBA training to test the feasibility of the intervention. For the pilot study, an appropriate sample size will be targeted to ensure adequate power calculation, and to inform the conduct of a large-scale implementation study.

The training of the family workers in the pilot phase will be delivered by a researcher with expertise on network mapping delivery, a family support researcher with expertise or experience in this area of service delivery, a researcher who will lead on intervention development and implementation research, and with input from all other members of the study team who may be required to provide, from time to time, informational support via phone or face-to-face to answer questions, make suggestions, signpost, and provide further encouragement.

Broad-themed ideas for the contents of the intervention manual are planned to cover the following topics: i) brief introduction to mental illness and treatment modalities; ii) understanding of physical health conditions in SMI; iii) communication; iv) network mapping and goal setting. These topics will be open for discussion at the co-production working group session in order to build a consensus.

While the development process of the intervention is initially scheduled to take *[number yet to be specified depending on content identified from the workshop sessions]* weeks, the pilot study will be spread across 8 sessions. The frequency and intensity of the training have been suggested to involve once weekly for 45 minutes for the first four weeks, after which participating families will be supported to apply their newly acquired knowledge and skills with regular service users. This stage will then be followed 5 months later by one final session for 1 hour making up the grand total number of input time for the intervention to 4 hours.

The health outcomes intended to be affected by the intervention will include improved health behaviour change practices by the targeted service user receiving the support, based on the theory of self-determination and using the behaviour activation and goal setting techniques/strategies. This improvement will be measured by the uptake of, or engagement with, physical healthcare services (e.g., health screening, monitoring, etc.) and community resources for enhancing physical health (e.g., leisure, gym, etc), as well as physical health outcomes measured by clinical parameters such as blood pressure, blood glucose, and cholesterol levels.

Proposed Theory of Change Model

To help achieve the desired impact and improve physical health outcomes in people with SMI, this study proposes a theory of change mechanism for how this intervention will bring about this improvement. In other words, the study will draw on approaches to articulating a programme theory for overcoming barriers and supporting a behaviour change in a community setting as outlined in Davidoff *et al* (2015, p. 232) based on *'If-then-so that' framework*. Through this theory, the author suggests framing the improvement behaviour changes as a set of input activities that will help in identifying the most appropriate behaviour change techniques and strategies that will deliver the desired health outcomes as shown below.

IF:

- the physical health care needs of individuals with SMI living in the community are clearly articulated; and
- the strengths, resources, and barriers to accessing physical health enhancing services are clearly identified on a network map; and
- the appropriate information and skills need of families are clearly identified

THEN: we can more precisely specify

- the learning (knowledge, skills, attitudes, and behaviour) required for supporting and activating a behaviour lifestyle change in individuals; and
- the kinds of methods which are most likely to be helpful; and
- the best times for this learning to take place

SO THAT:

- families of individuals with SMI feel supported and enabled to help the individual to identify, map out, seek, and utilise available health, social or community resources (e.g., healthcare, leisure, and similar services) to support lifestyle changes for improving physical health; and
- learning to build change support or improvement capabilities in families becomes more widespread; and
- more families feeling more confident to engage and to support more; and
- more families receiving help to undertake learning for change support
 - receiving advice (via telephone, Microsoft Teams, Zoom or any appropriate medium)
 - receiving assistance with signposting service users who need help identifying or gaining access to available services (e.g., via a visit to a local gym, library, supermarket, or similar places where such information could be found)
- services make adjustments to accommodate and support families and service users

SO THAT:

- individuals with SMI feel more supported and enabled to identify, map out, seek, and utilise available health, social or community resources (e.g., healthcare, leisure, and similar services) to support lifestyle changes for improving physical health; and
- experiences of services users and families/friends are improved and service users are now self-motivated; and
- engagement with physical healthcare services is improved; and
- community mental health service embraces an ethic of co-production working; and
- considerable value is created for all those who create, deliver, and use NHS services; and
- physical health behaviours of individuals with SMI are improved, leading to improved physical health overall.

At Family Level:

A structured comprehensive support package in the form of a training manual will aim to provide an expanded coverage of the agreed topics or thematic ideas mentioned above. This will enable participating families to have access to vital information and acquire basic skills relating to supporting the physical health of individuals with SMI. Such information may include the following topic areas as outlined below.

1. General knowledge about physical health conditions/comorbidities

Listed below are common co-morbid physical health risks and conditions that are also known to affect outcomes of obesity, diabetes, cardiovascular and respiratory diseases including coronavirus infections.

- Physical health risks of obesity;
- Physical health risks of smoking;
- Physical health risks of inactivity;
- Physical health risks of unhealthy diet;
- Physical health risks of non-engagement with screening and monitoring appointments/checks (relating to cardio-metabolic health: weight, blood pressure, blood glucose levels, blood lipid/cholesterol levels; cancer: e.g., cervical and PSA or prostate-specific antigen screenings)

2. Communication using problem-solving skills

This relates to how the family worker can support the physical health needs of people with SMI by using:

- effective communication methods for developing good rapport and building positive relationships that will enable the service user to access and engage with services; and
- appropriate problem-solving skills with client.

Note: Family workers must be mindful of high expressed emotions or being over-involved, hostile, critical, and dissatisfied

3. Treatment modalities

Awareness of treatment modalities that address the mental health needs of people with SMI; for example, medications used by service users, how they work, and their potential physical health-related side effects

4. Health promotion and disease prevention

Be aware of health promotion and disease prevention strategies, including how to engage in activities that promote good physical health outcomes for individuals with SMI, especially in a pandemic.

- Physical activity, diet/healthy-eating, oral health, sexual health, and smoking cessation; prevention of falls, immunisation and infection control measures.
- Physical health monitoring, screening, treatment, and health promotion activities provided by primary or community care services as part of the Care Programme Approach (CPA) package for the service user (Department of Health, 1990).

5. General information

- Information on how and where service users can access available physical health and wellbeing support services in the community, recognizing the need for a timely advice related to accessing the appropriate care services.

Supplementary Information:

- Basic Facts about the Psychiatric Disorders (different handouts for schizophrenia, schizoaffective disorder and bipolar disorder);
- Medications (separate handouts for antipsychotics, mood stabilizers, and antidepressants);
- Facts About Alcohol and Drugs, including motivation for and consequences of substance use;
- Treatment of Dual Disorders; and
- Infectious Diseases (particularly for clients with a history of injection or intranasal drug use).

Note:

- Full/final contents dose/duration/frequency to be decided

- Think of length of delivery (e.g., 60 mins/session) and duration of entire programme (so, for example, over 4, 6, or 8 weekly one-hour sessions)

Process Assumptions:

- Healthcare professionals, families and service users are able to engage with new ideas and approaches
- No significant/dramatic change in illness profile of service users or other client factors (mine)
- No major external factors impact on mental health services (e.g., a funding/financial crisis, pandemic/epidemic, cyber-attack, or conflict)
- Services/teams have sufficient resources and willing to work with families or social support network (and vice-versa) to deliver on priorities
- Families are able to exert influence on physical health issues of people with SMI.
- Existing work is not undermined and weakened by project approach

Note: The programme must be provided at a location convenient for participants to attend (e.g., home, clinic). May consider delivering using a virtual platform such as Zoom or Microsoft Teams.

Intended delivery mode

Providing information to the family and service users will involve using basic psychoeducational principles. In real-world practice setting, healthcare professionals will be expected to provide a didactic, supportive, and consultative role rather than a strictly therapeutic role. Mueser and Glynn (1999) cited in Mueser *et al.* (2009, p. 870) outlined the principles for guiding such delivery: *i) asking questions to elicit the family's expertise and experience; ii) providing information in bite-sizes (small and manageable), using multiple methods to convey information (e.g., didactic presentation, handouts); and iii) home assignments for family members to review the most recent session's topic.*

At Service User Level:

Wellbeing Network Mapping – A brief description

Developed as a collaborative research venture between the McPin Foundation and Plymouth University between 2011 and 2013 (Pinfold and Sweet, 2015), wellbeing network mapping is an innovative approach to providing support for people with mental health problems. Based on a commitment to “(re)emphasising *‘the social’* as a crucial component of recovery”, wellbeing network mapping builds upon the “assets and resources” in the person’s network map (Pinfold and Sweet, 2015, p. 2). Thus, rather than focusing solely on social network and social support, as has been the case in much of the literature in mental health research, this approach has been extended to include building connections that link “people, places, and activities” of significance to the person, and how these can be harnessed to maintain their recovery and wellbeing (Pinfold and Sweet, 2015, p. 2). In short, wellbeing network mapping promotes a vision of health and wellbeing that is person-centred by offering a notion of support that utilises the individual’s strengths, resources, and interests to embrace personal choices, aspirations, and values to deliver meaningful recovery.

Once the intervention is fully developed, it will be ready to use with family workers who will be trained in the use of wellbeing network mapping. Used collaboratively, the network mapping tool will help with identifying barriers and facilitators to accessing activities or resources for physical health promotion and health behaviour change. For example, a trained family worker will work with the service user to start a conversation about important connections, key people and interests or places and activities, and to consider how these may enhance or hinder their physical health and wellbeing (Pinfold and Sweet, 2015). Together, they will then navigate through the individual’s network map, and then think through what actions to consider that might help to make those lifestyle-enhancing changes.

Why network mapping is important

An important aspect of the network mapping process is that it engenders reflexivity. In other words, the process allows the service user to become more aware of their strengths and the resources available to them as evidenced by their network, and how

these resources can be harnessed to make positive lifestyle behaviour changes to support improvement in physical health outcomes for these individuals (Collom *et al.*, 2019). Through reflection and engagement with the network mapping exercise, for example, a service user might engage with an area of their well-being network map that interests them and may become sufficiently motivated to proceed to use that interest for setting personal health goals with support from others (Collom *et al.*, 2019).

Additionally, network mapping also helps with planning and other aspects of cognitive processing related to executive functioning. Indeed, research has shown how important aspects of executive functioning such as a person's ability to organise themselves or to control their behaviour are usually at the greatest risk of diminishing when the mental health of individuals becomes affected (Zimmerman *et al.*, 2017; Godovich *et al.*, 2020). Thus, goal-directed behaviours such as initiating, organising tasks, managing time, and thinking creatively provide an additional opportunity for recovery in individuals with impaired executive functioning by targeting social competence and resilience skills (Godovich *et al.*, 2020).

Potential contribution of this study

The purpose of this project is to co-develop and produce an intervention that can be led/delivered by families to support improvement in physical health outcomes for individuals with SMI receiving continued care from community mental health services by activating behaviour changes that are required by individuals, over time, to achieve sustained uptake of physical health enhancing activities/actions or a change in lifestyle practices/choices. Based on the principles of lived experiences, this evidence-based intervention has been co-developed and co-produced through a series of workshops and through consultations with families and practice professionals across community mental health teams. Thus, it is hoped that the resulting evidence-based intervention for this study, together with the supporting empirical materials presented herein, will be useful to both practitioners and lay audiences who continue to advocate for the meaningful inclusion of intervention recipients previously under-represented in intervention developments. Furthermore, this study also demonstrates how the poor physical health of individuals with SMI can be improved with enhanced social support

given this approach to care delivery across mental health services remains under-utilised.

GOAL SETTING

Overview and core tenets of goal-setting theory

It is well documented that health behaviour change is challenging for most individuals (Kelly, 2016; Bailey, 2019), and it is easy for commitment and motivation to lapse very quickly (Locke and Latham, 2002). However, many strategies exist that individuals can use in order to facilitate their behaviour change efforts. Goal setting is one example of such strategies through which an individual or group of individuals can be assisted to identify a targeted behaviour they wish to change and how to go about doing so.

According to Lee *et al.* (1989, p. 32), a 'goal' is "that which one wants to accomplish; it concerns a valued, future end state". Unlike desires and momentary intentions, goals are more deliberate with the individual demonstrating a more committed thought, emotion, and behaviour towards achieving the goal. By this understanding, it is not only clear to see that goals exhibit a high level of personalisation, and may therefore vary from person to person, it also shows that one can classify goals based on certain aspects relating to degree of difficulty (perceived or based on actual standards), or degree of complexity, or degree of specificity or precision required by the goal (Strecher *et al.*, 1995). One example of a vague goal related to smoking cessation might be to "quit smoking", in contrast to a more specific smoking cessation goal which might be stated as "total abstinence from smoking for a period of 6 months" (Strecher *et al.*, 1995, p. 191).

The goal-setting theory, first formulated in 1990 by Locke and Latham, focuses primarily on the core properties of effective goals, and how these properties can be used to predict, explain, and influence performance or behaviour (Locke and Latham, 2002). The goal-setting theory or goal setting strategy has been widely used in hundreds of studies involving tens of thousands of participants and has consistently delivered positive changes in the lives of individuals each time (Locke and Latham, 2019).

In general, goal setting involves the development of an action plan designed to motivate and guide the individual or group toward a certain behaviour or state (Bailey, 2017). It must be noted, however, that the mere setting of a goal does not necessarily translate into instant motivation to achieve the goal as Lee *et al.* (1989) cautioned. This process is mediated by other factors such as interests and priorities, and which must be sufficiently present or carefully balanced. For example, Strecher *et al.* (1995) argued that where a person has no interest in exercising (say at the pre-contemplation stage), setting an exercise goal is likely to have little effect and may even be counterproductive. Equally, they argued, there is very little by way of effect that goal setting would achieve where significant goal conflicts exist. By contrast, once a person has sufficient interest in achieving the goal, and is relatively free of conflicting goal priorities, the potential for goal setting in motivating higher performance is increased than if goals were not set. In short, the person is activated and ready to engage with planned tasks aimed toward achieving the goal.

- Goal setting for the FPE programme
 - Use wellbeing map to identify and set personal physical health goals
 - Agree actions/activities to be undertaken to achieve goals
 - Monitoring of work progress toward the goals
 - Review actions/activities undertaken to achieve goal as you progress
 - *E.g., consider actions to address potential for 'diagnostic overshadowing' if client planning a visit to the dentist or primary care; or to do 1000 steps everyday (for 5 days/week) for 4 weeks*
 - End: Review and summarise achievements, update wellbeing map, celebrate success, and encourage to continue to use their wellbeing map

Goal – Walk 1000 steps everyday for 5 days/week over the next 4 weeks

Action steps – I'll try to walk at least one-way when I go out to (*name specific place of interest*)

Strengths/Resources – Pedometer or a smartphone or smart watch

Facilitators/Barriers – Look at/through your network map

- Helpers (+)
 - Relative #1 and friend #2
- Hinders (-)
 - Relative #2 and friend #1
- Neither helps/hinders (+/-)

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APPENDIX

