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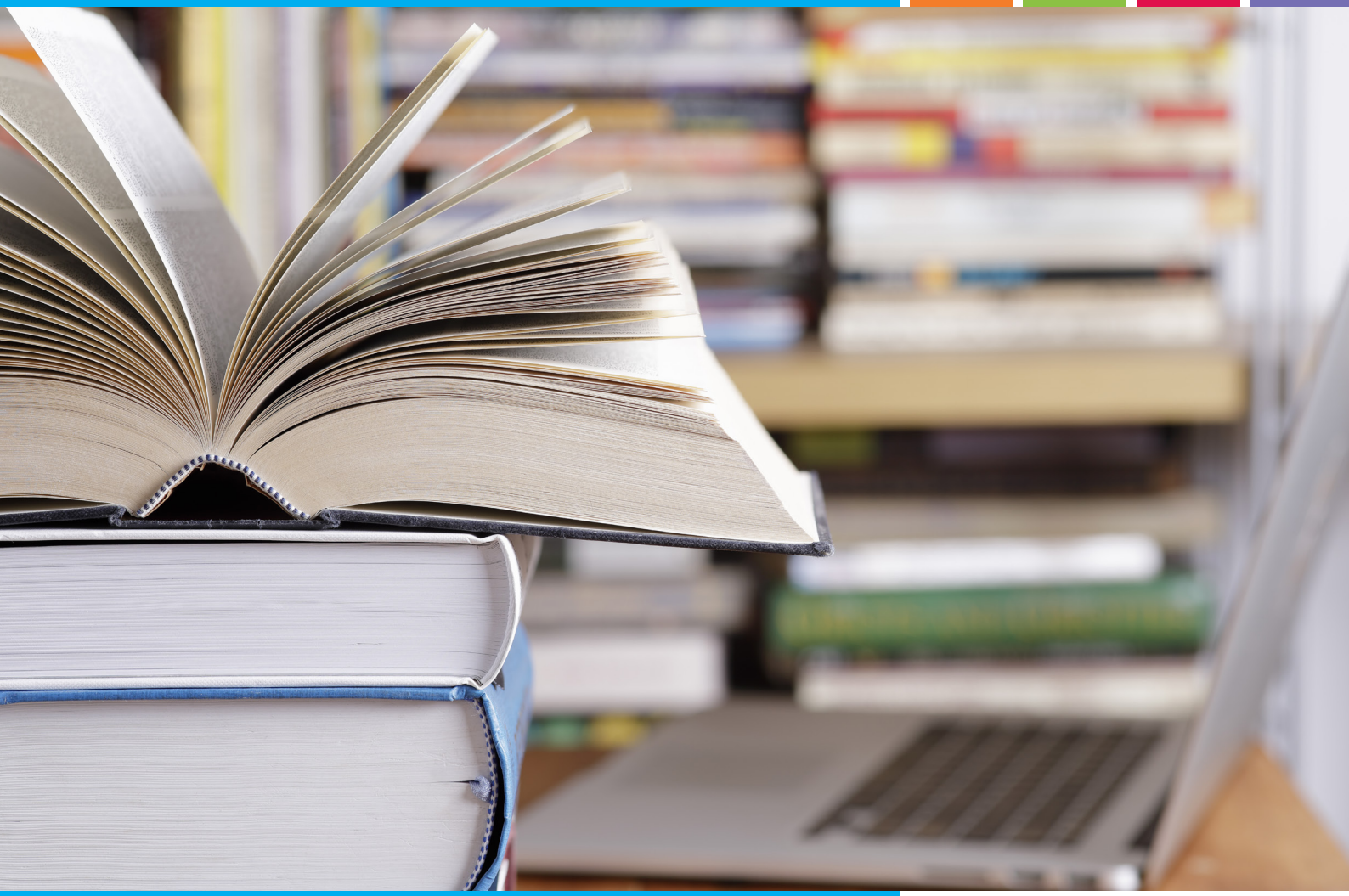
# Literature review

## Scoping Selected Literature on the Role of the Mental Health Nurse in Improving the Physical Health Care of Clients Diagnosed with Severe Mental Illness

CLINICAL PROFESSIONAL RESOURCE



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Published by the Royal College of Nursing, 20 Cavendish Square, London, W1G 0RN

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# Contents

# 1. Introduction

## Aim

To undertake a scoping of readily available literature on the role of the mental health nurse (MHN) in improving the physical health care of people diagnosed with severe mental illness as part of the Parity of Esteem Work Programme.

## Scoping Question

No scoping question was identified, but the work relates to the role of the MHN in the physical health of people diagnosed with severe mental illness in the context of the RCN's Parity of Esteem Work Programme. The scope covers the role specifics, what may work in reducing the mortality gap, the skills and resources MHNs need and the systems that are in place to enable them to work effectively.

## Search Strategy

An opportunistic search was undertaken by the author using Google and Google Scholar, and only articles that were immediately available, or readily available through the RCN Library Service were reviewed. Additional searches were undertaken through the RCN Library's A-Z journals pages. Additional articles were identified through scanning the reference lists of articles obtained. All reviewed articles are listed in the evidence table, which can be found in the Appendix.

## Limitations

The scoping review does not follow the usual trajectory of an evidence review due to database and time limitations which will affect the number of returns. As such, the findings should be treated with caution. Articles reporting quantitative findings (10/38) report the key limitations as limited generalisability of findings largely due to small sample sizes, inherent bias, or only being carried out in one location. Articles reporting qualitative findings (12/38) also report limited generalisability for similar reasons. However, another way of describing the limits of the qualitative studies is transferability, which is synonymous with generalisability. Transferability and generalisability are established by providing the readers of research with some evidence that the findings may be applicable to other contexts, situations, times and populations. The majority of articles are literature reviews, (14/38), two of which are systematic reviews. Of these only the systematic reviews and one literature review reported limitations. Overall, out of the 38 articles scoped, 18 failed to report any limitations, however 2/38 were abstracts only, and 1/38 was an expert opinion paper (see Appendix).

# 2. Key Findings

The key findings centre on the scale of the problem, the role of the mental health nurse and other health care professionals in improving the physical health of clients diagnosed with severe mental illness, the incentives and barriers to reducing the rate of premature mortality, and the potential solutions that have been identified in the literature reviewed.

## The Scale of the Problem

People diagnosed with severe mental illness have been identified as experiencing inequalities and disparities in meeting their physical health care needs. This ultimately results in them being at high risk of morbidity and experiencing much earlier death than the general population[1 2 3 4 5 6 7 8 9 10 11 12 13]. An international paper describing a multi-level model aimed at reducing high levels of premature death states "Persons with severe mental health disorders... die 20 to 30 years earlier than the general population...this mortality has been well documented in a number of meta-analyses and systematic reviews"[36]. The causes of death among this client population are due to "preventable physical diseases"[36] and have been identified as the natural causes that lead to death in the wider population. The most notable causes of early death include cardiovascular disease[2 6 7 9 13 14], respiratory diseases [1 3 13], diabetes [3 4 13], infectious diseases[3], cancers [2 3 24 27] and HIV[3 13]. Researchers have estimated the number of years of life lost ranges from 10 to 30 years[1 7 30], and the reasons for this have been identified as the risky health behaviours and lifestyles of this client population[3 10 13], the effects of psychotropic medications[3 8 11 24 28], and limited monitoring and assessment of the physical health needs of clients diagnosed with severe mental illness[3 4 22 24 20 21 34 35]. What the research findings also reveal is that people diagnosed with severe mental illness do not die prematurely only as a result of suicide[27]. According to Liu et al[36] the patterns of premature mortality appear similar across countries.

While the dangers of poor physical health have been known for a number of years, there remains a significant level of concern over the health inequalities that continue to be experienced by those diagnosed with severe mental illness[8 10 20 21]. This has led some commentators to argue that while the life expectancy of the general population has increased significantly since 1960, the life expectancy of those diagnosed with severe mental illness has reduced[23]. This is reinforced more recently by Liu et al[36] who argue that little progress has been made and "evidence suggests the gap may be increasing over time...recently published studies show standardised mortality ratios are higher than those previously reported".

## The Role of the MHN

Commentators have identified the main role of the MHN as one of assessment and monitoring the physical health care of clients diagnosed with severe mental illness[3 13 19 24]. However, a number of issues are raised in relation to how well-equipped and supported MHNs are in being able to fulfil this role. Research indicates that MHNs have reported confidence in providing advice on diet, smoking cessation[24], weight management[35], and monitoring blood pressure[35]. However, nurses who themselves were smokers were found to display a more permissive attitude to clients who smoked, perceiving smoking to be a coping mechanism, rather than a key contributory factor in cardiovascular disease[24]. Nurses reported feeling much less confident in relation to discussing medication side effects or sexual behaviours[11 24]. Some nurses felt these last two activities were the role of the doctor[11].

While confidence was identified by nurses as a factor in how they felt they were able to fulfil a monitoring and assessment role, they also cited a lack of knowledge and skills[1 4 14 19 29 35], systemic issues linked to fragmentation of services[8 15], lack of training and education[3 9 10 11 19 22 24 34], and the lack of policies and guidance for practice[11 30 34].

A study exploring MHNs' view of their role reported that nurses shared a clear commitment to physical health monitoring and screening in mental health settings[34]. However, nurses also acknowledged that a lack of knowledge and skills was a hindrance, and many nurses reported having no access to physical health training[34]. The author concludes that there is a need to focus training on individual and social determinants of health that contribute to the poor physical health of people with severe mental illness. What is required is an inclusive, robust system in practice, in which there is clear guidance and information around referral pathways, and support for nurses working with clients who have complex, diverse health needs. Physical care monitoring policies should be easily accessible and clear. Furthermore, mandatory training as well as continuing professional development courses should reflect physical health skills in addition to mental health skills[34].

The literature also flags an element of ambivalence from nurses on whether it is their role to assess and monitor clients' physical health[14.] However, there was a recognition that this ambivalence was complex and multi-layered, reflecting perceptions of the relationship between physical and mental health[14 23]. Some commentators suggest that despite an acknowledgement of the importance of the risks to physical health, nurses still displayed a tendency to mainly focus on mental health issues[33].

A number of authors highlight challenges resulting from the continuing lack of clarity about who should provide health promotion together with the realisation that responsibility lies with health care professionals working across primary and secondary care[1]. While MHNs have been identified as being well positioned to have a positive impact on the mental and physical health of those diagnosed with severe mental illness, the sole responsibility for health promotion cannot just rest on their shoulders[1].

Some commentators argue that defining the role of the MHN remains problematic and is tempered not only by a lack of clarity, but also by a lack of knowledge and confidence. Furthermore, poor communication between health care services, in which primary care professionals lack knowledge about severe mental illness[3] and secondary care professionals lack knowledge about primary care screening leads to a failure of both sectors to take responsibility for the physical health needs of clients with severe mental illness. A key consequence has been described as diagnostic overshadowing, whereby physical health concerns will often be attributed to a person's mental illness[28 31 32]. A further challenge identified, as a result of the lack of clarity around roles and responsibilities aligned to screening, assessment and monitoring of physical health needs, is a lack of follow-up[19 21]. One researcher reports nurse concerns that screening was seen as a legal requirement, and any failure to follow up and complete the process could create legal liability[21].

While MHNs were cognisant of their role in health promotion[5 8 12 18 22 30], the literature identifies the importance of ensuring a multi-disciplinary approach which would include secondary, primary and community care workers[2 3 6 9 10 19 15] and the role of specialist nurses[20].

## Incentives to Reduce the Rate of Premature Mortality in Those Diagnosed with Severe Mental Illness

Research exploring the perspectives of service users[1] revealed that professionals often fail to view clients holistically despite the link between mental and physical health. Users also felt that a continued focus on ill-health rather than health promotion often took place in a paternalistic environment with rigid adherence to the medical model and a continued failure to take users' physical health concerns seriously[1]. A systematic review[16] identified evidence to suggest the integration of mental and physical health care services may significantly reduce disparity. The authors argued the need to adapt the role of the MHN to include regular assessment of physical health needs and appropriate interventions, and suggested that MHNs already have many of the skills required to provide such interventions.

A study investigating user perspectives found that one of the greatest incentives was a desire to lose weight, which was the single most important motivator for attending lifestyle interventions identified by users. The social benefits associated with attendance at lifestyle interventions were peer and staff support, and building relationships. Users valued the environment, context and the role and characteristics of the health care professional delivering the lifestyle interventions[29]. These staff characteristics were identified as being helpful, knowledgeable, informative and approachable. The benefits associated with reducing early mortality rates for people diagnosed with severe mental illness includes symptom reductions, and targeted support that helps users make the necessary lifestyle and behaviour changes in order to live a longer, healthier life[29].

From a provider perspective incentives have been identified as increased knowledge and skills, facilitated through the provision of post-registration training[10 12 19 24 32], improvements in the quality of patient care, and increased morale and job satisfaction for nurses[37].

In terms of the incentives for the wider society, any decrease in the mortality of those diagnosed with severe mental illness lies in the reduction of inequalities and disparities in service provision, and the enhancement of the human rights of this section of the population[8].

## Barriers to the Reduction in the Rate of Premature Mortality in Those Diagnosed with Severe Mental Illness

A number of barriers have been identified that can be located at different levels of the service. System-related barriers include the separation of physical and mental health services leading to fragmentation of services. Organisation level barriers include a continued emphasis on the biomedical model which focuses on ill-health rather than health promotion, diagnostic overshadowing, and continued stigma associated with mental illness. Individual level barriers include professional attitudes, client behaviour and lifestyle choices, and user non-compliance with advice on medication[3 18 19 22 29 30 34 35].

The issue of diagnostic overshadowing has been reported as a significant phenomenon in the literature[28], where it has been identified as a cause of misdiagnosis of people with mental illness who present with physical symptoms[31]. Diagnostic overshadowing is the misattribution of physical symptoms to mental illness[31]. Factors contributing to diagnostic overshadowing are "...complex presentations or aspects related to poor communication or the challenging behaviour of the patient"[31]. Other contributory factors include overcrowding and noise in the emergency department, time pressures, targets, and the stigmatising attitudes of staff[31]. To counteract the impact of diagnostic overshadowing, greater joint working between psychiatric and emergency department staff is needed[31 28], and further operationalisation of the procedures used to reduce disagreements about where responsibility lies[31].

Since early 2002 the UK government has focused on improving the physical health of people diagnosed with severe mental illness but international research reveals a number of barriers to accessing appropriate services, and these emanate from users, professionals and organisation bureaucracy[22]. This research has focused mainly on the professional, rather than the user view, and reveals how the quality of care is compromised by a number of practical problems and interpersonal difficulties between users, health care professionals and between mental and physical health care providers[22].

Service-related barriers are identified in the way clients' physical health needs are often overlooked, the failure to screen, assess and monitor, and the continued lack of clarity about who is responsible for providing health promotion[3]. Illness-related barriers have been identified as the consequence of those with serious mental illness failing to report physical health problems that may have arisen as a result of risky behaviours, including smoking, substance and alcohol abuse, poor diet and unsafe sexual practices[3 26]. Treatment-related barriers are identified as medication side effects which can lead to weight gain, diabetes, cardiovascular disease, metabolic syndrome, eye and dental health, and sexual effects[26]. These barriers may be exacerbated by MHNs' lack of confidence in discussing and giving advice on sexual health and medication side effects as reported above.

An additional barrier has been identified as a lack of consensus regarding the frequency and type of monitoring required, and although guidelines and policies exist, these are not always implemented[30]. One study exploring the boundaries of care provision applied implementation theory to examine the capability of the health care system to integrate physical health promotion into mental health delivery and identified several boundaries existing around illness, provision of services, sectors, the health care system, and society[30]. The authors argue these multi-level boundaries, combined with whether or how people feel enabled to integrate physical health promotion into existing practice, act

as significant barriers to the adoption of evidence-based guidance in practice[30].

Other barriers include the beliefs and attitudes of users toward the promotion of a healthy lifestyle, which may vary depending on the mental illness they have been diagnosed with[18], and the attitudes of health care professionals[29 31 34]. One commentator has suggested that it is important to consider users' readiness to engage in screening and monitoring, and has described this as "therapeutic nihilism" which is identified as a "term often used to denote ambivalence by service users to engage in care interventions"[34].

Roberts & Bailey argue that an invisible barrier is the negative or defeatist attitudes of staff, and they go on to suggest the evidence strongly supports this view[29]. This finding is also supported by research exploring the views of emergency department staff which reports how clinicians' attitudes towards those with mental health issues have a tendency to stigmatise these clients and this also results in avoiding such clients due to the fear of violence[28]. This is echoed by others who suggest that the stereotypical views held by professionals and the public alike about people with mental illness often prevent those people from accessing help about their physical health concerns[34]. Furthermore, Mwebe argues that "mental health nurses are strategically placed to address the stigma of mental illness by challenging stereotypical attitudes...towards people with severe mental illness"[34].

Other barriers have been identified as resource allocation and local culture[34], nurse workload and lack of client compliance with advice given[35].

# 3. Proposed Solutions

The literature reviewed proposes a range of solutions that may help reduce early mortality in those diagnosed with severe mental illness. These solutions can be placed on a continuum of system, organisation and individual levels. **At the system level** these include the re-integration of physical and mental health services. **Organisation level** solutions include the provision of post-registration training and education and the introduction of specialist nurses into mental health settings. **At the organisation and individual level**, proposed solutions include the use of checklists and tools, the implementation of guidelines and policies, and a greater emphasis on health promotion interventions.

Limited detail is provided on what will be required to initiate the re-integration of physical and mental health services. However, a systematic review notes "There is evidence to suggest that the integration of mental and physical health care services might significantly reduce the disparity observed between populations with and without mental illness…"[16]. The authors suggest that the mental health nursing profession have a key role to play in assessing physical health needs and delivering the necessary interventions. The authors also state that while MHNs have many of the skills needed to provide successful behaviour interventions, they will require "… ongoing education and training [which] will require systemic support…."[16].

Others have suggested that integration of physical and mental health services could be facilitated through better co-ordination and active engagement with the physical health of patients with mental illness through the development of GP-led clinics with health community teams attached to them. This would facilitate greater involvement of psychiatrists and the development of shared care to establish full integration between physical and mental health services[22].

Regardless of the changes that have been made to nurse education, the literature reveals that MHNs report feeling less confident and unprepared to address the physical health care needs of their clients. This is a problem that has been reported by nurses in other Western countries who have undergone different education and training programmes[32]. This has led some commentators to argue that the evidence suggests the provision of physical health care by MHNs is not simply a question of education and training, but is due to the lack of opportunities MHNs have to practise skills that may impact on their level of competence and confidence in engaging with physical health activities[32]. Furthermore, the same authors argue that the political shift from hospital to community may also have complicated the situation. The solution is more than changing pre-registration nursing curricula, there is also a need for greater interprofessional collaboration, and more opportunities to practise new knowledge and skills, as well as a requirement for a change in attitudes and a need for service flexibility[32]. For this to happen, robust post-qualification training and education programmes need to be provided together with opportunities to practise skills and build confidence[32]. This is echoed by others who suggest that continuing professional development programmes aimed at MHNs should reflect physical health skills and not just training in mental health practice[34].

Happell et al argue for the provision of specialist nurses in mental health settings to support MHNs to assess and monitor the physical health care needs of their client population[20 21]. They suggest that MHNs should work more closely with their colleagues in general health and there is a growing interest in the benefits that could accrue from co-locating physical health care in community mental health settings[25].

While assessing and monitoring physical health does lie within the scope of mental health nursing practice, Happell et al argue that expecting MHNs to attend to both the physical and mental health needs of their clients may be unrealistic given their other priorities and demands on their time. Furthermore, they argue that MHNs have divergent attitudes towards the provision of physical health care as well as differing levels of skills and knowledge to do this.

The solution offered is the provision of a physical health nurse consultant into the mental health setting to bridge the gap, with the specific role of monitoring the physical health of those with serious mental illness. They also refer to this role as a cardio-metabolic nurse[21]. An additional benefit for this dedicated role would be to reduce the burden on users to attend different locations for physical health care. The authors cite supporting evidence which shows that dedicated nurse-led roles aimed at improving access to quality primary care result in significant improvements in physical health behaviours and outcomes. They conclude that introducing such a role would be an immediate and decisive response to reduce the inequalities and disparities experienced by people diagnosed with severe mental illness[25].

Mwebe[34] reports how nurses wanted a more robust inclusive system in practice, one with clear guidance and information around referral pathways and policies that should be easily accessible and clearly state the functions and roles of all the mental health professionals responsible for addressing physical health needs and health promotion. Nurses also supported the need for a physical health lead nurse who could act as a go-to resource for staff who needed clear guidance around physical health issues[34].

Health promotion guidelines have been recommended as a means of improving the physical health care of people with severe mental illness, but there is little agreement about the nature of the work associated with improving physical health, whose responsibility it is, and how work would be enacted[30]. The successful implementation of evidence-based guidelines is necessary to determine how sectors and disciplines should work collaboratively in overcoming boundaries to care and to integrate physical health promotion. However, it is also acknowledged that the successful implementation of evidence-based guidelines are heavily reliant on the capability of the workforce to develop and adopt boundary-mediating strategies[30].

Another solution has been identified as checklists and tools as a way of supporting MHNs to improve the physical health needs of their clients. One such tool has been identified as the Health Improvement Profile (HIP) which was introduced into the NHS in 2009[4]. The HIP has been implemented in Australia[14], Hong Kong[33] and Thailand[38], been developed for use in primary care[9] and evaluated[7].

The HIP addresses the major health priorities in the general population, health problems where there is evidence of increased morbidity and mortality in people diagnosed with severe mental illness, and health behaviours. It flags each health parameter, assigning green if healthy, and red if evidence-based action is required. The developers have created a training manual[10] and their aim is to implement high population change[4].

A pragmatic case evaluation of users' and clinicians' perspectives of the HIP in the community report 189 health issues were identified using the HIP. The items most frequently flagged red and in need of intervention were BMI, breast self-examination, waist circumference and diet. The authors found considerable physical morbidity in all patients. In addition, they report a concern that the HIP, while

facilitating a recognition of potential physical health issues, may also underestimate actual morbidity, suggesting a need for additional training to support MHNs in using the HIP, especially in relation to asking about sensitive subjects[7].

Other commentators suggest that through using the HIP, MHNs can be sensitised, prepared and empowered to turn this serious health issue around. The HIP was adapted for use in Australia and supported MHNs to identify, record, work with consumers, and work collaboratively with psychiatrists and other stakeholders. The authors conclude that the mental health benefits are likely to result from physical intervention given the intrinsic connection between the primary and mental health care identified in multi-disciplinary team-working[14].

Adapting the HIP for use in Hong Kong, researchers identified four key themes:

1. The influence on nursing practice including an increased focus on physical health, working comprehensively and systematically, and providing opportunities for health education.
2. Service-related implementation challenges including referral frustrations, the need for targeted multi-disciplinary team services, and the need to introduce lifestyle intervention groups.
3. Raising clients' awareness of the state of their physical health, leading to increased motivation for lifestyle changes, and the opportunity to observe behavioural changes in clients.
4. An understanding of the adaptations needed for using the HIP, including understandable units of measurement, the need to adjust parameters for local population, and the requirement for a Chinese language version and the incorporation of traditional Chinese medicine[33].

The authors suggest that refocusing nurses' attention on physical needs appears to have improved nurses' physical health literacy, and reinforced the importance of holistic care. However, despite acknowledging the importance of the risks to physical health, nurses maintained some ambivalence about whose role it should be, and also displayed a tendency to focus on mental health issues. Furthermore, the authors report that using the HIP revealed gaps in nurse knowledge and skills beyond physical health, which they argue were beyond the content provided in the intervention training[33].

A quasi-experimental study carried out in Thailand used a before and after model to investigate the impact of the Thai HIP on the physical health and health behaviours of people diagnosed with schizophrenia over a 12-month period. The authors report a significant reduction in BMI and bodyweight, and a significant decrease in the number of red-flagged parameters, suggesting lowered potential health risks. The findings suggest the HIP intervention has the potential for improving the physical health of those diagnosed with severe mental illness when incorporated into routine community mental health care[38].

# 4. Summary

This scoping report has described the scale of the problem facing mental health professionals in improving the physical health care of people diagnosed with severe mental illness. Research over the last 18 years has revealed the increasing rates of premature mortality which far exceed premature mortality rates in the general population. The main reason for this inequality has been identified as a failure to screen, assess and monitor the physical health of people with severe mental illness and an associated failure to focus energy and resources on health promotion rather than ill-health.

A number of incentives and barriers have been identified as well as a range of potential solutions to improve the quality of care delivered to people with severe mental illness. A key focus has been to explore the role of the MHN in reducing the inequalities and disparities experienced by this section of the population. However, some caution is needed in thinking that the sole responsibility for improvement should rest on the shoulders of individual MHNs, or on the wider mental health nursing profession. It has been shown that such responsibility must be shared across secondary, primary and community health care professionals, managers and leaders.

Furthermore, the literature reviewed raises a number of challenges associated with improving the care experiences of those who are diagnosed with severe mental illness. It reveals how these challenges are apparent at system, organisation and individual level, and will only be improved through multi-disciplinary collaboration and partnership working. The Health Improvement Profile has been identified as a potential evidence-based intervention that could support improvements in the physical health of people diagnosed with severe mental illness.

### Implications for Mental Health Nursing

Implications for practice reflect the common themes within this review and the key messages emerging from a recent survey of RCN members[a]. Together these suggest that the future role and focus for mental health nursing should aim to:

- shift the role from managing mental health to managing health promotion
- promote service models that integrate mental and physical health
- create improved accountability within the system to ensure there is an effective primary care response to reduce the risk of diagnostic overshadowing and undertake effective monitoring
- stress the importance of having systemic support to maintain skills and competence with new roles in mental health settings (for example, physical health care nurses in mental health settings)
- promote creative commissioning that enables MHNs to work in and across communities in order to tackle the social determinants of care.

a RCN (2018) Parity of Esteem Report, 007 109

# Appendix

| | Details | Origin | Method | Aims/Key Findings/Implications | Conclusions/ Recommendations | Limitations |
|---|---|---|---|---|---|---|
| 1 | **Dean et al** (2001) Mum, I used to be good looking... look at me now: The PH needs of adults with mental health problems: the perspectives of users, carers and front life staff. *Intl Journal of Mental Health Promotion.* 3(4) 16-22. | UK | Qual - interviews | People with severe mental illness (SMI) experience higher rates of premature death when compared to the general population, with lost life estimated between 10-15 years.<br>Government has suggested this is due to high prevalence of cardiovascular disease (CVD) and respiratory disease compounded by smoking, poor diet and lack of exercise.<br>Less acknowledged are the effects of psychotropic medicines which lead to increased risk of the diseases identified by the Government.<br>Findings reveal that despite the inextricable link between MH and physical wellbeing, professionals working in mental health care and primary care fail to view users holistically.<br>Professional role ambiguity and poor communication result in difficulties for users and add to the burden felt by carers.<br>A continued focus on ill-health rather than health promotion and physical wellbeing took place in a context of paternalism, strict adherence to the medical paradigm, and a failure to take users' physical health concerns seriously.<br>Drug-induced weight gain was particularly distressing. | Findings are discussed in the light of implementation NSF standards. (Unfortunately the discussion section is missing from the printed article forwarded by the Library) | Small study, limited generalisability of findings. |
| 2 | **Colton and Manderscheid** (2006) Congruencies in increased mortality rates, years of potential life lost, and causes of death among public MH clients in eight states. Centers for Disease Control and Prevention. **www.cdc.gov/pcd/issues/2006/apr/05_0180.htm** | USA | Quant - cross-sectional study | In all eight states researchers found that public mental health clients had a higher risk of death than the general population.<br>These patients died at a much younger age and lost decades of potential life when compared with their living cohorts nationwide.<br>Clients with SMI died at a much younger age than those with non-major mental illness.<br>Most died from natural causes similar to the leading causes of death found nationwide. | MH and PH are intertwined, and should be integrated in health care delivery systems.<br>Further research tracking mortality and primary care is needed to provide information for additional action, treatment modification, diagnosis-specific risk, and evidence-based practice. | Not reported. |
| 3 | **Robson & Gray** (2006) SMI and PH problems. A discussion paper. *Intl Journal Nursing Studies* 44:457-466. | UK | Lit review | Those with SMI have higher morbidity and mortality rates than the general population, suffering higher rates of infectious diseases, diabetes, respiratory diseases, cancers and HIV.<br>Life expectancy of people with schizophrenia is reduced by 10 years.<br>MHNs are in a strategic position to have a positive impact on the mental and physical wellbeing of clients with SMI.<br>There are a number of reasons why those with SMI have poor physical health, including service-related factors (their PH needs are overlooked, a lack of assessment, lack of clarity about who should provide health promotion, and a realisation that responsibility lies with healthcare professionals in both primary and secondary care)<br>-illness-related factors (people with SMI are less likely to report physical symptoms)<br>-health behaviours of people with SMI (smokers, substance abuse, poor diets, unsafe sexual practices)<br>-treatment-related factors (medication side effects, diabetes, CVD, metabolic syndrome, eye health, dental health, sexual effects)<br>Little consensus regarding the monitoring (frequency and type) of the PH needs of people with SMI although guidelines do exist. | Basis of poor PH of people with SMI are complex and interactive.<br>Whilst adverse effects of medication have a significant impact, the health behaviours of this client population, and the attitudes and the lack of training for health care professionals also play a role.<br>MHNs have an opportunity to improve the MH and PH of people with SMI through systematic monitoring and collaborative health promotion interventions. | Not reported. |

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| **4** | **White et al** (2009) The development of the serious mental illness physical Health Improvement Profile. *Journal Psychiatric Mental Health Nursing.* 16: 493-498. | UK | Lit review | People with schizophrenia and bipolar disorder are more likely to suffer from a range of long-term physical conditions including diabetes and CVD, and as a result die up to 10-15 years earlier than people in the general population.<br>Health services have failed to address this major health inequality due to a lack of consensus about the type and frequency of monitoring those with SMI, and a lack of knowledge and lack of skills in the MH workforce.<br>HIP was developed to help MHNs profile the PH of the SMI patients they work with, and direct them to evidence-based interventions in order to improve health outcomes. | The authors developed a draft SMI HIP, reviewed and critiqued the face validity and utility of the HIP, produced a final version of the HIP, developed a training package, trained a group of MHNs to act as trainers and trained MHNs to use the HIP<br>The authors report a need for further evaluation and the publication of a case series and a planned effectiveness trial. | Not reported. |
| **5** | **Brown & Smith** (2009) Can a brief health promotion intervention delivered by MH key workers improve clients' PH: A RCT. *Journal Mental Health* 18(5):372-378. | UK | Quant | To measure whether a brief health promotion intervention delivered by MH keyworkers can produce health gains in people with SMI.<br>Study population had a relatively unhealthy lifestyle at the start of the trial.<br>Those in the control group were more depressed than those in the intervention group.<br>Intervention subjects lost a little amount of weight; control subjects gained weight - the difference was not significant.<br>Both groups reported dietary improvements, and the intervention group reported a small but significant increase in exercise.<br>No significant differences were found in substance abuse or any of the measures of wellbeing. | Overall the high gains were small, and dropout rate was high.<br>While key workers may obtain good outcomes using the intervention package with selected and motivated individuals, it is unlikely to produce meaningful health gains for the population.<br>Authors suggest key workers could achieve greater health gains with better training or a more intensive programme. | Recruitment was difficult leading to small sample size. |
| **6** | **Osborn et al** (2010) Impact of a nurse-led intervention to improve screening for cardiovascular risk factors in people with SMI. Phase 2 cluster randomized feasibility trial of community mental health teams. *BMC Health Services Research* 10:61. | UK | Quantitative | People with SMI are at increased risk of CVD and guidelines recommend regular screening for CVD risk factors.<br>Findings show the nurse-led intervention was superior and resulted in an absolute increase of 30% more people with SMI receiving screening for each CVD risk factor. | No evidence that community mental health teams provided CVD screening in either arm of the trial.<br>In the nurse-led arm it is possible that staff thought this would be provided by the nurse, so felt less compelled to organise screening themselves.<br>Given the lack of screening it may be difficult to achieve compliance with NICE guidance around screening for patients who have not received it for GP. | Response rate was major limitation.<br>Recruitment was time-limited and fell short of numbers required.<br>Limited generalisability of findings. |

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| **7** | **Shuel et al** (2010) Using the SMI health improvement profile (HIP) to identify physical problems in a cohort of community patients: A pragmatic case series evaluation. *Intl Journal Nursing Studies* 47:136-145. | UK | Quantitative | PH of those with SMI is of growing concern since life expectancy may be reduced by up to 25 years, and patients may live with considerable physical morbidity which affects their quality of life, and contributes to their social exclusion.<br>189 health issues were identified using the HIP, and the items most frequently flagged red and in need of intervention were BMI, breast self-examination, waist circumference and diet.<br>Individualised care was planned and delivered for each patient on the HIP.<br>28 discrete interventions were identified including giving advice, promoting health behavioural change, performing ECGs, and making referrals. | Purpose of the HIP was to support MHNs to profile the HP of patients with SMI in order to deliver evidence-based interventions.<br>The authors find considerable physical morbidity in all patients, and the qualitative feedback was positive that this resulted in improved health.<br>Authors report some concern that the HIP, whilst enhancing recognition, may underestimate actual morbidity, and argue this may suggest the nihilism. | Provides a snapshot only. Limited generalisability of findings. |
| **8** | **Lawrence & Kisley** (2010) Inequalities in healthcare provision for people with SMI. *Journal of Pyschopharmacology* 24(11) Suppl 4, 61-68. | Australia | Lit review | Many factors contribute to the poor PH of those with SMI, including lifestyle factors, and medication side effects.<br>There is increasing evidence that disparities in health care provision contribute to poor PH outcomes.<br>These disparities have been attributed to a combination of systemic factors such as the separation of mental health services from other health services, the pervasive stigma still associated with mental illness, the consequences of medical illness, and medication side effects.<br>To tackle the systemic factors integrated care models could be employed including co-location of physical and mental health services, or the use of case managers or other staff to undertake a co-ordinating or liaison role between services.<br>The health care sector could be targeted for programmes aimed at reducing the stigma of mental illness.<br>The cognitive deficits and other consequences of SMI could be mitigated through the provision of healthcare skills training to those with SMI, or the use of peer supporters.<br>In addition, population health and health promotion approaches could be developed and targeted at this population through integrating health promotion activities across the domains of interest. | Parity in health care for people with SMI should be regarded as a basic human right.<br>This raises questions of whether we should regard equality in health care as meaning equality in access to health care, equality in the use of health care, and use of health care in proportion to need or equality in health outcomes.<br>A human rights argument could be made that people with a higher burden of physical illness, such as those with SMI, should be entitled to higher use of health care given their level of need.<br>The complex and multi-faceted nature of the problems underlying inequalities of health care for those with SMI require multi-faceted solutions. | Not reported. |

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| **9** | **Hardy & Gray** (2010) Adapting the severe mental illness physical Health Improvement Profile for use in primary care. *Intl Journal Mental Health Nursing* 19: 350-355. | UK | Qual | People with SMI have a dramatically reduced life expectancy when compared to the general population, dying on average 10-15 years earlier. Primary causes of death due to CVD, diabetes and obesity.<br>In the UK it is the duty of health professionals to monitor the physical health of those with SMI, but they have been given little training to do this effectively.<br>Study evaluates a project which adapted the HIP for use in primary care.<br>HIP is a PH risk assessment tool, has 27 items, is used annually, and takes around 30 minutes to complete. | The HIP is a comprehensive evidence-based tool that identifies and addresses the PH needs of patients with SMI.<br>Adapting the HIP for use in primary care and providing training will ensure that primary care health care professionals are using best practice guidance.<br>Facilitating partnership working between primary and secondary care nurses will provide a more skilled workforce. | Not reported. |
| **10** | **Hardy et al** (2011) Educating healthcare professionals to act on the PH needs of people with SMI: a systematic search for evidence. *Journal Psychiatric Mental Health Nursing*. 18: 721-727 | UK | Systematic Review | Aim was to perform a system search with the aim of evaluating the evidence of the efficacy of education interventions. 147 papers were identified and none were eligible for inclusion. No papers were reviewed.<br>No information was reported on the outcomes of the education with regard to professionals' knowledge, attitudes and behaviours.<br>Knowledge of increased mortality rates for people with SMI as a result of physical health conditions has long been known but little has changed in routine practice to reflect this knowledge.<br>The education needs of staff are not being met.<br>There is poor preparation for the PH role of MHNs, and only 2% of practice nurses have training in mental health.<br>Primary care nurses also need suitable support and training to increase their knowledge and skills and to change attitudes to MH. | Authors argue there is a need to develop education for qualified nurses and other health care professionals to provide physical health checks and appropriate interventions for those with SMI.<br>It is also necessary to demonstrate that this education will improve patient outcomes. | May have failed to identify small studies and evaluations or evaluations in progress. |

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| **11** | **Howard & Gamble** (2011) Supporting MH nurses to address the PH needs of people with SMI in acute inpatient care settings. *J Psychiatric & MH Nursing* 18:105-112 | UK | Mixed methods | Addressing physical needs of patients with SMI viewed as important by MHNs.<br>Physical assessment/case management seen as role of MHN.<br>Care planning/health promotion seen as role of MHN.<br>Less support for MHN role in PH screening.<br>Assessment of medical history/health care activities seen as doctor's role.<br>Assessing sexual health seen as role of the doctor.<br>Referring for medical review seen as role of the doctor.<br>MHN nurses felt very confident in assessing physical needs and ascertaining treatments, but felt less confident in assessing medication side effects, undertaking health screening, or assessing sexual health.<br>MHN documentation practices were poor, physical checks were not routinely undertaken or recorded.<br>Little evidence that MHN were undertaking PH screening activities, and little evidence they were undertaking care planning or health promotion activities.<br>MHNs felt they had not received enough education and training on PH care, and the majority of MHNs were unfamiliar with any guidelines/policies relating to the PH of patients with SMI. | MHNs and their leaders should:<br>- gain access to supervision<br>- routinely audit PH care and staff competence in documenting care delivered<br>- establish through policy guidance how each profession contributes to PH care delivery<br>- acknowledge the distress users are likely to face relating to sexual functioning and offer appropriate support<br>- appraise physical health problems faced by users and their tendency to avoid coping strategies through systematic assessment<br>- commission PH training from HE institutions<br>- train the whole team to be PH aware. | Small sample size limits the generalisability of the findings. |
| **12** | **Wand** (2011) Real MH promotion requires a reorientation pf nursing education, practice and research. *Journal Psychiatric and Mental Health Nursing* 19: 131-138 | Australia | Lit review | The evidence for the individual, social and economic benefits of MH promotion is now well established.<br>There is an indication that a broader PH approach is needed that addresses social and environmental factors related to MH and well-being.<br>Mainstream MH services continue to operate in relative isolation, whereby the greatest proportion of funding and resources goes to the treatment of mental illness and disorders.<br>This paper explores the bidirectional link between PH and MH and the social determinants of MH and the importance of health promotion.<br>There is a growing interest in the positive aspects of health and wellbeing which focuses on wellness rather than illness. | MH promotion concentrates on the modifiable social determinants of MH and supports the principles of collaboration, participation and empowerment in the pursuit of wellbeing.<br>It also recognises the inseparability of PH and MH and the individual, social and economic benefits associated with MH promotion.<br>MH nursing education and practice largely neglected MH promotion.<br>The educational preparation of MHNs must include PH and the broader principles of health promotion at under- and post-graduate level.<br>A rethink of nurse education, research and practice is needed in order to raise mental health awareness, reduce stigma and emphasise MH is relevant to all as an essential component of overall health. | Not reported. |

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| **13** | **Scott & Happell** (2011) The high prevalence of poor PH and unhealthy lifestyle behaviours in individuals with SMI. *Issues in Mental Health Nursing* 32: 589-597 | Australia | Narrative review | The evidence reveals that for individuals with SMI there is an international prevalence of obesity, metabolic syndrome, diabetes mellitus, symptoms of CVD and respiratory disease which exceeds that of the general population by at least two times. HIV prevalence may be increased as much as eight times. This increased prevalence of chronic disease is largely responsible for the increased risk of death and up to 30 years of life lost.<br>While this review focuses on severe illness, those with severe mental illness may also be at greater risk of tuberculosis, hepatitis B and C, osteoporosis, poor eye and dental health, and sexual and thyroid dysfunction.<br>These may be exacerbated by poor diet, smoking, drug-taking, low physical activity, alcohol abuse and risky sexual behaviours. | The integration of physical and psychosocial health is needed to improve service delivery.<br>MHNs are well placed to play a leadership role in developing a more holistic approach to care.<br>MHNs must consider the investigation and treatment of physical disorders as an important part of their role.<br>MHNs should regularly monitor physical health and provide lifestyle advice for clients with SMI. | Not reported. |
| **14** | **Happell et al** (2012a) Should we or shouldn't we? MHNs' views on PH care of MH consumers. Intl J MH Nursing 21:202-210. | Intl | Lit Review | It is well known that poorer health outcomes and early death in people with SMI in a major form of inequality.<br>Research evidence suggests that lower levels of PH associated with mental illness are due to inadequate quality of care.<br>Nurses who work at the crossroads of PH and MH have a key role to play in improving the standards of physical care.<br>Nurses can improve the quality of physical care for people with SMI by having a more direct role which includes checking physical symptoms, liaising with doctors, and providing advice on exercise, diet, and sleep.<br>This paper outlines specifics on how MHNs can be sensitised, prepared and empowered to turn this serious health issue around.<br>In particular MHNs could be trained to use the new physical health check and response system in the UK, known as the HIP, which has been adapted for use in Australia. | Leadership focused on improving the PH of people with SMI is long overdue.<br>Continued neglect of this population remains a major shortcoming of healthcare practice and a major form of social injustice.<br>While the more fundamental need is for more political backing and funding for healthcare reform and addressing the stigma associated with mental illness, there are pathways for improving physical care through innovation focusing on MHNs and mental health team design.<br>One such innovation is the HIP which can utilize the unique capacity of MHNs to identify, record, and work with consumers, and through working in collaboration with psychiatrists and other stakeholders.<br>MH benefits are likely to result from physical intervention given the intrinsic connection between the PH and MH identified in MDT. | Not reported |

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| **15** | **Happell et al** (2012a) Should we or shouldn't we? MHNs' views on PH care of MH consumers. Intl J MH Nursing 21:202-210. | Australia | Qual - Focus groups | Nurses' responses to physical care as part of their role was mixed, suggesting a level of ambivalence.<br>Such ambivalence was complex and multi-layered, and reflects perceptions of relationships and the factors affecting those relationships.<br>The major themes identified are the relationships between PH and MH, and the relationships between nurses, clients, colleagues and the organisation. | Overall, nurses were generally in favour of PH care as part of their role, but acknowledged the need for support and resources.<br>Nurses reported that nurses alone cannot address the PH needs of MH clients.<br>Nurses stressed that any enhanced PH care commitment by MHNs would need to be adaptable to the great diversity of consumers, service arrangements, and geographical opportunities and restraints. | Limited |
| **16** | **Happell et al** (2012b) Health behaviour interventions to improve PH in individuals with a mental illness: a systematic review. *Intl Journal of Mental Health Nursing*. 21: 236-247. | Australia | Systematic Review | Methodological quality of the studies reviewed were average (n=42), and covered a range of behavioural and intervention designs.<br>Some caution is necessary in interpreting the findings.<br>Findings offer great promise in relation to changes in health behaviours of those diagnosed with SMI.<br>Most common behaviours targeted were nutrition and exercise.<br>Most popular form of intervention appeared to be group-based programmes which demonstrated a high success rate. | There is evidence to suggest that the integration of MH and PH care services might significantly reduce disparity in the PH observed between those with and without mental illness.<br>Authors argue MHN profession has the opportunity to adapt the role of the MHN to include regular assessment and interventions.<br>The findings suggest that successful techniques of health behaviour intervention delivery may be suitable for the MHN role, and also suggest that MHNs have many of the skills required to provide successful health behaviour interventions.<br>Addressing health behaviours in MH users may result in significant improvement in behaviour and health outcomes, but to increase their knowledge of health behaviour advice provision, MHNs need ongoing education and training. | Qualitative review only.<br>Only English language studies reviewed. |

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| **17** | **Happell et al** (2012c) MHN incentive program: Facilitating PH care for people with mental illness. *Intl Journal of Mental Health Nursing* 22:5 ABSTRACT ONLY | Australia | Quant - Survey | PH care provision in collaboration with GPs and other health care professionals was reported as common.<br>Findings suggest the MHNIP provides integrated care, where nurses and GPs work in collaboration, allowing enough time to discuss PH care or share PH activities.<br>Consumers of this service appeared to have good access to primary care professionals to discuss their physical health needs and nurses had access to primary care professionals to discuss their consumers' physical health and development their clinical skills in the physical domain. | Abstract only. | Abstract only. |
| **18** | **Verhaeghe et al** (2011) Perceptions of MHNs and patients about health promotion in MH care: a literature review. *Journal Psychiatric Mental Health Nursing* 18: 487-492. | Belgium | Lit review | Positive perceptions of both MHNs and patients towards health promotion targeting physical activity, eating habits in MH care were identified,<br>Several barriers were also identified, including the beliefs and attitudes towards the promotion of a healthy lifestyle, which may vary depending upon the mental disorder.<br>The literature also highlights how some MHNs feel more secure about focusing on MH problems and less confident about addressing issues of health promotion.<br>Nurse education needs to teach MHNs how to recognise the potential for health promotion opportunities and how to develop and plan health promotion to ensure it becomes a routine part of their practice.<br>Support from MHNs also appears to be an element of concern for some people with mental disorders, and such support includes direction, structure and motivation.<br>The literature highlights the need for an active collaboration between MHNs and other health care professionals in order to design health promotion programmes. | The results from this review provide contextual evidence of the different perceptions of MHNs and patients of health promotion in MH care.<br>Positive perceptions of both groups was apparent in relation to health promotion targeting physical activity and eating habits in inpatient and outpatient settings.<br>Despite the awareness of the importance of health promotion, attitudes towards this, and what it might look like, need to change. | Mostly qualitative literature limited generalisability of findings. |

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| **19** | **Blythe & White** (2012) Role of the MHN towards PH care in SMI: an integrative review of 10 years of UK literature. *Intl J. Mental Health Nursing* 21: 193-201 | UK | Lit review | Four themes/patterns identified:<br>- lack of knowledge/training in PH care – no formal training on PH care; MHNs are willing to undergo training, but do not have the support of managers; nurse education curriculum needs to be addressed, and it needs to be acknowledged that organisations perceive training needs differently to MHNs; barriers to training include staff shortages, lack of resources, socialisation, and organisation culture<br>- role ambiguity – defining the role of the MHN is problematic, tempered with a lack of clarity and lack of knowledge and a lack of confidence, MHNs will often put physical complaints down to MH presentation – known as diagnostic overshadowing.<br>- poor communication between health care services (primary care professionals lack knowledge about severe mental illness and secondary care professional lack knowledge of primary health screening, results in a failure of both sectors to take responsibility, which has led to the identification of a need for a specialist nurse-led model to improve physical health of patients with SMI, and improve communication between primary and secondary care services<br>- efforts made to enable MHNs to assess and act on physical needs of people with serious mental illness – identified solutions include Wellbeing Support Programmes (WSP) and greater use of the Health Improvement Profile (HIP). | Both primary and secondary care services have identifiable training needs.<br>MHNs are in a prime position to help improve the PH of those with SMI with right support and training.<br>MHNs also need to have a positive attitude to help make changes to their role.<br>A change in culture of the focus of MH service provision is needed from organisations to support and resource such a shift in the role of the MHN. | Not reported. |
| **20** | **Happell et al** (2013a) Proposed nurse-led initiatives in improving PH of people with SMI: a survey *of nurses in mental health. Journal Clinical Nursing* 23: 1018-1029 | Australia | Quant - survey | There was a high endorsement of all nine nurse-based strategies for PH, especially lifestyle programmes, screening and linking services.<br>There was less support for reducing anti-psychotics or advocating for fewer side effects.<br>Nurses assigned the high values to the colocation of primary and mental care services, lifestyle programmes, and improving primary care services, through reducing stigma and training more GPs. | Strategies to improve the PH of people will SMI are needed as a matter of some urgency.<br>Nurses have been identified as a professional group with the potential to contribute to this improvement.<br>However, despite nurses identifying with strategies to promote improvement, these improvements are not emerging.<br>Further research, education and training are needed to move from potential to action. | Small sample size means limited general-isability of findings. |

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| **21** | **Happell et al** (2013b) Screening PH? Yes! But...: nurses' views on physical health screening in mental health care. *Journal Clinical Nursing* 22: 2286-2297. | Australia | Qual<br>Focus group<br>&<br>interviews | Majority of nurses felt screening and monitoring was important to assist with clarifying a diagnosis of mental illness, identify PH issues, and establishing a baseline for monitoring changes.<br>Nurses in general felt monitoring should be routine.<br>Nurses also suggested the need for follow-up screening at regular intervals.<br>Nurses identified gaps between screening policy and practice, although the extent and nature of the gap varied.<br>In acute care there was a strong emphasis on MH care and management, and this tended to work against screening for PH problems.<br>Although policies were in place, basic checks did not happen.<br>There were clear views that nurses did not have the resources to conduct screening, with time being identified as a major factor.<br>Nurses identified various screening and monitoring systems but questioned how these contributed to better PH outcomes.<br>Nurses felt screening was only of value if appropriate action was taken, but given the limited availability of services, lack of clarity regarding whose role it was to follow up, appropriate action was not taken.<br>Screening was seen as a legal requirement, and some nurses felt it was necessary to avoid liability.<br>Another view was that screening would lead to legal liability – if there was a responsibility to screen and then follow up, then a failure to complete the process could create legal liability.<br>When introduced to the HIP nurses often reacted strongly, and viewed it as more paperwork, more duplication, and more admin burden.<br>The HIP was not viewed as an answer to the shortfalls in PH care. | Screening for PH is important, but current barriers (education, training, organisational culture) mean that nurses are unlikely to actively embrace this role.<br>In recognition of the range of difficulties identified in this study, the role of a cardiometabolic nurse has been proposed to provide clarity and centredness in screening and monitoring.<br>The proposed role is identified as a nurse with expertise in cardiovascular and metabolic systems, leading and co-ordinating physical risk assessment and follow up within and across acute inpatient, community mental health care and linking services with primary care.<br>Nurses working in MH settings are well positioned to contribute to improvements in PH, but PH screening cannot simply become another role for nurses to take on without a consideration of workloads, role responsibilities and the wider systemic issues.<br>If the potential of nurses to participate in screening is to be realised, effective follow up is essential. | Small sample from one area only limits general-isability of findings. |

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| **22** | **Chadwick et al** (2012) Minding our own bodies: reviewing the literature regarding the perceptions of service users diagnosed with SMI on barriers to accessing PH care. *Intl journal of Mental Health Nursing* 21: 211-219 | UK | Lit review | International studies consistently demonstrate that individuals diagnosed with SMI have increased risk of co-morbid PH care problems and early death.<br>During the last 10 years the UK government has focused on improving the PH of people with SMI, but international research continues to report barriers to accessing appropriate services.<br>These barriers emanate from service users, professionals, and organisational bureaucracy.<br>Most of the research has focused on the view of the professionals with little attention being paid to the view of the user.<br>This review found nine papers from the last 10 years, six qualitative, three quantitative, which suggest that poor physical health care remains a problem across the developed world.<br>The quality of care is compromised by a number of practical problems and interpersonal difficulties between users and health care providers, and between MH and PH providers.<br>Potential solutions reported include: use of specific physical health monitoring tools, education of service users, further training for health care professionals, improved collaboration between service providers, development of specific health promotion activities, better co-ordination and active engagement with the PH of MH patients (eg. GP-led clinics with mental health community teams; greater involvement of psychiatrists and the development of shared care to establish full integration between MH and PH services) and awareness of the potential changes re workload and the responsibilities of practitioners. | Accessing the physical needs of those with SMI requires skilled and knowledgeable innovative front line practitioners and service users to be involved in the design and commissioning of services.<br>In addition the promotion and adoption of personalised care will necessitate coordinated and collaborative approaches with service users, who will be central to this process. | Not reported. |
| **23** | **Bradshaw & Pedley** (2012) Evolving role of MHNs in the PH care of people with SMI. *Intl Journal of Mental Health Nursing* 21: 266-273. | UK | Lit review | Life expectancy in the general population has steadily improved in most countries since 1960, but in the same period the life expectancy of people diagnosed with SMI has reduced.<br>The majority of premature deaths occur as a result of natural causes, most commonly CVD. Obesity has been identified as a key risk for CVD and is caused both by an unhealthy lifestyle and the side effects of antipsychotic drugs.<br>MHNs have an important role to play in improving the PH of people with SMI. The evidence however suggests that MHNs are ambivalent about this role and may see themselves as being inadequately trained and lacking in confidence. | Authors suggest that MHNs may need to re-evaluate their practice and recognise that the provision of PH is equally as important as MH.<br>MHNs can coordinate annual physical health checks, get involved in health education interventions, and make more use of assessment tools and checklists. | Not reported. |

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| **24** | **Robson et al** (2013) MHN and PH care: a cross – sectional study of nurses' attitudes, practice, and perceived training needs for the physical health care of people with SMI. *Journal Mental Health Nursing* 22:409-417 | UK | Quant - survey | MHNs reported carrying varying levels of PH practice, most frequently in providing advice on diet and exercise.<br>MNHs reported less frequency in providing advice on cancer screening, smoking cessation, and sexual health.<br>MHNs who were smokers themselves held more permissive attitudes about smoking and were less likely to see smoking cessation advice as part of their role.<br>Having received post-registration PH care training and working in inpatient settings was associated with greater reported involvement, but some caution required in interpreting these findings.<br>More positive attitudes were evident for nurses who had attended post-registration physical health training, or who had an additional or dual nursing qualification (for example, mental health and adult nursing). | The attitudes of MHNs towards PH care are generally positive and there appears to be a willingness to take on the role of monitoring the PH needs of MH patients, especially in relation to diet and exercise.<br>However, MHNs appear ambivalent towards such issues as cancer screening, smoking cessation and they also appear less confident in their ability to provide support and advice about the adverse effects of medication, dental, oral, eye, reproductive or sexual health.<br>Authors suggest there is a requirement that specific training is linked to positive attitudes and engagement in practice. | Cross-sectional design limits reference to causality.<br>Limited general-isability of findings. |
| **25** | **Happell et al** (2015) Addressing the PH of people with serious mental illness: a potential solution for an enduring problem. *Intl Journal Social Psychiatry* 1-2 | Australia | Expert opinion | People with SMI face significant inequalities in health care provision and this increases the risk of cardiometabolic disorders, with premature mortality being far greater than that observed in the general population.<br>While physical monitoring is clearly within the scope of practice for nurses, expecting MHNs to attend to PH needs of those with SMI may be unrealistic given other priorities and demands for their time.<br>Evidence suggests that MHNs have divergent attitudes towards, and different capacities for caring for the PH of those with SMI.<br>A solution with the potential to improve the PH of those with SMI is the provision of a physical health nurse consultant who can bridge the gap between PH and MH care.<br>The specific role of the PH nurse consultant would be to monitor the PH of those with SMI, and their location with MH services would reduce the burden on consumers to attend additional locations.<br>Recent studies have demonstrated that dedicated nurse-led roles result in significant improvements in PH behaviours and outcomes. | Introducing a PH nurse consultant into MH settings would be an immediate and decisive response to reduce the health care inequalities experienced by individuals with severe mental illness. | n/a |

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| **26** | **Roberts & Bailey** (2011) Incentives and barriers to lifestyle interventions with people with SMI: a narrative synthesis of quantitative, qualitative and mixed methods studies. *Journal Advanced Nursing.* 67(4): 69-708 | UK | Lit review | No studies were found that specifically explored incentives and barriers to participation in lifestyle programmes for people with SMI.<br>Existing literature report some possible incentives and barriers. Incentives include; - symptom reduction, peer and staff support, knowledge, personal attributes and participation of staff. The barriers identified included: - illness symptoms, treatment effects, lack of support, and negative staff attitudes. | Health care professionals, in particular nurses, who deliver lifestyle interventions to people with SMI should take into account identified incentives and barriers to engagement in order to achieve maximum benefits. | Not reported. |
| **27** | **Lawrence et al** (2013) The gap in life expectancy from preventable physical illness in psychiatric patients in Western Australia: a retrospective analysis of population based registers. British Medical Journal. 346:f2539 doi: 10.1136bmj. f2539 (published 23rd May 2013). | Australia | Quant | Main outcome measures were trends in the life expectancy for psychiatric patients compared with Western Australian population and causes of excess mortality, including physical health conditions and unnatural causes of death (suicide).<br>Findings reveal that when using active prevalence of disorder (contact with services in previous five years) the life expectancy gap increased from 13.5 to 15.9 years for males and from 10.4 to 12.0 years for females between 1985 and 2005.<br>77.7% of excess deaths were attributed to PH conditions, including CVD (29.9%) and cancer (13.5%). Suicide was the cause of 13.9% of deaths. | Despite knowledge about excess early mortality in people with mental illness, the gap in their life expectancy compared with the general population has widened since 1985.<br>With more excess deaths being due to PH conditions, public efforts should be directed towards improving PH to reduce mortality in people with mental illness, in addition to ongoing efforts to prevent suicides. | Reliance on administrative data of contacts with services as some people with mental illness may not make contact with services. |
| **28** | **Van Nieuwenhuizen et al** (2013) Emergency department staff views and experiences on diagnostic overshadowing related to people with mental illness. *Epidemiology and Psychiatric Sciences* 22:255-262 | UK | Qual - reviews | Diagnostic overshadowing was recognised as a significant phenomenon.<br>Recognition/familiarity of diagnostic overshadowing was more evident among senior professionals, and this was the only difference observed.<br>Contributing factors included:<br>- problems of knowledge and information gathering (problems obtaining history, problems with examination, clinicians' lack of knowledge about MH)<br>- clinicians' attitudes towards people with MH issues, substance misuse and frequent attenders (labelling and stigma, avoidance due to fear of violence)<br>- difficulties in working with MH patients in the context of 4 hour discharge target for EDs (time pressures, environment). | The physical care of people with mental illness in EDs may be adversely effected by diagnostic overshadowing and avoidance by clinical staff, along with difficulties created by the illness, medication and ED environment.<br>Improved joint working between psychiatry and ED staff is suggested as one way to reduce diagnostic overshadowing. | Findings not generalisable. |

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| **29** | **Roberts & Bailey** (2013) An ethnographic study of the incentives and barriers to lifestyle interventions for people with SMI. *Journal Advanced Nursing*. 69(11): 2514-2524. | UK | Qual – interviews & observations | Aim was to explore incentives and barriers to engaging people with SMI in an educational lifestyle programme to gain an understanding of the ways service users experience interventions.<br>The desire to lose weight was the single most important motivator for attending a lifestyle intervention.<br>While social anxiety was identified as a major barrier, findings reveal the social benefits of attending a lifestyle intervention were peer support and building relationships.<br>The environment, context, role and characteristics of health care professionals delivering interventions need careful consideration.<br>Users valued helpful, knowledgeable, informative and approachable staff.<br>An invisible barrier identified was the negative or defeatist attitudes of staff, and the evidence strongly supports this view.<br>Users also identified the importance of education, and they wanted information about lifestyle, which reinforces the importance of health promotion. | Nurses and other health care professionals offering health promotion strategies should develop strategies to deliver interventions more effectively.<br>Such interventions should include weight management in the context of broader lifestyle factors, providing useful and informative learning materials, and ensuring learning opportunities provide a social context in which individuals can learn, find peer support, and develop social networks.<br>Only by delivering appropriate and targeted interventions can the physical health risks to people with SMI be improved. | Small sample size, limited general-isability of findings. |

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| **30** | **Ehrlich et al** (2014) Improving the PH of people with SMI: boundaries of care provision. *Intl Journal Mental Health Nursing* 23: 243-251 | Australia | Qual - interviews | There is compelling evidence that the PH of those with SMI is poor (revealing up to 30 years of lost life).<br>Health promotion guidelines have been recommended as a way to improve the PH of this population.<br>However, significant barriers remain to the adoption of evidence-based guidance in practice.<br>This study applied existing implementation theories to examine the capability of the healthcare system to integrate PH promotion into MH service delivery.<br>The core theme emerging was that of 'care boundaries' which influenced the likelihood of guidance being implemented.<br>Boundaries existed around the illness, care provision services, sectors, the healthcare system, and society.<br>These multi-level boundaries combined with participant's ways of responding to them, impacted on capability (ie the ability to integrate PH promotion into existing practices). | Overwhelmingly participants were aware of the poor PH of those with SMI, but there was little agreement about the nature of the work associated with improving PH, who was responsible for doing this, and how work would be enacted.<br>There was little agreement about the work of providing PH promotion.<br>Individual practitioner disciplinary and team philosophies and beliefs about care directly impacted on care provision.<br>Determining who was responsible for which elements of health promotion was needed.<br>Determining how sectors and disciplines would work collaboratively to provide physical health promotion was essential.<br>Multi-level relationships were necessary to overcome boundaries to care and to integrate and coordinate PH promotion among individuals and sectors.<br>The implementation of evidence-based guidelines depended heavily on the capability of the workforce to develop and adopt boundary-mediating strategies. | One geographic area covered, thus limiting general-isability of findings.<br>No user involvement. |
| **31** | **Shefer et al** ((2014) Diagnostic overshadowing and other challenges involved in the diagnostic process of patients with mental illness who present in emergency departments with physical symptoms – a qualitative study. PLoS ONE 9(11): E111682. DOI:10.1371/ jouralpone.0111682 | UK | Qual - Interviews | Diagnostic overshadowing can lead to misdiagnosis of people with mental illness who present in ED with physical symptoms.<br>Direct factors which may lead to misdiagnosis are complex presentations or aspects related to poor communication or challenging behaviour of the patient.<br>Background factors include the crowded nature of the ED environment, time pressures, targets and stigmatising attitudes held by a minority of staff. | The existence of psychiatric liaison teams in the ED 24/7 can help reduce the risk of misdiagnosis.<br>However, procedures used by emergency and psychiatric liaison staff require fuller operationalisation to reduce disagreement over where responsibilities lie. | Findings cannot be generalised. |

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| **32** | **Walker & McAndrew** (2015) The same but different: discussing the literature regarding MHNs difficulty in meeting the PH needs of service users, regardless of differing education programmes. *Journal Psychiatric and Mental Health Nursing* 22:640-646 | UK | Lit review | Despite changes to nurse education MHNs remain less confident and prepared to address the PH care needs of their client group.<br>This problem is reported by nurses in other Western countries who have undergone different education and training programmes.<br>Authors suggest that the evidence suggests that the provision of PH care by MHNs is not just a question of education and training, rather it is a need to address far more complex issues.<br>For MHNs the lack of opportunities to practise skills may impact on their level of competence and confidence in engaging with PH activities.<br>In addition the political shift to from hospital to community may further complicate the situation.<br>People with MH issues who do access PH are often confronted with an overshadowing problem, which is an attitudinal problem indicative of a lack of respect on the part of the health care professional who views the user as an expert in their own right.<br>Whilst acknowledging that the MHN is best placed to address the co-existing MH and PH needs, there needs to be more than just changing pre-registration nursing curricula, there is also a need for greater interprofessional collaboration, an opportunity to practise new knowledge and skills, as well as a change in attitudes and service flexibility. | International and national acceptance that there is an increased level of coexistence between PH and MH problems.<br>MHNs generally accept they have a role to play in improving health outcomes for those with PH problems.<br>Users have expressed concerns about ensuring their PH needs are met whilst in receipt of MH services.<br>Despite their level of education MHNs feel ill-equipped, and lack confidence to engage in this important area of care.<br>The authors argue that it is not just a matter of changing the emphasis with programmes of nurse education, but there is a need to address deficits in knowledge and understanding of the PH care for those with mental illness.<br>Authors further suggest that MHNs must have a positive attitude in relation to their role being key to improving the PH of those with mental illness.<br>For this to happen robust post-qualification training and education programmes need to be provided together with opportunities to practise and build confidence. | Not reported. |

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| **33** | **Bressington et al** (2016) Refocusing on PH: Community psychiatric nurses perceptions of using enhanced health checks for people with severe mental illness. *Intl Journal Mental Health Nursing*. | International | Qual – Interviews | Four themes identified:<br>- influences on nursing practice (increased focus on PH; working comprehensively and systematically; opportunity for health education)<br>- service-related implementation challenges (referral frustration; need for integrated multidisciplinary team services; introducing lifestyle intervention groups)<br>- raising clients' awareness of their PH state (increased motivation for lifestyle changes, observable behavioural changes in clients)<br>- adaptations required for using HIPs (understandable units of measurements; adjusting parameters for local populations; Chinese language and traditional Chinese medicine). | HIP seen as feasible to implement and viewed as beneficial.<br>Refocusing nurses' attention on physical needs appears to have improved nurses' physical health literacy, and reinforced the importance of holistic care.<br>Despite acknowledgement of the importance of the risks to PH, nurses displayed a degree of ambivalence about whose role it was, and had a tendency to focus on MH issues.<br>Using the HIP revealed gaps in nurse knowledge and skills re PH beyond the content provided in the intervention training. | Small sample means limited general-isability of findings. |
| **34** | **Mwebe** (2016) PH monitoring in mental health settings: a study exploring mental health nurses' views of their role. *Journal Clinical Nursing* 26: 3067-3078. | UK | Qual - Interviews | Four themes identified:<br>- features of current practice and physical health monitoring<br>- perceived barriers to PH monitoring<br>- perceived education and training needs<br>- strategies to improve PH monitoring<br>Nurses reported that taking up their role in assessing and monitoring PH requires investment and time, as well as addressing the lack of training and education for skills development.<br>Key barriers were identified as resource allocation, local culture and staff attitudes.<br>The solutions offered included improving staffing levels, availability of medical equipment and specialist roles in practice. | Nurses felt there should be a more robust, inclusive system in practice, clear guidance and information around referral pathways, and support for nurses working with a group of patients with complex diverse needs.<br>PH care monitoring policies should be easily accessible and clearly state the function and roles of the MH professionals in addressing PH needs and health promotion needs.<br>Some identified the need for a PH lead practitioner to act as a go-to resource for staff who required guidance.<br>Mandatory training and CPD courses should reflect PH skills and not just training in MH practice. | Not reported. |

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| **35** | **Wynaden et al** (2016) The chasm of care: Where does the MN responsibility lie for the PH of people with SMI. *Intl Journal Mental Health Nursing* 15: 516-525 | Australia | Quant - Survey | MHNs view giving advice on weight management, nutrition and prevention of cardiac disease as being within their remit, but they are less sure it is their responsibility to provide advice on exercise.<br>MHNs are confident in monitoring blood pressure and hypoglycaemia, but less confident about their knowledge of the risks and side effects associated with psychotropic drugs, especially in relation to how these drugs can damage the eyes.<br>MHNs identified barriers as clients' lack of adherence/compliance with advice given, and MHNs were divided as to whether their workload was a barrier to the delivery of PH.<br>The chasm of care in relation to the PH of clients with SMI remains fluid, limited and permeable, and this group remain highly vulnerable to the mismanagement of their PH problems.<br>Authors suggest MHNs have a professional and an ethical obligation to address this divide and to provide leadership for reducing the disparity in life expectancy for their clients.<br>Findings reveal MHNs are ambivalent about the provision of PH care to MH clients, which in part is due to complexity of illness, competing priorities, or their belief that addressing PH needs is someone else's responsibility.<br>Authors identify concept of "therapeutic fatalism" which is defined as "where healthcare professionals are not willing to invest time trying to instigate change as they feel such time is wasted" and is manifested in many clinical situations where some of the symptoms of PH needs are directly related to treatment for mental illness, and thus, are inevitable.<br>Authors point out the lack of importance attached to health promotion, and they argue that stigmatising attitudes remain prevalent, and that stigmatising attitudes exist at the same levels between professionals and the general population. | MHNs remain unclear re their level or responsibility and accountability for PH outcomes, even though they have been identified as holding key responsibilities in this area.<br>No MH without PH continues unaddressed by key stakeholder groups decades after it was first introduced in the literature. MHNs can provide leadership in this area, but in order to act, they need improved education and training and greater awareness of the critical links between MH and PH outcomes for their clients. | Not reported. |
| **36** | **Liu et al** (2017) Excess mortality in persons with severe mental disorders; a multilevel intervention framework and priorities for clinical practice, policy and research agendas. *World Pyschiatry* 16:30-40. | Int | Lit review | Excess mortality in those diagnosed with severe mental illness is a global public health challenge warranting action.<br>The number and scope of tested interventions remains limited, and strategies for implementation and scaling up programmes with a strong evidence base are scarce.<br>The authors present a multi-level model highlighting risk factors for excess mortality in those with SMI at individual, health system, and socio-environmental levels, and describe a comprehensive framework for designing, implementing and evaluating interventions and programmes aimed at reducing excess mortality. | Interventions at individual level:<br>- mental health disorder management<br>- physical health treatment<br>- lifestyle and behaviour interventions.<br>Interventions at health system level:<br>- screening for medical conditions<br>- care coordination and collaborative care strategies (for example, nurse care manager)<br>- guidelines for integrated delivery of physical and mental health.<br>Interventions at socio-environmental level:<br>- social support<br>- stigma reduction interventions<br>- policy level interventions. | Not reported. |

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| **37** | **Ince et al** (2018) The opinions of Turkish mental health nurses on PH care for individuals with mental illness. *Intl Journal Psychiatric & Mental Health Nursing* 24:4 ABSTRACT ONLY | Turkey | Qual - Interviews | Four themes identified:<br>- barriers to PH care<br>- PH care practices<br>- motivators<br>- need for better PH. | MHNs mostly focus on the existing PH needs of individuals with mental illness, however, they do not include practices of disease prevention, and health promotion for these clients.<br>A desire to see positive changes in individuals with MH illness, receiving positive feedback, feeling useful and happy, feeling satisfied with their profession all motivate MHNs in terms of providing PH care.<br>The knowledge and skills required to provide PH care need to be increased.<br>Institutions should employ expert nurses who are able to guide MHNs to provide better PH care.<br>It is important to provide adequate infrastructure and human resources to provide better PH care in MH services. | Not reported. |
| **38** | **Happell et al** (2015) Addressing the PH of people with serious mental illness: a potential solution for an enduring problem. Intl Journal Social Psychiatry 1-2<br>Meepring et al (2018) The effects of the Thai Health Improvement Profile on the physical health and health behaviours of people with schizophrenia: A quasi experimental study. *Intl Journal of Mental Health Nursing.* 27:26-37 | Thailand | Quant – survey | To examine the therapeutic effects of the Health Improvement Profile on the physical health of people diagnosed with schizophrenia at 12-month follow up. | The Health Improvement Profile intervention has the potential to improve the physical health of those diagnosed with SMI when incorporated into routine community mental health care. | Self-reported bias.<br>Limited general-isability. |

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Published by the Royal College of Nursing
20 Cavendish Square
London
W1G 0RN

020 7409 3333

January 2019
Publication code 007 415

Royal College of Nursing