2014

Piloting the effectiveness of physical health nurses in community based mental health services

Final Report

Stuart Lee, Troy Macris, Susanne Birks, Fran Fisher, Alan Murnane, Kent Burgess, Jessica Price, Narelle Heeney, Lee Kelleher, David Pritchard

ISEPiCH
INNER SOUTH EAST PARTNERSHIP in COMMUNITY AND HEALTH

inner south COMMUNITY HEALTH

TheAlfred

MAPrc
We mend minds

Contents Page

Executive Summary

The 2011 Victorian Department of Health report *Improving the physical health of people with severe mental illness,* strongly argued for the need for mental health services to improve how they support the physical health needs of their clients. To implement an initiative with the aim of achieving improvement in this area, the Inner South East Partnership in Community and Health (ISEPICH), the Alfred Health Department of Psychiatry and Inner South Community Health Service (ISCHS) jointly developed and implemented Health Matters.

Health Matters implemented a model of care in which a series of practice resources (a physical health screen, local referral pathway and practice guideline) were developed and a Physical Health Portfolio Holder role was established (existing mental health case manager allocated 4 hours / week of protected time to promote physical health practice within their team).

The current report provides a summary of evaluation data that was collected to explore the following questions in relation to Health Matters:

- Whether a physical health intervention led by a physical health nurse for case managed community mental health clients produced greater improvements in physical health indicators compared to support as usual (SAU); and
- Whether clinicians encountering Health Matters had experienced benefits.

Methodology

As a test of effectiveness, Health Matters was implemented into one Alfred Psychiatry St Kilda Road Clinic team (Green Team) and one ISCHS mental health team (Mitford Street). Clinicians within the Health Matters teams had access to:

- Additional training in relation to physical health assessment and management;
- A physical health screen (Client Physical Health Guide: CPHG) that mapped on to a developed referral pathway covering local physical health services as well as additional resources such as practice guidelines; and
- Access to a team member with expertise in physical health care and 4 hours / week of protected time to act as a Physical Health Portfolio Holder to: promote the conduct of screening, give consultation both in team clinical reviews and to case managers about health management plans for individual clients, and assist in conducting health indicator measurement if needed (e.g. blood pressure).

Two further St Kilda Road Clinic teams and one further ISCHS mental health team (Southport) were designated as Support As Usual (SAU) and were encouraged to commence use of the CPHG with clients but were not provided added support.

Clients who completed an initial CPHG with their case manager were eligible to have their data included in a retrospective audit that collected data from the initial CPHG and if completed a 6 month follow-up CPHG. A developed questionnaire was also provided to case managers of the two Health Matters teams to share their experience of Health Matters, with a more detailed consultation exploring the questions in the questionnaire also conducted with the 2 Portfolio Holders.

Findings

Screening with the CPHG occurred 1 October 2013 to 11 April 2014 and final reminders to conduct 6 month follow-up screening occurred in November 2014.

Client Outcomes

The number of clients who completed an initial CPHG was:

- ISCHS: Health Matters = 21; SAU = 28. Alfred: Health Matters = 31; SAU = 10.

Of these, 30 clients from ISCHS (Health Matters = 18; ISCHS = 12) and 24 from Alfred (Health Matters = 15; SAU = 9) were included in the evaluation, with the following identified for the final sample of 54 at initial screen:

- Multiple health risk factors were evident including: 55% of clients were tobacco users (with a higher rate at The Alfred), 43% ate on average less than 1 piece of fruit/vegetables per day, 35% were obese, 23% were doing no regular exercise and 8% had high blood pressure.
- A number of health difficulties were evident: 17% of clients had diabetes, 23% asthma, 23% constipation, 21% feet problems, 8% chronic obstructive pulmonary disease, and 7% sexual health concerns.
- Engagement with physical health professionals was variable: 87% of clients had a GP listed (with a higher rate at ISCHS), 75% had had a GP review in the past 6 months, 65% had had a dental check in the past 12 months, and 39% had had an eye check in the past 12 months.

The following compares at the Alfred site findings to the 2010 physical health screen:

- There had been a 4% increase in the proportion of clients with a GP review in the past 6 months (2010 = 63%; 2014 = 67%), 7% fewer were tobacco users (2010 = 78%; 2014 = 71%), 11% fewer were engaging in no regular exercise (2010 = 28%; 2014 = 17%), and there was a 10% increase in the proportion who were obese (2010 = 18%; 2014 = 28%). There was also a higher proportion of clients in the current sample stating that they had diabetes, asthma and constipation.

To provide an initial illustration of the effect of Health Matters on the completion of the CPHG, the following was noted from a review of completed CPHGs:

- CPHGs completed for clients from the SAU teams were more regularly incomplete with in particular such health indicators as weight, BMI, waist circumference and details in relation to tobacco use missing.
- Trends ($p < .10$) were evident for CPHGs completed for clients in the Health Matters teams to be more likely to have any health goals listed and the specific goal of addressing teeth or vision issues listed.

The following summarises change in health indicators between initial and 6 month follow-up screen for 38 clients (20 Health Matters; 18 SAU) with this data available:

- There was no significant difference between groups in the extent of change in weight (Health Matters clients lost 0.1kg on average; SAU clients gained 1kg on average); BMI, waist circumference or approximate daily cigarette use.
- A trend ($p = .08$) was evident for more Health Matters clients reporting an increase in the intake of fruit/vegetables at follow-up.

In relation to health professional engagement for the 38 clients with completed CPHGs at initial and follow-up screen:

- At follow-up, 90% of Health Matters and 89% of SAU participants had had a GP review in the past 6 months, with 4 of 5 Health Matters and 4 of 4 SAU participants who had not had a GP review prior to their initial screen, having had a GP review prior to the follow-up.
- At follow-up, 7 of 10 Health Matters and 3 of 6 SAU participants who had not had a dental check in the 12 months prior to their initial screen, had had a dental check prior to their follow-up.

Health Matter Team Clinician Feedback

Four ISCHS clinicians and 3 Alfred clinicians (70% response rate) from the Health Matters teams completed the feedback questionnaire which found:

- All clinicians had completed a CPHG with a client and most had spoken to the Physical Health Portfolio Holder about a client or utilised training or practice resources provided through Health Matters.
- All clinicians agreed that the CPHG was quick and easy to complete and most agreed that the Portfolio Holder role should continue, clients were happy for their case manager to address their physical health issues and that Health Matters had improved the clinician's ability to address clients' physical health issues.
- Open-ended feedback highlighted that introduction of the CPHG had helped in providing structure or a prompt when asking about clients' physical health and Health Matters had also helped in raising awareness of the need to regularly monitor the physical health of clients. Having access to the Portfolio holder had also been helpful for clinicians in determining how to respond to identified client physical health issues and had improved clinician understanding of physical health identification and management.
- Suggestions for improvement included expanding the referral pathway to include Central Bayside Community Health Service, integrating the operation of a physical health project to include other professionals (e.g. medical staff, eating disorders portfolio holders, dieticians), and increasing the provision of group or individual interventions for identified issues.

Feedback was also provided by the 2 Physical Health Portfolio Holders in relation to their experience of Health Matters, summarised through four themes:

- *Contextual factors impacting Health Matters:* eg, ISCHS was undergoing a restructure that relocated Health Matters staff and clients during the project, the ISCHS Portfolio Holder changed during the project, and there was a difference between Alfred and ISCHS in terms of pre-existing practice in screening for and referring to respond to identified physical health issues in mental health clients.
- *How Health Matters operated within each service:* eg, the Alfred Portfolio Holder said that they spent a greater proportion of time working with case managers after completing a CPHG to develop an individualised physical health management plan which the primary case manager would then implement with the client. In contrast, the ISCHS Portfolio holder said that more of their time was spent promoting the conduct of screening and, when asked, completing the health indicator measurement for clients.

- *Perceived Benefits of Health Matters:* eg, Portfolio Holders described personal benefits which included the training accessed, reduced case load, increase in payscale and ability to advocate for the physical health of clients. A number of benefits had been observed for clients which included improved engagement with physical health professionals (e.g. dentist, GP, optometrist), improvements in a range of health risk behaviours (e.g. stopped drinking or improved exercise participation), and an increased readiness to discuss and address health issues.
- *Encountered challenges or suggestions for improvement:* eg, implementation of Health Matters was impacted by the need to collect consent for the use of client information and some case managers were unsure of the role of the Portfolio Holder limiting their capacity to support the uptake of physical health promotion. The change that occurred at The Alfred site in relation to who would complete the CPHG with clients had also created confusion and it was stated that once it was finalised that case managers should complete this and the practice change was endorsed and promoted by leadership, this enhanced the uptake of screening. Both Portfolio Holders said that the role should continue, although also stated that increasing the time for the role and formalising the expectation for physical health screening and the role of the Portfolio Holder would be helpful. A further suggestion was that establishing a physical health clinic in which a GP and dietician or physical health nurse could be accessed together would strengthen the capacity to access health education, intervention and monitoring for clients.

Conclusion and Recommendations

Implementation of Health Matters (Portfolio Holder to promote physical health and access for case managers to physical health training and practice resources) did not produce greater improvements in client health indicators although a trend was evident for increased consumption of fruit and vegetables for Health Matters clients. Physical health screens for clients of Health Matters clinicians were also more complete with fewer missing health indicators and were also more likely to specify health goals for the client and clinician to address. Case manager-led screening was found to be feasible and led to improved GP and dentist engagement for both the Health Matters and Support as Usual clients. Clinicians in the Health Matters team also reported multiple benefits from their access to the Portfolio Holders and use of the practice resources and Client Physical Health Guide. The limited protected time (4 hrs/week) and the lack of capacity to offer direct client support may have impacted on the potential for the Portfolio Holder to improve client health indicators.

Recommendations:

1. Introduce physical health screening for all mental health clients at or soon after entry into case management.
2. Expand the Referral Pathway and ensure linkage to screening so that case managers are alerted to potential options to address identified problems.
3. Repeat screening should be performed when referring to onsite/ISCHS physical health professionals (e.g. GP) to communicate current issues to address.
4. Establish a portfolio group involving Alfred Psychiatry and ISCHS staff to lead further efforts to promote physical health among clients.
5. Conduct further research to measure whether an expanded Portfolio Holder role or another approach is most likely to enhance client health indicators or risks.

1. Background

In 2011, the Victorian Department of Health published the report *Improving the physical health of people with severe mental illness: No mental health without physical health*, which argued for a strong need for change to improve the provision of physical health care to people with a mental illness. The report highlighted that in comparison to people in the general population, people with a severe mental illness had higher rates of mortality and morbidity, related in particular to higher rates of cardiovascular disease, metabolic disorders, obesity and hypertension, and reduced engagement with health services. This had led to clients of public mental health services in the US dying on average 25 years earlier than the general public.

Multiple factors have been identified to explain this poorer physical health in clients of public mental health services. Some psychotropic medications can induce weight gain or alter metabolic functioning.[1] Physical health conditions such as cardiovascular disease, diabetes, and obesity are highly prevalent in people with a severe mental illness,[2, 3] and in many cases are undiagnosed, resulting in lower access to care and a resulting higher rate of unnecessary deaths. Among the reasons for this elevated mortality rate is the high prevalence of health risk factors in people with severe mental illness that include: smoking, physical inactivity, alcohol misuse, poor diet and the physical side effects of some psychotropic medications.[4-6] The *No mental health without physical health* report was therefore strong in arguing that greater emphasis was needed for public and non-government mental health services to assess for and respond to physical health issues, supported through better establishment of pathways for clients to General Practitioners (GPs) and primary health care services.

Health Matters Stage 1

As part of a response to improving the monitoring of physical health in people experiencing serious mental illness in Melbourne's inner south, Health Matters Stage 1 (Improving Access to Primary Health Care Services for People with Serious Mental Illness) was implemented in 2009-10 in a partnership between Inner South Community Health Service (ISCHS) and Alfred Psychiatry's Junction Mental Health Clinic. Funding for the conduct of Health Matters Stage 1 was provided by the Victorian Department of Health. Conducting a six-month trial of routine physical health screening with case managed clients of Junction Clinic, a summary of findings from Health Matters Stage 1 is presented as follows:

- 60 Junction clients completed the physical health screen during the trial period.
- 63% had undergone a GP review in the past 6 months with only 50% having ever been tested for diabetes, highlighting poor engagement with primary care for many clients.
- Regarding health risk factors, 65% were overweight or obese, only 46% were engaging in the recommended frequency of exercise with 28% not engaging in any exercise, and 78% were currently smoking.
- At least one physical health co-morbidity was reported by 61% of clients, which included: 10% with asthma or chest infections; 12% with hepatitis C; 9% with diabetes; and 10% constipation.

- Qualitative feedback from case managers identified barriers and facilitators to implementing screening, as well as mechanisms such as a dedicated physical health nurse onsite at the Junction mental health clinic or on-site GPs to improve the provision of a pathway from identification to assistance with physical health. Demonstrated by clinician feedback was that they believed in the importance of physical health monitoring but were often stuck regarding “what to do next”.

Health Matters Stage 2

To build on the data collected from Health Matters Stage 1 and other related project work, the Inner South East Partnership in Community and Health (ISEPICH) received funding to undertake a project to improve the provision of physical health care for people with a serious mental illness living in the local government areas (LGAs) of Port Phillip, Stonnington and Glen Eira. As a pilot project, the initial decision was to focus implementation within:

1. Alfred Psychiatry: the public mental health service supporting people living in the nominated LGAs; and
2. Inner South Community Health Service (ISCHS): a primary health care service that also has extensive expertise in providing case management of different intensities to people living with a serious mental illness.

As the funded organisation, ISEPICH was the primary stakeholder in conducting and evaluating the impact of the proposed physical health intervention, in conjunction with staff from ISCHS and Alfred Psychiatry. This was facilitated through involvement of a Health Matters Project Officer who led the development and implementation of the intervention, conducted data collection, and held primary responsibility for analysis and report writing.

The initial timeline for the project was planned as a 12 month evaluation, to allow for a 6 month intervention period and six month follow-up period.

1.1 Project Aims / Hypotheses

The broad aims of this project were to improve systems which support the physical health needs of clients with a serious mental illness at Alfred Psychiatry and ISCHS.

In implementing this project the following research questions were assessed:

- Whether a physical health intervention led by a physical health nurse for case managed community mental health clients produced greater improvements in physical health indicators compared to support as usual (SAU); and
- Whether staff encountering the physical health nurse had experienced benefits from this project.

In assessing these questions it was hypothesised that people case managed by the teams within which the intervention was implemented would have greater improvement in physical health indicators and GP engagement than those in the SAU teams.

2. Methodology

Setting

Health Matters was implemented within the following settings:

- Alfred Health Department of Psychiatry St Kilda Road Clinic Community Care Team program
- ISCHS Mental Health Program based at Mitford Street and Southport sites

Interventions

1. The key project intervention involved appointing Physical Health Portfolio Holders to operate in the two Health Matters intervention teams. Anticipated to be mental health nurses, they were existing case managers who were provided 4 hours / week (facilitated through a reduction in their case load) of protected time to provide primary and secondary consultation in the area of physical health assessment and management to:
    a. Mental Health case managers within their clinical team; and where appropriate
    b. GPs and other primary care providers (both new and those who are already engaged with mental health clients)

2. The Portfolio Holder would also facilitate access for case managers within their clinical team to Health Matters resources to assist in responding to their clients' physical health needs. Developed resources included: referral pathways and practice guidelines, a physical health screen called a Client Physical Health Guide (CPHG: see Appendix 1), GP communication protocols, etc.

3. The Portfolio Holder also worked with the ISEPICH Health Matters Project Officer to develop and deliver formal education and training activities jointly to staff in the two intervention groups or assisted in identifying suitable training for other case managers to access. Portfolio Holders also accessed additional training.

It was anticipated that this work would build the knowledge and skills of case managers to identify and manage the physical health needs of mental health clients and develop structures that would support the enhancement of coordinated care between mental health and primary care services.

To provide a comparison, clients managed by a team designated as Support As Usual (SAU) would complete physical health screening with their case manager using a CPHG, but the SAU teams would not have additional access to consultation support from the Portfolio Holder or the Health Matters practice resources.

Evaluation Design

Within each setting, one team was chosen as the 'Health Matters team', and one (or two) team chosen as 'Support as Usual team', with the designation determined by the clinical team within which the Portfolio Holder was operating at the time of appointment. The evaluation consisted of a mixed-method design that compared change in a series of health indicators from the initial screen to a follow-up screen

(conducted approximately 6 months later) collated via an audit of files for consenting or assenting clients for whom an initial physical health screen was completed. Experiential data was also collected via a developed survey from other clinicians within the Health Matters teams to explore their experience of the project and associated interventions.

Conduct of this evaluation was approved by the Alfred Health Human Research and Ethics Committee (HREC: Project 196/13).

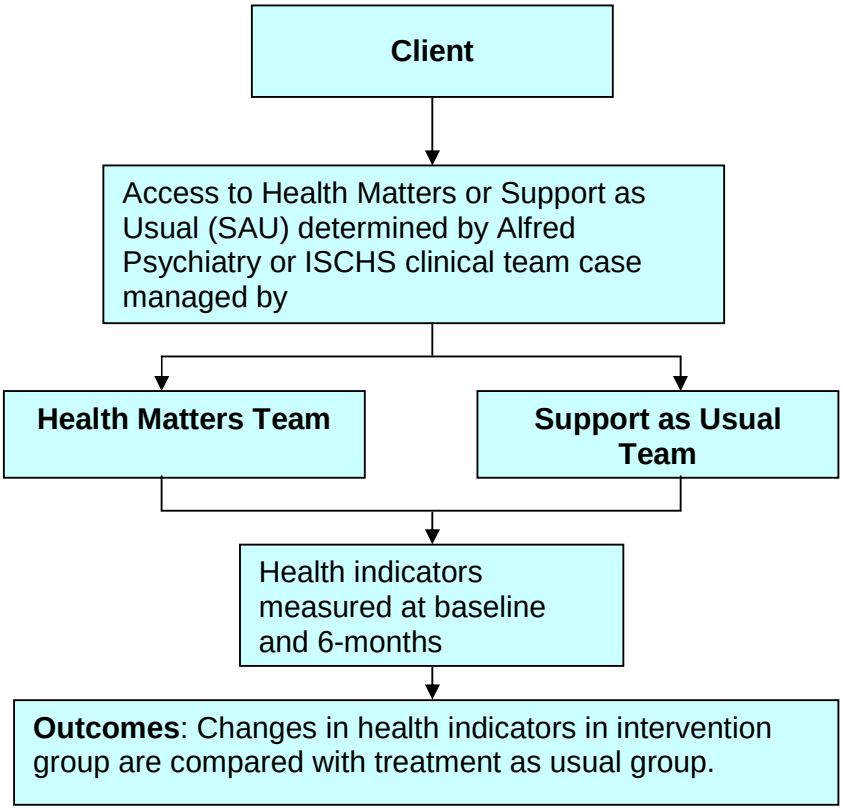

Figure 1. Flow diagram depicting the study design.

Participants / Inclusion Criteria

A client was eligible to be included in the evaluation of Health Matters if they were a case-managed client of either:

- Alfred St Kilda Road Clinic Green (Health Matters), Blue (SAU) or Red (SAU) teams; or
- ISCHS Mitford Street (Health Matters) or Southport (SAU) mental health teams,

and had completed with their case manager physical health screening using a CPHG. After completing a CPHG, the Project Officer was alerted and made contact with the client to invite their written consent to use their health information for the purposes of this evaluation. After encountering difficulty making contact with some Alfred Psychiatry clients, Alfred HREC approved an additional process by which a clients' information could be included if they expressed assent for potential research involvement on their completed CPHG.

Measures

Client health risk factors and GP engagement

To measure whether Health Matters produced greater improvement over time in health indicators for clients, the following measures were collected from consenting / assenting clients:

1. BMI
2. Waist Circumference
3. Blood pressure
4. Smoking habits
5. Alcohol consumption
6. Oral health indicators
7. Physical exercise habits
8. Diet/nutrition
9. GP engagement:

Clinician Feedback Questionnaire

At approximately 12 months after initiation of Health Matters, clinicians who had been employed on the Health Matters teams for Alfred Psychiatry or ISCHS were invited to complete a developed questionnaire which assessed the following:

- Service employed by
- Discipline
- Role in promoting client physical health (open-ended)
- Factors impacting promotion of client physical health (open-ended)
- Impact of and contact with portfolio holder (open-ended and Yes-No rating)
- Use of intervention resources/training (open-ended and Yes-No rating)
- What else the service should do to promote client physical health (open-ended)
- Six statements (rated using a 5-point Likert Scale: Strongly agree – Strongly disagree) describing aspects of their experience with the intervention.

Procedure

Following a period of preparation of the Health Matters practice resources, identification of suitable Portfolio Holders, and sourcing of suitable training for the Portfolio Holders and Health Matters team clinicians, initial screening commenced 1 October 2013 and finalised 11 April 2014.

The Portfolio Holders assisted in prompting case managers to conduct the follow-up screens at 6 months after the initial screen date.

The audit of the physical health information collected on the initial and follow-up CPHGs commenced in May 2014 and was completed in November 2014 following completion of the follow-up screens. The audit was either conducted using CPHGs scanned into the client's electronic medical record or else from a folder of completed CPHGs collated by the Portfolio Holders.

Two approaches were offered to clinicians in the Health Matters teams to complete the feedback questionnaire. A research team member attended staff meetings for the Health Matters teams to invite the opportunity for clinicians to complete the

feedback questionnaire. Eligible clinicians who were not present at the time of the face-to-face interviews were emailed an invitation to complete a copy of the Feedback Questionnaire via Survey Monkey, the online survey collection platform. After receiving a copy of the Feedback Questionnaire, consent to use provided information was assumed if a completed questionnaire was returned to a member of the research team (either in hard copy form or via Survey Monkey).

Data Analysis

Quantitative analysis of physical health risk indicators:

For continuous health indicators (e.g. BMI, waist circumference, weight, daily cigarette use) group differences in the change in health indicators were assessed via the use of independent-measures t-tests to compare the change scores between follow-up and initial screening with the CPHG. For categorical variables (e.g. GP review occurred in the past 6 months), chi-square tests of independence were used.

Analysis of staff surveys:

For the Likert scale items assessing “agreement” with aspects of the Health Matters project, the proportion of participants responding ‘agree’ or ‘strongly agree’ will be calculated. Open-ended responses were analysed through the use of thematic analysis using the six-stage thematic approach proposed by.[7] This involved familiarisation with responses, generation of initial codes, collation of codes into potential themes, reviewing themes in relation to coded extracts and the entire data set, defining and naming themes and reporting on outcomes.

3. Findings

3.1 Client Outcomes

As shown in Table 1, a total of 90 clients across Alfred Psychiatry and ISCHS had an initial CPHG completed. A total of 54 clients consented or assented to their data being used for the research project with 25 clients declining participation and 8 being discharged from case management or not able to be contacted to invite participation. For 2 participants their initial CPHG was not found and for 14 a follow-up CPHG was not completed due to either being discharged from case management or a follow-up screen not being completed by their case manager.

Table 1. Total clients with a completed CPHG and number of clients with data able to be used at initial screen and 6 month follow-up

	Client with Baseline Screen	Included sample Baseline	Included sample 6 months
ISCHS			
Health Matters	21	18	9
SAU	28	12	10
Alfred			
Health Matters	31	15	11
SAU	10	9	8
Total	**90**	**54**	**38**

SAU = Support As Usual

Site Differences at Initial Screen

Table 2 over the page shows the demographics and health indicators for participants at the ISCHS and Alfred sites. The sites only differed significantly in the proportion of smokers, p = .03, which was higher in Alfred participants, and in the proportion of clients with a GP listed, p = .02, which was higher in ISCHS participants.

Across the two sites, slightly more participants were male, approximately one-third were obese, just over half were current tobacco users and almost half were eating fewer than 1 piece of fruit or vegetables per day. Most were engaging in some form of exercise although of the 31 participants who stated the type of exercise engaged in, 58% were only engaging in walking as a regular form of exercise. A GP review had occurred in the past 6 months for 75% of participants, in the past 12 months 65% had had a dental check and 39% an eye check, and 32% had had a foot assessed by a podiatrist or doctor.

Of participants across the two sites that completed each item, 17% of participants had been diagnosed with diabetes (although only 63% had been tested for diabetes), 53% said they had some form of vision problem (although often this was said to have been corrected by glasses), 21% had feet problems, 23% had asthma, 23% had constipation and 7% sexual health concerns.

Table 2. Demographics and health indicators at initial screen

	ISCHS (*N* = 30)		Alfred (*N* = 24)	
	N[a]	mean (SD) or n (%)	*N*[a]	mean (SD) or n (%)
Age at baseline	30	48.1 (7.5)	24	45.7 (10.0)
Gender male	30	16 (53%)	24	14 (58%)
Weight (kg)	21	91.2 (24.7)	18	83.9 (19.3)
BMI	19	29.7 (7.3)	18	27.7 (6.9)
BMI>30 (obese)	19	8 (42%)	18	5 (28%)
Current tobacco use*	27	11 (41%)	24	17 (71%)
Currently exercise (any)	28	20 (71%)	24	20 (83%)
Eat <1 piece fruit or vegetables per day	27	11 (41%)	24	11 (46%)
Takeaway meals/week	28	1.6 (2.3)	24	0.9 (1.3)
Elevated blood pressure (Syst>140 / Diastol>90)	17	1 (6%)	19	2 (11%)
Clinician Engagement				
GP Listed*	28	27 (96%)	24	18 (75%)
GP review last 6 mths	28	23 (82%)	24	16 (67%)
Eye check last 12 mths	28	12 (43%)	21	7 (33%)
Feet assessed Dr/Podiatrist	27	10 (37%)	20	5 (25%)
Dental check last 12 mths	28	21 (75%)	24	13 (54%)
Current Illnesses/problems				
Diabetes Diagnosed	28	5 (18%)	24	4 (17%)
Previous Diabetes test	27	20 (74%)	22	11 (50%)
Asthma	28	7 (25%)	24	5 (21%)
COPD	28	2 (7%)	23	2 (9%)
Constipation	28	8 (27%)	24	4 (17%)
Vision problems	28	18 (64%)	23	9 (39%)
Feet problems	28	8 (29%)	24	3 (13%)
Sexual health concern	25	2 (8%)	20	1 (5%)

*p < .05 significant chi-square or t-test site difference
[a]Number of participants for whom the item was completed at initial screen.

Effect of Health Matters on Health Goals to Work on Listed on CPHG

In conducting statistical analysis, site was not found to significantly affect any of the conducted comparisons. As a result and in order to simplify the comparison of the effect of intervention condition (Health Matters vs SAU) on health indicators or practice in addressing physical health issues, SAU participants across the ISCHS and Alfred sites were pooled as were the Health Matters participants.

The resultant comparisons of intervention effectiveness were conducted with a sample size of 21 SAU participants and 33 Health Matters participants.

To assess whether the health goals to be worked on for participants differed in the SAU and Health Matters teams, Table 2 provides a comparison of the proportion of participants who had any health goals listed, as well as the proportion with specific goals related to commonly occurring goal themes.

Table 2. Demographics and health indicators at initial screen

	SAU (*N* = 21)	Health Matters (*N* = 33)	Chi-square *p*-value
	n (%)	*n* (%)	
Any health goal stated	14 (67%)	29 (88%)	.06
Improve diet or weight	5 (24%)	12 (36%)	.33
Increase exercise	3 (14%)	11 (33%)	.12
Address teeth or vision issues	1 (5%)	8 (24%)	.06
Improve diabetes or cholesterol management	2 (10%)	6 (18%)	.38
Address musculoskeletal or other bodily pain	2 (10%)	6 (18%)	.38
Quit/reduce nicotine/drug use	2 (8%)	4 (12%)	.77

Trends were evident ($p < .10$) for more participants in the Health Matter teams listing any goals as well as a goal to address teeth or vision difficulties. Speaking with a dietician or addressing weight or food intake was also commonly stated as was an intention to increase exercise participation. Few participants who were currently users of tobacco stating quitting or reducing their use as a health goal.

Changes in Health Indicators and Clinician Engagement at Follow-up

To assess for change in health indicators and health professional engagement from initial to follow-up screen, only the 38 (20 Health Matters; 18 SAU) participants with completed and available CPHGs from both timepoints are included. There was no significant difference between groups in the number of days between initial and follow-up screen completion (Health Matters: mean = 219.5, SD = 54.9; SAU: mean = 189.8, SD = 41.0; $p = .07$).

Figure 1 shows the mean weight for participants at initial and follow-up screens and number of participants achieving weight loss or gain during the follow-up period.

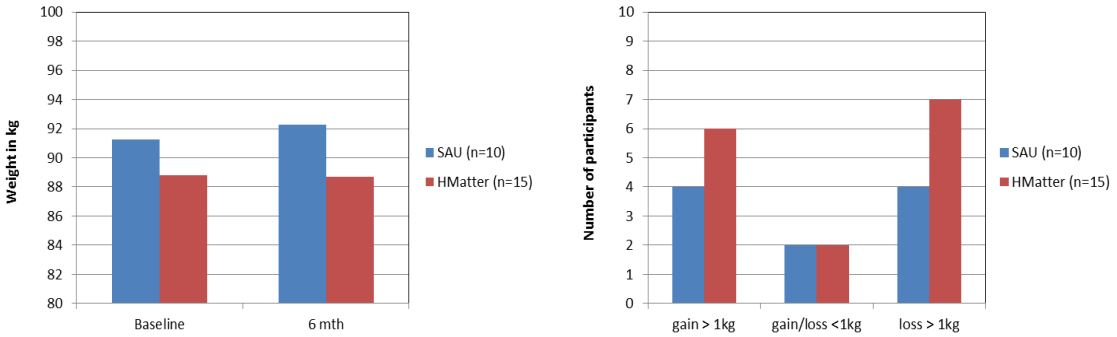

Figure 1. Weight at baseline and follow-up (1a) and extent of weight change (1b) for support as usual (SAU) and Health Matters participants.

Independent-measures t-tests found no significant difference between groups in the extent of change over time in weight (see Table 3), $t(23) = 0.65$, $p = .52$. Extent of weight change was also variable with 11 participants across the two groups recording a loss of at least 1 kg and 10 recording a gain of at least 1 kg.

Table 3. Change in health indicators for SAU and Health Matters participants with initial and follow-up screens completed.

	SAU (N = 18)		Health Matters (N = 20)	
	N[a]	mean (SD) or n (%)	N[a]	mean (SD) or n (%)
Weight change (kg)	10	1.0 (3.4)	15	-0.1 (4.6)
BMI change	9	0.2 (1.6)	14	0.3 (1.6)
Waist circumference change (cm)	4	7.0 (5.0)	9	0.6 (9.9)
Change in approximate daily cigarette use	11	-3.0 (7.5)	19	1.7 (9.3)
Participants who increased fruit/vegetable intake at follow-up	17	3 (18%)	20	9 (45%)
Participants exercising who were not exercising at initial screen	3	3 (100%)	5	3 (60%)

[a] Number of participants for whom the item was completed at initial and follow-up screen.

Also shown in Table 3 are measures of the mean change or proportion achieving an identified change in health indicators between initial and follow-up screen (NOTE: negative change score indicates a reduction in the health indicator at follow-up). No significant differences between groups were found for changes in any health indicator, although a trend was evident for more Health Matters participants to have increased their fruit and vegetable consumption at follow-up, X^2 (1) = 3.14, $p = .08$. Only one participant from either group (in SAU group) who was using tobacco at initial screen had ceased use at follow-up.

Impacting on the statistical analysis was that for most health indicators, items were not available at initial and/or follow-up screen for a number of participants. It was also notable that health indicators (in particular weight, BMI, waist circumference and approximate tobacco use) were more frequently missing from screens completed with SAU participants.

In relation to health professional engagement, for the participants who had not had a GP review in the 6 months prior to initial screen, 4 of 5 Health Matters and 4 of 4 SAU participants had had a review at the follow-up screen.

In total at the follow-up screen,

- 90% of Health Matters and 89% of SAU participants had had a GP review in the previous 6 months.
- Of the participants who had not had a dental check in the previous 12 months at initial screen, 7 of 10 Health Matters and 3 of 6 SAU participants had had a dental check at follow-up.

3.2 Staff Experience

Clinician Feedback about Health Matters

Of the 5 case managers from the ISCHS Health Matters team and 5 clinicians (including the consultant psychiatrist) from the Alfred Psychiatry Health Matters team, 4 ISCHS and 3 Alfred clinicians completed a feedback questionnaire. Three were nurses and 4 allied health professionals.

Table 4 below provides a summary of the proportion who had utilised resources developed and made available through the Health Matters project.

Table 4. Use of Health Matters resources and perceived project impact for 7 mental health case managers

	n (%) responding
Have you spoken to [your portfolio holder] about a physical health issue of a client? - **YES**	71%
Have you completed a Client Physical Health Guide with at least 1 client? - **YES**	100%
Have you used any of the Health Matters staff resources (e.g. resource manual, referral pathways)? - **YES**	86%
In the last 12 months have you participated in training about physical health of mental health clients? - **YES**	71%
The Physical Health Portfolio holder role should continue – **Agree/Strongly Agree**	86%
I have found it helpful to speak with the Physical Health Portfolio – **Agree/Strongly Agree**	86%
The Client Physical Health Guide helped me identify physical health for clients I was not aware about – **Agree/Strongly Agree**	86%
The Client Physical Health Guide is quick and easy to complete – **Agree/Strongly Agree**	100%
Health Matters has improved my ability to identify and respond to my clients' physical health issues – **Agree/Strongly Agree**	71%
Clients are happy for me to address their physical health issues – **Agree/Strongly Agree**	71%

Of the 7 case managers, 7 had completed a CPHG with at least one client, 6 had used Health Matters staff resources, and 5 had spoken to the Physical Health Portfolio Holder about a client's physical health issues or attended physical health training.

All 7 case managers 'agreed' that the CPHG was quick and easy to complete, 6 'agreed' that speaking to the Physical Health Portfolio Holder was helpful, the role should continue, and the CPHG helped them identify clients' physical health issues not previously known. Five case managers also 'agreed' that clients were happy for the case manager to address their physical health issues and that Health Matters had improved the case manager's ability to address clients' physical health issues.

Clinicians were also asked a series of open-ended questions to explore in more detail aspects of their experience of Health Matters. Coded statements summarising provided responses are presented for each question.

What impacts on your ability to promote the physical health of your clients? (number of clinicians providing a related response)

- Client who is chaotic or experiencing unstable / escalating mental illness (2)
- Client who is not motivated to address physical health issues or attend booked appointments (2)
- Time for case manager to address (1); Knowledge of local physical health services (1); Time for therapeutic relationship to develop (1).

What if anything has changed [since the Physical Health Portfolio Holder started] with how you promote the physical health of your clients?

- CPHG has provided structure or a prompt when asking about physical health (4)
- Health Matters has raised awareness for clinicians of the need to ask regularly about physical health (3)
- Conducting screening has provided the start point to follow-up issues (1).

If you have spoken to [a Portfolio Holder] about a physical health issue of a client how has this been helpful for you or your client?

- Helped clinician identify how to respond to a client's physical health issues (3)
- Improved the clinician's understanding of physical health issues (2)
- Portfolio Holder provided physical health input into clinical review (1).

What improvements would you suggest to make to the Physical Health Portfolio Role, Client Physical Health Guide or physical health resources?

- Happy with current program or keep it going (2)
- Integrate more effectively with other related resources such as the dietician, eating disorders portfolio and medical officers (2)
- Establish regular reminders to ask about clients' physical health (1)
- Expand focus on intervention for identified health issues (1)
- Include in referral pathway Central Bayside Community Health Service (1)

What else should your service do to continue promoting the physical health of your clients?

- Further practical staff education focused on how to ask about and respond to physical health issues (2)
- Continue monitoring (1); Establish nutritional screening for clients (1); offer group programs (1).

Case Study demonstration of How Health Matters Benefitted Clients

Two case studies were provided by staff from the Health Matters teams (one from ISCHS and one from Alfred Psychiatry) which were suggested as illustrations of how completion of the CPHG had led to a change in outcome for a client.

Inner South Community Health Service
A client being supported by one case manager was said to have been drinking heavily for 6 years. Prompted by the conversation surrounding completion of his initial screen with the CPHG, he attended his GP who, among other tests, ordered a liver function test. Liver enzyme levels were found to be “through the roof” and the GP diagnosed him with fatty liver disease. The client found this so concerning that he was motivated to work with his ISCHS case manager in addressing his alcohol use, commencing home-based alcohol detox and increasing the frequency of his GP engagement. At the time of collection of case manager feedback, the client had not drunk any alcohol for the past 12 months, a change that was first prompted through completion of the CPHG.

Alfred Psychiatry
After the case manager completed the first screen with the CPHG, it was identified in joint discussion that the client had several health concerns that had previously been mentioned to the case manager (e.g. knee pain) but not followed up on. The case manager stated that recording this information on the CPHG was a visual, concrete way to demonstrate the importance of looking after one’s health to which the client agreed. It also highlighted for the client that there were actions that they could take to address the identified health issues. With the case manager’s support, this prompted the client to access the ISCHS GP and dentist. The positive experience of accessing the ISCHS GP in this way, later led to the client receiving their long-acting injectable medication through the ISCHS GP. This then formed the basis for the client being discharged to primary management by the GP which was facilitated through the conversation about the importance of physical health that was first prompted by screening with the CPHG.

Physical Health Portfolio Holder Consultation Feedback

While not intended as a formal part of the evaluation, a consultation was conducted with the two Portfolio Holders to explore their experience of Health Matters. Four themes summarised information provided during the consultations: contextual factors impacting the project; how Health Matters operated within their service; perceived benefits; and encountered challenges or suggestions for improvement.

Contextual factors impacting Health Matters:

- During the conduct of the project, ISCHS was undergoing accreditation and organisational changes that resulted in relocation of staff and reallocation of some clients to new case managers. This in particular impacted on the completion of the 6 month follow-ups for staff in the ISCHS Health Matters team.
- Implementation of Health Matters within ISCHS was assisted through a physical health screen already being incorporated into the standard intake documentation suite for ISCHS clients. Being embedded within a community health service, ISCHS case managers were said to also be more familiar with conducting physical health screening and linking clients into onsite physical health professionals. In contrast, case managers within the Alfred Health Matters team were said to have had more variable experience with physical health issues and as a result needed more assistance.
- An initial ISCHS Portfolio Holder moved to a new service, requiring appointment of a new Portfolio Holder. At the Alfred site, no clinician voluntarily took on the role, and instead a clinician with the suitable skill set was asked and accepted.
- Access to training, capacity to advocate for client physical health, reduced case load and a “bumping up of the payscale” were reasons for role acceptance.

How Health Matters operated within each service

- Protected time (through a reduced client load) enabled Portfolio Holders to devote 4 hours / week to Health Matters although in practice often case management work impacted the ability to provide this time. The Alfred Portfolio Holder also stated the need to regularly remind the team about their reduced case load to ensure they retained their capacity to perform Health Matters work.
- Both Portfolio Holders stated that they had regular contact with the Health Matters Project Officer, particularly during project and when collecting consent, but did not meet each other to provide peer support in delivering their roles.
- How the Portfolio Holders operated differed somewhat across sites. At ISCHS, given the pre-existing physical health expertise of case managers, the Portfolio Holder spent more time promoting the conduct of initial and follow-up screening, conducting health indicator measurement (e.g. heart rate, blood pressure) if requested by case managers and helping with collection of research consent from clients. They were asked less often than expected to provide consultation advice although did provide physical health input as part of team clinical review. At Alfred, more time was spent developing physical health management plans for each client who completed a CPHG. This would often draw on the Referral Pathway and other Health Matters resources, and the management plan would then be given to the case manager to implement. It was noted, however, that over time case managers asked for direct input less frequently, expressing more confidence in independently developing and implementing health management plans. The also provided physical health input to team clinical reviews.

Perceived Benefits of Health Matters

- Portfolio Holders stated that the accessed training was personally beneficial. Similar practice benefits were also observed for Health Matters team colleagues, in particular staff working in Personal Helper and Mentor or non-nursing roles who had less pre-existing physical health expertise. Health Matters was also said to be been successful in raising awareness of the need for case managers to ask about and respond to physical health issues in clients. Uptake of screening by staff not in the Health Matters team, who did not access direct Portfolio Holder support, highlighted that screening was seen to be of value for most clinicians.
- A number of benefits for clients had been observed. Introduction of screening helped to identify clients who were not regularly engaging with a GP, and as a result a number of clients were successfully engaged with a new GP. A number of clients were also linked into dental and optometry for the first time. Introduction of the CPHG was also said to provide clients a reminder of the need to get "checked up" and that good physical and mental health were important. It was also said that with some clients who were not yet ready to address an identified physical issue, conducting the screening allowed for a conversation about this that assisted in shifting their readiness to address the issue.
- Service benefits were also observed, in particular the ability to capture information about the physical health needs of clients and to use research to underpin practice change.

Encountered challenges or suggestions for improvement

- Implementation of the project was said to have been impacted by confusion amongst case managers about who would collect research participation consent and when it should be collected. It was suggested that for future projects, either how consent is collected could be simplified (e.g. through use of an opt-out process) or else focus should first be on the implementation of the practice change before then conducting research activities to evaluate the new practice.
- Also causing confusion at the Alfred site was that the clinician responsible for screening changed. First this was case manager-led, then medical officer-led, before reverting to case manager-led screening as the final practice. This was said to have made it difficult for the Portfolio Holder to maintain enthusiasm for the project and the conduct of screening. However, once the final decision was made to implement case manager-led screening and this practice was endorsed and promoted by senior managers, this was said to have significantly increased the success of the implementation of screening.
- There was also some confusion early in project implementation about the role of the Portfolio Holder and what their responsibilities were and it was suggested that for future projects clearly defining and communicating this would be beneficial. It was also suggested that increasing the time to devote to the role to enable them to be more active and provide more substantial assistance to case managers and GPs would help with embedding the role and maximising impact.
- It was also suggested that while it would be great to get all case managers to routinely screen, if this is not achievable then an alternative may be to operate a clinic (e.g. GP, dietician, physical health nurse) to provide more comprehensive assessment, management planning and monitoring.

4. References

1. Green AI, Patel JK, Goisman RM, Allison DB, Blackburn G. Weight gain from novel antipsychotic drugs: need for action. *Gen Hosp Psychiatry* 2000;22(4):224-235.

2. McDermott S, Moran R, Platt T, Isaac T, Wood H, Dasari S. Heart Disease, Schizophrenia, and Affective Psychoses: Epidemiology of Risk in Primary Care. *Community Mental Health Journal* 2005;41(6):747-755.

3. De Hert M, Dekker JM, Wood D, Kahl KG, Holt RIG, Möller HJ. Cardiovascular disease and diabetes in people with severe mental illness position statement from the European Psychiatric Association (EPA), supported by the European Association for the Study of Diabetes (EASD) and the European Society of Cardiology (ESC). *European Psychiatry* 2009;24(6):412-424.

4. Filia SL, Baker AL, Richmond R, et al. Health behaviour risk factors for coronary heart disease (CHD) in smokers with a psychotic disorder: baseline results. *Mental Health and Substance Use* 2011;4(2):158 - 171.

5. Heald A, Montejo AL, Millar H, De Hert M, McCrae J, Correll CU. Management of physical health in patients with schizophrenia: practical recommendations. *European Psychiatry* 2010;25(Supplement 2):S41-S45.

6. Osborn DP, Nazareth I, King MB. Risk for coronary heart disease in people with severe mental illness: cross-sectional comparative study in primary care. *Br J Psychiatry* 2006;188:271-277.

7. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology* 2006;3(2):77 - 101.

5. Appendices

AlfredHealth

Client Physical Health Guide

Place Patient ID label here

(Client name, D.O.B., Gender, UR number)

Client name:
GP details:
Current medication (see referral):
Allergies/Medical conditions:

Have you noticed any weight change in the past 6 months (i.e. gain or loss)? *Comments:*	Weight: Height: BMI: Waist:
Blood pressure	Seated:

Have you had a GP review in the past 6 months?	Yes ☐ No ☐

Have you been diagnosed with diabetes?	Yes ☐ No ☐
If you don't have diabetes, have you been tested?	Yes ☐ No ☐ Unknown ☐

How many pieces of fruit and vegetables would you eat in a normal week? How many takeaway meals would you eat in a normal week?

Do you exercise? Note type and frequency (days a week):	Yes ☐ No ☐
Do you have a history of falls or balance problems?	Yes ☐ No ☐

Are you experiencing any difficulties seeing or have you had sight problems in the past?	Yes ☐ No ☐
If so, have you had your eyes checked within the last 12 months?	Yes ☐ No ☐

Do you have any concerns about your feet, such as redness, soreness, inflammation, etc?	Yes ☐ No ☐
If so, have you had your feet checked by a podiatrist or doctor?	Yes ☐ No ☐

Have you had a dental check-up in the last 12 months?	Yes ☐ No ☐
Do you regularly use a toothbrush and toothpaste?	Yes ☐ No ☐

Do you have asthma?	Yes ☐ No ☐
Do you have COPD?	Yes ☐ No ☐

Are you experiencing constipation?	Yes ☐ No ☐
Do you have a history of urinary tract infections?	Yes ☐ No ☐ Unknown ☐

Have you had a Pap smear in the past 2 years?	Yes ☐ No ☐
Have you had a breast screen in the past 2 years?	Yes ☐ No ☐
Are you pregnant?	Yes ☐ No ☐ Unknown ☐
Do you have any sexual health concerns? *Comments:*	Yes ☐ No ☐

Drug and alcohol information	Type (e.g. beer)	How often do you use them?
Cigarette use		
Alcohol intake		
Illicit drug use		
Prescription misuse		
Comments: (note: if yes to any items, complete Assist tool)		

What aspects of your physical health would you like help with (i.e. goals)?

Date completed:
Name of clinician:
Signature:
Date to be reviewed:

Monash Alfred Psychiatry Research Centre
Level 4, 607 St Kilda Road
Melbourne, Vic, 3004

+61 3 9076 5182
stuart.lee@monash.edu