

What works: Health checks for patients with severe mental illness

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EVIDENCE BRIEF

Authors: Heidi Lynch, Payam Torabi, Serge Engamba, Jenny Blythe, John Ford

Summary

Morbidity and mortality in people who suffer from severe mental illness (SMI) is substantially higher than the general population. Preventable physical illness means that people with SMI die 15–20 years sooner than the average life expectancy. In the UK, annual screening for physical health conditions is available for people with SMI, however uptake is low.

This brief examines available evidence for interventions to improve delivery of physical health checks for people with SMI in primary care. Unfortunately, recent high-quality trials examining large patient cohorts are limited. Current evidence suggests the following are likely to be effective: 1) upskilling and educating staff, 2) optimising electronic patient records using templates and prompts and 3) case management, nurse-led care, and support teams.

Key recommendations are based on improving knowledge of guidance, optimising electronic tools that increase ease of screening and improving communication between health care organisations.

Current challenges

People with severe mental illness (SMI), such as schizophrenia and bipolar affective disorder, have poorer health and a shorter life expectancy than the general population. Most morbidity and mortality in people with SMI is due to preventable and treatable long-term physical health conditions. A study of almost one million electronic health records in Northern Ireland found patients with SMI have a twofold excess in all-cause mortality (1). Patients with SMI are twice as likely to suffer chronic kidney disease (CKD), chronic obstructive pulmonary disease (COPD), diabetes mellitus (DM) and metabolic syndrome (1, 2). Cancer and cardiovascular disease mortality is also higher than the general population, despite comparable incidences of both diseases (1, 2). Patients with SMI are more likely to have multiple comorbidities, with those aged 15 to 34 years being five times as likely as the general population to have three or more long-term conditions (3). Cancer screening, specifically for breast, colorectal and cervical cancer, is also much lower in patients with SMI than national averages, contributing to more advanced disease at diagnosis and higher mortality (2). The combination of increased preventable morbidity and reduced health care results in a life expectancy shortened by 15–20 years (2).

Multiple complex factors contribute to poor health outcomes in patients with SMI. Lifestyle risk factors like a poor diet, high rates of alcohol, tobacco and drug use and low physical activity are compounded by significant side effects of antipsychotic medications and higher likelihood of social deprivation (1). The delivery of high-quality primary care is an essential mechanism to improving health outcomes for people with SMI.

Annual physical health checks for people with SMI is included in the current Quality Outcomes Framework and includes measurement of body mass index (BMI), cholesterol, blood glucose, blood pressure (BP), and screening for alcohol and smoking. These health checks are free for all over 18-year-olds with bipolar affective disorder, psychosis, or schizophrenia. Last year only 313,022 (58.5%) of 535,204 people living with SMI in England undertook a health check (4). Although this is a substantial improvement on previous years, and a notable recovery from only 23.4% uptake during the pandemic, it remains substantially lower than the 2023/2024 target uptake of 73% (4).

Enabling access to and uptake of health checks is crucial to facilitate earlier diagnosis and management of chronic disease in patients with SMI. In people with a severe mental illness, an annual health check in the past year was associated with a 20% reduction in A&E attendance,

25% reduction in mental illness admissions, and 24% reduction in emergency admissions for preventable conditions (5).

Here we discuss the current available evidence for interventions to increase annual health check uptake amongst this population. We do not examine the impact health checks have on long-term outcomes.

Summary of evidence

High-quality research in this area is limited. A 2016 Cochrane review examining randomised controlled trials (RCTs) of interventions targeting uptake of cancer screening in adults with SMI could not find any studies meeting inclusion criteria (6). More recently, a meta-review of interventions to reduce chronic disease mortality in patients with SMI also could not find any trials reporting on screening or monitoring of physical health parameters (7).

Evidence was compiled under three headings: upskilling and educating staff, optimising electronic patient records and integration across care organisations. These headings are drawn from 'Interventions to increase access to or uptake of physical health screening in people with severe mental illness: a realist review' (2). Studies included below were identified both through this review and elsewhere.

Upskilling and educating staff

A before-and-after audit of five primary care centres in Northampton assessed the impact of training practice nurses to deliver health checks for people with SMI (8). Pre-training, 20% of the 400 eligible patients received checks for all CVD risk factors (glucose, BP, cholesterol, and BMI), which rose to only 23% in the post-training year. All elements of lifestyle advice (diet, exercise, and smoking) were only delivered to 11% of patients pre-training and 28% post-training. Finally, in the post-training year 15% of patients received the health check in its entirety, compared to 8% pre-training.

A community mental health centre in a socioeconomically disadvantaged area of inner-city London provided brief educational sessions for consultants and junior doctors to encourage physical health monitoring of patients prescribed antipsychotics (9). An audit of patient records was conducted pre and 12-months post-intervention. Prior to the education sessions taking place, only 24.6% and 7.1% of the 126 audit patients underwent glucose and lipid testing respectively. This improved to 72.6% (glucose) and 52.8% (lipids) in the post audit cohort of 106 patients. Monitoring of HbA1c however did not demonstrate a statistically significant increase (3.2% and 5.7% pre and post

audit respectively). Additional parameters for a complete physical health check were not included in the audit.

A quality improvement project conducted in an outpatient mental health facility tested the impact of educating clinical staff on the importance of adhering to recommended guidelines for monitoring parameters of metabolic syndrome (BMI, blood pressure, fasting blood glucose and a lipid panel) (10). A random chart review was conducted of 50 charts pre-intervention and 50 charts post-intervention of patients over 18-years-old prescribed at least one second generation antipsychotic (SGA). Completion of BMI and blood pressure monitoring rose from 76% to 82% after implementation. Pre-intervention clinicians ordered laboratory investigations (blood glucose and lipids) for only 32% of patients, compared to 88% post-intervention. However, the interventions were only completed in 22% and 62% of patients pre and post-intervention respectively. While it is apparent from the discrepancy between laboratory tests ordered and undertaken that additional factors impact uptake, investigation rates were successfully increased substantially through staff education alone.

Optimising electronic patient records using templates and prompts

Yeomans and colleagues evaluated a computerised cardiovascular health screening tool to support physical health monitoring of SMI patients in primary care (11). The tool included a standardized cardiovascular risk calculator with NICE guideline recommendations and was implemented across 80 general practices in Bradford and Airedale, 48 of which received a 30-minute staff training session. Researchers defined 'data-rich' entries as those that recorded at least the following four factors; systolic blood pressure, high density lipoprotein: cholesterol ratio, smoking status and BMI. Of the 5056 patients on the SMI register, 1296 received a non-template-based health check and 335 received a template-based health check. 23% of template users had 'data-rich' records compared with only 8.5% of non-template users. In addition, 76% of patients with template-based reviews received lipid screening compared to only 45% of patients on the whole SMI register. Systolic blood pressure, BMI and smoking status were also recorded in 97%, 91% and 92% of cases of template users respectively. These same measures were only recorded by about 75% of clinicians who did not use the template.

Use of a computerised physician order entry pop-up (CPOE) alert was evaluated to assess its impact on metabolic monitoring for SMI inpatients on second generation antipsychotics (SGA) (12). The alert system was implemented in an

adult psychiatric unit over a 6-month period to facilitate appropriate ordering for both random and fasting glucose and lipids at the time of SGA prescribing. Of the 171 patients in the pre-alert group, random glucose was recorded in 92.4%, fasting glucose in 48.6%, random lipid panels in 28.7% and fasting lipid panels in 18.7%. Application of the CPOE alert improved metabolic monitoring across all parameters. All 157 post-alert patients had an electronic record of their random glucose, 70% fasting glucose, 74.5% random lipid panel and 59.9% fasting lipid panel. Laboratory orders for each parameter were placed at the time of SGA prescribing in significantly more of the post-alert patient group ($p < 0.0001$), indicating the alert served as a direct prompt for monitoring.

In a similar study, an electronic medical record template was trialled for 206 psychiatric inpatients with SMI to increase rates of documentation of the component parts the 'Metabolic Screening Bundle' (13). Education on template use was also provided for 39 resident medical officers who attended to the patients over the 12-month study period. Documentation of all measures (blood pressure, fasting glucose, fasting lipids and BMI) increased significantly from baseline, with the full bundle increasing 30-fold from 1% to 31% ($p < 0.0001$). Despite the inpatient setting of these trials, the value of electronic record systems for risk factor monitoring in SMI is likely to be transferable to primary care settings.

Case management, nurse-led care and support teams

A RCT tested the impact of medical case management by registered nurses to improve delivery of primary care for 407 patients with SMI (14). Case managers removed barriers between community mental health and primary care by communicating with primary care providers, providing advice and counselling, and advocating for the 205 intervention group patients. The completion of at least one physical examination (blood pressure, BMI, mammography, oral/eye/breast/pelvic examination) or screening test (cholesterol, faecal occult blood, HIV and tuberculosis) were included as measured outcomes. Screening was provided to 22.4% of baseline and 50.4% of follow-up intervention group patients, while physical examination was provided to 32.9% of baseline and 70.5% of follow-up patients in the same group. Comparatively, for the usual care cohort, rates of screening and physical examination remained at 21.6% and 35.6% respectively at 1 year-follow-up, which was comparable to baseline rates (22.3% and 36%). Case management demonstrated a significant influence on access to preventative care for patients with SMI, and while not all measured risk factors match those in NHS physical health checks, the intervention impact is likely to be similar.

A cluster randomised feasibility trial demonstrated the efficacy of nurse-led interventions to improve cardiovascular disease screening in patients with SMI (15). Patients under the care of six community mental health Trusts in North London were recruited into an intervention arm and a comparison arm. Nurses promoted measurement of random blood glucose and lipids, blood pressure and assessment of smoking status by liaising with GPs, encouraging community mental health workers to screen patients not already screened in primary care and then offering screening to the patient themselves. After 6 months, there were 30% additional patients in the nurse-led intervention arm receiving screening for each risk factor. In the trial group, of the 58 participants, 96.2% received screening for BP, 66.7% for cholesterol and glucose, 92.5% for BMI and 88.2% for smoking status. Control arm patients were less likely to be screened across all parameters, with only 68.2% of the 57 patients having a recorded BP, 26.9% cholesterol, 36.5% glucose, 65.2% BMI and 57.8% smoking status.

An audit conducted by an early intervention in psychosis (EIP) service in North East England aimed to improve numbers of SMI patients undergoing annual physical health checks (16). The intervention involved educating the multidisciplinary team on national guidelines and enhancing communication and collaboration between the EIP service and local primary care providers. Components of the physical health check were determined between care providers based on prescribing guidelines. Patients taking psychotropics required a blood glucose, lipid panel, full blood count, urea and serum electrolytes, in addition to blood pressure, BMI, smoking status, alcohol and substance use screening, which was provided to all SMI patients. At the commencement of the audit, only 20% of the 66 patients had undergone a health check in the previous 12-months. This improved significantly at re-audit, to 58% of 76 patients receiving a physical health check. Approximately 90% of patients in both groups were prescribed psychotropic medication and therefore required laboratory investigations as part of their health check. The results of this trial demonstrate how better liaison between care teams can substantially improve quality of care.

Interventions which increase health checks in people without severe mental illness

Services that are effective in increasing uptake of health checks in the general population may also be useful in people with severe mental illness. A recent rapid review found that telephone invitations and text messages were more effective than letters, and computer prompts within electronic patient records improved opportunistic verbal invitations and uptake for specific disadvantaged groups (17).









Limitations

Evidence discussed in this brief is largely drawn from non-randomised studies with small sample sizes and little long-term outcomes data. There is also an absence of recent literature, with most trials occurring around the early 2010s.

Variation in the individual components of screening and physical examination between trials precludes synthesis of results. All studies discuss interventions at the provider and practice level; no evidence describes how to improve accessibility or acceptability of physical health checks for patients with SMI.

What works: key recommendations

The Grading of Recommendations, Assessment, Development and Evaluations (GRADE) framework has been adopted to grade the quality of the evidence and support recommendations.

| Recommendation | Target audience | GRADE certainty |
|---|-------------------------|---|
| Ensure health care providers are familiar with current physical health check guidance | | |
| Provide regular training sessions for clinical staff members to promote and undertake health checks for people with SMI | Practices |  Moderate |
| Invitations | | |
| Implement reminder systems for clinical staff to undertake physical health checks for people with SMI | Practices |  Moderate |
| Use computer prompts to highlight patients requiring a physical health check | Practices |  Low |
| Use text messages, telephone invites and opportunistic verbal invitations to promote uptake | Practices |  Low |
| Health check appointments | | |
| Offer flexibility in terms of time, location and length of appointment | Practices |  Low |
| Adopt electronic systems and templates that facilitate timely screening and accurate monitoring (e.g. Bradford template) | Practices |  Moderate |
| Case management, nurse-led care and support teams | | |
| Consider case managers and nurse-led care to help people with SMI to navigate the health care system and take part in health checks | Practices/ PCNs/ICBs |  Moderate |
| Consider early intervention support teams for people with SMI to ensure preventative care is provided in a timely manner | Practices/ PCNs/ICBs |  Low |

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