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Article

Physical healthcare of people with severe mental illness: everybody's business!

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ABSTRACT

Aim People with severe mental illness are at higher risk of physical health problems. Guidelines recommend annual monitoring. An audit cycle was completed on individuals with severe mental illness under the care of an early interventions in psychosis (EIP) service to evaluate and improve physical health monitoring practice.

Methods The number of patients who had undergone a physical health check in the previous year, and those having a record of it in their EIP notes, was examined. Interventions made between baseline audit and re-audit included improving awareness within the multidisciplinary EIP mental health team about the importance of physical health monitoring of people with severe mental illness and liaison with primary care health services.

Results The number of patients undergoing at least one annual physical health check increased from 20% to 58%. Among patients who had undergone a physical health check at re-audit, a record of some or all the checks was available in the notes for 75% of patients.

Clinical implications There is a need to improve awareness among mental health professionals about the importance of the physical health of people with severe mental illness and to make appropriate organisational changes.

Keywords: audit, physical healthcare, severe mental illness

Introduction

Schizophrenia is associated with mortality rates two to three times higher than that in the general population.[1] In addition to the increased risk of suicide, a higher number of natural deaths contributes to this higher mortality. Unhealthy lifestyles, polypharmacy and inadequate healthcare have been shown to contribute to the high natural mortality.[1] Physical health problems are common in patients with schizophrenia, among whom cardiovascular events contribute most strongly to the excess mortality observed, followed by other factors including obesity, metabolic aberrations, smoking, alcohol, lack of exercise and poor diet.[2,3]

Atypical antipsychotics are usually the first-line treatment for severe mental illness. Most of these are known to be associated with metabolic side effects such as weight gain, diabetes mellitus and dyslipidaemia, thus increasing the long-term risk for cardiovascular diseases (CVD) in this already vulnerable group.[4–6]

The recent National Institute for Health and Clinical Excellence (NICE) guidelines on schizophrenia[7] recommend that 'GPs and other primary healthcare professionals should monitor the physical health of people with schizophrenia at least once a year ... A copy of the results should be sent to the care

co-ordinator and/or psychiatrist, and put in the secondary care notes'. Regarding monitoring of physical health in secondary care, NICE recommends: 'As part of the care programme approach (CPA), healthcare professionals in secondary care should ensure that the regular physical health checks mentioned above are being carried out in primary care'.

Those on antipsychotic medications need regular monitoring of various parameters including weight, blood pressure (BP), blood sugar, lipids, electrocardiogram (ECG), full blood count, urea and serum electrolytes, liver function tests and prolactin, depending upon the individual psychotropic agent.[8]

In the UK, local audits in rural areas have shown that blood testing and physical health screening of patients on antipsychotic medications are less robust in the community as compared to inpatient units.[9–11] There is paucity of studies looking at interventions to improve physical health monitoring in individuals with severe mental illness in the community. In a randomised feasibility trial of community mental health teams, Osborn *et al* compared nurse-led intervention plus education pack with education pack only to evaluate screening rates for CVD risk factors in people with severe mental illness (SMI) across the primary–secondary care interface.[12] The authors concluded that the nurse-led intervention was superior, resulting in an absolute increase of approximately 30% more people with SMI receiving screening for each CVD risk factor. Another study, in a secondary care mental health service, reports the positive impact of introducing a simple one-page monitoring tool along with educational intervention on physical health monitoring of outpatients on antipsychotic medication.[13]

In this paper, we share our experience of improving the standard of physical healthcare of individuals with severe mental illness in an EIP service through both in-house training and improved liaison with primary care health services. To our knowledge no such study has been reported before.

Methods

The South of Tyne EIP service in the North East of England consists of two teams – one covers the Sunderland area and the other Gateshead and South Tyneside. The service was set up in 2004 to provide care for individuals in the 14–35 age group experiencing a first episode of psychosis, and their families, for a period of three years. Each team consists of seven care co-ordinators (each expected to have a caseload maximum of 15 patients), a clinical psychologist, a consultant psychiatrist, a team manager and a support worker. The EIP service is expected to encourage the primary care health services in the locality to conduct regular physical health checks on the patients, in addition to addressing this issue with individual patients. This, it is hoped, will lead to cultivation of long-term therapeutic relationships between the patients and their general practitioner (GP) surgeries. When the EIP service was set up in 2004, template letters were designed to be sent annually to GPs to remind them to conduct the physical health checks.

In December 2008 it was decided to use audit tools to assess how robustly the physical health of patients was being monitored. The audit was conducted on all patients who had been under the care of EIP Sunderland for more than a month.

The following standards were set to evaluate the physical healthcare of patients, considering the evidence presented above.

1 All patients should have undergone at least one physical health check in the previous year.
2 All patients should have a record of the results of the physical health check in their notes.

The audit involved an initial phase of all seven care co-ordinators submitting a list of patients on their caseload who had undergone a physical health check in the previous year. The care co-ordinators referred to the case notes, as well as checking with patients and the GP surgeries to confirm whether the patient had undergone a physical health check in the previous year. Reasons were explored for those who had not undergone a physical health check in the previous year. Subsequently, case notes of all patients were reviewed to look for a copy of the physical health check results. An audit tool was developed to collect the above information.

Following the baseline audit in December 2008, we identified a need to make interventions to improve the standard of physical health monitoring for patients under the care of the EIP service. Soon after this, NICE released updated guidelines on schizophrenia,[7] and the recommendations on physical health monitoring (as detailed in the previous section) further supported the standards set by the EIP service. The following interventions were made and the re-audit conducted in July 2009 to examine any change in practice.

The data were analysed using the statistical programme SPSS, version 17 (SPSS Inc.). Chi-square testing was used to compare the categorical variables and the student's t-test to compare continuous variables.

The audit was registered with the trust's clinical governance department as per local policy and did not require approval from its ethics committee.

Interventions

Getting our own house in order

The initial audit revealed that the letters for GPs reminding them to conduct annual physical health checks had not been sent out regularly. It was recognised that due to the high demands for engagement and the greater mental health needs of these patients, their physical health needs had received lower priority.

An in-house half-day workshop, which was attended by all members of the team, was held to look at the importance of physical health monitoring in our patient group. This interactive workshop led to increased recognition among EIP staff of the need to regularly discuss the importance of physical health (including smoking, use of alcohol and illicit substances, diet and healthy lifestyle) with patients, addressing their resistance to physical investigations and supporting them in booking appointments and attending their GP surgeries. It was decided that physical health would be a mandatory component of the care plan review (which happens at six weeks into the service and then six-monthly), and the care co-ordinators and the responsible medical officer would jointly take responsibility for sending letters out to the GPs and following up the outcomes. It was also agreed that at the time of receiving referrals, referrers would be advised to provide the EIP service with all relevant information regarding current and past physical health issues. One team member (KV) ensured that physical health was on the agenda at the weekly team meetings so that all team members could be reminded of the above agreed plans and any related issues could be raised and addressed.

Liaison with primary healthcare

It transpired during the initial audit that some of the GP surgeries had refused to conduct the physical tests requested by our service, which had discouraged the staff from pursuing this with these and/or other surgeries. It was also felt that the letters sent out from the EIP service requesting physical health checks were going into a black hole as no response was being obtained.

An email discussion was started with the three mental health leads in primary care health services in the Sunderland and adjoining Gateshead and South Tyneside areas. The template letters were sent out to the leads and feedback sought. A number of amendments were suggested in order to make the whole process simple, robust and less time-consuming for the GPs. It was agreed that the care co-ordinators would ensure there was support for their patients in booking and attending appointments at GP surgeries.

Discussions were also held with the mental health leads of primary healthcare services regarding the physical health parameters that needed to be monitored. It was agreed that all new patients accepted under the care of the EIP service would need the following baseline checks: pulse rate, BP, Body Mass Index (BMI), smoking status and alcohol and substance misuse, blood sugar and lipids (fasting if possible), full blood count, urea and serum electrolytes, liver function tests, thyroid function test and prolactin. Since all the patients under EIP care are young (under 35 years), it was agreed that ECG would not be routinely conducted unless a clear risk of cardiovascular disease was present or if ECG was required prior to initiating antipsychotic medication.[8,14] The parameters to be measured at the next annual check would be determined by the clinical factors. Patients on no psychotropic medication would undergo an annual check for pulse rate, BP, BMI, smoking status and alcohol and substance misuse. They would be screened for cardiovascular risk on the basis of the above and if relevant, would undergo further tests. For those on psychotropic medication, additional tests recommended by the Maudsley prescribing guidelines of 2007 (blood sugar, lipids, full blood count, urea and serum electrolytes, liver function tests and prolactin, depending upon the individual psychotropic agent) would be conducted at least annually. The primary healthcare services added the checks on smoking status and alcohol and substance misuse to the above list of other tests in order to achieve indicators related to schizophrenia in the Quality and Outcomes Framework (QOF) of the General Medical Services contract.[15] The care co-ordinators would, however, continue to address these issues at regular intervals.

It was suggested that where possible, a diagnosis should be provided on the letter to the GP, which would help them to place the patient on the SMI register. It can be difficult and sometimes counterproductive to specify a diagnostic category in early psychosis and therefore it was agreed that a diagnosis of 'Psychotic episode' would be acceptable during the first year into service until further clarity of diagnosis was achieved.[16,17]

It was agreed that for every patient under the care of the EIP service, a letter requesting a physical health check would be sent to the primary healthcare service within a fortnight of the patient's acceptance into the EIP service and then annually. Subsequent to the letter being sent, the patient would be encouraged to book an appointment with the practice nurse for a physical health check and

another, double appointment with the GP the following week to discuss the results. This would give an opportunity to the GP to provide appropriate advice and complete QOF checks and would also prompt GPs to send a copy of the results to the EIP service (see Appendices 1 and 2).

Results

Table 1 summarises the demographic details of the patients at baseline audit and re-audit. No significant difference was noted between the two points in terms of gender distribution, age, ethnicity and whether or not patients were on psychotropic medication. At baseline, out of the total caseload of 66 patients under the care of EIP Sunderland, only 13 (20%) had undergone a physical health check in the previous year. Therefore, it was not considered necessary to review the notes for a copy of the physical health report as it would not have added any useful information.

Table 1 Demographic details of patients at baseline audit and re-audit

	December 2008	July 2009
Total number of patients	66	76
Male:female	51:15	58:18
Age (mean ± SD) years	25.3 ± 5.8	25.0 ± 5.6
White British ethnicity	62	72
Not on psychotropic medication	6	8

At re-audit, in July 2009, the total number of patients under the care of EIP Sunderland was 76, out of whom 44 (58%) had undergone a physical health check in the previous year. There was a significant increase in the number of patients undergoing annual physical health checks at re-audit (44 out of 76) as compared to baseline (13 out of 66; Pearson chi-square (1, $N = 142$) = 21.45, $p < 0.0001$).

Among the 32 (42%) patients in July 2009 who had not undergone a physical health check in the previous year, eight were not on any psychotropic medication. Various reasons contributing to the failure of annual physical health checks are summarised in Table 2.

Table 2 Reasons contributing to failure of annual physical health check in 32 patients at re-audit

Reason for failure of annual physical health check	Numbers
Refusing or unwilling to attend GP surgery but engaging with EIP service	16
Difficult to engage	6
Too unwell to attend for physical health check	2
Physical check in the process of being organised (2 in prison, 1 not registered yet with a GP practice, 2 due to attend appointments made, 3 needing to book appointments)	8

Of the 44 patients checked, some or all the results of their physical checks were available in the notes of 32 (75%) patients.

All appropriate blood reports were available in the majority of these patients' case notes with a few exceptions, e.g. prolactin levels were missing for two patients on risperidone. The information on pulse, BP and BMI was available in half of the notes. It was noticed that staff from the EIP service often had to actively seek the results of physical health checks from primary healthcare services.

Discussion

This audit cycle demonstrated a significant improvement in the standard of physical health monitoring of patients under the care of the EIP service. This can be attributed to the improvement in awareness among the multidisciplinary staff of the EIP team of the importance of physical health in patients with severe mental illness. This in turn may have led to the staff prioritising the physical health of their patients and therefore encouraging and supporting them to book and attend appointments at their GP surgeries. The importance of having a team champion regularly raising the matter of physical health monitoring cannot be overestimated. Better liaison with primary care health services further provided EIP staff with the confidence and encouragement to direct their patients towards physical health checks.

It is, however, possible that the improvement in monitoring observed in our study was not a direct result of the interventions but may have been related to other factors, e.g. release of the NICE guidelines, changes in care co-ordinators. By the time of the re-audit two care co-ordinators had been replaced. As no significant difference was present in the patient sample between baseline and re-audit, it may be said that any patient-related confounding factors, e.g. age, gender, ethnicity, diagnosis and whether or not the patient was on antipsychotic medication, were eliminated.

We also appreciate that this was a pilot project and insufficient time was allowed between the intervention and the re-audit data collection. In fact, a formal meeting took place between the three representatives of the local medical committee of primary care trusts covering the Sunderland, Gateshead and South Tyneside areas and the EIP services covering these regions after the re-audit, in September 2009. At this meeting the expectations and roles of the primary healthcare and EIP services were recognised, clarified and formally accepted. It is hoped that following this meeting the communication between primary healthcare and EIP services would become more streamlined, leading in the long term to continuing quantitative and qualitative improvements in physical healthcare of patients with SMI. Needless to say, regular audit of current practice in future should continue to improve the standards of care.

There is increasing recognition of the role that GPs can play in the physical and mental healthcare of patients with mental illness.[18,19] The QOF of the General Medical Services contract rewards GP practices for maintaining a register of people with schizophrenia, bipolar disorder and other psychoses and providing them with annual health checks and routine health promotion and prevention advice.[15]

The vulnerability of people with severe mental illness makes it imperative that health providers offer them every opportunity to adopt healthy lifestyles and to access health services. The three years that patients with first episode psychosis spend with EIP services may well present particular opportunities to reduce long-term physical health risks through co-operation between primary and secondary mental health services.

There is a need to regularly revisit the issue of physical health for those who continue to refuse or are unwilling to undergo physical health checks. Those afraid of needles or not on any medication might be encouraged nevertheless to attend their GP surgery for general physical health checks, e.g. BP and BMI, and some of them might benefit from independent advice on smoking cessation, healthy lifestyle, diet and exercise.

We suggest that primary and secondary care services take joint responsibility for the implementation of physical health monitoring in psychiatric settings.

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REFERENCES

1 Auquier P, Lancon C, Rouillon F, Lader M and Holmes C. Mortality in schizophrenia. *Pharmacoepidemiology and Drug Safety* 2006;15:873–9.
2 McCreadie RG, Scottish Schizophrenia Lifestyle Group. Diet, smoking and cardiovascular risk in people with schizophrenia: descriptive study. *British Journal of Psychiatry* 2003;183:534–9.
3 Von Hausswolff-Juhlin Y, Bjartveit M, Lindstrom E and Jones P. Schizophrenia and physical health problems. *Acta Psychiatrica Scandinavica* 2009;438 (suppl):15–21.
4 Haddad P. Weight change with atypical antipsychotics in the treatment of schizophrenia. *Journal of Psychopharmacology* 2005;19 (suppl):16–27.
5 Bushe C and Paton C. The potential impact of antipsychotics on lipids in schizophrenia: is there enough evidence to confirm a link? *Journal of Psychopharmacology* 2005;19 (suppl):76–83.
6 Lieberman JA, Stroup TS, McEnvoy JP *et al*. Effectiveness of antipsychotic drugs in patients with chronic schizophrenia. *New England Journal of Medicine* 2005;353:1209–23.
7 National Institute for Health and Clinical Excellence. *Clinical Guideline 82. Schizophrenia: core interventions in the treatment and management of schizophrenia in primary and secondary care (update)*. London: NICE, 2009.
8 Taylor D, Paton C and Kerwin R. *The Maudsley Prescribing Guidelines* (9e). London: Informa Healthcare, 2007.
9 Tarrant CJ. Blood glucose testing for adults prescribed atypical antipsychotics in primary and secondary care. *Psychiatric Bulletin* 2006;30:286–8.
10 Feeney L and Mooney M. Atypical antipsychotic monitoring in the Kilkenny Mental Health Services. *Irish Journal of Psychological Medicine* 2005;22:101–2.
11 Barnes TR, Paton C, Cavanagh MR, Hancock E and Taylor DM. A UK audit of screening for the metabolic side effects of antipsychotics in community patients. *Schizophrenia Bulletin* 2007;33:1397–403.
12 Osborn DP, Nazareth I, Wright CA and King MB. Impact of nurse-led intervention to improve screening for cardiovascular risk factors in people with severe mental illnesses. Phase-two cluster randomized

feasibility trial of community mental health teams. *BMC Health Services Research* 2010;10:61.
13 Gonzalez C, Ahammed N and Fisher R. Improving physical health monitoring for out-patients on antipsychotic medication. *The Psychiatrist* 2010; 34:91–4.
14 Northumberland Tyne and Wear NHS Trust. Clinical policies. *NTW(C)29: Physical Assessment – V03, February 2009 , Appendix 3, Guidance for ECG monitoring*. www.ntw.nhs.uk
15 British Medical Association and NHS Employers. *Quality and Outcomes Framework Guidance for GMS Contract 2009/2010*. London: BMA and NHS Employers, 2009. www.nhsemployers.org
16 Subramaniam M, Pek E, Verma S, Chan YH and Chong SA. Diagnostic stability two years after treatment initiation in the early psychosis intervention programme in Singapore. *Australian and New Zealand Journal of Psychiatry* 2007;41:495–500.
17 Fraguas D, de Castro MJ, Medina O *et al*. Does diagnostic classification of early onset psychosis change over follow-up? *Child Psychiatry and Human Development* 2008;39:137–45.
18 Shiers D, Jones PB and Field S. Early intervention in psychosis: keeping the body in mind. *British Journal of General Practice* 2009;59:395–6.
19 Oud MJ, Schuling J, Slooff CJ *et al*. Care for patients with severe mental illness: the general practitioner's role perspective. *BMC Family Practice* 2009;10:29.

CONFLICTS OF INTEREST

None.

ADDRESS FOR CORRESPONDENCE

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Appendix 1: Template for the initial letter to the GP

Date

Re.

Name

DOB

Address

Dear Dr

Diagnosis/Diagnoses

Medications

The above client suffers from a psychotic episode and has been accepted by us, the Early Intervention in Psychosis (EIP) team, who will offer care coordination for a period of three years.

As those with psychosis have a much higher risk of developing a multitude of physical disorders for a variety of reasons, NICE recommends that initial and then annual physical health checks are carried out, with particular focus on cardiovascular disease risk assessment.

Would you kindly check:

Smoking status, alcohol intake, drug use (see also accompanying lifestyle information)

Pulse, BP, BMI and blood tests: FBC, LFT, U and E, thyroid function, blood sugar and lipid profile (both the latter fasting if possible) and a baseline prolactin (as some drugs for psychosis raise levels)

For female patients please consider contraception and cervical screening.

The patient has been asked to book a time with your practice nurse for the tests and *a double appointment* with you a week later for the annual MH QOF review and to discuss test results.

Following your review, would you kindly post or fax us a **Summary Printout including Significant Problems, Current Medications and Latest Values.**

Please contact us if you wish to discuss any aspect and thanks for your help and co-operation.

Yours sincerely

Care Co-ordinator **Consultant Psychiatrist**

Appendix 2: Template for follow-up letter to the GP

Date

Re.

Name

DOB

Address

Dear Dr

Diagnosis/Diagnoses

Medications

The above client continues to be under our care and is care co-ordinated by our service, the Early Intervention in Psychosis (EIP) team.

As those with psychosis have a much higher risk of developing a multitude of physical disorders for a variety of reasons, NICE recommends an annual health check which should include the following:

Smoking status, alcohol and drug use (see also accompanying lifestyle information)

Pulse, BP, BMI, and blood tests: FBC, LFT, U and E, thyroid function, glucose and lipids (both fasting if possible) and prolactin (a number of drugs for psychosis raise levels)

For female patients please consider contraception and cervical screening.

The patient has been asked to arrange an appointment with the nurse at your practice for the tests outlined above and a double appointment with you a week later to carry out the annual MH QOF review and to review the test results.

Following your review, we would be grateful if you could post or fax us a **Summary Printout including Significant Problems, Current Medications and Latest Values**.

Please feel free to contact us if you wish to discuss any aspect and thanks for your help and co-operation.

Yours sincerely

Care Co-ordinator **Consultant Psychiatrist**