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Hidden care: Revelations of a case-note audit of physical health care in a community mental health service

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ABSTRACT: People with severe mental illness (SMI) are widely reported to be at an increased risk of morbidity and premature death due to physical health conditions. Mental health nurses are ideally placed to address physical and mental health comorbidity as part of their day-to-day practice. This study involved an audit of hardcopy and electronic clinical case-notes of a random sample of 100 people with SMI case managed by community mental health service in metropolitan South Australia, to determine how well physical health conditions and risk factors, screening, and follow-up are recorded within their service records. Every contact between 1 July 2015 and 30 June 2016 was read. One-way ANOVA, Scheffe's test, and Fisher's exact test determined any significant associations across audit variables, which included gender, age, income, living arrangement, diagnosis, lifestyle factors, recording of physical health measures, and carer status. A focus on physical health care was evident from everyday case-note records; however, because this information was 'buried' within the plethora of entries and not brought to the fore with other key information about the person's psychiatric needs, it remained difficult to gain a full picture of potential gaps in physical health care for this population. Under-reporting, gaps and inconsistencies in the systematic recording of physical health information for this population are likely to undermine the quality of care they receive from mental health services, the ability of mental health service providers to respond in a timely way to their physical healthcare needs, and their communication with other healthcare providers.

KEY WORDS: clinical audit, comorbidity, monitoring, physical health, screening.

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INTRODUCTION

Physical health and mental health are closely interconnected issues and affect each other through a number of pathways. People with severe mental illness (SMI) have been widely reported to be at an increased risk of morbidity and premature death due to physical health conditions (Happell et al. 2014a; Kritharides et al.

2017; Mental Health Taskforce, 2016; Sprah et al. 2017). Diabetes and cardiovascular disease (CVD) are among the most common causes of death among people with SMI (De Hert et al. 2011; Te-Pou 2014). This increased risk arises from the many people with SMI living more sedentary lives and having poorer quality diets than the general population, experiencing a range of psychosocial issues that adversely impact their health, and also experiencing adverse impacts due to

the medications they take for their psychiatric conditions (Dorozenko & Martin 2017; Lawn 2012). Together, these issues lead to greater risk of metabolic syndrome, which is a precursor to developing many physical health conditions (De Hert et al. 2011).

Having a physical illness such as long-term obstructive pulmonary disease (COPD), long-term pain, or CVD can also lead to psychiatric conditions, such as severe depression or anxiety, or can worsen existing psychiatric symptoms (AIHW, 2016). In fact, comorbidity between physical and psychiatric conditions is so common that Sartorius coined it as the 'rule rather than the exception' (Sartorius 2013). For instance, globally, persons with major depression and schizophrenia have a 40–60% greater chance of dying prematurely than the general population, owing to physical health problems that are often left unattended (such as cancers, CVDs, diabetes and HIV infection) (WHO, 2013a).

The economic burden of comorbidity on the health-care system and community is also a prominent concern for policymakers and health service managers (McDaid & Park 2015). For instance, people with long-term physical illnesses suffer more complications and are more likely to require longer hospital admissions and experience high hospital readmission rates if they also develop mental health problems and vice versa, increasing the cost of care by an average of 45 per cent (AGDoH, 2017a). The cost of comorbidities associated with premature death in those with SMI is estimated to AUD \$45.4 billion (2.8% of gross domestic product) (RANZCP, 2016).

The Australian Government through the Council of Australian Governments has therefore endorsed improving the physical health of people living with mental illness and reducing early mortality as one of eight targeted priority areas for the Fifth National Mental Health and Suicide Prevention Plan (Australian Government Department of Health 2017a).

BACKGROUND

Mental health nurses, alongside other disciplines, are ideally placed and need to be involved proactively in addressing physical and mental health comorbidity as part of their day-to-day practice. As with health care more broadly, there is a growing trend towards e-records as a strategy to improve patient data capture and communication of care in mental healthcare practice (Robotham et al. 2015). However, Happell et al. (2014a) identified that most mental health nurses are

less proactive in addressing physical health comorbidity due to perceived poor role clarity or low self-efficacy in physical care skills and knowledge. There is also a lack of preparation for physical health tasks, and lack of resources and time within mental health nurses' daily practice that act as major barriers to providing this more integrated care (Happell et al. 2014a).

Likewise, significant barriers exist for people with SMI in their attempts to receive support and treatment for their physical health conditions. For example, Ewart et al. (2016, p.2) found that, 'at all steps in care, mental health consumers faced multiple difficulties, including the trivialization of consumer questions about their physical health when it was known that they had a diagnosis of mental illness'; that is, they were very concerned about their physical health but were significantly disempowered within existing systems of mental health and physical health care, largely due to negative interpersonal experiences with healthcare providers.

Key areas of practice recommended across the literature and clinical guidelines for physical health care in mental health settings include the following: (i) screening, physical assessment, and routine physical health checks; (ii) follow-up of results of screening and physical health assessments; (iii) health education for consumers, carers, and clinical staff; (iv) availability, access, and tailoring of lifestyle programmes and promotion of self-management; (v) a register of data on physical health of consumers (or equivalent); and (vi) oversight of physical health care for consumers, management, or care coordination of physical care across staff and services (Happell et al. 2014a; Stanley & Laugharne 2010). These recommendations acknowledge the importance of comprehensive monitoring of metabolic risk factors for people with SMI. However, an Australian retrospective audit of 721 electronic mental health consumer records (Stanton et al. 2016) found significant gaps in recording of metabolic monitoring data recorded for only 36% (n = 261) of consumers. Of these, 21.8% experienced metabolic syndrome; however, this was unclear for 54.8% of consumers due to missing data. Similarly, another Australian comparative cross-sectional study of metabolic monitoring in community mental health services found that it was undertaken for 78% of all new episode consumers where a specialist metabolic monitoring role existed, but only for 3% of consumers where this role was left to consumer case managers (McKenna et al. 2014). Acuity of consumers and confusion about who is responsible for monitoring have been identified as among the common barriers to metabolic monitoring (McKenna et al. 2014).

The results of the above studies strongly suggest that, to address these gaps in care, we first need a better understanding of current practice and processes for recognizing, recording, and responding to physical health issues within community mental health service practice, and also more about the nature of the population with SMI in relation to these processes. Therefore, this study aimed to capture how well mental health nurses and care coordinators from other disciplines fulfil some of the above requirements and thus focus on the following: (i) register of data; (ii) screening; and (iii) follow-up, by conducting a detailed case-note audit; that is, the research team aimed to understand what is currently being achieved in terms of monitoring and action across the service-user spectrum within an Australian metropolitan community mental health service offering care coordination and case management to people with SMI. In addition to this, we also aimed to understand whether these practices varied according to demographic factors such as the consumers' gender, age, living situation, and diagnosis.

METHOD

This study was granted ethical approval by the South-ern Adelaide Clinical Research Ethics Committee. As it was a case-note audit, consent from service consumers was waived. The case-note auditor was the only member of the research team to view identifiable data, and all audit activity was performed at the mental health service to ensure security and privacy of any identifiable information.

Design

This study involved an audit of the hard copy case-notes and electronic consumer information record system for a random sample of 100 consumers from a sampling frame of 900 active consumers of a community mental health service in an Australian metropolitan location. This service involves care coordination delivered by a multidisciplinary team at an outreach clinic conveniently located near a community services and retail precinct, with capacity to see people in their own homes and in the broader community.

The researchers met on several occasions to discuss and finalize the list of parameters to be included in the audit. The research team included members with detailed and long-term clinical mental health experience and understanding of how care is and should be delivered and recorded in practice (including a mental

health nurse practitioner), complimented by members with research, health service implementation and translation, and statistical expertise. This made for productive and detailed discussion to determine the range of variable of importance to include in the audit. Initial reconnaissance was undertaken with a small sample of four case-notes to trial the feasibility of the draft audit parameters. The research team then met to discuss any issues noted from this process and adjusted the audit, accordingly. Examples of this were the addition of 'flu vaccination' to data collection, and noting the consider-able time needed to fully read 12 months of case-note documentation.

Data collection

To ensure that sufficient information about physical and mental health care, and care coordination was available, cases were excluded where the consumer had been in receipt of the service for less than 12 months. No other exclusions were applied. This ensured that, as much as possible, it was a naturalist sample of people with a broad range of diagnoses and psychosocial needs, and with an established pattern of service provision.

Collection of all data was undertaken by one member of the research team, a registered mental health nurse with the necessary clinical access to service records, to ensure consistency in data collection. The researchers requested a random sample of de-identified consumer numbers from the mental health service data custodian. This list comprised 300 consumer numbers from the mental health service electronic consumer record system of approximately 750 consumers. Commencing from the beginning of that list, the researcher undertaking the audit selected each consumer number in-turn, skipping to the next number in the list if the consumer episode was open for less than 12 months. Resource and time constraints limited data collection to 100 consumer cases.

Trialled and agreed templates for data collection were determined by the research team following an initial reconnaissance with a pilot sample of five case-notes, to see the scope and feasibility of potential variables. The final agreed template was then used to compile de-identified information about demographic, physical and mental health measures extracted from the records. This was captured by reading every contact with the consumer across the 12-month period (1 July 2015–30 June 2016), including inpatient and intermediate care centre contacts, to ensure maximum

information about physical health considerations between and across healthcare service types was captured. Information related to physical health was extracted verbatim and documented.

The researcher undertaking data collection also filled out a 5-point Likert-rated scale to capture their perception of the quality of 'consumer-care coordinator engagement level' (ranges from extremely satisfying = 1 to extremely dissatisfying = 5). This process arose from the research team's desire to capture an overall sense of each audited consumer case; specifically, the need for a more nuanced overall sense of the data and to serve as a proxy measure of the quality of capture of physical health comorbidity and needs of consumers within the mental health context, once the total consumer record for the 12 months had been read. The researcher conducting the audit also made reflective notes of the experience of undertaking the audit. As the audit proceeded, the researcher met regularly with the research team to discuss the experience of conducting the audit. This included ongoing dialogue about the process of allocating engagement scores and their reflections. These processed helped to inform the discussion of results.

Analysis

One-way ANOVA and post hoc Scheffe's test (Howell 2012) were conducted to locate the significant differences in consumer-care coordinator engagement level between different subgroups using SPSS 23 (IBM Corp, 2015). Due to the skewness of the physical and mental health hospital measures, that is number of admissions, bed days, emergency department (ED) presentations, and follow-ups, equivalent nonparametric tests were applied to identify any difference in their respective subgroups (Linebach et al. 2014).

RESULTS

The results are displayed in four sections, aligning with the research questions focusing on register of data, screening, and follow-up, and whether there were any variations in mental health professional care coordinators' engagement with consumers based on their different demographic and health status.

Register of data

Among the 100 cases (63% male), most consumers were aged 30–55 years (63%), lived alone (43%), were

never married (75%), were within the middle range of socio-economic status (SES) (4–7 decile) (ABS, 2006) (40%), did not have a nominated informal/family carer (77%), and were unemployed (88%) and therefore received a government pension (Table 1).

Looking at the health service-related information, 93% had an identified psychiatrist, 99% had an identified general practitioner (GP), 63% had mental health nurses as their care coordinators, and most did not have private health cover (92%). The majority were diagnosed with schizophrenia (74%) and were pre-scribed clozapine (39%) or a neuroleptic medication delivered in depot form (37%), with a further 6% in receipt of both. The results also showed that 47 patients had routine mandated clozapine monitoring due to the risks to physical health associated with this antipsychotic medication (ranging between 2 and 19 contacts in 12 months) (Table 2).

The aim of this study was to see how well mental healthcare coordinators focused on the physical health of mental health service consumers. The first step in integrating this care is accurate recording of consumers' health measures. The results obtained from case-notes showed that 62% of consumers experienced at least one comorbid physical health condition, 23% experienced more than one physical health condition, and 38% did not have information about any physical health comorbidities recorded. Of interest, obesity was noted for only 5% of cases, and diabetes for only 8% of cases. Of further note, 44% of the consumers' physical health medications and 66% of consumers' over-the-counter (OTC) medications (such as paracetamol for pain relief) were not recorded.

There appeared to be problems in entering physical health medications, except if the person recording this information was a medical doctor or psychiatrist; that is, other disciplines were far less likely to enter this information into the consumers' records.

The audit also revealed that 100% (n = 18) of the 18% of the total sample of consumers assessed as needing a 'mandated heat welfare check' had these checks recorded. This is a statewide government health department mandated contact during prolonged periods of high temperatures, common in summer, as fore-cast and notified by the Bureau of Meteorology. It is undertaken by care coordinators who make direct contact via phone or in-person, each day during a heat-wave, with all consumers who have been assessed as being at greater risk of heat-related stress due to their physical health, mental health, or specific psychiatric medications that increase this risk due to heat-related

TABLE 1: Demographic characteristics of the sample from the case-note audit

Demographics	Patient details (N, %) Total N = 100
Gender	
Male	63 (63.0)
Female	37 (37.0)
Age groups	
18–29	14 (14)
30–55	63 (63)
56 and over	23 (23)
Income	
Wage	4 (4.0)
Pension	88 (88.0)
Both (wage and pension)	1 (1.0)
Sickness benefit	1 (1.0)
New start	6 (6.0)
Employment status	
Employed	8 (8.0)
Unemployed	88 (88.0)
Volunteer work	1 (1.0)
Sheltered workshop	3 (3.0)
Living arrangement	
Living alone	43 (43.0)
Lives with family/others	28 (28.0)
SRF/hostel	23 (23.0)
Other (community rehab centre, NGO housing, cluster)	6 (6.0)
Carer availability	
Formal carer	19 (19.0)
Informal carer	4 (4.0)
No carer	77 (77.0)
Carer living status	
Lives with the client	14 (14.0)
Lives independent of the client	7 (7.0)
Not stated	2 (2.0)
Not applicable	77 (77.0)
Marital status	
Married/de facto	7 (7.0)
Never married	75 (75.0)
Divorced/separated	14 (14.0)
Widow/widower	3 (3.0)
Not stated	1 (1.0)
SES (based on decile)	
Lowest SES (1–3 decile)	19 (19)
Middle SES (4–7 decile)	40 (40)
Highest SES (8–10 decile)	41 (41)

Demographics	Patient details (mean, SD) Total N = 100
Age	44.43 (12.4)
SES	
SEIFA score	1003.68 (50.25)
Decile	6.26 (2.3)

interactions. This annually reviewed assessment is recorded in a specific section of the electronic record, with contacts recorded in the case-notes.

TABLE 2: Key mental health measures and health service-related information from the case-note audit

	Patient details (N, %) Total N = 100
Service providers	
Identified psychiatrists	
Public	93 (93.0)
Private	3 (3.0)
Both (public and private)	4 (4.0)
Identified GP	
Yes	99 (99.0)
No	1 (1.0)
Care coordinators	
Nurse	63 (63.0)
Occupational therapist	10 (10.0)
Social worker	27 (27.0)
Private health cover	
Yes	8 (8.0)
No	92 (92.0)
Key MH measures	
MH diagnosis	
F20 (Schizophrenia)	74 (74.0)
F25 (Schizoaffective disorders)	8 (8.0)
F28 (Other nonorganic psychotic disorders)	1 (1.0)
F29 (Unspecified nonorganic psychosis)	1 (1.0)
F30 (Manic episode)	1 (1.0)
F31 (Bipolar affective disorder)	6 (6.0)
F32 (Depressive episode)	1 (1.0)
F42 (Obsessive–compulsive disorder)	1 (1.0)
F99 (Unspecified mental disorder)	6 (6.0)
Not recorded	1 (1.0)
Clozapine depot status	
Clozapine	39 (39.0)
Depot	37 (37.0)
Both (clozapine and depot)	6 (6.0)
None	18 (18.0)

No. of key MH measures (in past 12 months)	Mean (SD)	Min	Max
Clozapine contacts (N = 47) [†]	11.51 (3.23)	2	19

[†]The discrepancy between number of clients currently prescribed clozapine and clozapine contacts is due to cases where a small number of clients were commenced on clozapine in hospital but then ceased. This was recorded as a clozapine contact but not as being on clozapine.

Lifestyle factors are also important to record so that nurses can offer health promotion education and support, and practical and motivational support to consumers to access lifestyle programmes in the community. Results showed that 82% of consumers' smoking status was recorded; however, only one record

TABLE 3: Record of key physical health measures from the case-note audit

	Patient details (N, %) Total N = 100
Physical health measures	
Physical health diagnosis	
Diabetes	8(8.0)
CVD	1(1.0)
Long-term pain	3(3.0)
Obesity	5(5.0)
Respiratory	2(2.0)
Infections (bloodborne, skin, UTI, etc.)	5(5.0)
Others	15(15.0)
Comorbidities (more than 1 of the above)	23(23)
Not recorded	38(38.0)
PH medications record	
Recorded	52(52.0)
Not recorded	44(44.0)
None prescribed	4(4.0)
OTC medications record	
Recorded	34(34.0)
Not recorded	66(66.0)
Heat mandated report	
Yes	18(18.0)
No	82(82.0)
Lifestyle	
Smoking status	
Current smoker	48(48.0)
Ex-smoker	4(4.0)
Never smoked	29(29.0)
Attempting to quit	1(1.0)
Not recorded	18(18.0)
Physical activity status	
Very active (≥ 5 days pw)	1(1.0)
Moderately active (2–3 days pw)	21(21.0)
Not active (≤ 1 day pw)	72(72.0)
Not recorded	6(6.0)
Illicit substance use	
Alcohol	17(17.0)
THC (cannabis)	8(8.0)
Methamphetamine (ice)	4(4.0)
Others	1(1.0)
Multiple substances (more than 1 of the above)	10(10.0)
Not recorded	60(60.0)

of a consumer attempting to quit smoking was recorded. Also promising was that 94% of consumers' physical activity status was recorded; however, 60% of consumers' illicit substance use status was not recorded (Table 3).

Screening

Routine screening of consumers' physical health measures (e.g. body mass index (BMI), blood pressure (BP), blood lipids (BL)) due to existing physical health

conditions, prescribed psychiatric medications and risk factors for metabolic syndrome would be expected as part of routine care communicated between a GP and psychiatrist, in particular. Evidence-based guidelines for physical health conditions such as diabetes and CVD also outline the importance of routine screening. However, the results show very mixed results; where consumers had a recorded physical health condition such as diabetes or CVD, records of BMI, BP, and BL were present in most cases. However, for those with obesity and where no long-term condition was recorded, recording of these screening measures was poor, suggesting that they were not done (see Table 4). Evidence-based guidelines also stress the importance of other screenings related to specific long-term conditions. For instance, only one of eight consumers with reported diabetes had a record of podiatry checks and only two had a record of eye checks in their case-notes even though these are core recognized treatment guidelines for people diagnosed with diabetes. Very few records of routine dental checks or cancer screenings were apparent in the data. Despite significant media to the community about the importance of flu shots, these were the least recorded screening measure, unless the person also had a recorded infection (Table 4).

Follow-up care

Hospital records (i.e. number of admissions, bed days, ED presentations, and follow-ups) are other important measures that can help healthcare providers to understand the severity of consumers' mental and physical health conditions, and the communication of follow-up care (Table 5). There were no significant differences in follow-up care found across these records when comparing admissions for mental health and physical health. Other metrics associated with follow-up (e.g. primary care allied health referrals, joint GP visits, exercise groups, smoking cessation resources) were not audited for this study. The research team investigated the feasibility of including such variables as part of the pilot phase of scoping for variables; however, records of such variables were completely absent from the case-notes.

Variations in mental health professionals' engagement with consumers

Overall, the Fisher's exact test showed no significant differences between the three discipline groups of care

TABLE 4: Physical health measures for different diagnosis streams

PH records	Diabetes		Obesity	Respiratory	Long-term	Infections	Comorbidities	Others	Not recorded % (N)
	% (N)	CVD % (N)	% (N)	% (N)	pain % (N)	% (N)	% (N)	% (N)	
BMI	75 (6)	100 (1)	60 (3)	50 (1)	100 (3)	40 (2)	61(14)	93(14)	55(21)
Blood pressure	75 (6)	100 (1)	20 (1)	50 (1)	67 (2)	40 (2)	52(12)	80(12)	53(20)
Blood lipids	63 (5)	100 (1)	40 (2)	100 (2)	67 (2)	40 (2)	48(11)	53(8)	53(20)
Blood sugar	75 (6)	100 (1)	60 (3)	100 (2)	67 (2)	40 (2)	61(14)	67(10)	58(22)
Dental check	13 (1)	0 (0)	20 (1)	0 (0)	33 (1)	0 (0)	17(4)	7(1)	11(4)
Eye check	25 (2)	0 (0)	20 (1)	0 (0)	0 (0)	0 (0)	13(3)	13(2)	0(0)
Podiatry check	13 (1)	0 (0)	0 (0)	50 (1)	0 (0)	0 (0)	9(2)	7(1)	0(0)
Flu shot	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	9(2)	0(0)	0(0)
Cancer screening	13 (1)	0 (0)	0 (0)	0 (0)	0 (0)	40 (2)	17(4)	13(2)	5(2)
Total (N)	8	1	5	2	3	5	23	15	38

TABLE 5: Comparison between mental health and physical health hospital records and follow-up care

No. of key hospital measures and occasions of community follow-up for PH and MH (in past 12 months) [†]	Mean (SD)	Min	Max
MH hospital admissions (N = 23)	1.91(1.04)	1	4
PH hospital admissions (N = 12)	1.25(0.45)	1	2
MH bed days (N = 23)	28.87(25.60)	2	87
PH bed days (N = 12)	9.58(9.15)	1	33
MH ED presentations (N = 28)	2.11(1.397)	1	6
PH ED presentations (N = 19)	2.58(3.43)	1	13
MH follow-ups (N = 26)	2.81(3.01)	1	13
PH follow-ups (N = 50)	4.36(3.90)	1	16

[†]Paired-samples t-test showed no significant differences between MH and PH hospital records after data were log-transformed due to skewness.

coordinators (nurse, occupational therapists, and social workers) and how well they engaged with consumers (Figure 1).

Further inferential statistical analysis was under-taken to examine any potential relationships or notable patterns of interest within the data related to engagement in the context of each audited variable that would suggest variation in consumers' psychosocial needs. The results of these analyses are summarized below.

Living arrangement

There was no significant difference ($P = 0.349$) in consumer-care coordinator engagement level between consumers who lived alone ($N = 42$, mean = 2.86) and those who lived with family/others ($N = 28$, mean = 2.71). Both of these groups were perceived to receive 'satisfying' engagement from their coordinators. There was also no significant difference between those

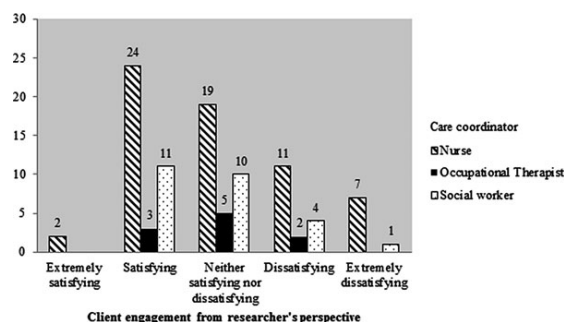


FIG. 1: Satisfaction level of client-coordinator engagement.

living in SRFs/hostels ($N = 23$, mean = 3.17) and any of the remaining subgroups.

The impact of living arrangement was also tested on physical health and mental health hospital records. Significant differences were observed in physical health follow-ups ($P = 0.024$). Post hoc tests located the difference between those living with family/others ($N = 11$, mean = 1.73) and those living in SRF/hostel ($N = 16$, mean = 6.31) ($H = 16.597$, $P = 0.018$); that is, for those living in SRFs, follow-up physical health care post-hospital was more likely to be recorded.

SES

It is well established that people belonging to the lowest socio-economic gradient are likely to experience more health problems than others (Marmot 2017; Marmot & Allen 2014). This study found that the middle SES group (decile 4–7, $N = 40$, mean = 3.20) were perceived to receive significantly less satisfying engagement than the highest SES group (decile 8–10, $N = 41$, mean = 2.63); $P = 0.03$. However, no difference was observed between lowest SES (decile 1–3, $N = 18$, mean = 2.89) and the other groups.

There were significant differences between different SES cohorts in terms of their physical health bed days ($P = 0.041$) and physical health follow-ups ($P = 0.030$). For physical health bed days, the difference laid between middle SES ($N = 3$, mean = 3.33 days) and lowest SES ($N = 3$, mean = 20.33 days) ($H = 7.33$, $P = 0.037$); that is, those in the lowest SES group appeared to experience significantly longer hospital admissions. Similarly, for physical health follow-ups, a significant difference was located between middle SES ($N = 17$, mean = 2.41) and highest SES ($N = 21$, mean = 5.71) ($H = 11.716$, $P = 0.035$); that is, consumers in the higher SES group appeared to receive better physical health follow-up.

Age group

No significant difference was found in consumer-care coordinator engagement level between the different age groups: 18–29 ($N = 14$, mean = 3.07), 30–55 ($N = 63$, mean = 2.83), and aged 56 and over ($N = 22$, mean = 3.05). When we analysed the hospital admissions data, only physical health follow-ups showed significant differences ($P = 0.031$) according to age. Dunn's test located the difference between age group 30–55 ($N = 29$, mean = 3.24) and those aged 56 and over ($N = 15$, mean = 6.20) ($H = 11.826$, $P = 0.027$); that is, physical health follow-ups for younger consumers with physical health conditions occurred significantly less than for older consumers.

PH diagnosis

No significant difference in consumer-care coordinator engagement level was found for consumers with diabetes ($N = 8$, mean = 2.38), CVD ($N = 1$, mean = 2.00), or comorbidities ($N = 22$, mean = 2.91), when compared with any of the other subgroups. The Kruskal–Wallis test also did not show any significant difference in the hospital measures for these groups.

MH diagnosis

The consumer-care coordinator engagement scale showed a mean score of 2.96 for consumers with a diagnosis of schizophrenia, although no significant difference was identified among patients diagnosed with different mental health disorders (scale ranging from 2.00 to 3.33). However, given the majority of participants were diagnosed with schizophrenia; there are likely insufficient data to make a definitive claim.

The Kruskal–Wallis test was performed on the hospital parameters but also did not show any significant differences among different subgroups.

Lifestyle factors

This study compared different subgroups to see whether there was any difference in the consumer-care coordinator engagement scale or in hospital parameters, specifically among 'current smokers', those with 'physically inactive' and those using 'multiple sub-stances'. Results showed that there was a significant difference in the consumer-care coordinator engagement score between consumers who used methamphetamine ($N = 4$, mean = 4.25) and those whose substance use was not recorded/who did not use any substance ($N = 59$, mean = 2.61); $P = 0.019$. However, no difference was apparent in those who used multiple substances ($N = 10$, mean = 3.40) and no difference was apparent among different smoking status sub-groups (current smokers: $N = 48$, mean = 3.06, other subgroups ranged from 2.5 to 3.17) or physical activity subgroups (physically inactive: $N = 71$, mean = 3.01, other subgroups ranged between 2.43 and 3.33). Also, no significant difference was apparent between different smoking status, physical activity status, or illicit substance user subgroups when compared with their hospital records (physical health and mental health admissions, bed days, etc.); that is, consumers at greater risk of poor physical health due to lifestyle factors (those who were current smokers, physically inactive, with poly-substance use) did not appear to receive more attention to help address these lifestyle risk factors (except for those who used methamphetamine), either in the community or hospital setting.

DISCUSSION

This audit showed that physical health monitoring of consumers within the community mental health service was occurring but that it was patchy, at best. This is despite people with SMI experiencing more psychosocial vulnerability than others due to the combination of their demographic characteristics, mental health, and physical health conditions and therefore requires extra attention from mental health service staff to effectively engage them in care (DiNapoli et al. 2016; Lawn 2012;

Sprah et al. 2017). Of note, the only measure to achieve 100% recorded adherence was the mandated heat welfare check, likely because it was legally mandated and strictly monitored, with a dedicated and clear location for recording in the online record.

Given that almost all consumers had both a psychiatrist and a GP, in addition to their care coordinator, there are likely to be several contact points offering opportunities to assess, record, share care, and act to

support and address consumers' physical health and mental health comorbidity. This was even more concerning given that 76% of consumers would have been in regular contact with services by virtue of them being linked with clozapine care (which necessitates routine blood testing and other screening, led by dedicated clozapine nurses), and receiving regular depot medication. Of interest, there was no evidence of consumers being monitored better by nurses than by other disciplines. Further improvements, related to staff awareness and responsibility for addressing physical health comorbidity, consistent and regular monitoring and recording of physical health metrics, and communication and integration of care across community mental health, primary care, and inpatient care settings are needed.

The audit showed that certain items (e.g. GP, smoking status, and physical inactivity) were well reported, whereas other items (e.g. illicit substance use, physical health medications, and OTC medications) were 'unknown' for approximately half of the sample or more. This may be because the well-reported items are more routinely visible and mentioned in interactions between mental health workers and consumers, and the general message about the relevance and importance of these items has become an embedded part of assessment and practice for staff in this service. Conversely, staff within the service may have been less likely to perceive responsibility for addressing consumers' illicit drug use and physical health, or be unclear about who is responsible, leading to inaction, a concern also suggested by others (McKenna et al. 2014). This might also reflect long-standing debate between addiction services and mental health services, reported in the literature over several decades, about their responsibility for the care of consumers with comorbid conditions.

Although this audit revealed that almost two-thirds (62%) of audit sample had at least one physical health condition, the rates of long-term conditions that are known to be disproportionately high for people with SMI appeared to be overwhelmingly under-reported in this sample. For example, Bradshaw and Mairs (2014) in their systematic review of four national prevalence studies found that between 46 and 79% of people with SMI are overweight or obese. Also, the most recent AIHW survey on obesity in Australia reported that 28% of the general population were obese (AIHW, 2017), yet obesity was reported for only five of the audited sample. Likewise, 10–15% of people with SMI have diabetes (up to threefold compared with the general population), yet only 8% of the audit sample had

this recorded (Holt & Mitchell 2015; Pendlebury & Holt 2010). Likewise, Correll et al. (2017) determined that prevalence of CVD in people with SMI was 9.9%; yet, only 1% of the audit sample had this diagnosis recorded. These discrepancies between the audit findings and the known international evidence confirm an overwhelming absence of recorded metrics, evidence of screening, and interventions to address the physical health needs of consumers included in this audit. This may be of particular concern also for the effective provision of prevention and early intervention care, given that this audit also found poorer follow-up of physical health care for young people with SMI.

The audit results suggest a need for systemic changes to electronic database use to assist clinicians to identify and record consumers' physical health status, as part of overall improved communication with consumers and their families, between clinicians within the service, and with other health services such as GPs, primary health care allied health professionals and specialists. This would also include more effective communication about physical health promotion strategies that have already occurred, such as joint GP visits and physical health activities such as participation in an exercise group or health education. Like many current community mental health services in Australia, the service involved in this study was collocated with several other primary healthcare services. This should mean greater ease of interagency and interprofessional communication, although there may be a number of barriers to this related to information technology, privacy concerns, service culture, and structural factors within the work environment (Lawn et al. 2014). Segato and Masella (2017) highlighted the unstable level of internal communication among clinicians as a significant reason for gaps in implementing integrated care. Having a personal health record resulted in significantly improved quality of medical care and increased use of medical services among patients. Personal health records could provide a relatively low-cost scalable strategy for improving medical care for patients with comorbid medical and serious mental illnesses.

In Australia, 'My Health Record' is a national initiative aiming to improve the coordination of care (AGDoH, 2017b); however, uptake has been slow and research has not focused specifically on people with SMI. Promising results in this area have been achieved from a US randomized controlled trial with people with SMI that concluded that, 'Having a personal health record resulted in significantly improved quality of medical care and increased use of medical services

among patients. Personal health records could provide a relatively low-cost scalable strategy for improving medical care for patients with comorbid medical and serious mental illnesses' (Druss et al. 2014, p.360).

This audit found that recording of post-hospital physical healthcare follow-up was more likely for people with SMI living in SRFs, and suggests good practice given people living in SRFs may experience greater psychosocial disability than their counterparts who live with family or other supports (Doyle et al. 2003). However, gaps in follow-up care are also likely for those living alone (Longman et al. 2012). The audit also found that social status influenced the quality of care recorded, with those people with SMI with the highest SES appearing to receive better follow-up for their physical health. Also of concern, the audit revealed that young people with SMI and physical health conditions received less follow-up care. This is concerning because it represents a failed opportunity for early intervention and prevention of further physical health comorbidity. This is particularly important because it is coupled with increasing concerns for metabolic syndrome as a consequence of psychiatric medications and poor lifestyle behaviours in this population, and the absence of mental health professional diligence for this subgroup (Dorozenko & Martin 2017).

The researchers are aware that there has been education provided to mental health clinicians within the service on a range of physical health problems, especially metabolic concerns. There is also general consensus that clinicians are concerned about the physical health of consumers. However, the results of this audit confirm that mental health nurses, and all other disciplines providing care to people with SMI, need to be more proactive and better trained and equipped to address physical health comorbidity (Happell et al. 2014a). The many apparent gaps in recording suggest that many standard evidence-based screening opportunities that would be expected for people with conditions such as diabetes and CVD had not occurred. Solutions that include routine flags as part of linked electronic clinical records would seem to be imperative to address these gaps. There are many examples and models available to guide this work (Manca et al. 2015; World Health Organization (WHO) 2013b; Jacobs et al. 2012; Hughes 2008), most notably those informed by the Chronic Care Model (Wagner et al. 2001).

Although people are often encouraged to change their 'poor lifestyle choices', it is important to note that these behaviours often occur due to a range of social,

environmental, physical, and psychological consequences of SMI (Chadwick et al. 2012; Gray et al. 2016; Lawrence & Kisely 2010; Robson & Gray 2007). This also includes the cultural milieu in which mental health care is provided, which may be implicit or explicit in reinforcing this situation. For example, smoking has been part of the cultural fabric of mental health care for many decades, and addressing it has been largely neglected (Bonevski et al. 2017). The results of this audit confirm this trend with virtually no evidence of support for smoking cessation evident from the case-note audit.

In addition to smoking, other lifestyle factors such as high rates of alcohol and other drug use, reduced physical activity and poor nutrition are drivers of relatively poor physical health among people with SMI (Carney et al. 2017; Correll et al. 2017; Te-Pou, 2014). For example, people with SMI who consume alcohol, methamphetamines, and cannabis are at greater risks of suffering from CVD, oral health diseases, and blood-borne virus-related diseases. However, there were many gaps in the recording of lifestyle factors for the audited sample, suggesting missed opportunities for addressing important risk factors for the development of physical health conditions.

Overall, this audit revealed that clinicians were paying some attention to mental health consumers' physical health but that how this was recorded was problematic because it was often 'buried' within the case-notes so that a comprehensive and more immediate picture of the person's comorbidity needs within a broader psychosocial context was difficult to see, and therefore to understand and act upon. This suggests that more needs to be done to enhance 'interconnection' and 'effective communication' among related health and social institutions providing support to people with SMI (DiNapoli et al. 2016; Segato & Masella 2017; Sprah et al. 2017), including optimizing the effectiveness of a 'Health in All Policies' (HiAP) approach (Delany et al. 2015).

LIMITATIONS

This study has a number of important limitations, the most prominent being that the presence of records of actions or interactions between service providers and consumers does not equate to a measure of the quality of care given or received, only that it did occur in some form. A recent review of 12 empirical studies of case-notes showed the problems inherent in relying on written notes to study practice (Buus & Hamilton 2016),

and the need to undertake research that also included ethnographic methods to link what health professionals do in practice with what they report they have done in case-note records. Also, this audit was conducted within one service and did not account for potential variations in the model of care that may be provided in other jurisdictions. This audit was of mental health service records only and did not include GP records unless these had been communicated to the mental health service. Therefore, these consumers may have been receiving care from their GP for their physical health that was not recorded in the mental health record. The audit was performed on records for 100 consumers. Whilst this process was improved by being a random sample, we acknowledge the limitations in undertaking correlational analysis where the data set was substantially incomplete (e.g. for the recording of substance use). This also limited the analysis of potential differences in physical health care according to mental health diagnosis, given our sample was skewed by comprising a high proportion people with

schizophrenia. Sprah et al. (2017), for example, found that consumers with SMI such as bipolar disorder have more chance of being readmitted and using hospital services if diagnosed with physical health conditions; however, we were unable to explore this issue due to limitations of the sample.

A further limitation is that the audit and engagement rating was performed by a single researcher, with no process for including inter-rater reliability. Although the auditor was an experienced mental health nurse, potential bias may have influenced their ratings by them being unblinded to consumers and staff who may have been known to them. This was minimized by excluding any cases where the researcher conducting the audit had previously provided direct care coordination to that consumer. They may also have experienced fatigue whilst conducting the audit; however, this was minimized by performing the audit process in regular blocks of no more than 3 hours, and through routine research team meetings to promote consistency across the recording period.

A final limitation relates to the variables that were chosen for audit, and the possibility that other variables of interest and importance were not included. For example, a further study could include primary care allied health referrals, joint GP visits, attendance at exercise groups, provision of smoking cessation resources, and similar variables that signify communication and coordination of care beyond the mental health service. We did consider including such variables;

however, in our pilot phase of scoping for variables, we found that detail of such variables was completely absent from the case-note records.

CONCLUSIONS

This study revealed that a focus on physical health care is evident from the everyday case-notes of consumers with SMI, as exemplified by this audit of 100 cases from an Australian publically funded community mental health service. However, because this information is ‘buried’ within the plethora of everyday case-note entry and not brought to the fore with other key information about the person’s psychiatric needs, it remains difficult to gain a full picture of the potential gaps in physical health care for this population. Many inconsistencies were apparent from the data involving suspected under-reporting of physical health and life-style issues because they did not align with known prevalence of these conditions in the evidence-based literature. There were also clear gaps, with an absence of information about medications, treatments, screening, and other physical healthcare follow-up needs that align with evidence-based guidelines for a range of physical health conditions. There appeared to be few examples where the presence of known physical health conditions prompted a more responsive and nuanced clinical approach to overall care; in fact, what was striking was how ‘generic’ the response to this care seemed, irrespective of consumers’ diagnoses, level of comorbidity, and other psychosocial needs. Potential differences in how mental health professionals engage in recognizing, recording, and responding to physical health needs of their consumers according to the consumers’ level of vulnerability, complexity, and SES remain important areas for further investigation.

RELEVANCE FOR CLINICAL PRACTICE

Under-reporting, gaps and inconsistencies in the systematic recording of physical health information for people with SMI are likely to undermine the quality of care they receive from mental health services and the ability of these service providers to respond in a timely way to the physical healthcare needs of this population. By demonstrating where and how these everyday problems with recording occur in practice, results from this study will help to inform better targeted planning and processes by community mental health clinical teams to improve the delivery of physical healthcare support to people with SMI, and communication with other

healthcare providers. In Australia, this could involve the codesign of clearer and more uniform communication requirements between mental health services and GPs, facilitated by Primary Health Networks. This could include physical health as a mandatory component of mental healthcare plans and annual reminders for physical health checks with the consumer's GP (Vasudev & Martindale 2010).

Understanding where these gaps in monitoring occur may also help inform the reasons for and nature of inequalities in service access and quality between people with and without mental illness, as highlighted by Ewart et al. (2016). However, better recording of physical health issues is unlikely to be all that is needed to improve physical health care. Healthcare providers need to understand how to act on the information arising from monitoring. Specialist nursing roles within mental health services have been proposed to address the physical health needs of people with SMI (Brunero & Lamont 2009; Ewart et al. 2016; Happell et al. 2014b; McKenna et al. 2014). In particular, Ewart et al. (2016) argue that they could act as an effective conduit between mental health and the primary care sector to improve communication and care coordination and minimize diagnostic overshadowing issues that are commonly experienced for this population when they seek support for their physical health; and be a focal point for education within clinical teams and to consumers and carers (Ewart et al. 2016). People with SMI have clearly stressed the importance of physical health but have often felt overwhelmed by their mental health issues; therefore, capitalizing on existing therapeutic alliances with adequately trained and supported mental health and primary care staff, and informal peer networks established through existing mental health programs (Kemp et al. 2015), would also be important.

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