



FEATURE ARTICLE

# Gaps in health care for the somatic health of outpatients with severe mental illness

Fenneke M. van Hasselt,<sup>1,2</sup> Susanne G. Schorr,<sup>1,3</sup> Evert J. Mookhoek,<sup>1,4</sup>  
Jacobus R. B. J. Brouwers,<sup>1</sup> Anton J. M. Loonen,<sup>1,2,4</sup> and Katja Taxis<sup>1</sup>

<sup>1</sup>Department of Pharmacy, Section Pharmacotherapy and Pharmaceutical Care, University of Groningen, Groningen,

<sup>2</sup>Department of Long-Term Psychiatric Care Horst-Ligne, GGZ Westelijk Noord-Brabant, Bergen op Zoom, the

Netherlands, <sup>3</sup>Department of Medicine, Center for Drug Information and Pharmacy Practice (ZAPP), ABDA–Federal

Union of German Associations of Pharmacists, Berlin, Germany, and <sup>4</sup>Delta Psychiatric Hospital, Poortugaal, the

Netherlands

**ABSTRACT:** *The physical health of outpatients with severe mental illness (SMI) can be improved by changes in the health-care system. Analysis of current practice is necessary to develop these strategies. We compared the number of somatic health problems of outpatients with SMI with the frequency of consulting a general practitioner (GP). This was a cross-sectional study based on interviews, and records from the GP and the pharmacy. We checked whether Dutch community pharmacies had complete and correct information about the patients' medication. We observed that all patients (n = 118) had somatic problems in need of clinical attention. Patients who visited their GP less than once a year (35%, n = 42), had a mean of 2.8 somatic health problems. This was less than patients who consulted their GP more than once a year (P ≤ 0.01). In 37% of cases, the pharmacy did not have adequate information on the drug use. Many patients with SMI seemed to have insufficient contact with their GP for their somatic health problems. Insufficient information about the patients' medication suggested that the pharmacist and GP should increase exchange of information. Mental health nurses can take a lead in coordinating the care to improve somatic health for their patients.*

**KEY WORDS:** *community pharmacy services, community mental health services, comorbidity, health services accessibility, health status, mental illnesses.*

## INTRODUCTION

Patients with severe mental illnesses (SMI) suffer more frequently from somatic diseases and have a higher mortality rate due to natural causes than the general population (De Hert *et al.* 2011). This is caused by multiple factors including genetic vulnerability, lifestyle, adverse reactions to psychiatric drugs, and factors related to the health-care system. Furthermore, patients with SMI frequently have a low socioeconomic status which is as such associated with elevated morbidity and

mortality (Hasnain *et al.* 2009; von Hausswolff-Juhlin *et al.* 2009).

Frequently, patients with SMI suffer from obesity, diabetes, and cardiovascular and respiratory diseases (De Hert *et al.* 2011; Dickey *et al.* 2002; Fleury *et al.* 2010; Jones *et al.* 2004; Saha *et al.* 2007), but most of these studies retrieved data from medical records (Dickey *et al.* 2002; Jones *et al.* 2004) or conducted interviews asking for already diagnosed diseases (Fleury *et al.* 2010; Saha *et al.* 2007). Some studies included only subgroups, for example, patients who were admitted to the hospital (Plomondon *et al.* 2007). A major limitation is that these studies only reported symptoms and diseases for which patients have received medical care and that they did not investigate health-care utilization. Several studies found that patients with SMI have less contact with health-care

**Correspondence:** Anton JM Loonen, GGZ Westelijk Noord-Brabant, Department of Long-Term Psychiatric Care Horst-Ligne, Postbus 371 4600 AJ Bergen op Zoom, the Netherlands. Email: a.j.m.loonen@rug.nl

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professionals and receive lower quality of care than the general population (Frayne *et al.* 2005; Kreyenbuhl *et al.* 2006). An explanation may be the stigma attached to mental illness (Arvaniti *et al.* 2009), perceived barriers to health-care services (Dickerson *et al.* 2003), and a lack of cooperation between health-care professionals (Druss *et al.* 2001). Although most findings indicate that patients with SMI lack proper care, some investigators obtained different results (Krein *et al.* 2006; Plomondon *et al.* 2007). These discrepancies may be partly explained by differences in study methods used and the organization of health care in the country in which the study was conducted. Previous studies investigating health-care utilization in patients with SMI did not (Dickerson *et al.* 2003; Griswold *et al.* 2008) or only globally (Druss *et al.* 2001; Levinson Miller *et al.* 2003) take into account the physical health of these patients. Little attention has been paid to investigating the use of pharmaceutical services.

The physical health of patients with SMI can be improved by changes in the health-care system by increasing access to health care, improving the quality of health care (Griswold *et al.* 2008; Kilbourne *et al.* 2010; Levinson Miller *et al.* 2003), and enhancing the ability of patients to adequately seek help for their somatic problems. For ambulatory patients with SMI, different stakeholders are present; mental health care, general practitioners (GPs), and community pharmacies. Currently, little is known about the frequency of contacts with the different health professionals in relation with the somatic health status. Community pharmacists have an important role in the quality and safety of health care (Barber *et al.* 1994). However, such services can only be carried out if complete information is available including all (depot) drug use (Benjamin 2003). Analysis of current practice is necessary to develop strategies to improve the physical health of patients with SMI.

We compared the number of somatic health problems of outpatients with SMI with the frequency of consulting a GP.

We investigated whether patients' community pharmacies had complete and correct information about their medication.

## METHOD

### Setting

We conducted a cross-sectional descriptive study in a psychiatric centre within a catchment area of 600 000 inhabitants in the Netherlands. Six departments of the psychiatric centre participated, four outpatient depart-

ments and two short-term admission departments for homeless patients. The patients from the short-term admission ward were considered as outpatients because the organization of the care for their somatic health is similar. We approached patients in these wards and recruited a sample of patients who were willing to give informed consent. A total of 118 patients was included in this study, which was 88% of all approached patients ( $n = 134$ ). Reasons for refusal were being suspicious ( $n = 5$ ), not feeling like it ( $n = 4$ ), or other ( $n = 7$ ).

In the Dutch health-care system, all inhabitants should be registered with a GP. The GP provides primary care and can refer to specialist somatic and mental health care; without GP referral there is no access to secondary care. Pharmaceutical services are provided by a community pharmacy. During admission, the hospital pharmacy delivers pharmaceutical services. Outpatients with SMI are often in chronic care of secondary or tertiary mental health care. The mental health nurse plays a key role as a case manager for these patients and can confer with the psychiatrist if necessary. She has regular treatment contacts with the patients and cooperates with other caregivers like social workers.

### Data collection

Fifteen trained nurses and two medical doctors independently carried out semi-structured interviews with patients which lasted approximately 30 min each. The semi-structured interview included a general review of systems, questions on the frequency of consultation with different health-care professionals (psychiatrists, mental health nurses, GP, pharmacy), and usage of prescribed drugs and over-the-counter medication. All interviewers were carefully trained and the use of the semi-structured questionnaire guiding the interview ensured that data collection was reliable. If acute conditions were reported or suspected during the interview, interviewers contacted one of the participating medical doctors to examine the patient to evaluate if immediate action was necessary. If necessary, the patient was referred to health care or treatment was started. We requested for all patients a medication history from the patient's pharmacy and asked the GP for the medical record. The psychiatric diagnosis was retrieved from the medical records of the psychiatric centre.

### Data analysis

Interviews, pharmacy records, and GP records were reviewed by two medical doctors: a clinical pharmacologist (AL) and a GP specializing in patients with psychiatric disease and chronic conditions (EM). These medical

doctors were not the treating clinicians. They identified somatic symptoms and diseases in need of short-term clinical attention based on clinical expertise. This could consist of new somatic problems, exacerbation of chronic diseases or chronic diseases that were not treated. We referred to those symptoms and diseases as somatic health problems. The somatic health problems were classified using the classification of mental and behavioural disorders (ICD-10). We investigated whether patients' community pharmacies had complete and correct information about their medication, upon analysis by AL and EM. If they initially disagreed about the interpretation of the data, they reached consensus after discussion. The somatic health problems and information on pharmaceutical services were reported to the psychiatrist in charge of the patient. It was outside the scope of the present study to follow up the measures taken as a result of this information.

### Statistical analysis

Patients were grouped based on their GP consultation frequency: rarely (<1 year<sup>-1</sup>), regularly (1–4 year<sup>-1</sup>), or frequently (>4 year<sup>-1</sup>). The mean number of somatic symptoms/diseases was compared by ANOVA between all three groups defined by frequency of GP consultation. These results were post-hoc corrected by Hochberg procedure, which corrects for difference in group size and multiple testing. Characteristics of all three groups were compared with ANOVA for age and with a  $\chi^2$ -test for diagnosis and the comorbid addiction.

### Ethical approval

The research design was tested by the Ethical Review Board for Mental Health Care (METIGG); they approved it as a study design for health-care innovation and not medical research and therefore could be conducted under the same legislation as 'standard' health care. All information was analyzed and stored anonymously and all patients gave written informed consent prior to data collection.

## RESULTS

Most patients (78%) had a primary diagnosis of psychotic disorder and 28% of all patients had a comorbidity of 'drugs of abuse' addiction problems (Table 1). A personality disorder (Axis II, DSM-IV) was diagnosed in 21% ( $n = 25$ ) of the patients. Data from the patients' GPs as well as pharmacies was available for 20% ( $n = 24$ ), only pharmacy or GP for 45% ( $n = 53$ ), and completely missing for 35% ( $n = 41$ ). This included 23 patients (19%) who reported that they did not have a GP.

**TABLE 1:** Characteristics of patients

Total	$n = 118$
Sex (male)	96 (81%)
Mean age, years (SD)	38 (13)
Smoking (%)	90 (76%)
Mean BMI in kg m <sup>-2</sup> (SD)	26 (SD = 6.5)
Ethnicity	
Both parents were Dutch	75 (64%)
At least one parent was not from the Netherlands	41 (35%)
Missing	2 (2%)
Employment situation	
Employment (most frequently voluntary work)	40 (34%)
No employment	78 (66%)
Living situation	
Alone	43 (36%)
With partner or family	28 (24%)
Sheltered housing facilities	19 (16%)
Homeless	21 (18%)
In the hospital	7 (6%)
Primary psychiatric diagnosis	
Schizophrenia	68 (58%)
Psychotic disorder, unspecified	14 (12%)
Schizoaffective disorder	9 (8%)
Affective disorder (bipolar and depressive)	9 (8%)
Others	18 (15%)
Antipsychotic drugs	
Risperidone monotherapy	15 (13%)
Zuclopenthixol monotherapy	13 (11%)
Clozapine monotherapy	11 (9%)
Other monotherapy	29 (25%)
No antipsychotic drug	27 (23%)
Combination of two or more antipsychotics	23 (19%)
Antidepressant drugs	28 (24%)
Mood stabilizer	12 (10%)

BMI, body mass index; SD, standard deviation.

Patients had an average of 3.5 somatic health problems. Every patient had at least one somatic health problem (Table 2). The analysis of seven patients was limited by inconsistencies within the collected data. There were 407 symptoms and diseases reported. The somatic health problems were most frequently classified as endocrine, nutritional, and metabolic diseases (42%,  $n = 49$ ), and as diseases of the digestive (40%,  $n = 47$ ) and respiratory systems (39%,  $n = 46$ ). The most frequent sub-categories were obesity and other hyperalimentation (36%,  $n = 43$ ) or extrapyramidal movement disorders (32%,  $n = 38$ ).

Thirty-five percent ( $n = 42$ ) of all patients consulted their GP rarely or never (<1 year<sup>-1</sup>). Twenty-five patients (21%) consulted their psychiatrist rarely or never (<1 year<sup>-1</sup>). From 81 (69%) of the patients, we had information on consultation frequency of nurses; all consulted mental health nurses at least once per 3 months (Table 3).

**TABLE 2:** Prevalence of somatic health problems of the patients categorized in ICD-10 categories

Category (ICD-10)		Patients ( <i>n</i> = 118)	
I	A00–B99	Certain infectious and parasitic diseases	9% ( <i>n</i> = 11)
II	C00–D48	Neoplasms	1% ( <i>n</i> = 1)
III	D50–D89	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	3% ( <i>n</i> = 3)
IV	E00–E90	Endocrine, nutritional and metabolic diseases Obesity and other hyperalimentation: 36% ( <i>n</i> = 43)	42% ( <i>n</i> = 49)
V	F00–F99	Mental illnesses and behavioural disorders Mental illnesses and behavioural disorders due to use of tobacco: 12% ( <i>n</i> = 14)	32% ( <i>n</i> = 38)
VI	G00–G99	Diseases of the nervous system Extrapyramidal and movement disorders: 32% ( <i>n</i> = 38)	33% ( <i>n</i> = 39)
VII	H00–H59	Diseases of the eye and adnexal Visual disturbances and blindness: 15% ( <i>n</i> = 18)	17% ( <i>n</i> = 20)
VIII	H60–H95	Diseases of the ear and mastoid process	7% ( <i>n</i> = 8)
IX	I00–I99	Diseases of the circulatory system	14% ( <i>n</i> = 16)
X	J00–J99	Diseases of the respiratory system	39% ( <i>n</i> = 46)
XI	K00–K93	Diseases of the digestive system Diseases of oral cavity, salivary glands and jaw: 22% ( <i>n</i> = 26) Diseases of oesophagus, stomach, and duodenum: 16% ( <i>n</i> = 19)	40% ( <i>n</i> = 47)
XII	L00–L99	Diseases of the skin and subcutaneous tissue	12% ( <i>n</i> = 14)
XIII	M00–M99	Diseases of the musculoskeletal system and connective tissue	8% ( <i>n</i> = 9)
XIV	N00–N99	Diseases of the genitourinary system Diseases of male genital organs: 13% ( <i>n</i> = 15)	24% ( <i>n</i> = 28)
XVII	Q00–Q99	Congenital malformations, deformations, and chromosomal abnormalities	3% ( <i>n</i> = 3)
XVIII	R00–R99	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified General symptoms and signs: 16% ( <i>n</i> = 19)	33% ( <i>n</i> = 39)

ICD-10, International Statistical Classification of Diseases and Related Health Problems 10th Revision.

**TABLE 3:** Characteristics per group defined by GP consultation frequency

	Total <i>n</i> = 108†	Rare GP consultation <i>n</i> = 42	Regular GP consultation <i>n</i> = 53	Frequent GP consultation <i>n</i> = 13
Mean number of somatic health problems (SD)	3.5 (1.7)	2.8 (1.3)‡	3.8 (1.7)	4.5 (1.9)
Mean age in years (SD)	38 (13.0)	39 (13.0)	37 (13.0)	39 (13.0)
Primary psychiatric diagnosis				
Psychosis	79	30	42	7
Other	29	12	11	6
Comorbid addiction	34	17	11	6

Rare GP consultation <1 year<sup>-1</sup>; regular GP consultation, 1–4 year<sup>-1</sup>; frequent GP consultation, >4 year<sup>-1</sup>. †For 10 patients, the information on frequency of GP consultation was not available. ‡Significant difference ( $P < 0.01$ ) between mean number of somatic problems in the group who rarely consulted their GP with the groups who regularly/frequently consulted their GP (ANOVA). GP, general practitioner; SD, standard deviation.

Patients who consulted their GP rarely had significantly less somatic health problems than patients who consulted their GP regularly or frequently (2.8 vs 3.8 and 4.5;  $P \leq 0.01$ , with Hochberg correction). The groups did not differ in age and diagnosis or percentage with comorbid addiction.

Pharmaceutical service was insufficient in 37% (*n* = 44) of the patient population. Frequently, this was depot antipsychotics (26%, *n* = 31) which were not known by the community pharmacy.

## DISCUSSION

This research focused on gathering knowledge on current practice of health care, in particular GP consultation and pharmaceutical services, for somatic health of patients with SMI. This knowledge can be the base for developing strategies to improve the health of this patient group.

All patients with SMI had at least one somatic health problem. Similar findings were reported by Jones *et al.* (2004) (74%) and Batki *et al.* (2009) (80%). Outpatients



with SMI consulted the mental health nurse of the hospital frequently; approximately a fifth had almost no contact with their psychiatrist. More than half of the patients were in regular contact with their GP which is comparable to a Canadian study (Fleury *et al.* 2010), but approximately a third of patients did not consult their GP regularly. Comparing our results with another Dutch study about the frequency of visits to the GP is difficult because they only included patients who visited at least once a year (Oud & Meyboom-de Jong 2009). The visiting frequency of the GP should be interpreted in relation to the number of somatic health problems. Somatic health problems were defined as somatic symptoms and diseases in need of short-term clinical attention based on clinical expertise. Although the group with no regular GP consultations had fewer somatic health problems than patients with more frequent consultations, it is alarming that patients in this group had on average almost three somatic health problems. Although similar studies have not been performed in the general population to our knowledge, it should be noted that our demand-driven health-care system expects persons to recognize their complaints and consult a GP. These results indicate that the patients may not have recognized their somatic health problems and/or not have taken adequate action, for example, consulting their GP.

In more than a third of patients we found discrepancies between community pharmacy dispensing data and medical records. It should be noted that this percentage of insufficient pharmaceutical services could only be based on the information that was returned by the different caregivers. Until now, little attention has been paid to research pharmaceutical services for patients with SMI.

### Strengths and limitations

This is, to our knowledge, the first study to analyze information on outpatients from GPs, community pharmacies and the symptoms of the patient. Our method of detecting somatic health problems is unique by using a patient perspective on their current problems, instead of using diagnoses based on file information. It was outside the scope of this study to collect follow-up data including physical or laboratory examination of the patients.

To estimate the consultation frequency, we asked patients to recall how often they visited their health-care provider in the previous year. We are aware that the given frequency might not be the precise number of visits; we assume that the categories never, rarely, or frequently can be interpreted from the answers. Though this categorization is arbitrary, it enabled us to present the data

and show a trend. A limitation was that patients were recruited from only one psychiatric centre located in a large city in the south of the Netherlands. However, this hospital has a large catchment area from both urban and rural communities. Although men are overrepresented in comparison to other studies (Dickerson *et al.* 2003; Jones *et al.* 2004; Kreyenbuhl *et al.* 2006), we believe that we were able to recruit a representative sample of patients with SMI. The Dutch medical system is organized with the GP as a gatekeeper for specialized somatic care. Nevertheless, we expect to find similar problems in health-care systems with separate care for somatic and psychiatric diseases with or without this GP position.

### Comparisons with existing published work

Nearly half of the patients had an endocrine, nutritional, or metabolic disease, which was most often obesity. Other studies did not include obesity and therefore found lower prevalence frequencies in this ICD category of 13–29% (Batki *et al.* 2009; Jones *et al.* 2004; Rasanen *et al.* 2007). In contrast, the prevalence of diabetes and hypertension was higher in other studies (7–15% and 10–43%, respectively) (Batki *et al.* 2009; Dickey *et al.* 2002; Dixon *et al.* 1999; Levinson Miller *et al.* 2003) in comparison to our cohort (4% and 5%, respectively). Respiratory diseases were more prevalent (39%) in our cohort than reported in the published work (Dixon *et al.* 1999; Sokal *et al.* 2004). This might be due to the relatively high smoking percentage, as three-quarters of the included patients smoked, while other studies reported lower numbers: 70% smoking and 50% heavy smoking (Banham & Gilbody 2010; McCreadie 2003). The prevalence of gastrointestinal disorders was on the high end in our cohort (40%) compared to the published work (12–39%) (Batki *et al.* 2009; Dickey *et al.* 2002). We found a high prevalence of extrapyramidal symptoms, which might be due to the relatively high number of depot medication prescribed in our population. Unfortunately, other studies unfortunately did not, or only roughly, reported on antipsychotic drugs prescribed (Batki *et al.* 2009; Dickey *et al.* 2002; Dixon *et al.* 1999; Jones *et al.* 2004; Sokal *et al.* 2004) so that a comparison was not possible.

### Implications for current practice

Mental health care and general medical care are both responsible for the physical well-being of patients with SMI (Kilbourne *et al.* 2010). Oud *et al.* (2009) found that GPs feel responsible for the somatic care of schizophrenic patients, but do not always feel competent to perform this care. Marder *et al.* (2004) suggest that the mental health specialist should perform regular medical screening if

patients do not have (access to) a primary care provider. There is evidence that an integrated model or a care manager could improve quality and outcome of care in specific patient groups (Druss *et al.* 2001; Griswold *et al.* 2008). In one study, after intervention, more patients received preventive measures and also their physical health improved. Mental health nurses have a central role in delivering care to these patients due to their frequent contacts with these individuals. There are research groups that advocate starting systematic monitoring and collaborative health promotion from the onset of illness by mental health nurses (Gray *et al.* 2009; Muir-Cochrane 2006; Robson & Gray 2007). With or without a screening programme, the mental health nurse should support patients in getting medical attention for their somatic problems and annual measurements according to current guidelines (Bradshaw & Pedley 2012). Accompanying the patient to the GP or consulting the GP on the treatment for somatic health problems can help to explain the policy to the patient and support compliance with the treatment. Also, the mental health nurse can play an important supporting role in implementing lifestyle changes and medication compliance.

Basic pharmaceutical services include monitoring medication compliance as well as monitoring drug interactions. Pilot studies from Australia suggest extending the role of the pharmacist for patients with SMI including performing a regular medication review (Bell *et al.* 2007; Nishtala *et al.* 2008). For this extended role, sharing of information is the first step; that in only 20% of cases both GP and pharmacy shared information on request stresses that still a lot of work remains to be done. The mental health nurse can request documentation of medication by the different stakeholders and check if there are discrepancies.

## Conclusion

Patients with SMI seemed to have insufficient contact with their GPs for their large number of somatic health problems. Mental health nurses can coordinate the care of GPs, psychiatrists and pharmacists to improve somatic health for their patients.

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