

Acceptability and Receipt of Preventive Care for Chronic-Disease Health Risk Behaviors Reported by Clients of Community Mental Health Services

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Objective: Compared with the general population, people with a mental illness have a greater prevalence of behaviors that contribute to higher chronic disease rates. Mental health clinical guidelines recommend preventive care to address such behaviors; however, little information is available about whether clients consider preventive care acceptable or about the prevalence of such care in mental health services. This article describes acceptability and receipt of assessment, advice, and referral for smoking, inadequate fruit and vegetable consumption, harmful alcohol consumption, and physical inactivity, as reported by community mental health service clients. The association between preventive care, diagnosis, and number of clinical appointments was examined.

Methods: A cross-sectional telephone interview was conducted with clients (N=558) of community mental health services in Australia.

Results: Although preventive care was highly acceptable to clients (86%–97%), receipt of preventive care was low. Client receipt of risk assessment ranged from 26% (assessment of fruit or vegetable intake) to 76% (assessment of alcohol consumption). The proportion of clients at risk of and assessed for unhealthy behavior who then received brief advice ranged from 69% (fruit or vegetable intake) to 85% (physical activity), whereas only 38% (alcohol consumption) to 49% (smoking) received any referral. A greater number of mental health appointments were associated with higher prevalence of preventive care, as were diagnoses of diabetes or respiratory conditions and not having a schizophrenia diagnosis.

Conclusions: Practice change strategies are required to increase the delivery of routine preventive care within mental health services if clients are to benefit from clinical guidelines.

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People with a mental illness have higher rates of chronic disease morbidity and mortality and a reduced life expectancy compared with the general population (1–3). Although the causes underlying such disparities are varied (4–7), a significant contributor is greater prevalence of modifiable health risk behaviors, including smoking (8,9), harmful alcohol consumption (10), inadequate nutrition (11,12), and physical inactivity (13,14). Mental health care guidelines recommend the provision of preventive care to modify such client risk behaviors (9,15,16). Recommendations include the “2As and R” model at a minimum, which entails assessment (A) of clients’ health risk behaviors and, for clients with risks, the provision of advice (A) and referral (R) to behavior change services (17–20).

Limited research has examined the provision of preventive care by mental health services for chronic-disease health risk behaviors, with such research predominantly focusing on smoking cessation care (21–26). Four studies within the past decade have examined the provision of care

for more than one of these health risk behaviors (27–30). However, two have been limited to examining a single element of preventive care (27,29). One study addressed the provision of three elements of preventive care across four behaviors (smoking, harmful alcohol consumption, inadequate nutrition, and physical inactivity) (30). The study, which surveyed clinical staff within Australian community mental health services, found that the proportion of clinicians who reported providing care to most ($\geq 80\%$) of their clients for each of the four behaviors ranged from 13% to 89% for assessment, 46% to 80% for advice, and 23% to 61% for any type of referral. Care provision was consistently lowest for nutrition, and, for all behaviors, referral or follow-up was least likely to be provided (30). An important limitation of studies that have examined the provision of preventive care to address a range of health risk behaviors in mental health services over the past decade is their use of either staff report (28–30) or medical record audit (27). No studies, to our knowledge, have used client-reported receipt

of preventive care despite its being suggested as a more appropriate measure (31).

Previous research undertaken in the mental health setting has identified a number of clinical and client characteristics that are associated with greater provision of preventive care, including rural as opposed to urban location (32,33); a consultation of longer rather than shorter duration (32); being seen by a nurse or allied health clinician as opposed to a psychiatrist (32); diagnoses of diabetes, hypertension, obesity (32,33), asthma, or other respiratory disorders (24); and psychiatric diagnoses, including bipolar disorder (33) and some substance use disorders (24).

A growing body of evidence suggests that mental health service clients are interested in improving their health risk behaviors (34–40) and suggests that mental health clients are receptive to smoking cessation care (41) and care to increase physical activity (34). However, client acceptance of preventive care for alcohol consumption or inadequate nutrition or of specific elements of preventive care has not been investigated. In the context of mental health clinicians perceiving that lack of client acceptance constitutes a barrier to provision of preventive care (42–44), there is a need for more research across a broader set of risk behaviors and elements of preventive care.

A study was undertaken within a network of Australian community mental health services to examine client-reported acceptance of receiving assessment, brief advice, and referral or follow-up from community mental health clinicians for each of four health risk behaviors; client-reported receipt of such forms of care for each of the four behaviors; and associations between client diagnosis, number of clinical appointments, and reported receipt of preventive care.

METHODS

Design

A cross-sectional survey of community mental health service clients was undertaken from December 2011 through November 2012 in one local health district in New South Wales (NSW), Australia. Since 2010, the district has had a policy requiring community mental health clinicians to provide, in accordance with the 2As and R model (with assessment, advice, and referral constituting preventive care), routine preventive care to all clients for the four behavioral risks included in this study. At the time of the study, no specific training regarding the policy had been provided to clinicians (45).

Ethical approval for the study was obtained from the Hunter New England Human Research Ethics Committee (approval no. 09/06/17/4.03) and the University of Newcastle Human Research Ethics Committee (approval no. H-2010–1116).

Participants and Recruitment

Community mental health services. In Australia, public community mental health services provide ambulatory care to

approximately 350,000 clients each year (46). Within the study area, all 12 community-based mental health services providing care to adult clients were invited to participate. Such services receive over 7,000 new clients per year and provide general adult mental health care and care to more specialized populations, including services specializing in care for older persons, persons needing psychiatric rehabilitation, and those with an early psychiatric diagnosis, comorbid substance abuse, an eating disorder, or borderline personality disorder.

Community mental health clients. Clients attending any of the 12 eligible services were initially eligible if, on the basis of electronic medical record data, they were at least 18 years of age, had attended at least one face-to-face appointment at an eligible service during the previous two weeks, had not been selected to participate previously, and had not been identified by their clinician as inappropriate to contact.

Over 12 months, a random sample of approximately 22 such clients (approximately 5% of weekly eligible clients) was selected weekly from the electronic medical records system using the survey select procedure in SAS, version 9.3. Selected clients were mailed an information letter and telephoned by trained interviewers to further determine eligibility, including speaking English, not living in a geriatric care facility or incarcerated, and being physically and mentally capable of responding to the survey items. Eligible consenting clients completed a computer-assisted telephone interview survey at that time or at a more suitable time.

Measures

Client descriptors. Clients reported whether they were of Aboriginal or Torres Strait Islander origin (or both) and their highest education level, employment status, marital status, and psychiatric or general medical conditions for which they had received medical attention or taken medication within the previous two months. Age, gender, residential postal code, mental health service attended, and number of community mental health appointments attended within the past 12 months were obtained from electronic medical records for study consenters and nonconsenters.

Client health risk behaviors. Clients reported the following during the month prior to seeing their community mental health clinician: tobacco smoking (47), quantity and frequency of alcohol use (48), fruit and vegetable consumption (49), and physical activity (50). Survey items are based on validated items from recommended assessment tools (51–54) and have been used in community surveys (55). Clients' risk status was based on Australian national guidelines (47–50).

Acceptability of preventive care. Clients were asked to indicate the acceptability of clinician assessment for each behavior (strongly disagree to strongly agree). For example, "It is acceptable for [service] to ask you if you smoke any tobacco products." Clients who were identified to be at risk of

one or more behaviors were asked to similarly indicate the acceptability of clinicians' providing brief advice and referral for addressing such behaviors.

Receipt of Preventive Care

Client receipt of assessment, brief advice, and referral or follow-up was assessed (possible responses were yes, no, and don't know) (17–20). Clients were asked to report whether, during their community mental health appointments, the clinician assessed their smoking status, alcohol consumption, fruit and vegetable intake, and physical activity. Clients classified as at risk for a behavior and who reported being assessed for that behavior were asked whether their clinician advised them to modify their behavior. Similarly, clients classified as at risk for a behavior and who reported receiving an assessment for that behavior were asked whether their clinician spoke to them about or offered to arrange referral to the NSW Quitline for smoking (www.icanquit.com.au/further-resources/quitline) or the NSW Get Healthy Coaching and Information Service for inadequate intake of fruits or vegetables or for physical inactivity (www.gethealthynsw.com.au). No equivalent free, government-funded telephone helpline was available for reducing alcohol consumption. Such clients were further asked whether they were advised to see their general practitioner or Aboriginal Medical Service (AMS), or other services (such as a dietician, support groups, or Alcoholics Anonymous).

Analyses

Analyses were undertaken with SAS, version 9.3. Descriptive statistics were used to describe the sample characteristics and client acceptability of each element of care for each health risk behavior. Residential postal code was used to calculate each client's geographic remoteness (56) and socioeconomic index of disadvantage (57). Condensed response categories were created for age, marital status, highest education level, geographic remoteness, index of disadvantage, and number of community mental health appointments in the previous 12 months. Chi square analysis was used to compare client groups—those consenting versus not consenting to the study—on age, gender, remoteness, and number of appointments. For chi square and regression analyses, variables were dichotomized (less than high school versus completed high school or greater).

For each behavior, a variable was created to reflect whether at-risk clients received any type of referral or follow-up. For clients who reported being at risk and being assessed, a "complete care" variable was created for receipt of both advice and referral or follow-up for each behavior (yes-no response).

Descriptive statistics were used to describe client receipt of assessment (responses were yes, no, or don't know, with the latter two categories combined for analysis) for each behavior and to describe client receipt of advice, each type of referral, and complete care for each behavior for which a client was at risk and reported being assessed.

For each of the four behaviors, chi square analysis was used to examine the association between client diagnostic characteristics, the number of appointments in the past 12 months, and receipt of assessment and complete care. Variables associated at $p \leq .25$ were entered into backward stepwise logistic regression models to examine their association with clients' having received assessment and having received complete care for each of the four behaviors. [A table available in the online supplement to this article provides detail on the chi square analyses.] The choice of this p value follows recommendations that more traditional levels of $p < .05$ often fail to identify important and clinically relevant variables (58). Logistic regression models adjusted for age, gender, employment status, marital status, education, Aboriginal background, and residential remoteness in order to examine whether care receipt was independently associated with diagnostic characteristics and with the number of appointments in the past 12 months.

RESULTS

Participants

All 12 community mental health services in the district participated. Of 1,106 clients selected to participate, 903 (82%) were contactable, and of these 129 (14%) were identified as ineligible for participation. Of the remaining 774 clients, 558 (72%) participated in the interview. A greater proportion of women compared with men agreed to participate (76% versus 68%, $p = .009$). There were no other significant differences between consenters and nonconsenters. Client descriptors are reported in Table 1.

Acceptability of Receiving Preventive Care

Clients consistently reported that receiving preventive care would be highly acceptable (Table 2). Acceptability of receiving an assessment ranged from 90% for assessment of fruit or vegetable consumption to 97% for assessment of alcohol consumption; acceptability of receiving advice ranged from 86% for smoking to 94% for physical inactivity; and acceptability of receiving a referral ranged from 88% for inadequate fruit or vegetable consumption to 91% for harmful alcohol consumption.

Receipt of Preventive Care

Assessment. A majority of participants reported being assessed for smoking (73%) and alcohol consumption (76%). Over half were assessed for physical activity (57%), and a quarter for fruit or vegetable intake (26%) (Table 3).

Advice. Of participants who were at risk for a behavior and who reported receiving an assessment, a majority received brief advice to quit smoking (79%), reduce their alcohol consumption (73%), increase their consumption of fruits and vegetables (69%), and increase their physical activity (85%) (Table 3).

TABLE 1. Characteristics of 558 community mental health service clients

Characteristic	N	%
Male	262	47
Employed	126	23
Aboriginal or Torres Strait Islander, or both	27	5
Age ^a		
18–34	222	40
35–54	229	41
≥55	107	19
Marital status		
Married or cohabiting	138	25
Previously or never married	420	75
Highest education level completed		
Some high school or less	258	46
Completed high school or equivalent	103	19
Completed technical certificate or diploma	136	24
Completed university or college degree, or higher	61	11
Psychiatric diagnosis (N=520) ^b		
Depression	326	63
Bipolar disorder	115	22
Schizophrenia or other psychotic illness	163	31
Anxiety disorder	205	39
Other mental illness ^c	14	3
N of appointments in past 12 months ^d		
1–2	151	27
3–11	178	32
≥12	229	41
Geographic remoteness (N=555) ^{e,f}		
Major city	418	75
Regional or rural	137	25
Index of disadvantage (N=555) ^e		
Lowest tertile	222	40
Middle tertile	314	57
Highest tertile	19	3
Health risk prevalence		
Smoking ^g	283	51
Harmful alcohol consumption ^h	241	43
Inadequate fruit or vegetable consumption (N=557) ⁱ	483	87
Inadequate physical activity ^j	261	47

^a Mean±SD=40.6±15.1, range 18–85^b Numbers in diagnostic categories do not add to total participant numbers because participants could elect multiple diagnoses. Data were unavailable for 38 participants because of changes to the interview script during the study period. One participant refused to answer, and 24 participants reported no psychiatric conditions for which they were receiving care.^c Other mental illness includes participants who responded “other” to the question about psychiatric diagnoses and those who did not also respond concerning a main diagnostic category. The category includes eating disorders, attention-deficit disorder, and personality disorders.^d M±SD=15.4±20.7, range 1–207.^e Data unavailable for three participants with no fixed home address^f The Accessibility/Remoteness Index of Australia (ARIA) was used to measure the accessibility of a service center (defined as an urban center with a population ≥5,000) from the client's residence. Major city, ARIA ≤2; regional or remote, ARIA >2 (56).^g Smoking any tobacco products (47)^h Consuming more than 2 standard drinks on average per day, or more than 4 standard drinks on any one occasion (48)ⁱ Consuming less than 2 servings of fruit or 5 servings of vegetables per day (49)^j Engaging in less than 30 minutes of physical activity on 5 to 7 days of the week (50)

Referral and follow-up. Receipt of each type of referral or follow-up was low. Receiving information about telephone helplines ranged from 12% (physical inactivity) to 41%

(smoking), whereas receiving an offer to arrange a referral to a helpline ranged from 1% (concerning fruit and vegetable consumption) to 7% (concerning smoking). Receipt of advice to speak to their general practitioner or AMS ranged from 2% (fruit and vegetable consumption and physical inactivity) to 13% (smoking), and being advised to use any other type of support ranged from 29% (smoking) to 41% (physical inactivity) (Table 3).

Complete care. For each of the four risk behaviors, less than half of the participants who were at risk and who reported being assessed received both advice and referral or follow-up, with the range from 37% (harmful alcohol consumption or inadequate fruit or vegetable consumption) to 48% (smoking).

Associations With Receipt of Preventive Care

Participants were less likely to be assessed for alcohol consumption if they had a diagnosis of schizophrenia (odds ratio [OR]=.63). Clients were more likely to be assessed for physical activity if they had more than two appointments in the past 12 months (3–11 appointments, OR=2.43; ≥12 appointments, OR=3.05). No significant associations were identified for assessment of smoking or consumption of fruits and vegetables (Table 4).

If clients smoked, they were more likely to receive complete care when they had three to 11 appointments (OR=2.28) or 12 or more appointments (OR=2.88) in the past 12 months. Complete care for alcohol was more likely when a client had 12 or more appointments in the past 12 months (OR=3.19) and less likely if the client had a diagnosis of schizophrenia (OR=.21). Complete care for inadequate fruit or vegetable consumption was more likely when participants had diabetes (OR=4.22) or a respiratory condition (OR=3.32). Complete care for physical inactivity was more likely when a participant had diabetes (OR=4.59) (Table 4).

DISCUSSION

This study was the first to examine acceptability and receipt of preventive care for multiple health risk behaviors, as reported by mental health clients. Preventive care was highly acceptable to clients across all behaviors and care elements. Receipt of preventive care was variable across behaviors and care elements and was particularly low for inadequate nutrition, receipt of referral and follow-up, and receipt of complete care. Factors identified as being positively associated with preventive care receipt were having a greater number of appointments in the previous 12 months, a diagnosis of diabetes or a respiratory condition, and not having a diagnosis of schizophrenia.

The finding that the receipt of assessment, advice, and referral for all risk behaviors was highly acceptable to clients is consistent with research regarding smoking and physical activity (34,41) and extends previous findings to include acceptability for alcohol and nutrition and for referral. Such

findings also extend the research identifying that a significant proportion of mental health service clients are interested in changing their health risk behaviors (34–40), suggesting that clinician beliefs regarding client non-receptivity to general health care (42,43,59) may be unfounded. The dissemination of training and educational resources has been reported

to positively affect primary care nurses' misconceptions regarding general medical care for clients with a mental illness (60). The effectiveness of such strategies in reducing clinician misconceptions regarding client receptivity to preventive care and the impact on clinician provision of such care should be examined.

Although client reports indicated high acceptance of preventive care, receipt of care was low. The results are consistent with clinician reports of suboptimal preventive care provision, with care particularly low for inadequate consumption of fruits and vegetables and for referral across all behaviors (30). For each of the four behaviors, less than half of participants who were at risk and reported receiving assessment were advised to use any type of referral or follow-up. Along with a perception that clients may not be receptive to or interested

in preventive care, the low levels of referral may reflect poor communication between mental health and other health services (61,62), a perceived lack of referral options (43,61,63,64), or other organizational barriers. Further research is warranted to better understand the barriers to care provision in this setting in order to develop interventions to improve care.

For some behaviors and care elements, an association was identified between care receipt and the following: a greater number of appointments in the previous 12 months and a diagnosis of schizophrenia, diabetes, or respiratory illness. Such findings suggest that mental health clinicians are more likely to provide preventive care where they feel that time permits (28,44,61) or when it is clinically indicated (24,33). Given that people with schizophrenia are at highest risk

TABLE 2. Client-reported acceptability of receiving preventive care, by behavior and element of preventive care^a

Element of care	Smoking			Harmful alcohol consumption			Inadequate fruit or vegetable consumption			Inadequate physical activity		
	Total N	N	%	Total N	N	%	Total N	N	%	Total N	N	%
Assessment	558	534	96	558	543	97	557	500	90	558	536	96
Brief advice ^b	283	244	86	241	224	93	483	434	90	261	244	94
Referral ^b	283	253	89	241	219	91	483	427	88	261	234	90

^a Clients agreed or strongly agreed that receipt of preventive care would be acceptable.

^b Limited to clients who were classified as at risk for a behavior

TABLE 3. Mental health service clients who reported being assessed for health risk behaviors and reported receiving further care for the behaviors for which they were at risk and assessed^a

Element of preventive care	Smoking				Harmful alcohol consumption				Inadequate fruit or vegetable consumption				Inadequate physical activity			
	Total N	N	%	95% CI	Total N	N	%	95% CI	Total N	N	%	95% CI	Total N	N	%	95% CI
Assessment	558	406	73	69.1–76.5	558	423	76	72.2–79.4	557	143	26	22.0–29.3	557	319	57	53.2–61.4
Brief advice ^{b,c}	226	178	79	73.4–84.1	200	145	73	66.3–78.7	124	85	69	60.3–76.8	162	138	85	79.7–90.7
Referral or follow-up ^c																
Received information about helpline	226	92	41	34.3–47.2	na	na	na	na	124	25	20	13.0–27.3	162	20	12	7.2–17.5
Provider offered to arrange referral to helpline	226	16	7	3.7–10.4	na	na	na	na	124	1	1	.0–2.4	162	6	4	.8–6.6
Advised to speak to general practitioner or AMS ^d	226	29	13	8.4–17.2	200	23	12	7.0–16.0	124	2	2	.0–3.9	162	3	2	.0–4.0
Advised to use other support types	226	65	29	22.8–34.7	200	75	38	30.7–44.3	124	38	31	22.4–38.9	162	67	41	33.7–49.0
Advised to use any referral or follow-up ^e	226	111	49	42.0–55.7	200	75	38	30.7–44.3	124	53	43	33.9–51.6	162	75	46	38.5–54.1
Complete care (advice and any referral or follow-up) ^{b,c,e}	226	108	48	41.2–54.3	200	74	37	30.3–43.7	124	46	37	28.5–45.7	162	72	44	36.7–52.2

^a Clients who responded "don't know" to care-related items were categorized as not having received care.

^b Advice for smoking includes being advised to quit smoking or being advised to use nicotine replacement therapy or both.

^c Limited to clients who were at risk of behavior and reported being assessed

^d AMS, Aboriginal Medical Service

^e Any referral or follow-up includes receiving information about a helpline, being offered a referral to a helpline, being advised to speak to a general practitioner or AMS, or being advised to use other types of support.

TABLE 4. Predictors of assessment and complete care for health risk behaviors among mental health service clients, by diagnostic and clinical characteristics^a

Outcome and behavior	Predictor	B	SE	OR	95% CI	p
Assessment						
Smoking	None					
Fruit or vegetable consumption	None					
Alcohol consumption	Schizophrenia or related diagnosis ^{b,c}	-.47	.24	.63	.40–.99	.05
Physical activity	1–2 appointments in past 12 months (reference)					<.001
	3–11 appointments in past 12 months	.89	.24	2.43	1.53–3.85	—
	≥12 appointments in past 12 months	1.11	.23	3.05	1.95–4.77	—
Complete care						
Smoking	1–2 appointments in past 12 months (reference)					.01
	3–11 appointments in past 12 months	.82	.39	2.28	1.07–4.86	—
	≥12 appointments in past 12 months	1.06	.36	2.88	1.41–5.90	—
Fruit or vegetable consumption	Diabetes ^b	1.44	.63	4.22	1.23–14.43	.02
	Respiratory illness ^b	1.20	.57	3.32	1.08–10.18	.04
Alcohol consumption	Schizophrenia or related diagnosis ^{b,c}	-1.58	.44	.21	.09–.49	<.001
	1–2 appointments in past 12 months (reference)					.001
	3–11 appointments in past 12 months	-.35	.48	.70	.28–1.80	—
	≥12 appointments in past 12 months	1.16	.42	3.19	1.40–7.30	—
Physical activity	Diabetes ^b	1.52	.58	4.59	1.47–14.33	.009

^a Logistic regression models adjusted for client age, gender, employment status, marital status, highest education attained, Aboriginal and Torres Strait Islander origins, and remoteness of residence.

^b Yes versus no

^c Includes schizophrenia and other psychotic illness

of chronic disease morbidity and mortality (65,66) and of experiencing a reduced life expectancy (1,3,67), the finding that clients with a diagnosis of schizophrenia were less likely to receive care for alcohol consumption suggests that initiatives to increase the provision of such care for this client group are a particular priority. To maximize the benefits, it is important to provide preventive care routinely to all clients. Approaches to care delivery that limit the time required of clinicians, including reduced models of care, such as the 2As and R model, should be considered in the mental health setting (17–20). Further, systems changes such as information technology approaches to prompt preventive care delivery (18,68) and the automation of referrals should be implemented to support clinicians (20,69).

The results should be interpreted in light of a number of limitations. Client reports of receipt of preventive care in general health care settings have been acknowledged as more reliable than clinician reports (31). However, to our knowledge no studies have reported the validity of such measures in mental health settings specifically. The extent to which the receipt of such care in this study is either an overestimate or an underestimate of the care actually received is unknown. Participants were selected on the basis of having a community mental health appointment in the prior two weeks. Because the survey questions addressed care without specification of time frame, some clients might have responded regarding the receipt of care over a longer period. Subsequent analyses have indicated that over 80% of clients responded to this item in terms of their most recent appointments with the service. Diagnoses were self-reported by participants and hence may reflect self-diagnosis rather than diagnosis by a health professional. Last, although data

were collected from a health district covering a large geographical area with metropolitan, regional, and rural communities, the generalizability of the findings to other settings is unknown.

CONCLUSIONS

This study has demonstrated that although mental health service clients reported that preventive care for health risk behaviors is highly acceptable to them, their reported receipt of such care during community mental health appointments indicates that care is suboptimal. Poor physical health within this population is well documented, as is the high prevalence of health risk behaviors. Therefore, it is imperative that mental health services provide preventive care routinely. Strategies to increase the delivery of routine preventive care within mental health services, such as information technology approaches and automated referrals, are likely to be required.

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REFERENCES

- Lawrence D, Hancock KJ, Kisely S: The gap in life expectancy from preventable physical illness in psychiatric patients in Western Australia: retrospective analysis of population based registers. *British Medical Journal (Clinical Research Edition)* 346:f2539, 2013
- Lawrence D, Kisely S, Pais J: The epidemiology of excess mortality in people with mental illness. *Canadian Journal of Psychiatry* 55: 752–760, 2010
- Chang CK, Hayes RD, Perera G, et al: Life expectancy at birth for people with serious mental illness and other major disorders from a secondary mental health care case register in London. *PLoS ONE* 6:e19590, 2011
- DE Hert M, Correll CU, Bobes J, et al: Physical illness in patients with severe mental disorders: I. prevalence, impact of medications and disparities in health care. *World Psychiatry* 10:52–77, 2011
- Lawrence D, Kisely S: Inequalities in healthcare provision for people with severe mental illness. *Journal of Psychopharmacology* 24(suppl):61–68, 2010
- Collins E, Tranter S, Irvine F: The physical health of the seriously mentally ill: an overview of the literature. *Journal of Psychiatric and Mental Health Nursing* 19:638–646, 2012
- Cunningham C, Peters K, Mannix J: Physical health inequities in people with severe mental illness: identifying initiatives for practice change. *Issues in Mental Health Nursing* 34:855–862, 2013
- Lawrence D, Mitrou F, Zubrick SR: Smoking and mental illness: results from population surveys in Australia and the United States. *BMC Public Health* 9:285, 2009
- Smoking and Mental Health. Royal College of Psychiatrists Council Report CR178. London, Royal College of Physicians, Royal College of Psychiatrists, 2013
- Ogloff JR, Lemphers A, Dwyer C: Dual diagnosis in an Australian forensic psychiatric hospital: prevalence and implications for services. *Behavioral Sciences and the Law* 22:543–562, 2004
- Kilian R, Becker T, Krüger K, et al: Health behavior in psychiatric in-patients compared with a German general population sample. *Acta Psychiatrica Scandinavica* 114:242–248, 2006
- McCreadie RG: Diet, smoking and cardiovascular risk in people with schizophrenia: descriptive study. *British Journal of Psychiatry* 183:534–539, 2003
- Smith S, Yeomans D, Bushe CJ, et al: A well-being programme in severe mental illness: baseline findings in a UK cohort. *International Journal of Clinical Practice* 61:1971–1978, 2007
- Mental Health in Australia: A Snapshot, 2004–05. Report no 4824. 0.55.001. Sydney, Australian Bureau of Statistics, 2006. Available at www.abs.gov.au/ausstats/abs@.nsf/mf/4824.0.55.001
- NICE: Schizophrenia: Core Interventions in the Treatment and Management of Schizophrenia in Primary and Secondary Care (Updated ed.). Clinical guideline 82. London, British Psychological Society and the Royal College of Psychiatrists, 2010
- Health NSW: Physical Health Care Within Mental Health Services. Sydney, New South Wales Department of Health, 2009
- New Zealand Smoking Cessation Guidelines. Wellington, New Zealand, Ministry of Health, 2007
- Revell CC, Schroeder SA: Simplicity matters: using system-level changes to encourage clinician intervention in helping tobacco users quit. *Nicotine and Tobacco Research* 7(suppl 1):S67–S69, 2005
- Schroeder SA, Morris CD: Confronting a neglected epidemic: tobacco cessation for persons with mental illnesses and substance abuse problems. *Annual Review of Public Health* 31:297–314, 2010
- Vidrine JI, Shete S, Cao Y, et al: Ask-Advise-Connect: a new approach to smoking treatment delivery in health care settings. *JAMA Internal Medicine* 173:458–464, 2013
- Anderson AE, Bowman JA, Knight J, et al: Smoking cessation care provision and support procedures in Australian community mental health centers. *Psychiatric Services* 64:707–710, 2013
- Himelhoch S, Leith J, Goldberg R, et al: Care and management of cardiovascular risk factors among individuals with schizophrenia and type 2 diabetes who smoke. *General Hospital Psychiatry* 31: 30–32, 2009
- Johnson JL, Malchy LA, Ratner PA, et al: Community mental healthcare providers' attitudes and practices related to smoking cessation interventions for people living with severe mental illness. *Patient Education and Counseling* 77:289–295, 2009
- Wye P, Bowman J, Wiggers J, et al: An audit of the prevalence of recorded nicotine dependence treatment in an Australian psychiatric hospital. *Australian and New Zealand Journal of Public Health* 34:298–303, 2010
- Wye PM, Bowman JA, Wiggers JH, et al: Smoking restrictions and treatment for smoking: policies and procedures in psychiatric inpatient units in Australia. *Psychiatric Services* 60:100–107, 2009
- Prochaska JJ, Gill P, Hall SM: Treatment of tobacco use in an inpatient psychiatric setting. *Psychiatric Services* 55:1265–1270, 2004
- Greening J: Physical health of patients in rehabilitation and recovery: a survey of case note records. *Psychiatric Bulletin* 29: 210–212, 2005
- Organ B, Nicholson E, Castle D: Implementing a physical health strategy in a mental health service. *Australasian Psychiatry* 18: 456–459, 2010
- Happell B, Platania-Phung C, Scott D: Are nurses in mental health services providing physical health care for people with serious mental illness? An Australian perspective. *Issues in Mental Health Nursing* 34:198–207, 2013
- Bartlem KM, Bowman JA, Freund M, et al: Care provision to prevent chronic disease by community mental health clinicians. *American Journal of Preventive Medicine* 47:762–770, 2014
- Hrisos S, Eccles MP, Francis JJ, et al: Are there valid proxy measures of clinical behaviour? A systematic review. *Implementation Science* 4:37, 2009
- Daumit GL, Crum RM, Guallar E, et al: Receipt of preventive medical services at psychiatric visits by patients with severe mental illness. *Psychiatric Services* 53:884–887, 2002
- Himelhoch S, Daumit G: To whom do psychiatrists offer smoking-cessation counseling? *American Journal of Psychiatry* 160:2228–2230, 2003
- Ussher M, Stanbury L, Cheeseman V, et al: Physical activity preferences and perceived barriers to activity among persons with severe mental illness in the United Kingdom. *Psychiatric Services* 58:405–408, 2007
- Moeller-Saxone K: Cigarette smoking and interest in quitting among consumers at a Psychiatric Disability Rehabilitation and Support Service in Victoria. *Australian and New Zealand Journal of Public Health* 32:479–481, 2008
- Siru R, Hulse GK, Tait RJ: Assessing motivation to quit smoking in people with mental illness: a review. *Addiction* 104:719–733, 2009
- Stockings E, Bowman J, McElwaine K, et al: Readiness to quit smoking and quit attempts among Australian mental health inpatients. *Nicotine and Tobacco Research* 15:942–949, 2013
- Filia S, Baker A, Richmond R, et al: Health behaviour risk factors for coronary heart disease (CHD) in smokers with a psychotic disorder: baseline results. *Mental Health and Substance Use Journal* 4:158–171, 2011

39. Buhagiar K, Parsonage L, Osborn DP: Physical health behaviours and health locus of control in people with schizophrenia-spectrum disorder and bipolar disorder: a cross-sectional comparative study with people with non-psychotic mental illness. *BMC Psychiatry* 11:104, 2011
40. Prochaska JJ, Fromont SC, Delucchi K, et al: Multiple risk-behavior profiles of smokers with serious mental illness and motivation for change. *Health Psychology* 33:1518–1529, 2014
41. Dickens G, Stubbs J, Popham R, et al: Smoking in a forensic psychiatric service: a survey of inpatients' views. *Journal of Psychiatric and Mental Health Nursing* 12:672–678, 2005
42. Wright CA, Osborn DP, Nazareth I, et al: Prevention of coronary heart disease in people with severe mental illnesses: a qualitative study of patient and professionals' preferences for care. *BMC Psychiatry* 6:16, 2006
43. Price JH, Ambrosetti LM, Sidani JE, et al: Psychiatrists' smoking cessation activities with Ohio community mental health center patients. *Community Mental Health Journal* 43:251–266, 2007
44. Ashton M, Lawn S, Hosking JR: Mental health workers' views on addressing tobacco use. *Australian and New Zealand Journal of Psychiatry* 44:846–851, 2010
45. Hunter New England Local Health District: Preventive Care Area Policy Statement. HNEH Pol 10-01. Wallsend, New South Wales, Australia, Hunter New England Health, 2010
46. Mental Health Services in Australia, 2010–11. Canberra, Australian Institute of Health and Welfare, 2012. Available at mhsa.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=27917287838. Accessed March 5, 2013
47. National Tobacco Strategy, 2004–2009: The Strategy. Canberra, Commonwealth of Australia, Ministerial Council on Drug Strategy, 2004
48. Australian Guidelines to Reduce Health Risks From Drinking Alcohol. Canberra, Commonwealth of Australia, National Health and Medical Research Council, 2009
49. Dietary Guidelines for Australian Adults. Canberra, Commonwealth of Australia, Department of Health and Ageing, National Health and Medical Research Council, 2003
50. An Active Way to Better Health. Canberra, Commonwealth of Australia, Department of Health and Ageing, 1999
51. Heatherston TF, Kozlowski LT, Frecker RC, et al: The Fagerström Test for Nicotine Dependence: a revision of the Fagerström Tolerance Questionnaire. *British Journal of Addiction* 86:1119–1127, 1991
52. National Nutrition Survey Selected Highlights Australia 1995. Canberra, Australian Bureau of Statistics, 1997
53. Babor T, Higgins-Biddle J, Saunders JMM: AUDIT: The Alcohol Use Disorders Identification Test: Guidelines for Use in Primary Care. Geneva, World Health Organization, 2001
54. Marshall AL, Hunt J, Jenkins D: Knowledge of and preferred sources of assistance for physical activity in a sample of urban Indigenous Australians. *International Journal of Behavioral Nutrition and Physical Activity* 5:22, 2008
55. McElwaine KM, Freund M, Campbell EM, et al: The delivery of preventive care to clients of community health services. *BMC Health Services Research* 13:167, 2013
56. Measuring Remoteness: Accessibility/Remoteness Index of Australia (ARIA). Occasional Papers: New Series no 14. Canberra, Commonwealth of Australia, Department of Health and Ageing, 2001
57. SEIFA: Socio-economic Indexes for Areas. Canberra, Australian Bureau of Statistics, 2008
58. Hosmer D, Lemeshow S: Applied Logistic Regression. New York, Wiley, 2000
59. Wye P, Bowman J, Wiggers J, et al: Providing nicotine dependence treatment to psychiatric inpatients: the views of Australian nurse managers. *Journal of Psychiatric and Mental Health Nursing* 17: 319–327, 2010
60. Hardy S: Training practice nurses to improve the physical health of patients with severe mental illness: effects on beliefs and attitudes. *International Journal of Mental Health Nursing* 21:259–265, 2012
61. Happell B, Scott D, Platania-Phung C: Perceptions of barriers to physical health care for people with serious mental illness: a review of the international literature. *Issues in Mental Health Nursing* 33: 752–761, 2012
62. Hyland B, Judd F, Davidson S, et al: Case managers' attitudes to the physical health of their patients. *Australian and New Zealand Journal of Psychiatry* 37:710–714, 2003
63. Druss BG, Marcus SC, Campbell J, et al: Medical services for clients in community mental health centers: results from a national survey. *Psychiatric Services* 59:917–920, 2008
64. Happell B, Scott D, Nankivell J, et al: Screening physical health? Yes! But . . . : nurses' views on physical health screening in mental health care. *Journal of Clinical Nursing* 22:2286–2297, 2013
65. Callaghan RC, Veldhuizen S, Jeysingh T, et al: Patterns of tobacco-related mortality among individuals diagnosed with schizophrenia, bipolar disorder, or depression. *Journal of Psychiatric Research* 48:102–110, 2014
66. Laursen TM, Wahlbeck K, Hällgren J, et al: Life expectancy and death by diseases of the circulatory system in patients with bipolar disorder or schizophrenia in the Nordic countries. *PLoS ONE* 8: e67133, 2013
67. Laursen TM, Nordentoft M, Mortensen PB: Excess early mortality in schizophrenia. *Annual Review of Clinical Psychology* 10:425–448, 2014
68. Maki M, Bjorklund P: Improving cardiovascular disease screening in community mental health centers. *Perspectives in Psychiatric Care* 49:179–186, 2013
69. Krist AH, Woolf SH, Frazier CO, et al: An electronic linkage system for health behavior counseling effect on delivery of the 5A's. *American Journal of Preventive Medicine* 35(suppl):S350–S358, 2008