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Cross-disciplinary cardiovascular and psychiatric recommendations: A systematic review of clinical guidelines

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Abstract

Introduction: Individuals with serious mental illness (SMI), including major depression, schizophrenia, and bipolar disorder, experience disproportionately high rates of cardiovascular (CV) risk and disease. Despite this well-established connection, it remains unclear how professional society guidelines across cardiology and psychiatry address this relationship.

Methods: Major American and European CV and psychiatric society guidelines published from 2013-2023 were reviewed. Included were guidelines on primary and secondary CV disease prevention, and disease-specific guidelines for schizophrenia, bipolar disorder, and major depressive disorder. Relevant text was extracted and classified as recommendations or supporting text.

Results: Twenty-six guidelines were included (13 CV; 13 psychiatric). Psychiatric considerations appeared in 5 CV guidelines (38%), most commonly addressing mental illness treatment to improve CV outcomes (n = 5), pharmacological considerations (n = 2), and recognition of mental illness as a CV risk factor (n = 2). Only 13% of American

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CV guidelines included psychiatric content, compared to 80% of European CV guidelines. In contrast, 10 psychiatric guidelines (77%) included CV-related recommendations, including CV screening (n = 16), pharmacological considerations (n = 8), and risk factor control (n = 7). Among psychiatric guidelines, 40% of U.S. and 100% of European documents included CV content.

Conclusions: CV considerations are more frequently addressed in psychiatric than psychiatric considerations in CV guidelines. European guidelines showed greater cross-disciplinary integration. These findings highlight the need for more unified, interdisciplinary guidance to reduce CV risk in individuals with SMI.

Keywords

comorbidity, clincal practice guidelines, Schizophrenia, Bipolar disorder, Major depressive disorder, cardiology, interdisciplinary care, health policy

Introduction

Serious mental illness (SMI), such as major depression, schizophrenia, and bipolar disorder, is characterized by severe biopsychosocial impairment and affects about 6% of the population.[1,2] People with SMI have a mortality rate 2-3 times higher than the general population, resulting in a shortened life expectancy of 10 to 25 years.[3-5] Similar to the general population, cardiovascular (CV) disease (CVD) is the leading cause of death in people with SMI. However, they face a 78% greater risk of developing CVD and an 85% higher risk of death from CVD.[6] People with SMI also have higher rates of nearly all modifiable CV risk behaviors and conditions, are frequently prescribed psychopharmacologic treatments with adverse CV effects, and experience persistent disparities in access to care.[7]

Despite the growing recognition of the bidirectional link between SMI and CVD, ambiguity regarding guidance from professional societies remain. A review of professional society guidelines provides an opportunity to evaluate the presence and extent of systemic recognition of patients with comorbid SMI and CVD. Identifying existing recommendations or inconsistencies in guidance can inform future guideline development and highlight areas where education or policy change may be needed. Ultimately, improving the integration of psychiatric and CV care through aligned professional guidance has the potential to reduce morbidity and mortality in this high-risk population.

Professional society guidelines play an integral role in disseminating knowledge, promoting practice standards, and influencing behavioral change within their respective disciplines. Given the well-established interconnectedness of SMI and CVD, there is a need to understand how CV professional societies incorporate psychiatry-related issues, as well as how psychiatric societies address CV-related concerns in their guidelines. The objective of this study is to review CV and psychiatric

recommendations in professional society guidelines and statements published over the past decade.

Methods

Eligibility criteria

We conducted a systematic review of major American and European CV and psychiatric professional society guidelines and statements published between January 2013 and December 2023 (Figure S1). For CV guideline topics, we included documents primary and secondary prevention of CVD. For psychiatric guidelines, we included disease-specific guidelines for schizophrenia, bipolar, and major depression.[6] Eligible document types included professional society guidelines and statements. There were no exclusion criteria. This study followed the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines (Table S1).

Information sources

We reviewed CV guidelines from the following American professional societies: American College of Cardiology (ACC) and American Heart Association (AHA). We reviewed CV guidelines from the following European professional societies: European Society of Cardiology (ESC) and National Institute for Health and Care Excellence (NICE) professional societies. Psychiatric guidelines from the United States were obtained from the Department of Veterans Affairs/Department of Defense (VA/DoD), the American Psychiatric Association (APA), and the American College of Physicians (ACP). European psychiatric guidelines were sourced from NICE and the British Association for Psychopharmacology (BAP). For each society, we reviewed their official website and extracted the relevant guidelines or statements.

Search strategy

We reviewed the full text of each guideline. Two independent reviewers screened studies and extracted data. Disagreements were resolved by a third independent reviewer. In CV guidelines, the following key terms were searched: mental illness, mental health, psychiatric, major depression, bipolar, and schizophrenia. In psychiatric guidelines, key terms included: cardiovascular disease, cardiac disease, primary prevention, hypertension, dyslipidemia, metabolic syndrome, and diabetes mellitus. Relevant content was extracted and classified as either recommendations or supporting statements. For CV guidelines, we categorized recommendations into the following categories: Pharmacological considerations, recognition of mental illness as a risk factor for CV disease, screening for mental illness to improve CV outcomes, and treatment of mental illness to improve CV outcomes. For psychiatric guidelines, we categorized recommendations into the following categories: CV pharmacological

considerations (eg, psychotropic medication selection based on CV profile), CV risk factor control (eg, lifestyle modification, comorbidity management, and monitoring), CVD screening, and treatment of mental illness to improve CV outcomes.

Results

A total of 13 CV guidelines (8 American; 5 European) were included in the analysis (Table 1). Five CV guidelines (38%) included psychiatric recommendations (Table 2).[8-12] For primary prevention, none of the American guidelines (0/4; 0%)[13-16] included psychiatric recommendations, whereas both of the European guidelines (2/2; 100%) did.[8,9] These 2 European guidelines included multiple psychiatric-related recommendations, covering: psychiatric-related recommendations involved pharmacological considerations (n = 2),[8] recognition of mental illness as a risk factor for CV disease (n = 2),[8,9] and treatment of mental illness to improve CV outcomes (n = 2).[8] Text mentioning psychiatric conditions appeared in half of the American guidelines (2/4; 50%) and in both of the European guidelines (2/2; 100%). Among secondary prevention guidelines, 1 of 4 American guidelines (25%)[10,17-19] and 2 of 3 European guidelines (67%)[11,12,20] included psychiatric recommendations. These recommendations were focused on: treatment of mental illness to improve CV outcomes (n = 3)[10-12] and screening for mental illness in people with CV disease (n = 1).[10] Mentions of psychiatric conditions were present in 50% (2/4) of American and 67% (2/3) of European guidelines.

A total of 13 psychiatric guidelines (5 American; 8 European) were also included in the analysis (Table 3). These guidelines addressed: schizophrenia and psychotic disorders (n = 5),[21-25] major depression (n = 5),[26-30] bipolar disorder (n = 2),[31,32] and SMI not otherwise specified (n = 1).[33] Ten psychiatric guidelines (77%) included CV recommendations (Table 4). Among these, 40% (2/5) of the American guidelines and all the European guidelines (100%; 8/8) contained CV recommendations. Multiple CV-related recommendations were included in 70% (7/10) of guidelines, with at least 1 recommendation. The most common CV-related recommendations addressed: CVD screening (n = 16),[23-25,29,31,32] CV pharmacological considerations (n = 8),[21,23,24,30] improving CV risk factor control (n = 7),[21,24,25,32,33] and treatment of mental illness to improve CV outcomes (n = 1).[27] Mentions of CV conditions were present in 85% (n = 11) of psychiatric guidelines.

Discussion

We found that CVD management recommendations were more commonly included in psychiatric guidelines than psychiatric disease recommendations were in CV guidelines. European CV guidelines contained more psychiatric recommendations than American CV guidelines. Similarly, European psychiatric guidelines included more CV recommendations than their American counterparts. To our knowledge, this is the

Table 1. Cardiovascular prevention guidelines and statements.

Organization(s)	Year	Title	Recommendations and selected discussion
Primary Prevention			
American			
AHA/ACC/ASE/ CHEST/SAEM/ SCCT/SCMR	2021	Chest pain[1]	No recommendations Psychological syndromes, such as depression, have a close association with chest pain
ACC/AHA	2019	Primary prevention[2]	No recommendations Comorbid mental illness is social determinant of health that affects treatment adherence and ASCVD health outcomes
AHA/ACC/HHS	2014	Strategies to enhance application of CPG[3]	No recommendations
ACC/AHA	2013	Assessment of cardiovascular risk[4]	No recommendations
European			
NICE	2023	Cardiovascular disease: Risk assessment and reduction, including lipid modification[5]	Recommendation: *Recognise that CVD risk tools (ex. QRISK3) may underestimate risk in people with SMI. Clinical judgement should inform interpretation, especially for individuals with schizophrenia, bipolar disorder, and other psychoses*
ESC	2021	Cardiovascular disease prevention[6]	Recommendation: *Mental disorders with either significant functional impairment or decreased use of health care systems should be considered as influencing total CVD risk (IC)* Recommendation: *Patients with mental disorders need intensified support and interdisciplinary cooperation to improve adherence to pharmacological and lifestyle interventions (IC, IB)* Recommendation: *ASCVD patients with stress should be considered for referral to psychotherapeutic stress management to improve CV outcomes and reduce stress symptoms (IIa,B)* Recommendation: *Patients with CHD and moderate-to-severe major depression should be considered for antidepressive treatment with an SSRI (IIa,B)* Recommendation: *In patients with HF and major depression, SSRIs, SNRIs, and tricyclic antidepressants are not recommended (IIIB.)*
Secondary prevention			
American			
ACC/AHA/SCAI	2021	Coronary artery revascularization[7]	Recommendation: *In patients who have undergone coronary revascularization, screening for depression and referral for treatment when indicated is recommended to improve recovery and quality of life (2b, C-LD)* Recommendation: *In patients who have undergone coronary revascularization who have symptoms of depression, anxiety, or stress, treatment with cognitive behavioural therapy, psychological counselling, and/or pharmacological interventions is beneficial to improve quality or life and cardiac outcomes (1, B-R)*
AHA/ACC	2017	Clinical performance and quality measures for adults with STEMI and NSTEMI[8]	No recommendations

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Table 1. (continued)

Primary Prevention			
Organization(s)	Year	Title	Recommendations and selected discussion
ACC/AHA/SCAI	2015	Percutaneous coronary intervention for patients with STEMI[9]	No recommendations
ACC/AHA	2014	Management of patients with NSTEMI ACS[10]	No recommendations Psychiatric disorders are noncardiac causes of chest pain that can mimic ACS.
European			
ESC	2020	ACS in patients presenting without persistent ST-segment elevation[11]	Recommendation: *Psychological interventions are recommended to improve symptoms of depression in patients with CAD in order to improve quality-of-life (I, B)*
ESC	2019	Diagnosis and management of chronic coronary syndromes[12]	Recommendation: *Psychological interventions are recommended to improve symptoms of depression in patients with chronic coronary syndrome (I, B)*
ESC	2017	Management of acute myocardial infarction in patients presenting with ST-segment elevation[13]	No recommendations

Abbreviations. ACC, American College of Cardiology; ACS, acute coronary syndrome; AHA, American Heart Association; ASCVD, atherosclerotic cardiovascular disease; ASE, American Society of Echocardiography, CAD, coronary artery disease; CHD, coronary heart disease; CHEST, American College of Chest Physician; CPG, clinical practice guidelines; CV, cardiovascular; CVD, cardiovascular disease; ESC, European Society of Cardiology; HF, heart failure; HHS, Department of Health and Human Services; NICE, National Institute for Health and Care Excellence; NSTEMI, Non–ST-elevation myocardial infarct; SAEM, Society for Academic Emergency Medicine; SCAI, Society for Cardiovascular Angiography and Interventions; SCCT, Society of Cardiovascular Computed Tomography; SCMR, Society for Cardiovascular Magnetic Resonance; SMI, severe mental illness; SNRI, serotonin-noradrenaline reuptake inhibitor; SSRI, selective serotonin reuptake inhibitor; STEMI, ST-elevation myocardial infarction.

first study to examine the inclusion of CV and psychiatric recommendations in professional society guidelines.

A bidirectional relationship between CVD and SMI has been well-established. CVD is associated with the onset of major depression, particularly following an acute cardiac event, and may exacerbate pre-existing psychiatric conditions.[34,35] Primary care and CV practitioners should prioritise SMI due to its high prevalence among patients with CVD and its role as a modifiable risk factor for adverse CV outcomes.[34] These findings underscore the need for increased vigilance regarding psychiatric comorbidities in patients with CVD.

Conversely, individuals with SMI face a substantially elevated burden of CV risk factors, a higher prevalence of CVD, and increased CV-related mortality.[7] Biological mechanisms (eg, dysregulation of the hypothalamic-pituitary-adrenal axis, autonomic dysfunction, inflammation), and behavioral factors (eg, smoking, physical inactivity, poor diet, nonadherence to medical therapy) contribute to this link.[36] Additionally, disparities in access to CV care and lower quality of care contribute to worse outcomes for people with SMI.[37,38] By incorporating routine psychiatric and CV screening, and prioritizing care coordination, primary care and CV professionals have an opportunity

Table 2. Psychiatric recommendations found in cardiovascular guidelines.

CV primary prevention recommendations	Cardiovascular guidelines
1. Pharmacological considerations	ESC 2021: Cardiovascular disease prevention in clinical practice
2. Mental illness as a risk factor for CV disease	NICE 2023: Cardiovascular disease: Risk assessment and reduction ESC 2021: Cardiovascular disease prevention in clinical practice
3. Treatment of mental illness to improve CV outcomes	ESC 2021: Cardiovascular disease prevention in clinical practice
CV secondary prevention recommendations	Cardiovascular guidelines
1. Treatment of mental illness to improve CV outcomes	ACC/AHA/SCAI 2021: Coronary artery revascularization ESC 2020: ACS in patients presenting without persistent ST-segment elevation ESC 2019: Diagnosis and management of chronic coronary syndromes
2. Screening for mental illness in people with CV disease	ACC/AHA/SCAI 2021: Coronary artery revascularization

Abbreviations: ACC, American College of Cardiology; AHA, American Heart Association; ACS, acute coronary syndrome; CV, cardiovascular; ESC, European Society of Cardiology; NICE, National Institute for Health and Care Excellence; SCAI, Society for Cardiovascular Angiography and Interventions.

to address this disparity and modify risk in a vulnerable population.[39] Recognizing SMI as a relevant and modifiable contributor to CV risk, and vice versa aligns with a holistic, patient-centered approach to prevention and management.[39] Moreover, integrating behavioral health support into CV risk factor counseling and lifestyle modification interventions may enhance adherence and long-term outcomes.[39]

The relatively high number of CV recommendations in psychiatric professional guidelines reflect greater awareness among psychiatric professionals of the CV disease burden in individuals with SMI. As seen in the higher rates of CV recommendations and related content in European psychiatric guidelines compared to American ones, this awareness may be more pronounced in Europe. Across psychiatric guidelines, several consistent CV recommendations emerge, particularly within European sources such as NICE and BAP. These guidelines frequently emphasize routine baseline and ongoing physical health monitoring, including measurements of blood pressure, weight or BMI, fasting glucose or HbA1c, lipid profiles, and, where indicated, electrocardiograms.[25,31,40] Many recommend annual screening for cardiometabolic risk factors, particularly for individuals with schizophrenia, bipolar disorder, or those receiving long-term antipsychotic treatment.[23,25,31,40] There is broad support for the use of lifestyle interventions such as diet, exercise, and behavioral programs to address modifiable CV risk.[21,33] In cases of medication-induced weight gain or metabolic disturbances, adjunctive

Table 3. Psychiatric guidelines.

American Organization(s)	Year	Title	Recommendations and selected discussion
VA/DoD	2023	Management of first-episode psychosis and schizophrenia[14]	Recommendations*: Dietary interventions, exercise, psychoeducation, as well as adjuvant pharmacological interventions are suggested in patients treated with antipsychotic medication (Weak for)* Recommendation: Met*formin, Topiramate, or Aripiprazole is suggested for treatment of metabolic side effects of antipsychotic medication and weight loss in individuals with schizophrenia (Weak for)* Coordinated specialty care (CSC) places special emphasis on monitoring and managing cardiometabolic risk factors, such as smoking, weight gain, hypertension, dyslipidemia, and pre-diabetes
VA/DoD	2022	Management of major depressive disorder[15]	No recommendations MDD co-occurs with many medical illnesses/conditions like diabetes, hypertension, and congestive heart failure, complicating the treatment of medical disorders and MDD, and increasing morbidity and mortality
APA	2020	Treatment of patients with schizophrenia[16]	No recommendations Increases in morbidity and mortality related to physical health in individuals with schizophrenia are likely associated with such factors as obesity, diabetes, hyperlipidemia, greater use of cigarettes, reduced engagement in health maintenance (eg, diet, exercise), and disparities in access to preventive health care and treatment for physical conditions If a patient has a concomitant physical condition (eg, diabetes, cardiac conduction abnormalities, a seizure disorder), choice of medication will need to consider the likelihood of exacerbating an existing health condition Factors to consider when making a determination about selecting or changing antipsychotic medications include whether the patient is taking other medications that are known to prolong QTc intervals; whether the patient has factors that would influence drug metabolism, leading to higher blood levels of a drug (eg, poor metabolizer status, pharmacokinetic drug-drug interactions, hepatic or renal disease, drug toxicity); whether the patient is known to have a significant cardiac risk factor (eg, congenital long QT syndrome, structural or functional cardiac disease, bradycardia, family history of sudden cardiac death

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Table 3. (continued)

Organization(s)	Year	Title	Recommendations and selected discussion
American			
APA	2019	Treatment of depression across three age cohorts[17]	Recommendation: *Patients with depression and Type II diabetes mellitus should be considered for a combination of cognitive-behavioural therapy and usual care (conditional recommendation for use)* Research has shown that among people without CVD but depression at baseline, there is an approximately 200% increase in relative risk (or probability) of developing heart disease compared with nondepressed persons As noted earlier, depression is frequently found to be comorbid with other mental health problems (eg, anxiety, posttraumatic stress disorder), as well as in combination with various medical problems (eg, heart disease, cancer, stroke)
ACP	2016	Nonpharmacologic versus pharmacologic treatment of adult patients with major depressive disorder[18]	No recommendations
European			
NICE	2022	Depression in adults: Treatment and management[19]	Recommendation: *Before starting an antipsychotic, check the person's baseline pulse and blood pressure, weight, nutritional status, diet, level of physical activity, fasting blood glucose or HbA1c and fasting lipids* Recommendation: *Carry out monitoring for people who take an antipsychotic for the treatment of their depression. This may include: weight, fasting blood glucose or HbA1C, fasting lipids, and an electrocardiogram (ECG), as per specified schedule* Recommendation: *Consider ECG monitoring in people taking lithium who have a high risk of, or existing, CVD*
BAP	2020	Evidence-based guidelines for the pharmacological treatment of schizophrenia[20]	Recommendation: *Regarding antipsychotic therapy* • *All patients should have a personal and family CV history taken (D)* • *Attention should be paid to identifying the risk factors for CVD/sudden death in psychiatric patients (D)* • *Treatment with statins should be considered more frequently (D)* • *Avoid high doses/polypharmacy in all patients but especially in those with multiple CV risk factors, unless clinically justified (D)* • *Vigilance for CV events and CV complications of therapy is recommended in all patients (D)*

(continued)

Table 3. (continued)

American

Organization(s)	Year	Title	Recommendations and selected discussion
EPA	2018	Physical activity as a treatment for severe mental illness[21]	Recommendation: *Physical activity should be used to improve physical health in people with SMI (Some evidence, C)*
BAP	2016	Evidence-based guidelines for treating bipolar disorder: Revised third edition[22]	Recommendation: *Bipolar patients are at high risk of CV, metabolic and respiratory disease. There should be an annual auditable check for hypertension, central obesity, raised blood glucose, weight, and dyslipidemia annually (S)* Treatment with dopamine antagonist agents should always trigger screening for 4 cardio-metabolic risk factors (hypertension, central obesity, raised blood glucose, and dyslipidemia)
BAP	2016	Management of weight gain, metabolic disturbances and CV risk associated with psychosis and antipsychotic drug treatment[23]	Recommendations: *Regarding physical health risk factors, the following should be assessed (S): body mass index (BMI), HbA1C or random/fasting blood glucose, lipid profile, blood pressure* • *All measurements below should be assessed before starting an antipsychotic, or as soon as possible and then monitored at specific intervals* Recommendations: *Regarding obesity* • *Lifestyle interventions (mostly of the 'behavioural lifestyle intervention' type (S)* • *Antipsychotic switching (B)* • *Adjunctive aripiprazole is recommended as a possible intervention for weight gain associated with clozapine and olanzapine (B)* • *Adjunctive Metformin: In the context of recommendations regarding groups at high risk of diabetes in NICE PH38, metformin should be considered as an adjunct to attenuate or reduce weight gain following antipsychotic medication (A)* Recommendations: *Regarding management of increased risks for diabetes and CVD* • *Annual screening for potential pre-diabetic states is recommended for those with psychosis receiving antipsychotic medications (S)* • *Tobacco smoking is an important additive risk factor for diabetes and CVD, and those who smoke should be referred to smoking cessation services (S)* • *The prescription of metformin for those not responding to intensive lifestyle interventions needs to be considered in the context of the individual (S)* • *Diabetes, dyslipidemia, and hypertension should be managed according to existing standard NICE guidelines for the general population*

(continued)

Table 3. (continued)

American			
Organization(s)	Year	Title	Recommendations and selected discussion
BAP	2015	Evidence-based guidelines for treating depressive disorders with antidepressants[24]	Recommendations: *Regarding comorbid medical illness* • *Where possible avoid TCAs in patients at high risk of CV disease, arrhythmias and cardiac failure (C)* • *In acute coronary syndromes choose drugs which do not increase the risk of subsequent cardiac events (S): there is best evidence for SSRIs, mirtazapine and bupropion*
NICE	2014	Psychosis and schizophrenia in adults: Prevention and management[25]	Recommendations: *Before starting antipsychotic medication, undertake and record the following baseline investigations: weight (plotted on a chart), waist circumference, pulse and blood pressure, fasting blood glucose or HbA1c, blood lipid profile and prolactin levels, assessment of any movement disorders, assessment of nutritional status, diet and level of physical activity, ECG if findings from physical examination have identified specific CV risk or if there is a personal history of CVD* Recommendations: *Monitor and record the following regularly and systematically throughout treatment, but especially during titration: weight, waist circumference (plotted on a chart), pulse and blood pressure, fasting blood glucose or HbA1c, and blood lipid levels, adherence, overall physical health* Recommendation: *The secondary care team should maintain responsibility for at least the first 12 months or until the person's condition has stabilised, whichever is longer. Thereafter, the responsibility for this monitoring may be transferred to primary care. Assessments should be made annually, with a copy of the results sent to the care coordinator, psychiatrists and secondary care team* Recommendation: *Treat people with psychosis or schizophrenia who have diabetes and/or CVD in primary care according to the appropriate NICE guidance*

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Table 3. (continued)

American Organization(s)	Year	Title	Recommendations and selected discussion
NICE	2014	Bipolar disorder: Assessment and management[26]	Recommendation: *Ensure that the physical health check for people with bipolar disorder, performed at least annually, includes weight or BMI, diet, nutritional status and level of physical activity; CV status, including pulse and blood pressure; metabolic status, including fasting blood glucose or glycosylated haemoglobin (HbA1c), and blood lipid profile; liver function; renal and thyroid function, and calcium levels, for people taking long-term lithium* Recommendation: *Before starting antipsychotic medication, measure and record the person's weight or BMI, pulse, blood pressure, fasting blood glucose or HbA1C, blood lipid profile, ECG (if family history suggestive CVD, significant history of cardiac disease/arrhythmia, presence of CV risk factors)* Recommendation: *Monitor the physical health (CVD, diabetes, obesity, and respiratory diseases) of people with bipolar disorder when responsibility for monitoring is transferred from secondary care, and then at least annually. These should be audited in the annual team report, which should be sent to the care coordinator and psychiatrist and put in the secondary care records* Recommendation: *Promptly identify CV risk factors and offer treatment and supportive therapies when indicated, as per NICE's guidelines* Recommendation: *Trusts should ensure that they take account of relevant guidelines on the monitoring and treatment of CV and metabolic disease in people with bipolar disorder through board-level performance indicators*

Abbreviations. APA, American Psychiatric Association; APC, American College of Physicians; BAP, British Association for Psychopharmacology; BMI, body mass index; CV, cardiovascular; CVD, cardiovascular disease; ECG, electrocardiogram; EPA, European Psychiatric Association; HbA1c, glycated haemoglobin; MDD, Major depressive disorder; NICE, National Institute for Health and Care Excellence; SMI, severe mental illness; SSRI, selective serotonin reuptake inhibitor; TCA, Tricyclic antidepressant; VA/DoD, Department of Veterans Affairs Department of Defense.

Table 4. Cardiovascular recommendations found in psychiatric guidelines.

CV recommendations	Psychiatric guidelines
1. CV disease screening	NICE 2022: Depression in adults: Treatment and management BAP 2020: Evidence-based guidelines for pharmacological treatment of schizophrenia BAP 2016: Evidence-based guidelines for treating bipolar disorder: Revised third edition BAP 2016: Management of weight gain, metabolic disturbances and cardiovascular risk associated with psychosis and antipsychotic drug treatment NICE 2014: Psychosis and schizophrenia in adults: Prevention and management NICE 2014: Bipolar disorder: Assessment and management
2. CV pharmacological considerations	VA/DoD 2023: Management of first episode psychosis and schizophrenia BAP 2020: Evidence-based guidelines for pharmacological treatment of schizophrenia BAP 2016: Management of weight gain, metabolic disturbances and cardiovascular risk associated with psychosis and antipsychotic drug treatment BAP 2015: Evidence-based guidelines for treating depressive disorders with antidepressants
3. Improving CV risk factor control	VA/DoD 2023: Management of first episode psychosis and schizophrenia EPA 2018: Physical activity as a treatment for severe mental illness BAP 2016: Management of weight gain, metabolic disturbances and cardiovascular risk associated with psychosis and antipsychotic drug treatment NICE 2014: Psychosis and schizophrenia in adults: Prevention and management NICE 2014: Bipolar disorder: Assessment and management
4. Treatment of mental illness to improve CV outcomes	APA 2019: Treatment of depression across 3 age cohorts

Abbreviations: APA, American Psychiatric Association; BAP, British Association for Psychopharmacology; CV, cardiovascular; CVD; EPA, European Psychiatric Association; NICE, National Institute for Health and Care Excellence; VA/DoD, Department of Veterans Affairs Department of Defense.

pharmacologic therapies—most notably metformin and aripiprazole—are suggested.[21,24,41] Including CV guidance in psychiatric guidelines may help increase awareness among psychiatric professionals about the importance of CV care for their patients.

In contrast, the low frequency of psychiatric recommendations in CV guidelines suggests reduced awareness among CV professionals of the need to address psychiatric comorbidities. This gap is even larger in American CV guidelines compared to European ones. These findings support the strong need to of considering psychiatric conditions in future CV professional society guidelines. While the relatively greater inclusion of CV recommendations in psychiatric guidelines is encouraging, it requires active clinical translation. Guidelines should emphasize the strong relationship between these 2 entities and promote evidence-based recommendations to improve CV outcomes in people with SMI.

Limitations

This review has several limitations. First, we included only major American and European professional society guidelines. As a result, guidelines from less prominent or non-Western professional societies may have been excluded. However, the societies included in this review produce widely disseminated guidelines that are most likely to reflect current knowledge and influence clinical practice. Second, we conducted a manual review of each guideline, and it is possible that some relevant phrases were not captured during data extraction. To mitigate this, we used a comprehensive list of key terms and revised the search strategy iteratively as new relevant terms were identified. The final search strategy was applied uniformly across all included guidelines. Third, the definition of SMI varies, and we did not include other severe psychiatric conditions such as anorexia nervosa or post-traumatic stress disorder. However, our operational definition of SMI was based on the largest study to date examining CVD in individuals with SMI.[6]

Conclusion

Patients with SMI face significantly elevated cardiometabolic vulnerability, yet professional guidelines, particularly those from CV organizations, fail to reflect the urgency of this challenge. CV and mental health professionals have the opportunity to incorporate proactive, routine CV and psychiatric assessments into standard care. Where guidance is lacking, interdisciplinary collaboration and integrative care models become even more essential.

To bridge this gap, future guideline development should intentionally include psychiatric and primary care perspectives in CV prevention documents, and reciprocally, CV input should be incorporated into psychiatrics guidelines. Doing so will better equip clinicians to deliver integrated, evidence-based care to a highly vulnerable population.

Author Contributions

Marina Delli Colli: Conducted search. Synthesized and extracted relevant information. Wrote manuscript. Dr Kyle T. Greenway: Edited and reviewed manuscript. Provided expert opinion on research in the psychiatric field. Dr Michael Goldfarb: PI. Conceptualized and designed search. Edited and reviewed manuscript

Declaration of Conflicting Interests

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Data Availability Statement

The authors confirm that the data supporting the findings of this study are available within the article. Raw data that support the findings of this study are available from the corresponding author, upon reasonable request.

Supplemental Material

Supplemental material for this article is available online.

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