RESEARCH ARTICLE

Preventive Service Use Among People With and Without Serious Mental Illnesses

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Introduction: People with serious mental illnesses experience excess morbidity and premature mortality resulting from preventable conditions. The goal was to examine disparities in preventive care that might account for poor health outcomes.

Methods: In this retrospective cohort study, adults (N=803,276) served by Kaiser Permanente Northwest and federally qualified health centers/safety-net community health clinics were categorized into five groups: schizophrenia spectrum disorders, bipolar disorders/affective psychoses, anxiety disorders, nonpsychotic unipolar depression, and reference groups with no evidence of these specific mental illnesses. The primary outcome was overall preventive care-gap rate, the proportion of incomplete preventive services for which each patient was eligible in 2012–2013. Secondary analyses examined Kaiser Permanente Northwest data from 2002 to 2013. Data were analyzed in 2015.

Results: Controlling for patient characteristics and health services use, Kaiser Permanente Northwest mean care-gap rates were significantly lower for bipolar disorders/affective psychoses (mean=18.6, $p<0.001$) and depression groups (mean=18.6, $p<0.001$) compared with the reference group. Schizophrenia (mean=19.4, $p=0.236$) and anxiety groups (mean=19.9, $p=0.060$) did not differ from the reference group (mean=20.3). In community health clinics, schizophrenia (mean=34.1, $p<0.001$), bipolar/affective psychosis (mean=35.7, $p<0.001$), anxiety (mean=38.5, $p<0.001$), and depression groups (mean=36.3, $p<0.001$) had significantly lower care-gap rates than those in the reference group (mean=40.0). Secondary analyses of diabetes and dyslipidemia screening trends in Kaiser Permanente Northwest showed diagnostic groups consistently had fewer care gaps than patients in the reference group.

Conclusions: In vastly different settings, individuals with serious mental illnesses received preventive services at equal or better rates than the general population.
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INTRODUCTION

Individuals with serious mental illnesses, such as bipolar and schizophrenia spectrum disorders, have reduced life expectancies compared with the general population.[1] Contributing to this mortality gap are higher rates of behavioral risk factors[2–4] and preventable conditions,[5–8] sometimes caused or worsened by medication side effects.[9] Because chronic disease screening and treatment of identified risk factors reduce clinical events[10] and mortality,[11] disparities in access to, or quality of preventive services, may play a role in these unwanted outcomes.[12] It is also possible that attention to chronic disease management might displace prevention efforts. Whether people with serious mental illnesses receive preventive care at rates comparable to people

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without these diagnoses remains unclear, despite a considerable body of literature focused on this topic. Unfortunately, differences in settings, populations, and measurement characteristics in prior studies obscure comparisons of screening rates and make it difficult to relate screening rates among this population to rates among other mental illness diagnostic groups or the general population.[13] Moreover, a comprehensive picture of preventive screening among this population across multiple preventive care domains is lacking.

To address these limitations, electronic health record (EHR) data from two large populations receiving services in vastly different care settings—a private not-for-profit integrated health plan and a network of federally qualified health centers and safety-net clinics—were used to examine rates of overdue preventive care. These settings were deliberately chosen because of their heterogeneity with regard to patient demographic and socioeconomic characteristics. Patients were classified according to presence of diagnoses of (1) schizophrenia spectrum disorders, (2) bipolar disorders and affective psychoses, (3) anxiety disorders, (4) unipolar depression, and (5) reference groups of people without these specific mental illness diagnoses. Importantly, rates of preventive care among people with anxiety and depressive disorders were examined to situate any differences observed between the serious mental illness groups and the reference groups, and because there is emerging evidence that these disorders may also be associated with reduced life expectancy.[14] A range of preventive screenings and services was examined, including those addressing cardiometabolic risk, cancer, women's health, and vaccines. The study goal is to determine if disparities associated with serious mental illnesses exist, and if patient characteristics and differential healthcare use account for those disparities. The hypothesis is that people with serious mental illness diagnoses would be less likely than people without such diagnoses to receive preventive screening. To the authors' knowledge, no previous study has completed a systematic comparison of a range of preventive services in large populations or samples of insured and safety-net patients with and without serious mental illnesses.

METHODS

Settings were Kaiser Permanente Northwest (KPNW) and federally qualified health centers and safety-net community health clinics (CHCs) affiliated with the OCHIN information technology network. KPNW is a private not-for-profit, group-model, integrated health plan. In 2012–2013 (data collection period), KPNW served about 500,000 members in Oregon and Washington, including individuals with Medicare or Medicaid coverage. KPNW members are demographically representative of the service area in terms of age, sex, and race/ethnicity.[15] All KPNW clinics and adult patients who met study criteria were included in the analyses. OCHIN provides a single, linked EHR to its member organizations, primarily independent CHCs providing primary care to racially and ethnically diverse, low-income individuals. Among patients receiving care in OCHIN-affiliated CHCs in 2012–2013, 44% were at or below 100% of the federal poverty level, 47% received Medicaid, 31% were uninsured, and 8% experienced homelessness.[16] All CHCs that provided primary care to adults and had an EHR with robust historical data in 2012 were included; clinics were located in Alaska, California, Ohio, Oregon, North Carolina, Washington State, and Wisconsin.

Both settings use comprehensive EPIC EHR systems that include demographic information, benefit descriptions, enrollment (KPNW only) or duration as a patient, in/outpatient diagnoses and procedures, complete prescription data, lab results, imaging data, progress notes, outreach efforts, and vital signs.

Study Population

All adults aged ≥19 years with at least one healthcare visit in 2012–2013 in KPNW or CHCs were included. Exclusion criteria were transgender or unknown gender (prevention recommendations are gender-specific); two or more serious cognitive or developmental disability diagnoses (290.x, 294.x, 299.00, 299.01, 310, 318, 319); or documented preference to be excluded from research. Patients were categorized by mental illness diagnoses. To reduce the chance of categorizing an individual whose diagnosis was in error, the same diagnostic code had to appear in the EHR at least twice between 2012 and 2013. When individuals had diagnoses in multiple categories, they were classified according to the following descending hierarchy: schizophrenia spectrum disorders (295.xx, 297.xx), bipolar disorders/affective psychoses (296.0x, 296.1x, 296.24, 296.34, 296.4x-296.8x, 301.13), serious anxiety disorders (300.2, 300.21, 300.22, 300.3, 309.81), or non-psychotic unipolar depressive disorders (296.20–296.23, 296.25, 296.30–296.33, 296.35, 300.4, 311). All remaining individuals were categorized as having none of these specific diagnoses during 2012–2013 (hereafter referred to as reference group). The study was monitored by the KPNW IRB; a waiver of informed consent for these analyses was approved.

Measures

The primary outcome was overall care-gap rate: the proportion of preventive services for which each patient was eligible but which had not been completed by the end of the study period (2012–2013). In both settings, clinician panel support tools referenced EHR data to identify care gaps; these were used for the analyses. Care gaps were defined according to each setting's reporting requirements: National Committee for Quality Assurance Healthcare Effectiveness Data and Information Set measures, U.S. Preventive Services Task Force recommendations (KPNW), and federal Uniform Data System reporting requirements (CHCs). Differences in how care gaps were operationalized in each setting are described in Appendix Table 1 (available online). To provide a comprehensive picture of preventive care received in this population, the authors calculated care-gap rates for 12 recommended preventive services[17]: pneumococcal and annual influenza vaccines; screening for obesity (calculated BMI in EHR), hypertension, dyslipidemia, tobacco status, diabetes, and colorectal