

A Model of Enhanced Primary Care for Patients with Severe Mental Illness

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Life expectancy and other outcomes for patients with serious mental illness (SMI) are unacceptably poor, largely due to a high prevalence of poorly controlled chronic diseases, high rates of tobacco use, and low rates of preventive care services. Since many of these illnesses are effectively treated in primary care settings, integrating primary care with behavioral health care is necessary to narrow health disparities for patients with SMI.

Introduction

Poor outcomes have been well documented when behavioral and physical health care are delivered separately. Based on this evidence, there has been a movement toward the integration of these 2 spheres through the coordinated and collaborative delivery of physical health, mental health, and substance use disorder services. Much of the focus has been on integrating behavioral health into primary care for patients suffering from mental illnesses such as depression, anxiety, and substance use disorder. Often described as collaborative care, this change has resulted in improved quality measures, lowered costs, and improved patient experience [1-3].

It is less well understood how to deliver effective primary care for patients with SMI, despite evidence that intervention can successfully prevent and treat medical conditions in this population [4]. SMI is defined as a diagnosable mental, behavioral, or emotional disorder that causes serious functional impairment that substantially interferes with or limits one or more major life activities [5]. Patients with SMI most commonly suffer from schizophrenia, bipolar illness, or depression with psychotic features. There is ample evidence to suggest patients with SMI have a shorter life expectancy, with a 2006 report by the National Association of State Mental Health Program Directors finding that those with SMI die on average 25 years earlier than the general population [6-7]. Evidence shows this disparity is due in large part to a higher prevalence of common preventable diseases that are treated ineffectively [8-11]. Individuals with SMI are more likely to suffer from hypertension, diabetes, obesity, cardiovascular disease, and HIV, and twice as likely to die prematurely from these conditions [12-13]. Additionally, there are a number of contributory factors to this disparity. Individuals with SMI are far more likely to suffer from

a number of medical and social ailments that affect health, including substance use disorder, obesity, homelessness, unemployment, poverty, tobacco use, and lack of insurance [14-16]. These patients, even if optimally treated, may still have residual cognitive deficits that make it more difficult to attend appointments on a timely basis, collaborate in creating and adhering to a treatment plan, and practice optimal self-care. In addition, there is strong evidence that people with SMI are more likely to have experienced trauma in their lives than the general population, leading to comorbid anxiety disorders, distrust of the system, and poor physical health later in life [17-18]. Lastly, those with SMI face a fragmented behavioral and physical health system that makes accessing adequate primary care difficult, rendering them less likely to receive needed preventive care and manage their comorbid physical illnesses [19-20]. As a result, these patients are often compelled to use the health care system in inefficient ways, with increased use of emergency departments and inpatient hospitalization [21].

The current system is inadequate for providing comprehensive care to patients with SMI. There are currently only theoretical and pilot models with minimal evidence of effectiveness for integrating primary health care for SMI patients [22-23]. To assist in filling this gap, we describe a promising case study of an enhanced primary care clinic model for patients with SMI.

A Proposed Model of Enhanced Primary Care

We propose a model of enhanced primary care for patients with SMI based on our experience providing comprehensive integrated primary care over a 2-year period as part of our work with the Substance Abuse and Mental Health Services Agency (SAMHSA) through the Primary and Behavioral Health Care Integration (PBHCI) grant program. Our proposed model builds on the components of the patient-centered medical home (PCMH) model by adding 3 components. The PCMH model has 6 components

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that have been well described [24-25]. Care needs to be 1) patient and family centered, 2) continuous, 3) comprehensive, 4) accessible, 5) coordinated, and 6) accountable. When these 6 components are implemented effectively, we have good quality evidence that care for the general population improves [25-26]. We believe that these components are equally important for SMI patients but are insufficient. We argue the following 3 additional components are needed: 1) additional time for providers to spend with their patients to provide care, 2) specialized training for the team, and 3) structured and planned communication between primary care and behavioral health providers (see Figure 1). Below we describe the enhanced components in more detail.

Component 1 - Additional Time and Care

The average primary care clinician has a panel of between 1,200 and 2,000 patients with an average patient visit of 21 minutes [27]. This panel size makes it difficult, if not impossible, to establish needed trust with many patients with SMI. The population’s complex behavioral health needs and past traumatic stigmatization by health care providers adds a layer of complexity that requires additional time during the patient encounter [28]. An additional consideration is the propensity for primary care physician burnout when panel sizes are too large, a possibility we argue is especially high. In our setting we allow an average of 30 to 40 minutes per visit and have found that our patients need an average of 6 appointments per year. This translates to a patient panel of about 750 patients per clinician, around half the average patient panel.

Component 2 - Specialized Training for the Team

The SMI population needs a specially trained integrated care team comprised of both primary care and behavioral

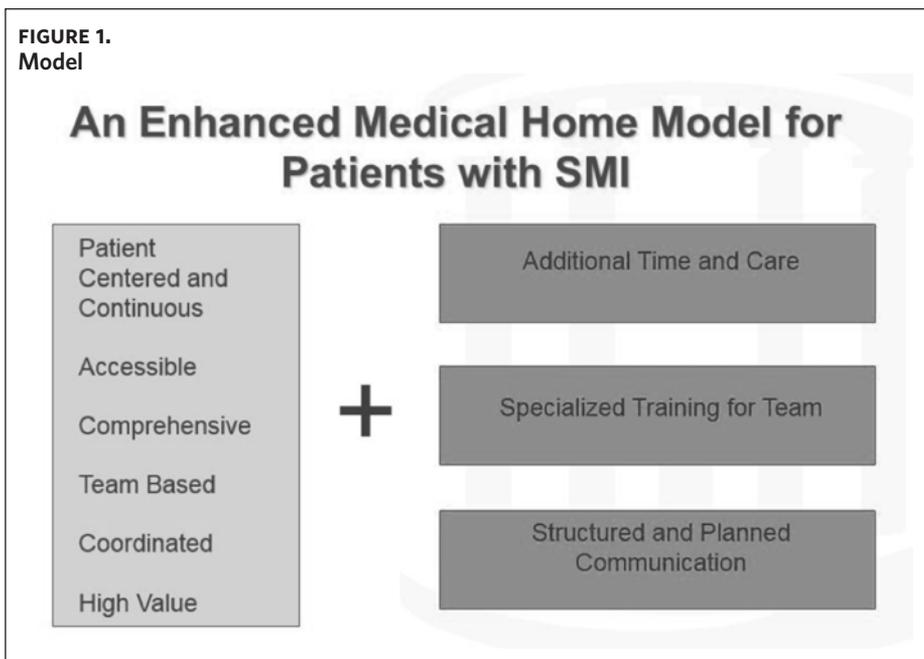
health providers capable of addressing their complex needs. Even well-trained primary care teams often lack the patience and time required to help a patient with paranoia understand the importance of getting blood drawn or receiving a flu shot. It is our experience that such settings are often not equipped with the skills to de-escalate when a patient with SMI presents in crisis.

Component 3 - Structured and Planned Communication between the Primary Care Team and the Behavioral Health Team

While many patients need coordination of care provided by the primary care team, the complexity of patients with SMI requires a more enhanced level of coordination. Communication needs to happen not only when emergent situations arise, but proactively. Planned communication can reinforce chronic disease management and prevention, one of the major gaps in care for patients with SMI. Many of the tools that have been found to be effective in the collaborative care model, such as regular team meetings and warm handoffs, might be useful.

The Model of Enhanced Primary Care at WakeBrook

Established in 2015, WakeBrook Primary Care is a primary care outpatient practice and SAMHSA PBHCI grantee that provides care for patients with SMI and their families. We have been certified as a Level 3 PCMH by the National Committee for Quality Assurance and have documented the 6 components essential to high quality primary care. In addition, we have added the 3 components of enhanced primary care described above. WakeBrook is staffed by one full-time equivalent family physician, a registered nurse, an office manager, a masters of social work primary care behaviorist



with training as an addiction specialist, a masters of social work case manager, and 2 peer support specialists. Hiring criteria for staff included experience in both primary care and mental health settings. Ongoing staff development includes training focused on behavioral health and primary care. The office partners with 8 community based behavioral health Assertive Community Treatment (ACT) and large outpatient psychiatric providers. Patients are referred to WakeBrook by the behavioral health teams. The principal criteria for referral is a diagnosis of SMI and not having a well-established primary care provider. WakeBrook embodies our proposed enhanced primary care model by focusing on the 3 additional primary care components in the following ways:

Component 1: We have maintained an appropriate panel size to ensure that each of our patients with SMI is allotted a sufficient amount of visits each year and time per visit. This ensures that our providers have the time to manage our patients' complexities and develop the strong therapeutic relationship necessary to deliver effective primary care. We have seen tangible gains in developing and maintaining patient-provider trust, reducing physician burnout, and, as we will discuss later, clinical outcomes.

Component 2: Our team is constructed specifically to care for our SMI population. We selected providers with extensive training in treating the SMI population, and our primary care behaviorist and peer support specialist provide additional expertise that allows us to implement a complex treatment plan with behavioral health counseling, close follow-up, and extensive care coordination.

Component 3: We have a close working relationship with the psychiatric providers of our patients. All providers have multiple open lines of communications and are encouraged to maintain as-needed dialogue with calls, texts, pages, or emails that allow for each provider to seek expert guidance. Additionally, we schedule proactive formal meetings every

month to discuss our shared patients to ensure they are being appropriately managed psychiatrically and medically.

After 2 years, we now have increasing evidence that our quality of care measures have improved substantially. We also have extremely high patient experience scores. Utilization measures have been harder to obtain due to the complexity of our community and multiple institutions at which patients obtain care, but our providers have noticed decreased rates of emergency department utilization.

Quality of Care Outcomes

All UNC HCS practices use a common electronic health record (Epic) and participate in the UNC HCS Primary Care Improvement Collaborative (PCIC) [29]. Through this collaborative, WakeBrook receives regular reports comparing quality indicators across the primary care practices within the system. PCIC goals are benchmarked to the 90th percentile of primary care practices nationally.

By the fall of 2017, WakeBrook Primary Care had a panel of 550 patients, the vast majority of whom had a diagnosis of schizophrenia, bipolar disorder, or severe depression. The distribution of other chronic illnesses is similar to other primary care practices: 43% have a diagnosis of hypertension and 20% have a diagnosis of diabetes mellitus. Tobacco use far exceeds rates in other primary care practices at 61%.

We have seen improvements in all 10 PCIC quality metrics (see Table 1). Within one year we have nearly doubled the number of patients receiving mammogram screenings, pap smears, and high-risk pneumonia vaccinations. For chronic disease measures such as A1c targets and statin management in patients with diabetes mellitus, we are above the 90th percentile nationally. While few of our patients met any quality measures on entry into the practice, our patient panel is now at or above goal in a majority of PCIC quality measures.

TABLE 1.
Quality Metrics WakeBrook Primary Care Office

Prevention (Baseline 2015)	Spring 2016	Fall 2016	Winter 2016	Spring 2017	Fall 2017	PCIC Goal*
%	%	%	%	%	%	
Breast Cancer Screen >50yo	30 ^a	45 ^a	54 ^b	56 ^b	53 ^b	80
Cervical Cancer Screen q3 yrs	25 ^a	38 ^a	40 ^a	54 ^a	58 ^a	82
Colorectal Cancer Screen >50 yo	30 ^a	36 ^a	48 ^b	41 ^a	48 ^a	72
Depression Screen	66 ^c	84 ^c	90 ^c	86 ^c	90 ^c	61
ASA Use in DM	83 ^b	83 ^b	84 ^b	94 ^c	96 ^c	92
Statin Use in DM	79 ^c	76 ^b	81 ^c	86 ^c	86 ^c	79
A1c < 8 in DM	61 ^b	59 ^b	81 ^c	86 ^c	86 ^c	68
Fall Screen	90 ^c	90 ^c	90 ^c	96 ^c	90 ^c	71
Pneum Shot 65+	55 ^a	66 ^b	89 ^b	89 ^b	90 ^c	90
Pneum Shot High Risk	45 ^a	52 ^a	60 ^b	66 ^c	71 ^c	65

*PCIC (Primary Care Improvement Collaborative) Goals are the institutional goals for the University of North Carolina Health Care System based on national benchmarks of excellence

^anot meeting PCIC goals

^balmost meeting PCIC goals

^cmeeting PCIC goals

Patient Satisfaction Outcomes

As part of the SAMHSA Primary Care and Behavioral Health Integration Grant, non-clinical staff interview our patients every 6 months; 94% of our patients had a positive or very positive perception of care (see Table 2).

Discussion

The successes at WakeBrook provide early evidence that an enhanced model of primary care can significantly improve the quality of care for patients with SMI. Our data highlights the importance of focusing on preventive care such as cervical, breast, and colon cancer screening. The initial gaps in care were greatest and the rates of improvement most dramatic for these preventive services, perhaps highlighting the importance of a trusting, ongoing, holistic relationship with a primary care team.

The evidence, however, comes only from one small practice in an academic setting. And this model of enhanced primary care is more expensive than other forms of primary care. WakeBrook is staffed to see about 750 patients and operates with an annual budget of about \$600,000. Although we are not yet at full capacity and still trying to improve our billing, our fee-for-service revenue will not likely cover our expenses given the enhanced components of care and our patient mix (approximately 17% uninsured, 27% Medicaid, 32% Medicare, and 23% with private insurance). Once our SAMHSA grant runs out and we are billing effectively with a full panel, we anticipate that fee-for-service revenue will still be about \$200,000 less than expenses.

It is likely that if other settings implement this model with a comparable payor mix they too will only be able to cover 2/3 of their expenses with a fee-for-service payment structure. We argue that the difference should be covered with population health payments to sustain this model. We hope that future studies will show that cost avoidance from caring for patients in enhanced primary care settings with reduced emergency visits and inpatient hospitalizations will make up for much of this difference. Even more importantly, we believe there is a powerful and compelling moral argument for investing in an effective model for narrowing health

disparities for patients with SMI regardless of system-wide cost saving.

As this model of enhanced primary care is implemented in other settings, close attention needs to be paid to assuring that stigmatization and marginalization of patients with SMI is not worsened by primary care offices focusing only on patients with SMI. Experience derived from Complex Care Centers for patients with complex childhood onset conditions provides reassurance that this can be avoided [30].

Conclusion

Our current system of care is failing patients with SMI. Primary care may play a particularly important role in narrowing the current mortality gap in patients with SMI. Larger multi-site studies are needed to validate these early findings and hopefully begin to close an unacceptable mortality gap in an important and vulnerable segment of our community. *NCMJ*

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TABLE 2.
Patient Satisfaction Outcomes WakeBrook Primary Care Office

	Winter 2016	Spring 2017	Fall 2017
Patient Experience (1 strongly disagree - 5 strongly agree)	mean score N = 58	mean score N = 55	mean score N = 83
Staff here feel I can grow change and recover	4.3	4.3	4.4
Staff helped me obtain information I needed to take charge of my illness	4.3	4.2	4.2
I felt comfortable asking questions about my treatment and medications	4.5	4.2	4.3
I like the services I receive here	4.6	4.3	4.4
I would recommend this agency to a friend or family member	4.4	4.3	4.3
Composite Patient Experience Score	4.4	4.3	4.3

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