

Improving Physical Health Among People With Serious Mental Illness: The Role of the Specialty Mental Health Sector

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People with serious mental illness die 10–20 years earlier, compared with the overall population, and the excess mortality is driven by undertreated physical health conditions. In the United States, there is growing interest in models integrating physical health care delivery, management, or coordination into specialty mental health programs, sometimes called “reverse integration.” In November 2019, the Johns Hopkins ALACRITY Center for Health and Longevity in Mental Illness convened a forum of 25 experts to discuss the current state of the evidence on integrated care models based in the specialty mental health system and to identify priorities for future research,

policy, and practice. This article summarizes the group’s conclusions. Key research priorities include identifying the active ingredients in multicomponent integrated care models and developing and validating integration performance metrics. Key policy and practice recommendations include developing new financing mechanisms and implementing strategies to build workforce and data capacity. Forum participants also highlighted an overarching need to address socioeconomic risks contributing to excess mortality among adults with serious mental illness.

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People with serious mental illnesses, such as schizophrenia, bipolar disorder, and major depressive disorder, die 10–20 years earlier compared with the overall population (1–4). This excess mortality is driven by comorbid physical health conditions, including cardiovascular disease and cancer (2, 5, 6). People with serious mental illness also experience elevated rates of morbidity and mortality from infectious diseases, including HIV and hepatitis (7), and emerging evidence suggests that this group has also been disproportionately adversely affected by COVID-19 (8, 9). Many people with serious mental illness, particularly those enrolled in Medicaid, do not receive guideline-concordant medical care for their physical health conditions (10, 11).

Several integrated general medical and mental health care models are being tried in the United States, although they are not implemented in a systematic or standardized manner. In a fully integrated system, general medical and specialty mental health providers are employed by the same organization, colocated, use the same medical record and other health information systems, and practice team-based care. Because of the historical separation of the U.S. general medical and specialty mental health systems, in practice integrated care is often based in one setting or the other, with

either a primary care (or, less commonly, another general medical setting) or a specialty mental health organization leading integration efforts. Regardless of which sector leads, integrated care operates along a multidimensional continuum, ranging from basic care coordination to comprehensive, colocated, team-based care (12, 13). This continuum spans multiple domains related to both organizational structure and culture. Organizations seeking to integrate care may move along the continuum at differential rates within

HIGHLIGHTS

- Future research should identify the “key ingredients” that lead to improved quality of care and patient outcomes in specialty mental health system–based integrated care models.
- Improved financing models that incentivize two-way collaboration between specialty mental health programs and general medical providers are needed.
- Policies to increase mental health workforce capacity, including increased reimbursement, are needed to support widespread scale-up of integrated care.

domains—for example, an organization with no colocated services may have an organizational culture that is highly supportive of integration (14).

Most research has focused on integration models based in primary care, such as collaborative care (15–17) or the patient-centered medical home (PCMH) (18–22). Less research has examined specialty mental health–based integration models, which are often lumped under the umbrella term “behavioral health homes” but in reality encompass a wide range of structures and activities (23). This type of model has grown in recent years, in part because of the Substance Abuse and Mental Health Services Administration’s (SAMHSA’s) Primary Behavioral Health Care Integration (PBHCI) program (24) and the Affordable Care Act’s Medicaid health home waiver, which 17 states and the District of Columbia have used to integrate physical health care delivery, management, or coordination into specialty mental health programs (25).

In November 2019, the Johns Hopkins University ALACRITY Center for Health and Longevity in Mental Illness (<https://www.jhsph.edu/research/centers-and-institutes/the-alacrity-center-for-health-and-longevity-in-mental-illness>) convened a forum of 25 experts to discuss the current state of the evidence on specialty mental health system–based integrated care models and to identify priorities for future research, policy, and practice that would advance an agenda to guide future implementation of effective models. This article summarizes the group’s conclusions.

Forum participants included researchers and practitioners who have led research on or implementation of mental health system–based integrated care models in the United States. Fifteen individual research experts from five universities and three large research think tanks were represented. Also participating in the forum were 10 practitioner experts representing two state Medicaid agencies leading relevant integration initiatives, two national mental health advocacy organizations, and two community health care organizations implementing primary care integration in their clinics. Because our focus was on developing a U.S. policy agenda, we limited the participants to those conducting research or practicing in the United States, although the group considered evidence from non-U.S. settings. The forum followed a semi-structured discussion process led by the lead author of this article. The forum was organized into three sessions focused on research, policy, and practice, followed by a concluding session. Each session began with a short panel presentation, given by three or four of the expert participants, who summarized the current research, policy, and practice landscape. Panel presentations were followed by moderated discussion guided by a semistructured protocol, which was provided to participants in advance of the meeting. The concluding session summarized areas of consensus from the research, policy, and practice sessions and produced the blueprint for the conclusions reported here.

EVIDENCE SUMMARY

Three randomized controlled trials (RCTs) have tested U.S. specialty mental health–based integrated care models (26–28). In two of the models tested, a general medical nurse practitioner and nurse care manager were colocated at the mental health clinic and led delivery, coordination, and management of general medical care for people with serious mental illness (27, 28). These models led to increases in primary care visits, receipt of preventive medical care, and quality of cardiometabolic care, as well as improvements in self-reported physical health; however, improvements in clinical outcomes at 12-month follow-up were not observed. A third RCT tested a model in which a nurse and a health coach delivered tailored counseling, care coordination, and care management to clients with serious mental illness attending one of four outpatient psychiatric rehabilitation programs and affiliated mental health clinics (29). Results showed that this model reduced cardiovascular risk, as measured by the Framingham Risk Score, at 18 months.

Replication of these promising clinical trial results in real-world specialty mental health settings has to date proven elusive. Integrated care models implemented in outpatient mental health clinics and psychiatric rehabilitation programs have increased primary care access as well as screening and monitoring of physical health conditions among individuals with serious mental illness (23, 30). However, real-world models have had very limited or no effects on quality of physical health care or physical health outcomes (23, 30). Of note, a recent evaluation of the PBHCI program is pending release by SAMHSA, and this evaluation will provide more comprehensive insight than have earlier PHHCI studies into the program’s effects on physical health outcomes (31). These findings are likely driven by a combination of factors, including the use of low-intensity integrated care interventions and implementation challenges.

Studies have identified multiple barriers to implementation of specialty mental health–based integrated care models, including inadequate financial and other types of incentives to implement coordinated, population-based care; lack of mechanisms to hold behavioral health and general medical providers jointly accountable for the overall health of people with serious mental illness; limited health information technology (IT) capacity, particularly lack of adaptable shared electronic health records (EHRs) appropriate for both general medical and mental health providers (32) and lack of risk stratification tools—e.g., databases that can be easily queried to identify patients with uncontrolled diabetes; insufficient staffing capacity, including both understaffing and lack of needed training among existing staff; and, in models without collocation, challenges engaging external medical providers (23, 33–39).

There are also important differences between specialty mental health–based and primary care–based integration models. In most behavioral health home programs in the

United States, prescribing remains siloed, with specialty mental health providers prescribing psychotropic medications and general medical providers prescribing medications for physical health conditions (23, 24, 33, 35, 40, 41). In contrast, in primary care-based models, the primary care physician often prescribes both types of medications (42). Compared with the privately insured populations in which many collaborative care models have been implemented (43, 44), people with serious mental illness have more social and economic problems compounding their care needs (45–49). Whereas primary care-based models typically focus on treatment for one psychiatric disorder, often depression, specialty mental health-based models focus on a broad range of physical health conditions and often work to change health behaviors, such as tobacco smoking and diet (44, 50, 51).

Most studies have examined how general medical-based models affect mental health outcomes and how mental health-based models affect physical health outcomes, but there is evidence indicating that both types of models can improve both categories of outcomes (15, 20, 52–54). Although primary care-based models have focused predominantly on anxiety and mild or moderate depression, they have also been shown to benefit people with serious mental illness (20, 55, 56). A recent clinical trial found that the PRIMROSE intervention, designed to help general practitioners manage cardiovascular risk among persons with serious mental illness, had no effects on total cholesterol but did reduce psychiatric admissions (57). Future research should consider whether certain subgroups of people with serious mental illness are better served by models based in one sector over the other or whether certain interventions are best delivered by a particular sector.

RESEARCH PRIORITIES

The group of experts at the November 2019 Johns Hopkins ALACRITY Center forum identified four priorities for future research (Box 1).

Identify Key Ingredients

The specialty mental health-based integrated care models shown to improve care access and quality and health outcomes among people with serious mental illness in clinical trials include multiple interacting components (26–28). This complexity is a barrier to high-fidelity scale-up in often underresourced public mental health settings. Simplifying integrated care models and disseminating the most effective aspects of these models will support implementation, but to date it is unclear which model components are the “key ingredients” for success. This issue is not unique to specialty mental health-based integrated care models; there is also a need to identify the active ingredients of care coordination and management interventions shown to be effective at reducing cardiovascular risk in the general population (58, 59). Identifying active ingredients in general population

models would allow the field to then consider which features need to be adapted for serious mental illness.

We suggest that the Continuum-Based Framework for Advancing Integration of General Health in Behavioral Health Settings (13) can be used as a starting point for delineating ingredients. The eight framework domains are as follows: screening, referral to care, and follow-up; evidence-based care for preventive interventions and common general medical conditions; ongoing care management; self-management support that is adapted to cultural, socioeconomic, and life experience of patients; a multidisciplinary team (including consumers), with dedicated time to provide general health care; systematic quality improvement; linkages with community and social services that improve general health and mitigate environmental risk factors; and sustainability, with a focus on financing mechanisms. For each domain, the framework lays out preliminary, intermediate, and advanced activities. Identification of key ingredients could also be guided by other frameworks delineating stages of implementation, such as the Stages of Implementation Completion (60).

To gather preliminary evidence on ingredient effectiveness, this framework could be retrospectively applied to models tested in existing studies. Meta-regression, a regression technique in which the outcome variable is the effect estimate of an intervention and the explanatory variables are characteristics of the intervention (61), could then be used to explore whether specific ingredients are associated with improved outcomes and whether certain ingredients appear to influence some outcomes more than others (44). Future evaluations of specialty mental health-based integration models should locate the ingredients of their models within this framework at the outset to make the “black-box” of integrated care more transparent. Specialty mental health-based integration models of varying complexity also need to be rigorously tested head to head in comparative effectiveness trials, which should be powered to identify mediating and moderating relationships among model ingredients and have sufficient duration for the new care processes to influence patient outcomes.

Develop Strategies for Measuring Fidelity

Poor fidelity is one likely driver of the “voltage drop” phenomenon, in which interventions shown to be effective in clinical trials are less effective in real-world settings. Clinical trial staff carefully monitor and adjust implementation to ensure that model components are implemented as designed. In real-world settings, the integrated care model is often one of many competing priorities, and fidelity is not typically monitored; as a result, components of the model are often underimplemented, substantially adapted, or not implemented at all. Development of valid fidelity monitoring strategies that are feasible to carry out in real-world settings is needed in order to bring effective integration models to scale and also to assist in developing metrics for quality

BOX 1. Specialty mental health–based integrated care models: research priorities

1. Identify and unpack “key ingredients”: Determine which elements of multicomponent integrated care models lead to improved care and health outcomes and their mediating or moderating relationships with one another.
2. Develop strategies for measuring fidelity: Create and validate strategies for measuring fidelity to the key ingredients of specialty mental health–based integrated care models.
3. Further develop and evaluate performance metrics: Develop performance metrics associated with improved health outcomes among people with serious mental illness that can be applied in quality improvement, accountability, and incentive programs.
4. Evaluate strategies to scale up evidence-based interventions: Test financing and implementation strategies to support scale-up of interventions shown to improve health outcomes among people with serious mental illness within the organizational structure of specialty mental health–based integrated care models.

improvement and accountability. The Stages of Implementation Completion tool is one potential model (62). Fidelity measurement should focus on the model ingredients identified as key to improving outcomes.

Further Develop and Evaluate Performance Metrics

U.S. health care financing is increasingly tied to quality benchmarks through value-based payment models, such as global budgeting and accountable care (63, 64). Performance metrics have the potential to incentivize implementation of evidence-based integrated care for people with serious mental illness, but measures focused on physical health in serious mental illness are limited. The Healthcare Effectiveness Data and Information Set (HEDIS) currently includes three relevant measures: diabetes screening for people with schizophrenia or bipolar disorder who are using antipsychotic medications, diabetes monitoring for people with diabetes and schizophrenia, and cardiovascular monitoring for people with cardiovascular disease and schizophrenia (65). In a literature review and Delphi process of existing integration measures, only two of 43 measure concepts were classified as having high importance, validity, and feasibility by a broad group of stakeholders: general medical screening and follow-up in behavioral health settings and mental health screening at general medical health settings (66). Although 31 additional measures were deemed important, none were sufficiently valid or feasible to be considered ready for implementation. Research is needed to determine which performance metrics are associated with improved care and health outcomes among people with serious mental illness and to develop and evaluate strategies to implement valid measures. Building health IT capacity in specialty mental health programs will be critical to successfully collecting performance metrics that provide meaningful information while reducing data collection burden; building this capacity is a significant undertaking for mental health clinics that often requires external financial and technical support (67). Building on the prior two recommendations, the development of performance metrics that indicate successful implementation of key model ingredients is one strategy for measuring fidelity.

Evaluate Strategies to Sustain and Scale Up Evidence-Based Interventions

Tailored interventions shown to improve physical health among people with serious mental illness have been shown in RCTs to reduce obesity, tobacco smoking, and cardiovascular risk among people with serious mental illness (26, 29, 68–72), but to date these interventions have not been sustained long term following clinical trials or widely scaled. Implementation research, likely in the form of hybrid implementation-effectiveness trials (73), is needed to test strategies (for example, provider training, facilitation, coaching, and audit and feedback) to support adoption, high-fidelity implementation, and sustainment of evidence-based physical health interventions for people with serious mental illness within integrated care models.

Cost-effectiveness research can also support scale-up, because decision makers frequently place high value on understanding cost-effectiveness. Specialty mental health–based integration models face the same “cost-effectiveness conundrum” (74) as do primary care–based models: they require significant investments in staff and data infrastructure and, by design, identify previously unmet patient needs that require additional services. Understanding the trade-offs between costs and effectiveness is critical to inform policy makers’ decision making. If integrated care models are costlier in the short run but lower health care utilization or improve patient outcomes in the long run, the trade-off may be attractive to policy makers, given that people with serious mental illness are likely to require publicly financed health care for most of their lives. If integrated models can significantly improve physical health and reduce premature mortality among people with serious mental illness, increased costs—even over the long term—may be acceptable to policy makers. Although integrated care models may generate cost-savings through reduced psychiatric hospitalizations (75), psychiatric hospitalization rates have declined over the past several decades, decreasing the potential for further reductions (76, 77). The next wave of cost-effectiveness research needs to consider potential savings from personal health costs, including reduced morbidity and mortality and reduced caregiving costs, as well as potential savings from sectors other than the health sectors, including labor and criminal justice.

BOX 2. Specialty mental health–based integrated care models: policy and practice priorities

1. Improve financing models: Existing evidence suggests that financing models should incentivize two-way collaboration between specialty mental health programs and general medical providers; incentivize shared accountability for outcomes; and support increased provider time across the broad array of providers needed to work with people with serious mental illness who have complex needs.
2. Build workforce capacity: Address mental health provider shortages through long-term financial incentives and shorter-term approaches, including task shifting, practice reform, and improved provider training.
3. Build data capacity: Increase data sharing capacity across the general medical and specialty mental health systems through integrated electronic health records, build data systems to support population health management, and enhance public health surveillance data capacity through systems to track key outcomes in the population with serious mental illness at the state and national levels.
4. Create a “behavioral health home” recognition program: Create a program parallel to the Primary Care Medical Home Recognition Program that recognizes behavioral health homes implementing key ingredients shown to improve care quality and health outcomes among people with serious mental illness in specialty mental health–based integrated care models.

These research priorities will need to be carried out through collaborations between researchers and health systems. The need to understand and tailor integration interventions to real-world health care settings is an integral component of all of these research priorities. Collaborations between researchers and large integrated health systems or consortiums of systems, such as those used in studies of real-world implementation of collaborative care (78), are critical to the pursuit of this research agenda.

POLICY AND PRACTICE PRIORITIES

Forum participants identified four policy and practice priorities (Box 2).

Improve Financing Models

Specialty mental health–based integration models have primarily been funded through (unsustainable) grant programs and modest per-member per-month insurance reimbursements (23). Implementers have noted that payments are too low to cover the structural costs associated with care integration and that multipayer financing mechanisms are needed (23, 33, 35, 36). In addition, one-sided reimbursement, in which the entire payment flows to the mental health program (or, in primary care–based models, to the general medical program [79]), has been identified as an implementation barrier. With a one-sided payment mechanism, there is no financial incentive for external general medical providers to work with the specialty mental health program to coordinate physical health care for people with serious mental illness (33, 40). This is also a barrier in general medical system–based models. For example, the fact that reimbursement for the Centers for Medicare and Medicaid Services’ (CMS) behavioral health integration codes flows entirely to the general medical provider, who then must set up contractual, ledger transfer, or other strategies to pay behavioral health partners, has been cited as an implementation barrier (79, 80).

Potentially promising alternatives include hub-and-spoke (81) and accountable care (82) models, although the available evidence suggests that accountable care organizations (ACOs) are unlikely to improve care for people with serious mental illness unless shared savings and losses are tied to valid performance metrics (83, 84). In the absence of valid integration performance metrics, the “segmentation strategy,” in which existing metrics of physical health care quality are assessed separately for persons with serious mental illness, is a potentially feasible alternative (66, 85). For example, tobacco use is a leading cause of cardiovascular risk and premature mortality among people with serious mental illness (2). Holding mental health providers accountable for recommending guideline-concordant cessation medications could be operationalized through application of existing HEDIS measures (86) to the population with serious mental illness. This strategy ties in well with population segmentation, a core approach in population health management in which health systems use data tools to identify and monitor groups at high risk of adverse outcomes (87).

Build Workforce Capacity

Lack of workforce capacity is consistently cited as a barrier to care integration (23, 33, 35, 36). As has been noted, the public mental health system in the United States is under-resourced, and the United States faces a significant mental health provider shortage (88–91). To meaningfully address the overall provider shortage, we need to increase mental health provider compensation; and to increase compensation, we need to increase insurance payments for mental health services (92). In the shorter term, strategies for improving efficiency in team-based care models are needed, such as greater use of nonphysician clinicians and peers (93). Clinical training for general medical and specialty mental health providers, currently siloed, needs to be integrated so that the mental health workforce is trained in basic general medical competencies and the general medical workforce is trained in mental health competencies (88, 94). Training in team-based care and care coordination should

also be a central component of clinical training, and system reforms should focus on establishing a culture of “shared accountability” among both mental health and behavioral health providers. Given high levels of stigmatizing attitudes and beliefs about mental illness among providers as well as research showing that stigma impedes high-quality care (95, 96), incorporating stigma reduction strategies, such as contact-based education (97), into provider training is also critical.

Build Data Capacity

The specialty mental health sector has lagged behind the general medical sector in EHR adoption, and when EHRs are in place, they are often not compatible with the EHRs in general medical systems (98, 99). This is an important limitation, because shared health records can improve the quality of care for people with serious mental illness (100, 101). Lack of data tools supporting population health management has also been noted as a barrier to implementation of integrated care, because mental health programs often have no simple, automated way to identify individuals in their panel who have physical health conditions in need of care. Working with EMR engineers to incorporate dashboards and reports into existing EMRs would enhance specialty mental health programs’ ability to efficiently conduct physical health coordination and management. Expanding funding provided through the federal HITECH Act to specialty mental health providers, who are currently excluded, could incentivize IT infrastructure development (102). In addition, national and state-level data systems tracking care quality and health outcomes among representative samples of people with serious mental illness are urgently needed—for example, a national system for tracking administrative claims-based measures of physical health care quality among Medicaid beneficiaries with serious mental illness. In the absence of such systems, we are unable to comprehensively characterize gaps in care, target interventions to specific subgroups of people with serious mental illness or geographic areas, or monitor progress.

Build a “Behavioral Health Home”

Recognition Program

The growth of primary care-based integration models has been propelled in part by the PCMH Recognition Program of the National Committee for Quality Assurance (NCQA) (103). PCMHs aim to improve management of chronic conditions, including but not limited to mental illness, and may improve care for people with serious mental illness (20, 55). The NCQA accreditation program delineates structures and activities that must be in place for PCMH accreditation, with three different levels reflecting varying degrees of adherence to the multicomponent model. PCMHs and the Continuum-Based Framework for Advancing Integration of General Health in Behavioral Health Settings discussed above are both based on the chronic care model and include many of the same components. The NCQA Patient-Centered

Specialty Practice Recognition Program can be applied to behavioral health homes, although this program does not specifically target programs focused on integrating physical health services into specialty mental health programs. It is worth considering whether a behavioral health home-specific program would support scale-up of specialty mental health-based integration models. Such a program could be based, initially, on the Continuum-Based Framework and then be revised over time to emphasize the key ingredients identified in future research.

A wide range of actors needs to be involved in implementing these policy and practice recommendations. Government agencies, such as CMS and the Health Resources and Services Administration (HRSA), have key roles to play. CMS oversees the financing of integration initiatives in Medicaid and Medicare, and HRSA leads health care workforce development initiatives. Professional organizations, such as the American Psychiatric Association and the National Association of State Mental Health Program Directors, play an important role in advocating for policy change and could help to garner the policy support and political will needed to advance many of the above recommendations, including financing and health IT changes. Schools of medicine, nursing and allied health professions, and their accrediting bodies have key roles to play in better incorporating integrated care into health professional training. The NCQA could lead development of a “behavioral health home” recognition program in parallel with its PCMH Recognition Program. These and other key actors should collaborate closely with researchers, both to support development of evidence-based policy and to facilitate rigorous evaluation of new policy and practice initiatives.

CONCLUSIONS

There is growing interest in models for integrating physical health care delivery, management, or coordination into specialty mental health settings in the United States. Although often considered separately by both researchers and practitioners, models designed to integrate general medical and mental health services based in the specialty mental health sector versus the general medical sector are in many ways two sides of the same coin. Several of the research, policy, and practice priorities that we identified for specialty mental health-based models are also relevant for primary care-based models, particularly the need to identify key model ingredients and to improve financing mechanisms.

A final overarching conclusion from the forum is the need to address social determinants of health within integrated care models for people with serious mental illness. Upstream social determinants of health, including poverty, unemployment, housing instability, and criminal justice involvement—all overrepresented among people with serious mental illness (45, 48, 104, 105)—are significant risk factors for adverse mental and physical health outcomes (105).

Reducing excess mortality among people with serious mental illness necessitates addressing these determinants in addition to improving clinical care. Promising models include ACOs, such as Hennepin Health, that have incorporated the social services sector into their shared savings arrangements (106). The accountable health community model, currently being tested in 29 organizations across the United States, builds on the ACO model to explicitly target health-related social needs of Medicare and Medicaid beneficiaries (107). The Program of All-Inclusive Care (PACE) program, which uses Medicare and Medicaid dollars to finance a full continuum of health care and social services for frail older adults (108), could be adapted for serious mental illness. Future work should prioritize development, implementation, and rigorous evaluation of models for addressing both clinical and social drivers of excess mortality in serious mental illness.

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Submissions Invited for Social Determinants of Mental Health Column

A new column in *Psychiatric Services*, Social Determinants of Mental Health, edited by Ruth S. Shim, M.D., M.P.H., and Michael T. Compton, M.D., M.P.H., aims to focus on clinical and policy issues as they relate to social justice in psychiatry and the social determinants of mental health, with a specific focus on mental health disparities and evidence-based strategies to improve mental health equity across population groups. Initiatives taking place in hospitals, clinics, health systems, and insurance plans will be emphasized. Ways in which clinicians and mental health services can address (screen for, evaluate, and ameliorate) social determinants of mental health will be highlighted. Manuscripts that emphasize specific social determinants of mental health, including discrimination, adverse early life experiences, poverty, social exclusion, low employment status, and low educational attainment, to name a few—and particularly how these determinants connect to mental health outcomes and can be addressed by mental health services—are particularly welcome. Papers, limited to 2,400 words, may be submitted online to the Social Determinants column via ScholarOne Manuscripts at mc.manuscriptcentral.com/appi-ps.