Special Article

A Model to Improve Behavioral Health Integration into Serious Illness Care

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Abstract

Behavioral health problems are highly prevalent among people with serious medical illness. Individuals living with these comorbidities have complex clinical and social needs yet face siloed care, high health care costs, and poor outcomes. Interacting factors contribute to these inequalities including historical separation of behavioral and physical health provision. Several care models for integrating behavioral health and general medical care have been developed and tested, but the evidence base focuses primarily on primary care populations and settings. This article advances that work by proposing a Behavioral Health—Serious Illness Care model. Developed through a mixed methods approach combining literature review, surveys, interviews, and input from an expert advisory panel, it provides a conceptual framework of building blocks for behavioral health integration tailored to serious illness care populations and the range of settings in which they receive care. The model is intended to serve as foundation to support the development and implementation of integrated behavioral health and serious illness care. The key components of the model are described, barriers to implementation discussed, and recommendations for policy approaches to address these barriers presented. J Pain Symptom Manage 2019;58:503–514. © *2019 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.*

Key Words

Collaborative care, integrated care, mental health services, serious illness care, palliative care, psychiatric comorbidity

Introduction

Behavioral health (BH) problems are highly prevalent among people with serious medical illnesses including cancer, stroke, heart disease, chronic obstructive pulmonary disease, end stage renal disease, chronic neurologic/neurodegenerative disease, and dementia. Individuals with comorbid BH problems frequently have complex clinical and social needs beyond the routine care for a serious illness. Lack of appropriate provision can impact clinical outcomes, overall cost, and the satisfaction of the patient, care giver, and healthcare staff. Those with serious illness and comorbid BH face a landscape of fractured ("siloed") care due to barriers such as a historically non-integrated system, workforce needs, payment disparities, policy issues, and stigma.[1]

Several care models for integrated BH and general medical care have been developed and tested. This evidence base primarily focuses on primary care populations and settings. This article advances this work by proposing a Behavioral Health—Serious Illness Care (BH-SIC) model that addresses the distinct needs and clinical challenges associated with serious illness care (SIC) and BH comorbidities. We provide a conceptual framework of "building blocks" tailored to SIC populations and the range of SIC settings in which they receive care. This framework can serve as a foundation to develop and implement integrated BH and SIC and to close the care quality and outcomes gaps experienced by these populations. We first briefly characterize the BH needs of this population and then present an overview of relevant care models. We describe the key components of the BH-SIC model, including core

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Table 1
Serious Illness Care Population: Behavioral Health Issues in Serious Illness Care

Categories of Behavioral Health Issues in Serious Illness Care	Clinical Scenarios
• Pre-existing behavioral health conditions • Newly developed behavioral health problems, including: 1. Disorders as a direct manifestation of medical illness 2. Disorders as a complication of medical treatment 3. Disorders in the context of psychosocial stressors and disability	Anxiety Confusion/Delirium Cognitive impairment Depression Existential/spiritual crisis Prolonged grief disorder Interpersonal/family conflict Personality disorders Substance use disorders Serious mental illnesses Trauma-related conditions Other behavioral health scenarios

principles, essential clinical functions, and structural elements needed to deliver the model. We discuss potential barriers to implementation and recommend policy approaches to address these barriers.

Background

We define serious illness as health conditions with a high risk of mortality and negative impact on a person's and/or caregiver's function or quality of life.[2] Several interacting factors account for the high rates of BH comorbidity with these conditions. New BH issues commonly emerge in the SIC setting as a manifestation of disease processes or from psychosocial stressors of illness and disability. In addition, persons with pre-existing BH needs, who develop serious illness, are at high risk of exacerbation of their BH problems as their needs and access to pre-existing BH services change (Table 1).

Nearly half of Americans will meet criteria for a Diagnostic and Statistical Manual disorder in their lifetimes,[3] and a considerable proportion of people entering SIC will already carry a pre-existing BH condition or will develop a new one. Pre-existing diagnoses may include depression, anxiety, and cognitive impairment such as dementia, schizophrenia, post-traumatic stress syndrome, substance use disorder (SUD), and personality disorder. De novo conditions may include depression, anxiety, SUD, cognitive impairment, psychosis, delirium, interpersonal or family conflict, and grief.

Diagnosis and management of BH issues concurrent with serious illness can be extremely complex. Symptoms of serious illness and BH conditions frequently overlap and interact, presenting diagnostic challenges. Changes in cognition or altered sensorium, for example, are common in serious illness and their treatment regimens but can also occur in psychiatric illnesses, so there is risk of diagnostic overshadowing in those with existing BH conditions where physical symptoms may be inappropriately attributed to pre-existing psychopathology. Conversely, where symptoms of depression, such as weight loss and lethargy, are commonly seen with serious illness, identification of treatable BH conditions can be overlooked.

Behavioral symptoms and social difficulties associated with BH can further complicate SIC management. Traumatic histories, SUD, and socioeconomic problems are significant obstacles to appropriate care in an SIC setting.[4,5] Of particular concern are people with serious mental illness (SMI), such as schizophrenia and bipolar disorder. They are more likely than those without SMI to lack access to necessary specialty care, to receive suboptimal care, and to have worse outcomes, emphasizing the importance of linkage and integration.[6] Medical illness may put individuals with SMI at higher risk of acute exacerbations through the addition of new stressors (including physical symptoms of their serious illness, psychological distress, and socioeconomic complications), disruptions in their BH follow-up care, and unintended treatment complications leading to exacerbations of BH or physical symptoms. Close coordination with BH providers to ensure appropriate support and psychotropic medication reconciliation in an SIC setting is required, but systems to achieve this continuity are often lacking. These factors can lead to serious adverse consequences including refusal of medical treatment, loss of decision making capacity, and poorer clinical outcomes. Resources such as low stimuli environments, access to support networks, and skilled multidisciplinary staff can support engagement in SIC treatment and optimize decision-making capacity.

BH comorbidities are associated with significantly higher health care costs,[7–10] which are concentrated among a relatively small proportion of the population. About 60% of Medicaid's highest-cost beneficiaries with disabilities were found to have co-occurring physical and BH conditions. The presence of BH disorders is associated with substantially higher per capita costs and hospitalization rates.[11,12]

Additional substantial costs are generated through care giver burden. Caring for individuals with serious illness increases the risk of behavioral comorbidity in family caregivers. Clinically significant symptoms of depression are actually twice as common in the spouses of patients with advanced cancer as in the patients themselves.[13] The stress of caregiving affects psychological functioning, sleep, physical health, immune function, and financial status.[14]

Methods

The BH-SIC model was developed through a mixed methods approach using literature review, surveys, interviews, and an expert advisory group.

We conducted a systematic literature review to better understand the key issues, particularly focusing on 1) the scope of the problem—the prevalence of BH conditions (i.e., mental and SUDs) in individuals with serious illness—cancer, stroke, heart disease, chronic obstructive pulmonary disease, end-stage renal disease, and dementia, which were selected based on Centers for Disease Control and Prevention's mortality statistics; 2) the role of BH care in SIC—available screening tools, treatment interventions, and care programs targeting BH conditions in the context of serious illness, and evidence-based interventions to address BH issues for individuals with serious illness and their family caregivers; and 3) policy issues affecting those patient populations. We conducted an extensive review of the literature that was published since 2007 using PubMed (see Appendix for query strings); this included snowballing the references, conducting an additional search of "gray literature," and reviewing literature recommended by experts. They were screened for relevance. For example, for the topic of BH care in SIC, articles were screened out if they were pilot or feasibility studies, case reports or series, about pediatrics, or about disease survival. Of the 8395 articles yielded by the search, 233 were used in the qualitative synthesis (Fig. 1).

The survey and the structured interviews were designed and decided by this group of researchers and clinicians with expertise on aging, palliative care, behavioral care, and the BH-SIC interface. A survey was sent to 113 experts previously identified through scientific literature, clinical work/training, and

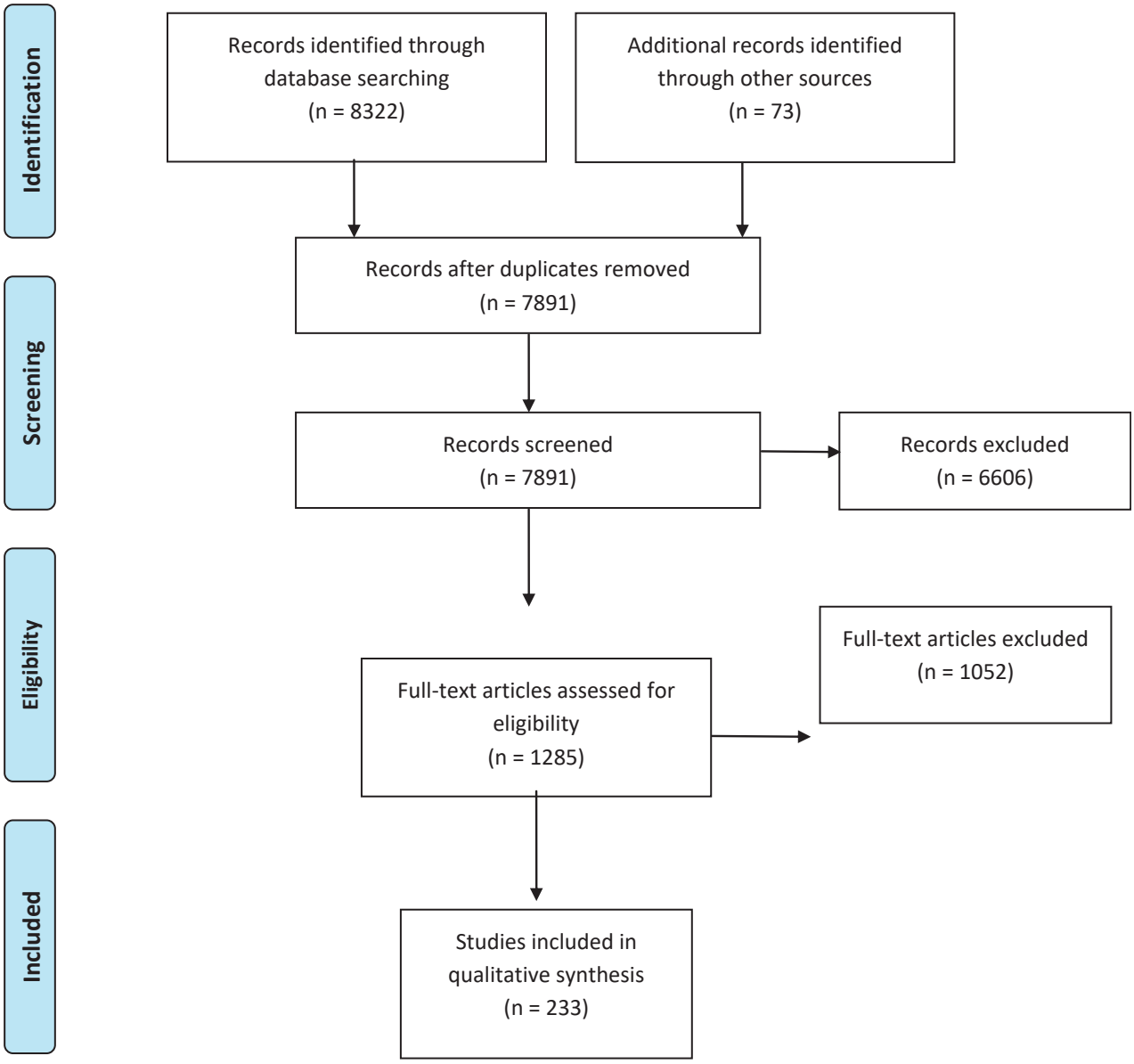

Fig. 1. Literature review PRISMA flow diagram.

recommendations by other experts or program leaders ("snowball approach"). We received 55 survey responses from experts with backgrounds spanning multiple disciplines and regions. The survey sought to explore 1) strategies to improve BH care for people living with serious illness; 2) major challenges to implementation; 3) strategies to successfully integrate BH care into SIC; and 4) specific clinical programs or systems that may inform best practices. We conducted interviews with the following two groups of key informants: 1) national experts and stakeholders with a background in clinical care and SIC/BH services research and 2) SIC program leaders. Program leader interviewees were identified through the review of the "gray literature" and recommendations gleaned from the expert surveys. In total, we interviewed 11 experts and 12 program leaders.

We convened a national multidisciplinary advisory group consisting of 11 members with expertise in aging, palliative care, BH, health policy, patient advocacy, and familiarity with SIC models. The group provided iterative feedback on the proposed BH-SIC model design.

Development and Description of the BH-SIC Model

Within the past decade, various integrated BH and general medical care models have been developed, tested, and applied to increase access and improve health care quality for the growing population with BH conditions and comorbid chronic diseases. Important examples include the Collaborative Care model,[15] the Improving Mood Promoting Access to Collaborative Treatment model,[16] the Primary Care Access Referral and Evaluation model,[17] Partners in Care,[18] and the Prevention of Suicide in Primary Care Elderly Collaborative Trial model.[19] These models provide an important foundation but have generally not extended to SIC settings.

Our objective was to advance this work and develop a framework that would accommodate the diverse clinical needs and related operational challenges presented by BH and serious illness comorbidity. Our proposed BH-SIC model builds on work by the American Academy of Hospice and Palliative Medicine (AAHPM).[20,21] We build on this content, drawing on two further distinct models: The Coalition to Transform Advanced Care (C-TAC) Serious Illness Program Design & Implementation Framework[22] highlights the continuum of needs in SIC populations, whereas the United Hospital Fund Continuum-Based Framework for Advancing Integration of Behavioral Health into Primary Care[23] focuses on the continuum of implementation of integrated BH and general medical care.

The proposed BH-SIC model combines and develops elements from these contributions to articulate a comprehensive conceptual outline of key components that serve as "building blocks" to support BH integration into SIC. These key components can be applied and adapted to the various clinical stages of the care continuum as defined by C-TAC: they span from *Primary Care* at the low-intensity end of the care spectrum to the full range of palliative care from *Chronic Care* through *Advanced Care* and *Hospice*.[24] The BH-SIC model also recognizes local variations in existing SIC programs. It is responsive to program features such as care setting (e.g., hospitals, outpatient settings, post-acute facilities, community-based or home-based care settings, and nursing homes, etc.), program design, internal capabilities, and payment arrangements which influence where on a continuum the integration activities occur.

The model is guided by the following four principles:

1. person/family-centered care,
2. interdisciplinary team-based care,
3. coordinated and integrated care, and
4. value-based and accountable care.[24]

These principles underpin the model's five building blocks which serve as a framework for the core components of integrated BH/SIC. The model defines (and illustrates) clinical functions, supported by workforce requirements, organizational structures, and incentivizing policies that are necessary to achieve the model's ultimate goal—person/family-centered care along the BH/SIC care continuum (Fig. 2). We describe in more detail below the model's key components (Table 2).

Person/Family-Centered Care Process

Engagement of individuals and family caregivers throughout the care process is essential to ensure shared decision-making and care that responds to a person's evolving wishes, values, and treatment goals.

Provider-Patient Communication. The model makes explicit the importance of continuous communication to elicit the patient's goals and wishes and to provide a structure of support for patients and their family or caregivers. Accurate understanding of an individual's motivations and up-to-date care plans can help guide discussions about realistic goals and expectations, treatments options, need for supportive services, and advance care planning (ACP).

Clinical Functions to Support Person/Family-Centered Care

Essential to achieving person/family-centered care is the application of clinical functions aimed at the specific care needs of individuals at the BH-SIC

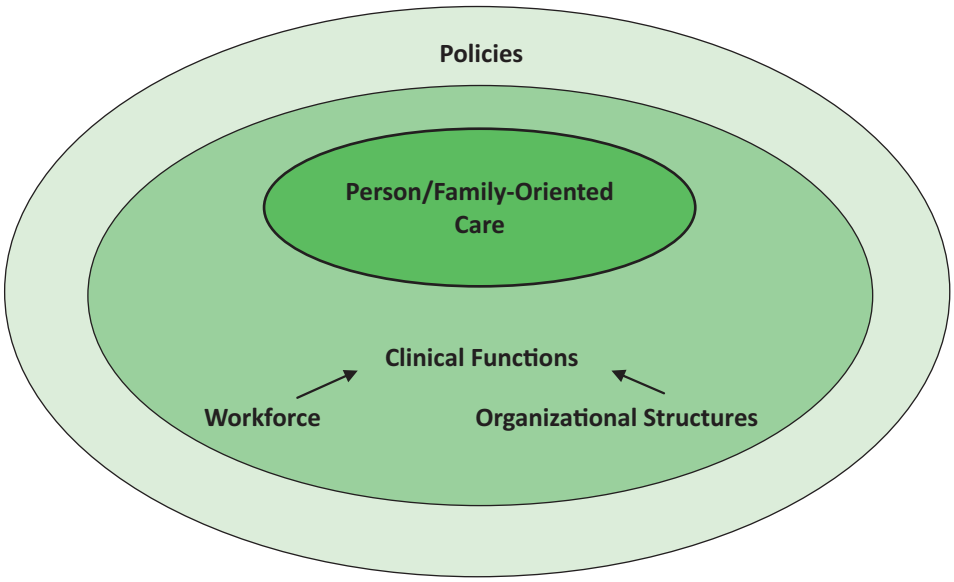

Fig. 2. BH-SIC model overview. BH-SIC = Behavioral Health—Serious Illness Care.

interface. These clinical functions are central to the model and detailed below:

Case Finding, Screening, Referral to Care. Routine screening for BH issues with standardized, valid, and easy-to-use screening instruments as part of person-centered care can support early detection and referral to address BH issues before they can exacerbate serious illness symptoms. Positive screening should prompt referral to the appropriate BH provider for more extensive evaluation, management, and follow-up depending on the severity or complexity of the condition (e.g., to a psychiatrist for severe persistent SMI, to a geriatric expert for dementia with behavioral problems, to a therapist for personality disorders, to a substance use expert for SUD). Screening for BH conditions in the seriously ill is not without complications; for example, some common depression screening tools depend on recall of the prior one to two weeks, which may not be feasible in serious illness.[25] Screening tools should be judiciously used alongside a psychosocial history and clinical judgment.

Longitudinal Care Management. Longitudinal care management at this interface involves multiple professionals and disciplines to design a coherent treatment plan that reflects a person's treatment goals and wishes across the span of an illness. A designated care manager, who coordinates care across services and settings, can support these efforts and facilitate care transitions and other required adjustments. Individuals with complex health care needs may particularly benefit from care management to improve BH symptoms and reduce health care utilization rates,[26] which could increase with preventable crises. Medical and BH crises are often intimately related—for example, uncontrolled pain or dyspnea may contribute to BH crises, and conversely, individuals in BH crises may be too impaired to adhere to a treatment regimen, thereby precipitating medical crises.

Integrated Evidence-Based BH Care. Integrated evidence-based and measurement-based, stepped care enables monitoring of treatment progress, highlights ongoing treatment goals, and improves health outcomes.[27] Key steps to develop measurement-based care in SIC settings include implementing standardized evidence-based treatment interventions (with access to informal "curbside" consultation with BH specialists), and integrating BH symptom monitoring methods into electronic health records (EHRs).[28] Implementation of care protocols that use both measurement-based care and multidisciplinary teams are essential for patients with complex diagnoses. For example, patients with SUD *and* a serious illness involving pain require expert management to ensure that treatment of one disorder does not lead to a worsening in the other. An interdisciplinary team approach with palliative medicine, BH, and SUD expertise should follow the prescribing principles for controlled substances. Care would combine symptom monitoring with a detailed plan outlining the care teams' roles, expectations of treatment and follow-up, risks associated with aberrant drug-taking, strategies to involve family or caregivers, and prescribing strategies optimizing non-opioid analgesics and adjuvants.[29]

Self-Management Support. Self-management support refers to multiple facets of management, such as managing the medical aspects of the illness, the changes in

Table 2
Key Components of BH-SIC Model Overview

Key Components		
1. Person/Family-centered care	Provider/Person communication	Ensuring shared decision-making that incorporates behavioral health issues
2. Clinical functions	Case finding, screening, and referral to care	Providing screening, initial assessment, and follow-up Facilitating and tracking referral
	Longitudinal care management	Coordinating, communicating, and following up relentlessly Managing clinical crises or any severe or sudden change of behavior
	Integrated evidence-based and measurement-based behavioral health care	Providing access to evidence-based psychopharmacological and evidence-based psychosocial interventions Measurement-based, stepped care
	Self-management support to address behavioral health issues	Promoting patient activation/engagement Promoting health literacy to achieve symptom control and personal goals
	Family caregiver support	Providing tools and interventions to support and educate family caregivers
3. Workforce to support clinical functions	Interdisciplinary teams	Including generalist/specialist/palliative care physicians, psychiatrists, psychologists, nurse practitioners, physician assistants, nurses, social workers, chaplains, behavioral health care managers, patients, caregivers/peers, etc.
	Competencies	Providing training, supervision, and assessment to assure competencies in evidence-based practices
4. Structures to support clinical functions	Health information technologies and other technology support	Commissioning and maintaining systematic tracking of clinical information and exchange among team members across settings
	Systematic quality improvement	Using quality metrics and other improvement strategies targeted to behavioral health care
	Linkages with community/social services	Initiating and maintaining formal arrangements with housing, entitlement, and other social support services tailored to persons' behavioral health needs (especially severe mental illness)
5. Policies to enhance and incentivize effective integrated care	Accountability	Sharing responsibility among team members to meet performance standards for all care, including behavioral health
	Payment	Incorporating behavioral health-related costs in payment models that encourage efficiency and quality

BH-SIC = Behavioral Health—Serious Illness Care.

roles brought on by the illness, and the psychological effects of the illness. Health care professionals can play an important role in educating patients about their diagnoses and with the support of educational material/technologies and training programs help promote patient activation and self-management skills. Building patients' skills and confidence to actively engage in their health care not only aims at increasing autonomy and improving quality of life but has been shown to improve health outcomes and care experiences.[30]

Family Caregiver Support. New models of home and community health care combined with emerging communication technologies are making home care increasingly feasible for individuals with serious illness. Family caregivers play a key role in the care process and may require their own support to cope with the challenges of caring for individuals with serious illness. A caregiver-needs assessment, conducted around the time of diagnosis, can help to preemptively identify indicated support services, like home health aides with BH literacy and assistance with intra-family conflict resolution regarding the goals of care and demands of the caregiving situation. Appropriate toolkits can also be applied to facilitate the discussion between patient/family and the care team. Research supports the moderate effect of psychosocial interventions on caregiver psychological well-being.[31] Psychosocial support for caregivers should also be disease-specific and include technology support (e.g., emergency response systems), respite care, and online support groups.[32]

Workforce to Support Clinical Functions

Successful integration of BH care into SIC models is contingent on the workforce. Successful interdisciplinary team approaches share common vision, delineated objectives, leadership, support, defined roles, communication, respect, adaptability, and self-evaluation.[33] Members of an interdisciplinary team consist of clinicians with varied backgrounds and expertise including, although not limited to, physicians (including psychiatrists) and other licensed independent practitioners across specialties, nurses, medical and BH aides, social workers, counselors, psychologists, family caregivers, care managers, chaplains, and peers to support families and patients. The collective capabilities of these team members at the interface of BH and serious illness should include a full range of biopsychosocial treatments for both BH and physical care delivered in a holistic, person-centered way.

Given the dearth of BH providers nationally, particularly in SIC, it is imperative that non-BH providers have training in core BH skills[34,35] such as management of mood and anxiety disorders, high-yield, teachable interventions (such as basics of prescribing antidepressants and anxiolytics in the serious illness population), and brief, operationalized psychosocial interventions (such as motivational interviewing). All providers (BH and non-BH) would train in general psychosocial care of seriously ill or dying patients, such as supporting goals-of-care discussions and ACP.[35] Regardless of level/discipline, all members of the team would be proficient in risk management, de-escalation techniques, and recognition of serious BH pathology.[34] They would all be aware of the importance of providing integrated care and have skills in effective cross-specialty communication and information sharing. Abilities of BH providers working in SIC would extend to issues common in SIC, including diagnosis and management of BH manifestations of serious illness (delirium, anxiety, mood disorder, psychopathology secondary to medical conditions),[34] and interactions between comorbid BH disorders and serious illness, including implications for medication management (such as dose adjustment of psychotropic medications in kidney or liver failure).

Structures to Support Clinical Functions

Implementing the clinical functions outlined in the model requires a number of structural supports. The BH-SIC model focuses on technological supports for communication and data-sharing, linkages to community supports, and quality improvement.

Interoperable health information technologies, such as EHRs and health information exchanges, are important for systematic tracking and sharing clinical information among members of the care team across different care settings. Ideally, EHRs would capture data based on standardized BH screening and assessment tools related to individuals' function, cognition, frailty, symptom distress, socio-economic determinants, disease types, and family caregivers' capacity and burden. EHRs that capture the advanced care wishes of individuals regarding their treatment as their illnesses progress can support person-centered care and highlight important information for team members, such as identity and contact information of a health care proxy.

Ideally, data-sharing platforms would include secure mobile devices to connect all care team members. Additional technologies could support passive collection of data and patient-reported outcomes. Technology can also support delivery of some BH interventions and enhance self-management (e.g., mental health apps such as *Anxiety Reliever*, CT *Coach, etc.*).

Delivery of holistic clinical care requires structures that support the social as well as the biological and psychological aspects of care. Robust systems to ensure connection to support services are particularly important for those living with serious illness and BH conditions. The model highlights the need to identify, link, and partner with local community and social services. Individuals with both BH and serious illness are not only at high risk for disruptions to their psychosocial treatments, but at risk for losing long-standing community care providers and supportive housing programs. The combination of BH and serious illness conditions can be associated with increased vulnerability to self-neglect, social isolation and financial hardship, and exploitation or abuse from others.

Screening for social determinants of health with tools such as Health Leads and others could potentially alleviate some of these risks.[36,37] Individuals facing impaired function and frailty may benefit from home safety and access modifications. The availability of home maker services may allow them to live and receive treatment and care in the residence of their choice ("Aging in Place") rather than in an institutional setting such as a nursing home. This is particularly pertinent for people with SMI given evidence that Medicaid beneficiaries with schizophrenia between the ages of 40 and 64 years were four times more likely to be admitted to a nursing home compared with those without a mental illness.[38]

Structures are also required to ensure that clinical functions are continuously monitored, evaluated, and improved. Quality improvement involves application of relevant quality metrics along with improvement strategies targeted specifically at the care for individuals with BH and serious illness issues. The routine uses of validated quality measures (structure, process, and outcomes including quality of life as

well as individual and family experience), supported by data from integrated EHRs and other sources (e.g., patient surveys) for tracking, coordination, and evaluation, are essential to guiding systematic quality improvement efforts ("Measure. Analyze. Improve. Repeat"). Quality improvement efforts at the provider level could be strengthened by having designated quality improvement personnel to assist with the implementation, monitoring, and evaluation of these efforts across multi-specialty care teams and settings.

Barriers to Implementation and Policy Recommendations

Successful implementation of key components of the BH-SIC model will require policies that establish mechanisms of shared accountability across the silos of current organizational, regulatory, and financial structures. Furthermore, it will require investments into building a measurement infrastructure to support and incentivize quality improvement in both general medical and BH domains of care along the SIC continuum, preparing an adequate workforce, and developing new payment models that reward value instead of volume.

Development of Quality Measures at the Interface of BH and SIC

Over the last 10 years, increased efforts have been made to identify and develop SIC measures—for example, the National Consensus Project for Quality Palliative Care,[39,40] The University of North Carolina's Peace Hospice and Palliative Care Quality Measures,[41] RAND's Assessing Care of Vulnerable Elders,[42] or the Measuring What Matters Initiative.[21] However, few of these proposed measures have been endorsed by the National Quality Forum, which may point to larger issues regarding the validity, importance, and feasibility of some of these measures. Furthermore, most of these initiatives do not include domains or measures specific to BH. At the same time, only about five percent of the items in the Measures Inventory maintained by the Centers for Medicare and Medicaid focus on BH[43] which points to the lack of suitable measures that could be applied to the interface of serious illness and BH care in general. The overall lack of suitable quality measures may be related to the inherent difficulties in measuring quality at the interface of BH and SIC, particularly with regard to defining meaningful outcomes for those suffering from concurrent behavioral and serious medical illnesses. In addition, people's preferences along the care continuum can change over time. Another problem is the heterogeneity of the population served by SIC programs and the lack of a uniform definition for serious illness. The clear definition of the population with serious illness *and* BH issues, however, is essential to come up with a meaningful denominator to target specific subpopulations and to develop valid and meaningful measures and tools that can drive improvements of care.

Alternative Payment Models

A key element determining implementation of this model is how we finance and pay for health and care services. Without dependable, patient-oriented payment structures, these services would be ineffectual or not exist. A critical reevaluation of current payment models and/or adoption of new models may be crucial in abandoning patterns of less effective care delivery.

Novel payment models are moving away from existing long-standing volume-based payment arrangements (as exemplified by fee-for-service payments) to payments that are more closely related to outcomes at the individual and population level (value-based payment models). Yet, among the various integrated payment models in Medicare (e.g., Medicare Advantage, Bundled Payments for Care Improvement Initiative, the Duals Financial Alignment Demonstration, and Program for All-Inclusive care for the Elderly), only Medicare Accountable Care Organizations Demonstration Programs, authorized under the Affordable Care Act, cover hospice care.[44] New models and initiatives around the latter have generated some interest within the BH field (Medicare Shared Savings and Pioneer Accountable Care Organization Programs and Blue Cross Blue Shield of Massachusetts Alternative Quality Contract).

In the context of SIC, services such as transportation, personal care, family caregiver support, etc. are particularly relevant, yet they are either not currently covered (Medicare) or reimbursed at much lower rates than needed (Medicaid). Two models have recently emerged that seek to address this gap by crafting a payment strategy that would support care teams in the delivery of effective, high-value care—the Patient and Caregiver Support for Serious Illness (PACS-SI) model developed by the AAHPM, and C-TAC's new Advanced Care model. Both payment models have received support from The Assistant Secretary for Planning and Evaluation's Physician-Focused Payment Model Technical Advisory Committee and have been recommended to the Health and Human Services Secretary for urgent approval for a funded Medicaid demonstration.[45] Neither the AAHPM model nor the C-TAC model addresses BH specifically; however, they do allow for interdisciplinary teams composed of disciplines relevant to the care of these patients and their families. This could provide a mechanism to have BH as a covered component under these

payment models. These models need to be supported by new quality measures throughout the entire cycle of care to encourage coordination and integration of health services, create incentives for providers to share responsibility for each individual's health care needs across the BH/SIC spectrum, and to allow for transitioning to value-based care delivery and payment.

Availability and Preparation of Workforce

Implementation of key components of our model may be hampered by BH provider workforce shortages and the lack of BH care competency in general medical providers. Likewise, BH trainees, particularly psychiatrists, have little exposure to palliative care and SIC.[46]

Preparing the workforce to meet the needs of the SIC/BH population will require a number of strategies. For more immediate needs, telemedicine and developments in digital technology can improve access to specialist BH and SUD input remotely. For more long-term effect, creating training opportunities across a spectrum of intensities and disciplines may inspire more interest in BH/SIC career tracks. Fellowships and continuing medical education offer one route for clinicians to gain additional core competencies outside their specialty, and increased options and incentives for advanced training could increase the number of experts at the BH-SIC interface.[34,46] For instance, incentivizing psychiatry residents to pursue training in consultation-liaison psychiatry, a subspecialty of psychiatry focusing on BH in patients with medical illness, may help disseminate this expertise more broadly. Less formalized cross-disciplinary training for both BH and non-BH providers is another approach to break down disciplinary silos between medical and BH care, to create a shared framework of knowledge and skills, and to increase the number of providers able to implement basic, high-yield interventions to address BH and SIC needs.

A successful workforce strategy must consider the breadth of perspectives that are valuable in BH and SIC. Nurses, allied health and care professionals, patients, and peer workers each have distinct and valuable skills to offer. Workforce strategies should seek to support development of tiered competencies across sectors and settings combined with techniques to spread and scale the dissemination of new skills and knowledge, for example, using clinical champion techniques.[47] A number of online training courses have been developed which can be adjusted to develop these different tiers of competency such as the Center to Advance Palliative Care's course on BH needs in palliative care.[48]

Innovation in strategies to task shift, improve access to specialism, or scale up basic competencies are important but will likely only go so far to address workforce barriers to the BH-SIC model implementation. Ultimately, buy-in and support from certification and accrediting bodies across multiple disciplines and state licensing bodies will be necessary to address these critical workforce issues.

Legal and Ethical Issues

Any implementation of integrated care models at the interface of BH/SIC needs to consider specific legal issues such as privacy concerns pertaining to sensitivity issues, HIPAA, 42 CFR Part 2, and Confidentiality of Substance Use Disorder Patient Records.[49]

Individuals at the interface of BH/SIC have a significant stake in the regulation of ACP which can help determine the kind of care that they receive along the SIC continuum. Tackling the stigma and systematic discrimination experienced by individuals living with BH or SUD conditions is still a substantial problem. Distressingly, individuals with mental illness are less likely to be invited to participate in their own ACP, regardless of their capacity to do so.[50] Universalized ACP (e.g., laws mandating that Medicare-funded institutions must provide written information on ACP) may benefit individuals who would be otherwise left out and provide some additional legal protection for this population. Within the BH field, several initiatives aim to use psychiatric advance directives. Some examples exist of combined psychiatric-medical advance directives (e.g., the National Resource Center on Psychiatric Advance Directives) but little data exist on the adoption of such documents.[51]

Statutory advance directive and surrogacy laws are not the only means of ACP; most end-of-life decisions take place informally through interactions between providers, patients, and family caregivers, and most state laws (at least 33 states) sanction these (Advance Directives and Advance Care Planning: Legal and Policy Issues 2015). For example, The Conversation Project provides resources to guide individuals to start conversations about their end-of-life wishes.[52] Providers should be aware of these and similar resources and encourage patients and their families to have these conversations about their care. One future driver of standardization may be the increasing recognition of ACP conversations as an element of billable care; for instance, Medicare recently introduced free-for-service billing codes for ACP conversations.

Conclusion

Individuals who already suffer from both BH and serious illness conditions must also face gaps in care quality, outcomes, and cost. The BH-SIC model—building on existing evidence, models, and stakeholder and expert consultation—presents a comprehensive and aspirational model applicable across the serious illness continuum on which to build and implement integrated BH and SIC to address

these gaps. Delivery of patient and family-centered care is linked to essential clinical functions. These functions depend on a well-coordinated interdisciplinary workforce, a supportive organizational structure, and ongoing quality assessment of care. Existing constraints such as imperfect screening tools, payment mechanisms, workforce shortages, a need for valid quality measures applicable at the interface of BH and SIC, and legal/privacy issues are barriers to implementation and should be prioritized and addressed. The BH-SIC model, however, can serve as a "reference guide" toward establishing integrated best practices in serving those dealing with BH in any setting along the SIC continuum and can help support ongoing efforts to close these care gaps.

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Appendix. Queries Used in the Literature Search

Searching terms:

The searching year range, language, and diagnoses:

2007:2017[dp]

AND English [la] AND (Mental Health [mh] OR Behavioral Health [tiab] OR Substance-Related Disorders[mh] OR Schizophrenia [mh] OR Paranoid Disorders [mh] OR Psychotic Disorders [mh] OR Bipolar Disorder [mh] OR Depressive Disorder, Major [mh] OR Anxiety Disorders [mh] OR Stress Disorders, Post-Traumatic [mh] OR Delirium [mh] OR Stress Disorders, Traumatic, Acute [mh] OR Panic Disorder [mh] OR Phobic Disorders [mh] OR Adjustment Disorders [mh] OR Serious Mental Illness [tiab] OR Serious Mental Illnesses [tiab] OR Severe Mental Illness [tiab] OR Severe Mental Illnesses [tiab] Seriously Mentally Ill [tiab] OR Severely Mentally Ill [tiab] OR Serious Mental Disorder [tiab] OR Serious Mental Disorders [tiab] OR Severe Mental Disorder [tiab] OR Severe Mental Disorders OR Schizo*[tiab] OR Paranoi*[tiab] OR Psychot*[tiab] OR Bipolar [tiab] OR Depressive Disorder, Major [mh] OR Psychos*[tiab] OR Mania*[tiab] OR Manic*[tiab] OR Major Depressive Disorder [tiab] OR Major Depressive Disorders [tiab] Major Mental Illness [tiab] OR Major Mental Illnesses [tiab] OR Major Psychiatric Disorder [tiab] OR Major Psychiatric Disorders OR Serious Psychiatric Disorder [tiab] OR Serious Psychiatric Disorders [tiab] OR Severe Psychiatric Disorder [tiab] OR Severe Psychiatric Disorders [tiab] OR Severe and Persistent Mental Illness [tiab] OR Anxiety [tiab] or Panic [tiab] OR Deliri* [tiab] OR Cataton* [tiab] OR Post-Traumatic Stress [tiab] OR Addiction [tiab] OR Substance-use Disorder [tiab] OR Somatoform Disorders [mh] OR Mood Disorders [mh]) AND (HIV [mh] OR Acquired Immunodeficiency Syndrome [mh] OR Cancer [tiab] OR Vascular Diseases [mh] OR Stroke [mh] OR Pulmonary Disease, Chronic Obstructive [mh] OR Liver Diseases [mh] OR Kidney Diseases [mh] OR Lung Diseases [mh] OR Neurodegenerative Diseases [mh] OR Dementia [mh] OR Amyotrophic Lateral Sclerosis [mh] OR Hematologic Neoplasms [mh] OR Movement Disorders [mh] OR Heart Failure [mh] OR Hematology [mh] OR Inflammatory Bowel Diseases [mh])

Searching keywords of each issue topic:

1. Understanding the nature and extent of the problem
   Prevalence [mh] OR Global Burden Of Disease [mh] OR Cost Of Illness [mh] OR Decision Making [mh] OR Advance Care Planning [mh] OR Living Wills [mh] OR Advance Directives [mh] OR Physician Orders For Life-Sustaining Treatment [tiab] OR POLST [tiab] OR Medical Orders For Life-Sustaining Treatment [tiab] OR MOLST [tiab] OR Resuscitation Orders [mh] OR Proxy [mh] OR Caregivers [mh]
2. Role of MH care in serious illness care models
   Care Models [tiab] OR Nursing Homes [mh] OR Long-Term Care [mh] OR LTSS [tiab] OR Long-Term Services And Supports [tiab] OR Patient Care Team [mh] OR Health Manpower [mh] OR Personnel Management [mh] OR Personnel Staffing And Scheduling [mh] OR Psychiatry [mh] OR Social Workers [mh] OR Nurse Practitioners [mh] OR Psychology [mh] OR Occupational Therapists [mh] OR Clergy [mh] OR Medication Therapy Management [mh] OR Pain Management [mh] OR Screening [tiab] OR Symptom Assessment [mh] OR Caregiver Interventions [tiab] OR Healthcare Disparities [mh] OR Polypharmacy [mh] OR Psychopharmacology [mh] OR Antipsychotic Agents [mh] OR Anti-Anxiety Agents [mh] OR Antidepressive Agents [mh] OR Prescription Drug Misuse [mh] OR Respite Care [mh]
3. Key policy challenges
   Clinical Guidelines [tiab] OR Practice Guidelines [tiab] OR Practice Guidelines as Topic [mh] OR Provider Training [tiab] OR Provider Education [tiab] OR (Health Personnel [mh] AND (Training [tiab] OR Education [tiab])) OR Quality Indicators, Health Care [mh] OR (Weights and Measures [mh] AND Quality of Health Care [mh]) OR Quality Measures [tiab] OR Quality Indicators [tiab] OR Collaboration [tiab] OR Case Manager [tiab] OR Care Coordination [tiab] OR Organization and Administration [mh] OR Social Control, Formal [mh] OR Drug and Narcotic Control [mh] OR Legislation as Topic [mh] Legislation, Drug [mh] OR Jurisprudence [mh] OR Insurance, Health, Reimbursement [mh] OR Health Expenditures [mh] OR Payment Model [tiab] OR Healthcare Payment [tiab] OR Health Care Reform [mh]