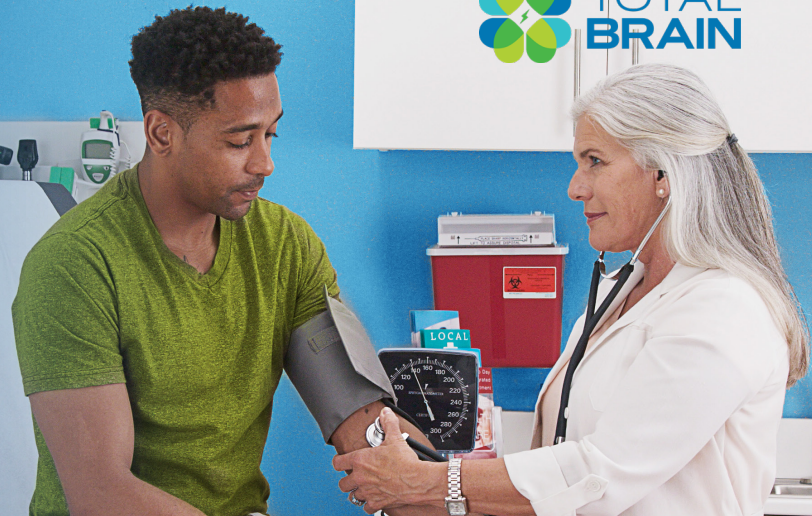


Collaborative Care within the Primary Care Setting



The link between mind and body is undeniable. It has long been known that mental health concerns can negatively impact physical health. And in many cases, behavioral health issues may be the underlying cause of serious physical conditions such as heart and lung diseases and poor immune function. Conversely, physical illnesses can trigger mental health problems including depression, anxiety and substance use disorders. Yet, despite the prevailing belief that mind and body are interconnected, physical and mental healthcare delivery systems often operate independently.

Individuals suffering from depression, anxiety, or substance use disorders for example are accustomed to disjointed healthcare. The consequences of this fragmented model can include gaps in treatment, inadequate care, poor patient outcomes and increased healthcare costs. Consider this: only 20 percent of adults with common mental conditions receive care from a mental health specialist in any given year¹ and primary care physicians are the customary provider of care for most adults in the United States with common mental conditions such as depression². Further, it is estimated that only around 40 percent of Americans with a diagnosable mental condition received any specific mental health treatment in the prior year, and only around one-third of those – therefore, approximately one in seven overall – received treatment that could be characterized as minimally adequate.³



The good news is that a promising collaborative care approach toward holistic care of physical and mental health is underway. Unlike other behavioral health integration models, this model provides for coordination by a behavioral health care manager and regular discussions with a psychiatric consultant.

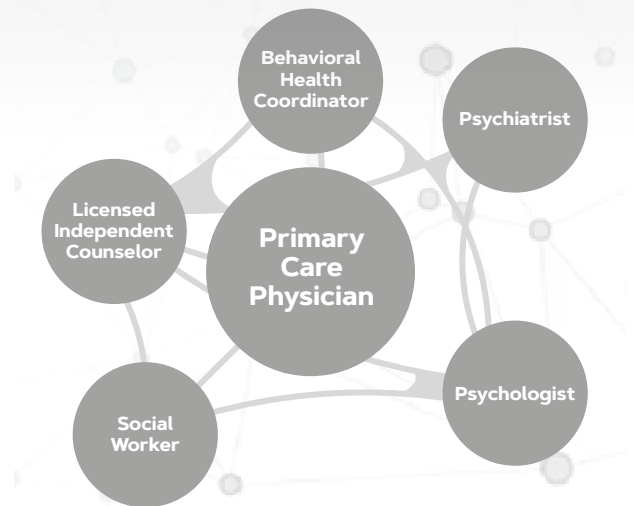
In this white paper, we will discuss the essential principles and benefits of collaborative care; provide use case scenarios; and review the challenges of this patient-centric healthcare model and new tools available to support this approach.

What is Collaborative Care?

Collaborative care is an evidenced-based, team-based model of integrated psychiatric and primary care within the primary care setting. Treating mental conditions in the primary care setting improves access to mental health care and reduces stigma. And for many primary care physicians, it can ease the uncomfortable burden of treating behavioral health problems for which they may not feel adequately trained.

The primary care provider leads the collaborative care team. Other team members include behavioral health care managers, psychiatrists, and frequently other mental health professionals such as a clinical social worker or licensed independent counselor.

According to a joint report by the American Psychiatric Association (APA) and Academy of Psychosomatic Medicine (APM), the collaborative care model is effective and efficient in controlling costs, increasing behavioral health access, improving clinical outcomes, and boosting patient satisfaction in a variety of primary care settings.



Principles of Collaborative Care

The Collaborative Care Model is not just about integrating mental and physical health services. It is about doing so in a way that relies on evidenced-based treatment guidelines, and attention to accountability and quality care.

| Principles of Collaborative Care | Benefits |
|--|---|
| Accessible <ul style="list-style-type: none">Physical and mental health care is provided at primary care physician's office. | <ul style="list-style-type: none">Reduces mental health care stigmaExtends access to quality behavioral health careImproves communication among providers |
| Evidenced-based <ul style="list-style-type: none">Personalized treatment plans are founded on credible research-based evidence. | <ul style="list-style-type: none">Improves patients' experienceIncreases quality of care |
| Measurable <ul style="list-style-type: none">Patient progress is monitored regularly and ongoing patient outreach is conducted.Personal goals and clinical outcomes are measured by evidenced-based tools.Treatments are altered if expected. | <ul style="list-style-type: none">Improves patient outcomesIncreases patient satisfaction |
| Accountable <ul style="list-style-type: none">Providers are reimbursed based on clinical outcomes not service fees. | <ul style="list-style-type: none">Controls costs |



Use Case Scenarios

Dr. Richard Sztramko, Chief Medical Officer, Kerna Healthcare, a leader in digital connected care, provides a sampling of collaborative care use case scenarios to highlight the approach and its value.



Elderly and Depression

"Let us look at the elderly with standard depression, no comorbidities. Symptoms can often look like a younger person with depression, but depression in the older individuals can also present itself atypically. They often complain of physical pain. However, either way, treatment is the same - serotonin reuptake inhibitors. Older people respond quite well to this medication. The physician will prescribe the medication, but the collaborative care worker will provide education and ongoing monitoring of the medication's side effects and interactions with other drugs. Collaborative care workers are also available to identify the need for additional resources or interventions. Patients have a team behind them across a continuum of care."



Depression with Alzheimer's

"Depression with Alzheimer's disease is an extraordinarily complex challenge. Depression can cause some cognitive slowing, attention deficits and information processing issues. It is difficult to know if cognitive concerns in the elderly are due to depression or Alzheimer's or another neurocognitive disorder. If we treat the depression, will brain function improve? Or is depression a harbinger of the damage being done by a neurodegenerative process or vascular insults to the brain? Frequently, people will present first with depression and mild cognitive impairment and progress to full blown Alzheimer's or cognitive disorder. Having cognitive tools to assess patients over time, enables us to target therapies differently. If cognitive decline is slow and steady, we can be more certain that a patient is suffering from Alzheimer's or other major neurocognitive disorders. Using assessment tools, we can cater therapy in a more precise way based on their diagnosis."



Elderly with Multiple Morbidities

"The elderly often battle multiple morbidities and are required to take many medications with potential for harmful interactions and the onset of additional health risks. Collaborative care is designed to optimize the best outcomes. I have a patient with mild cognitive impairment; obese; and suffering from COPD, chronic back pain, and frequent falls. Once we were able to improve her lung function, she could exercise, lose weight, and strengthen her core and back with a physiotherapist. As a result, back pain improved and she was able to decrease the painkillers and improve her cognitive function. The predominant treatment was for lung disease. But by putting all these pieces together, we were able to provide personalized treatment in groundbreaking ways. Treating the multi-morbid state directly impacts mood and overall quality of life for patients."

Breaking Barriers to Reimbursement



For many primary care physicians looking to incorporate behavioral health services into their practices, reimbursement concerns are a barrier. Fortunately, over the past several years, much progress has been made toward building a framework for the coding and reimbursement of collaborative care services covered by Medicare and Medicaid. Even private insurers are beginning to incorporate coding and reimbursement protocols into their systems.

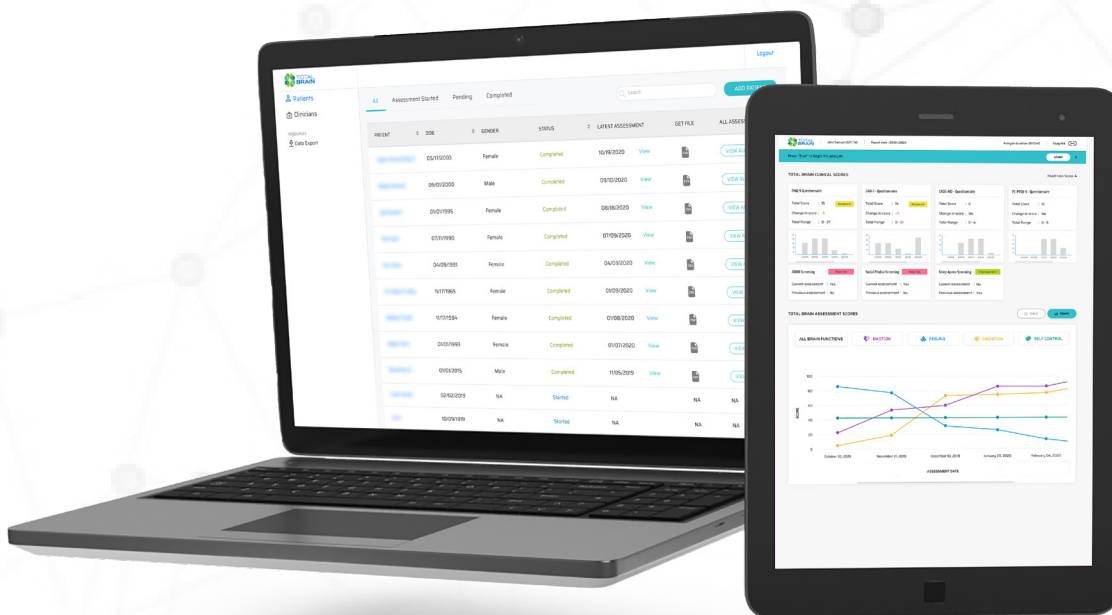
According to Dr. Sztramko, "The Centers for Medicare and Medicaid Services realize the limitations of traditional healthcare delivery. There are billing codes for behavioral health integration and collaborative care management. The collaborative care billing codes break down further. One code for just a social worker and another for a social worker or other mental health professional, psychiatrist, and primary care provider. For those with multiple morbid states like diabetes or heart failure, there is a code for chronic care. And there are also codes for monitoring physiological data remotely such as glucose levels and blood pressure."

For those interested in learning more about getting paid in the collaborative care model, they can visit the American Psychiatric Association.

Measurement Remains a Key Challenge

Measurement-based care is at the heart of a collaborative care model. Process and outcomes measures tell us if patients are receiving recommended care and if positive health outcomes resulted. Together, process and outcome measures indicate the quality of health plans and can help determine if payer strategies for providing cost-effective quality healthcare are succeeding. However, one measure without the other provides a limited and inaccurate picture for payers and providers.

Regretfully, standardized quality measurement in behavioral health lags physical health measurement standards, policies, and tools. Many of the mental health outcomes-based tools used today, like the PHQ-9, are limited to measuring patient-reported symptoms. These types of instruments are subjective and cannot provide objective broad population outcomes; forcing providers and payers to rely on process measures to assess quality care. As the industry evolves, we anticipate that payers will drive a movement toward better outcomes standards and will incentivize physicians to incorporate these outcome measurement instruments and goals into their practice.



Total Brain Supports a Collaborative Care Model



Total Brain, an applied, integrative neuroscience company, offers a SaaS-based mental health platform that is uniquely positioned to support this collaborative care approach to mental health care. Total Brain can solve for many of the gaps in measuring treatment outcomes in the market.

In fact, Kerna Health is integrating Total Brain's digital neurotech platform into the company's Behavioral Health Integration support solution. Our assessment and self-care tools will be available to Kerna's managed patients. And Kerna's clinical clients, including physician offices, hospitals, and long-term care facilities, will have access to Total Brain's patient management and reporting capabilities.

| Gaps in Measuring Treatment Outcomes | The Total Brain Solution |
|---|---|
| <ul style="list-style-type: none">Limited in scope; subjective | <ul style="list-style-type: none">Objective expanded data setMixes standardized instruments like the PHQ-9 and GAD-7 with more robust brain capacity measures, biometrics, and genetics testing.Measures both baseline mental health and tracks treatment outcomes over time. |
| <ul style="list-style-type: none">Cannot provide individual patient monitoring and trend reporting. | <ul style="list-style-type: none">Clinician dashboard enables individual patient monitoring and trend reporting, as well as the ability to aggregate that data up for population level reporting.Capabilities enable providers to personalize treatment, easily share objective patient data among collaborating physicians, and show evidence-based |
| <ul style="list-style-type: none">Reimbursement not guaranteed. | <ul style="list-style-type: none">In medical and behavioral health settings, the Total Brain assessment is reimbursable under specific CPT codes and scenarios, giving providers the opportunity to increase revenue from insurance. |

About Total Brain

Total Brain is an applied, integrative neuroscience company. Our SaaS-based, mental health platform combines monitoring capabilities from assessments, screenings, biometrics, and genetics with personalized self-care support tools.

We offer solutions for three market segments: population health, providers, and precision medicine, providing our customers with actionable data, operational efficiencies, precision medicine diagnostics, and health and productivity outcomes.

To learn more, [contact us](#) for a free demo of Total Brain's platform.

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3. Wang, Lane, Olfson, Pincus, Wells, Kessler, 2005, op. cit. 14

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