

## Advancing Patient Outcomes through Collaborative Care: A Narrative Review of Evidence from Integrated Behavioral Healthcare

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### ABSTRACT

This review examines the Collaborative Care Model (CoCM) within Integrated Behavioral Healthcare (IBH) to explore its impact on patient outcomes, particularly mental health and chronic disease management. CoCM works via a team approach with a focus on providing holistic care, and physical, and mental health care. The narrative review synthesizing quantitative data from systematic reviews, meta-analyses, and randomized controlled trials demonstrated the successful utilization of CoCM in reducing depressive, anxious, and post-traumatic stress disorder (PTSD) symptoms, enhancing treatment compliance; and increasing quality of life. Reflecting on the observed primary outcomes: depressive symptoms decreased by 50% based on findings from meta-analyses involving patients with depressive disorders across diverse healthcare settings, and the results revealed effective chronic illness self-management including diabetes and hypertension. CoCM also shows cost savings by improving resource utilization and curtailing hospitalization costs. Furthermore, it leads to heightened patient satisfaction and better access to the best and needed behavioral health. However, some challenges still exist as to its more extensive incorporation. These issues are elements of cost drivers such as infrastructure, human resources and differences in insurance. These barriers can be eliminated only through policy changes, improved training activities, and the application of technology to foster better implementation within limited resource environments. CoCM provides a feasible solution for enhancing the effectiveness of mental health and chronic illness treatments and decreasing the costs of service provision. Extending its use to the global setting primarily LMICs requires addressing system barriers and collective strategies that lead to fair and sustainable solutions in the delivery of health care.

**Keywords:** chronic illness; cost-effectiveness; collaborative care; integrated care; mental health.

### INTRODUCTION

Mental health is a public health concern. In 2019, 1 in every 8 people, or 970 million people, worldwide suffered from mental disorders such as bipolar disorder and eating disorders, among others, with anxiety and depressive disorders being the most common.<sup>1</sup> Although there are effective prevention and treatment options, a large part of the affected population – more than two-thirds – was unable to receive treatment for mental illness owing to one or more factors, such as a lack of resources, inadequately trained health workers, a lack of knowledge about the features and treatability of mental illnesses, ignorance about how to access assessment and treatment, prejudice against people living with mental illness, and expectations of discrimination against people with mental illness. Among these factors, the social stigma associated with mental health is the most significant barrier to care in many cases.<sup>1-3</sup> In addition, according to the World Health Organization (WHO), an estimated 700,000 people commit suicide each year.<sup>4</sup> Currently, the World Health Organization estimates that 1 out of every 4 people worldwide will be affected by mental illness at some point in their life.<sup>3</sup>

As evidence of the link between physical and emotional well-being has emerged, more focus and resources have been directed toward building holistic healthcare systems.<sup>5</sup>

One major finding emerging from decades of study is that a substantial number of patients first discussed mental or emotional difficulties with their primary care provider.<sup>6</sup> Recognizing the need for a more integrated approach to physical and mental health care, numerous fields of allied health have begun developing training programs for the next generation of healthcare workers.<sup>7</sup>

Behavioral health refers to mental health and substance use disorders, life stressors and crises, and stress-related physical symptoms.<sup>8,9</sup> The Lexicon for Behavioral Health and Primary Care Integration, published by the Agency for Healthcare Research and Quality, defines integrated behavioral healthcare as “the care that results from a practice team of primary care and behavioral health clinicians, working together with patients and families, using a systematic and cost-effective approach to provide patient-centered care for a defined population. This care may address mental health and substance abuse conditions, health behaviors (including their contribution to chronic medical illnesses), life stressors and crises, stress-related physical symptoms, and ineffective patterns of healthcare utilization.”<sup>9</sup>

As the demand for behavioral healthcare has increased,<sup>10</sup> various models of integrated behavioral healthcare have emerged, including the coordinated care model, collocated care model, collaborative/fully integrative care model, and

primary care behavioral healthcare model.<sup>11,12</sup> The Collaborative Care Model (CoCM) has emerged as an effective approach for integrating mental health and primary care, addressing both physical and mental health needs. This narrative review focuses on the collaborative care model (CoCM).

The collaborative care model is based on the adult chronic care management approach.<sup>13</sup> In CoCM, care is provided by a collaborative team that includes the following:

- The primary care provider (PCP) often includes a family physician, an internist, a nurse practitioner, or a physician assistant.<sup>12,13</sup>
- Care management professionals in primary care, such as nurses, clinical social workers, or psychologists, are trained to provide evidence-based care coordination, short behavioral interventions, and support PCP-initiated therapies.<sup>13</sup>
- A psychiatric consultant who advises the primary care treatment team on patients who present diagnostic challenges or who do not show clinical improvements. Such consultations might be offered in person or via telemedicine.<sup>13</sup>

The clinical approach employs the principles of population-based care, evidence-based interventions, patient-centered goal formulation, measurement-based care, treatment-to-target strategies, stepped care models, care coordination, psychiatric consultation, and brief evidence-based psychotherapy.<sup>13-15</sup> Patient progress is meticulously monitored through validated clinical rating scales, such as the PHQ-9 for depression.<sup>16</sup> If patients fail to show the expected improvement, treatment plans are systematically modified. Initial modifications can be executed by the primary care team, with contributions from the psychiatric consultant. Patients who do not respond to treatment or who experience acute crises are referred to specialized mental health services, as are those who actively seek such referrals.<sup>13</sup> Nevertheless, in practice, only a small proportion of individuals in collaborative care programs pursue or receive referrals to specialty care. Ultimately, this systematic approach to treatment can effectively address the clinical inertia that often leads to suboptimal management of common mental disorders within primary care settings.<sup>17</sup>

Different studies have demonstrated that CoCM is effective in enhancing access to behavioral health services, providing integrated patient-centered behavioral and physical health care within a single environment, and improving overall clinical outcomes.<sup>18</sup> However, a comprehensive synthesis of its effectiveness across diverse populations and healthcare settings, particularly in resource-limited environments, remains limited. This review aims to address this gap by evaluating the existing evidence and highlighting the potential of CoCM to improve patient outcomes in integrated behavioral healthcare settings.

## METHODS

For this study, information was obtained from peer-reviewed journals with materials indexed in the PubMed, MEDLINE and PsycINFO databases, as well as local journals with literature on integrated behavioral health up to 2024 (Figure 1). Furthermore, to support the search for the discussed topic, articles were retrieved from online databases

such as ResearchGate and Google Scholar. Other sources were peer-reviewed local journals that could not be accessed online but were indexed by national associations of psychology and regional health councils, fundamentals of interprofessional collaborative care, government documents and guidelines, and international conference proceedings, which provided a wider context of Integrated Collaborative Mental Care (ICMC) knowledge regarding multimodal collaborative care models across various health care sectors. To avoid the inclusion of unreliable data, only randomized controlled trials, systematic reviews and meta-analyses were included in the study. Examples of keywords included “collaborative care,” “integrated behavioral healthcare,” “patient outcomes and mental health.” The inclusion of key studies was guided by their relevance to integrated behavioral healthcare and collaborative care models.

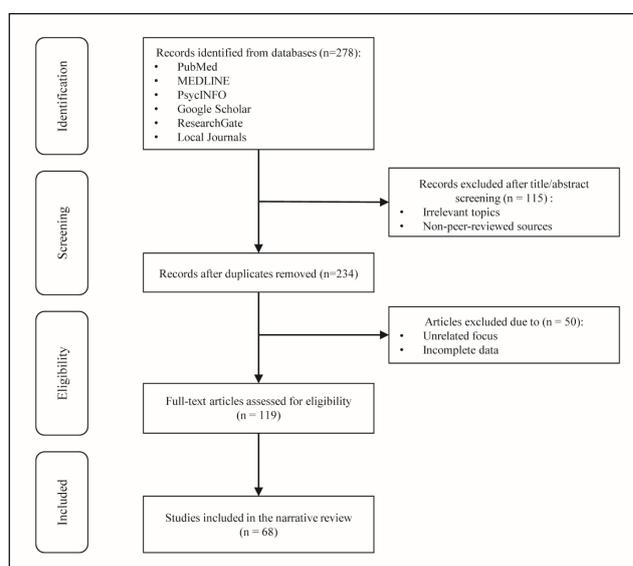


Figure 1: Flow chart of study selection in narrative review

## COLLABORATIVE CARE AND CLINICAL OUTCOMES

The evidence-based collaborative care (CC) model integrates behavioral health within primary care environments by employing an interdisciplinary team to deliver patients comprehensive treatment for both their physical and mental health requirements. This method enhances results for mental health problems.<sup>19</sup> According to a randomized controlled trial (RCT) among vulnerable populations facing health disparities, collaborative, integrated behavioral health and primary care can enhance the mental health of those with low incomes and no insurance.<sup>20</sup>

The collaborative care model, particularly the IMPACT model, especially emphasizes the regular monitoring of anxiety and depressive symptoms. This approach has the potential to reduce existing racial and ethnic disparities in mental health treatment and outcomes, where socioeconomic disparities also exist among participant groups.<sup>21</sup> The Improving Mood-Promoting Access to Collaborative Treatment (IMPACT) model indicates that, after 12 months of intervention, patients receiving care from a collaborative team—a depression care manager, psychiatrist, primary care specialist, or psychotherapist—

experienced a significant reduction of 50% or more in depressive symptoms from baseline, whereas only 19% of the usual care participants reported similar results. Statistical differences that are significant exist between those who receive collaborative care and those who do not. Compared with those in the usual care group, patients in the intervention group experienced increased depression treatment, increased satisfaction with their depression care, reduced depression severity, less functional impairment, and improved quality of life.<sup>22</sup>

Patients with Post-Traumatic Stress Disorder (PTSD) who had participated in collaborative care management for 1 year demonstrated a reduction in PTSD symptoms of 26.8%, whereas diagnoses decreased by 56.7% at the 12-month mark. Moreover, the Primary Care Management (PCM) intervention showed that patients who were engaged in care management had 15.2% more individuals obtaining prescriptions for mental health medications and 14% more mental health care visits than those who did not participate.<sup>23</sup> The use of the CoCM for patients experiencing suicidal thoughts resulted in a 52% improvement in ideation after treatment, whereas the severity decreased by 37% from baseline to after treatment. In patients with and without suicidal thoughts, depression severity decreased from moderately severe to moderate and from moderate to mild, respectively, whereas anxiety severity decreased from moderate to mild in both groups.<sup>24</sup> Patients in the collaborative care group showed a notably greater reduction in depression symptoms, as 80% were prescribed antidepressants, and 22% participated in the Cognitive Behavioral Therapy (CBT) group, whereas 62% and 0% of consultation-Liaison (CL) care patients received antidepressants and CBT, respectively. In addition, patients in the collaborative care group exhibited notable enhancements in their health status, demonstrating a reduced Sheehan disability score and an elevated SF-36 MCS score compared with those in the CL-care group, whereas both groups expressed high and similar levels of satisfaction with their primary care providers.<sup>25</sup> A controlled clinical study involving older adults with Alzheimer's disease revealed a notable difference in medication adherence between patients who received collaborative care and those who did not. Patients receiving collaborative care were more likely to take cholinesterase inhibitors and antidepressants (79.8% and 45.2%, respectively), whereas patients receiving usual care used these medications (55.1% and 27.5%, respectively). Consequently, patients receiving 1 year of care management by an interdisciplinary team, led by an advanced practice nurse and integrated within primary care, exhibited notably reduced behavioral and psychological symptoms of dementia, whereas caregivers noted marked enhancements in their distress and depression levels. Moreover, patients in collaborative care reported a greater total number of visits to physicians or nurses than did those in usual care, with visit counts of 9.3 and 5.6 for each group, respectively.<sup>26</sup>

A randomized, controlled trial with a single-blind design of Collaborative Care for Patients with Depression and Chronic Illnesses indicated that patients receiving the intervention exhibited markedly superior overall improvement compared with controls, achieving a  $\geq 1.0$  percentage point reduction in glycated hemoglobin levels,

a  $\geq 10$  mm Hg decline in systolic blood pressure, and a  $\geq 50\%$  reduction in SCL-20 score. Patients in the collaborative care group also exhibited notably greater adherence to antihypertensives, antidepressants, and insulin medications than did those in the usual care group. In this study, over 99% of patients in the intervention group attended an initial visit, and 82% participated in a minimum of four in-person appointments with the nurse. In conclusion, this research revealed that patients with diabetes, coronary heart disease, or both, who also experience depression and receive CoCM, report much greater satisfaction with care services and enjoy a better quality of life than do those receiving standard care services.<sup>27</sup> A retrospective cohort study examined a collaborative care model aimed at integrating behavioral health care and treatment for patients with inadequately managed diabetes in a safety net clinic. Patients referred for care had a higher initial average HbA1c and were more prone to experiencing depression, anxiety, and bipolar disorder than those not referred, indicating that the collaborative care team effectively meets the mental health requirements of patients with chronic illnesses. Posttreatment results indicate that referral resulted in an average HbA1c reduction of 0.9, which is significantly greater than the 0.2 decrease observed without referral.<sup>28</sup>

#### **COST-EFFECTIVENESS AND QUALITY OF LIFE**

Integrated behavioral healthcare integrates mental and physical healthcare and is revolutionizing patient outcomes. According to the literature, it can be assumed that an innovative model leads to the best care, increasing patient experiences and the feasibility of services,<sup>44-46</sup> improving health outcomes,<sup>47-49</sup> reducing financial burdens, and enhancing providers' experience of care,<sup>52,53</sup> and well-being.<sup>54</sup> Since 2003, with an integrated care coordination program, Wisconsin-based Gundersen Health has been enhancing the quality of life and lowering the financial burden of patients with complicated health profiles.<sup>55</sup> The ultimate goal of collaborative care is to address the link between physical and mental health conditions by encouraging cooperation between primary care doctors and mental health specialists. On the other hand, cost-effectiveness is the ratio of expenses to desirable healthcare outputs (such outcomes), and it is frequently stated as the cost per quality-adjusted life year.<sup>29</sup> Owing to its long-term cost-effectiveness and capacity to produce significant health benefits at levels typically regarded as cost-effective, collaborative care frequently lowers the cost of healthcare services by reducing hospitalization and encouraging early intervention. Return on investment analyses demonstrate that collaborative care reduces hospitalizations and emergency visits, with savings reinvested in scaling healthcare infrastructure. The fundamental components of these interventions include the methodical use of evidence-based therapies, encouraging patients to follow their treatment regimens, actively monitoring patients to closely monitor their progress, and constantly modifying treatment on the basis of the patient's clinical status.<sup>30</sup> Reducing hospitalizations and emergency room visits can save healthcare costs and increase the system's cost-effectiveness. Patient demand can be measured shift-by-shift to inform flexible staffing, but there must be a sufficient number of staff members on

the roster at the beginning.<sup>31</sup> Additionally, coordinated care helps individuals with multiple morbidities in terms of their physical functioning and sadness. Collaborative care lowers depression over time and may be cost-effective at globally recognized willingness-to-pay criteria.<sup>32</sup> Higher baseline rosters appear to be more economical and resilient to fluctuations. Hospitals may find that flexible staff deployment, led by a patient classification system, is an effective way to satisfy the fluctuating demand for treatment in the face of pressure to reduce costs and maximize the use of few nurses.<sup>31</sup>

In the healthcare industry, return on investment (ROI) refers to a decrease in medical expenses, its avoidance, and improvements in patient satisfaction and treatment accessibility. It is a monetary return on investment for collaborative care initiatives. Moreover, the financial advantages of healthcare quality improvement (QI) are being assessed via return on investment (ROI). ROI has historically been used to assess the performance of investments in the business sector. In healthcare, little is known about ROIs.<sup>33</sup> The ROI term was used in numerous studies to evaluate the cost-effectiveness of hospitals and healthcare facilities. A pediatric hospital's Workplace Disability Management Program (WDMP) is evaluated via the Return on Investment (ROI) to determine the program's financial impact.<sup>6</sup> According to a different study, the decision support tool was used to evaluate the sustainable return on investment for employees with diabetes and heart disease.<sup>34</sup>

Collaborative care settings, such as holistic and patient-centered treatment, improve patient satisfaction and overall quality of life. The fulfillment of a patient's requirements, wants, or expectations regarding a healthcare service is referred to as patient satisfaction. Healthcare providers, such as doctors and dentists, know very little about the experiences and satisfaction levels of their patients. Patients' likelihood of developing unfavorable opinions about their medical treatment experience may eventually decrease with a better grasp of the principles for effectively and repeatedly controlling their expectations with information.<sup>35</sup>

The availability of laboratory and radiology services, pain management services, inpatient pharmacy services, and high-quality services from hospital doctors all had a positive impact on patient satisfaction. Additionally, the availability of accommodations, dietary services, and clean restrooms all had a significant impact.<sup>36</sup> Health care quality is a multifaceted, subjective, and complex term, and defining and measuring quality is made more difficult by the industry's traits, including intangibility and variety.<sup>37</sup> To improve the quality of care, quality improvement collaboratives bring together multidisciplinary teams in a methodical process.<sup>38</sup> Approaches to quality improvement make it possible to adapt evidence-based innovations.<sup>39</sup> The quality of healthcare services for patient satisfaction can be improved by considering certain standards, practices, and strategies. According to one study, working toward a standard called the KAI/AE standard has improved patient focus and outcomes in this area. These gains include better patient satisfaction monitoring, complaint learning, and patient involvement in decision-making.<sup>37</sup> A

further component of patient happiness and increasing the standard of healthcare services is ensuring patient safety. One of the best approaches to overall quality management for constantly increasing an organization's quality performance is called "Lean Six Sigma." By lowering the quantity of mistakes made in the direction of patient safety, this strategy consistently enhances the performance of healthcare organizations.<sup>40</sup> A patient's physical, emotional, social, and spiritual requirements as well as their mental health are all taken into consideration in a holistic approach to therapy. The holistic approach places a strong emphasis on each patient's individuality, the reciprocity of the doctor-patient relationship, each person's accountability for their own health care, and society's need to promote health.<sup>41</sup> Working together with families is a top priority in patient-centered care to ensure that patients' needs are recognized and satisfied. Patient-centered treatment frequently results in reduced predicted healthcare costs and greater expected quality-of-life benefits. Healthcare professionals and organizations must actively learn patients' values to provide patient-centered care.<sup>42</sup> Improvements in medical technology, changes in patient demographics, and a greater focus on patient-centered treatment are some of the characteristics that define the always-changing healthcare scene. Patient experience and happiness, which are recognized as important markers of healthcare quality and efficacy, are at the heart of this paradigm shift.<sup>43</sup> Clinical results as well as social and physical well-being can be enhanced by patient-centered care.

#### LIMITATIONS AND CHALLENGES

Collaborative care models (CCMs) offer a practical approach to providing integrated mental health and medical care.<sup>56</sup> The implementation of collaborative care models in integrated behavioral healthcare presents several limitations and challenges that can impact patient outcomes. These difficulties can be classified into multiple domains, including organizational, logistical and interpersonal factors that hamper effectiveness and sustainability. Many healthcare settings lack the necessary infrastructure to support collaborative care models, which can hinder their effective implementation.<sup>57</sup> Peer and Koren also claimed that insufficient organizational support and infrastructure may make it more difficult to coordinate care appropriately, making it challenging to integrate mental health services.<sup>57</sup> In addition, time constraints and workflow disruptions are significant barriers that affect primary care providers' ability to engage in collaborative care models.<sup>58</sup> Additionally, Holmes and Chang reported that establishing these models can be complicated because they must be flexible enough to accommodate various patient demographics and environments.<sup>58</sup> Collaboration and patient care outcomes can be negatively impacted by poor relationships among team members.<sup>57</sup> Even effective communication between primary care providers and mental health professionals is crucial, and a lack of this communication may lead to fragmented patient care.<sup>59</sup> The sustainability of collaborative care models may be at risk due to the possibility of increased burnout among the patients involved.<sup>58</sup> Clinicians' objection to the reassignment of patient care duties may inter-

ferre with the adoption of collaborative care models.<sup>60</sup> Policy- and system-level issues may be marked as limitations to implementing collaborative care in integrated healthcare. Patients' access to mental health care may be limited by variations in insurance coverage, especially for individuals with severe problems.<sup>60,61</sup> Since local concerns may involve a priority over mental health programs, collaborative care may suffer from a lack of strong leadership and dedication.<sup>62</sup> There is relatively little research available on strategies for executing CCMs in different contexts.<sup>63</sup> Moreover, there is a longstanding belief that the supply of a behavioral health workforce is insufficient to satisfy the rising demand for services.<sup>64</sup> In 2007, to address the growing crisis, more than 5000 voices united under the leadership of the Annapolis Coalition on the Behavioral Health Workforce, which resulted in the creation of the National Action Plan for Behavioral health workforce development in the United States.<sup>65</sup> Globally, institutions struggle to locate trained and experienced personnel to work in integrated care.<sup>66,67</sup> The Indian public health system, which is already poorly equipped, suffers from a lack of trained specialists in the field of integrated behavioral health.<sup>68</sup> In addition to these findings, behavioral and mental health concerns remain stigmatized, leading to a lack of awareness at the sociocultural level.<sup>69,70</sup> Although collaborative care and integrated behavioral healthcare models indicate significant opportunities for addressing mental health issues in Bangladesh, their implementation faces notable limitations. Bangladesh's healthcare system is characterized by limited resources, which hampers the development of comprehensive mental health services.<sup>71</sup> Given that many providers lack specialized training, the quality of mental health services remains inconsistent.<sup>72</sup> Despite evidence supporting integrated behavioral health models, the adoption of primary settings in Bangladesh has been slow, particularly for pediatric practices.<sup>73</sup> To overcome these challenges, tailored interventions are needed. Policymakers should also focus on establishing reimbursement structures for mental health services.

However, the implementation of collaborative care in integrated behavioral health holds immense potential for improving patient outcomes globally, including in Bangladesh. By removing these obstacles, Bangladesh can achieve its Sustainable Development Goals (SDG-3) of ensuring healthy lives, promoting well-being for all and moving toward a more efficient and easily accessible behavioral healthcare system.

## FUTURE PROSPECTS

Integrated health care mainly highlights the physical, mental, and social health services that aim to improve a patient's physical condition as well as nurture him mentally. However, in Bangladesh, we usually find that there is a differentiation between rural and urban health center facilities.<sup>74,75</sup> Because of poor treatment facilities in rural areas, the majority of people do not pay for proper treatment for behaviorally impacted diseases.<sup>76</sup> In this area, people have developed a certain mindset toward specific physical problems, such as diabetes, cardiovascular disease, obesity, hypertension, anxiety, arthritis, and depression.

Owing to family conditions, people are not interested in taking medication or are unable to visit the primary health

care complex regularly. In addition, the Upazila Health Complex has insufficient patient data for providing treatment. For this reason, the government has put emphasis on building patient data through the ICT sector.<sup>77</sup> Although it is time-consuming, it helps identify patients' records very well.<sup>27,77,78</sup> Whenever a patient visits a hospital, the nurse can easily identify the patient and information. Again, the patient will be able to self-assess the health condition (i.e., glucose level, blood pressure). In this way, the doctor will be able to provide medication guidelines on the basis of his progress.<sup>27,75,78</sup> Moreover, they can take guidelines using telemedicine and mobile software.<sup>75,79</sup> Technological integration enhances the understanding of mental health problems and new health strategies.<sup>74,78,79</sup> As a result, technology can improve healthcare access in Bangladesh.<sup>75</sup> It is recommended for better supervision and further monitoring.<sup>77,78</sup> This study highlights the need for Bangladesh to implement targeted measures to address the challenges in its healthcare system, particularly the inadequate response to current outbreaks.<sup>75</sup> Notably, Bangladesh allocates one of the lowest proportions of its budget to the medical sector, which significantly hampers efforts to improve healthcare infrastructure and service delivery.

According to the population, there is an enormous shortage of health care in Bangladesh. In addition, the budget deficit in the health sector accounts for 0.5% of the total budget.<sup>63</sup> In addition, there is a shortage of skilled nurses in all other sectors, including mental health.<sup>74</sup> In the context of Bangladesh, the health sector is at risk due to political manipulation, such as failure to recruit skilled workers on time, slow recruitment processes, and the recruitment trade.<sup>77</sup> In Bangladesh, psychiatric treatment is often undervalued and subject to significant societal stigma, which hampers its acceptance and integration into mainstream healthcare.<sup>80</sup> Moreover, nurses and pharmacists are not well aware of controlling hypertension.<sup>81,82</sup> A previous study reported that doctors, medical students, and health care workers prefer to work in urban settings.<sup>75</sup> As the use of integrated tools increases, there will be coordination between clinical psychologists and doctors. As a result, increasing training in clinical science for psychologists, promoting science-based mental health programs, and combining scientific knowledge with clinical practice for more effective interventions will occur.<sup>74,83</sup> In the context of Bangladesh, training for general physicians in integrated behavioral healthcare is limited and requires significant improvement to meet the growing healthcare demands.<sup>74</sup> In addition, collaboration with stakeholders and the integration of primary care behavioral health (PCBH) could help address workforce shortages by enabling behavioral health specialists to provide care in low-level settings.<sup>74,83,84</sup> In this way, limited health services can be made effective. To make this regulation sustainable, policymakers need to adopt some measures. To improve the quality of health care, rules should be created by integrating financial, regulatory, and cooperative reforms.<sup>63,74,76,79,84,85</sup> First, to better support the health care system, allocation of financial resources to the health sector must be increased, as must the provision of advanced technology and the reconstruction of hospitals.<sup>75,77,84,85</sup> A strong set of regulations must be put in place to ensure strict accountability and high service standards in every hospital. Regular training

for doctors and nurses should be undertaken to improve the quality of treatment in hospitals.<sup>74,75,77,83-85</sup> Every hospital should have a clear understanding of the universal health care system and the provision of care on the mental side with advanced technology.<sup>77</sup> Increasing the management and supervision of health services, increasing the scope of research, and conducting advocacy will increase the effectiveness of universal health care.<sup>27,74,76-79,81,83</sup> Mental health should be prioritized as a result of integrated care management and primary care with the aim of making each step last longer.<sup>74,80,81,83</sup> For this purpose, there should be mandatory training on integrated disease management and educating nurses to provide patients with a clear understanding of self-care and medicine.<sup>27,74,84</sup> In other words, making patients aware of and motivated to seek treatment, encouraging health care providers to work, and changing hospital regulations will improve health care and accelerate the process of practicing sustainable health care.<sup>27,63,75-84</sup>

In other LMICs, such as India and Kenya, similar challenges are observed in scaling up CoCM due to limited infrastructure and workforce shortages. Tailored policy interventions and investment in digital health technologies have been proposed as solutions to overcome these barriers.<sup>68,84</sup> From a future perspective, it is essential to explore NCD policies in primary health care and overcome these barriers. In addition, health professionals should provide clear guidance on this disease.<sup>63,74,75,76,78,80-82,84,85</sup> Moreover, authorities should take action in terms of community engagement, gender disparities, healthcare literacy, data management, and methodologies and emphasize research for the improvement of integrated health care patients.<sup>27,74-80,83</sup>

Care models must account for socioeconomic factors to develop low-resource settings that support the integration of primary care behavioral health (PCBH) for sustainable care delivery.<sup>75,84,85</sup> This approach is essential for improving healthcare delivery and will have a significant long-term impact on population health.<sup>75,76,81</sup>

## CONCLUSION

The collaborative care model (CoCM) therefore shows a positive change in patients in integrated behavioral healthcare settings. CoCM aims to increase access to and coordinate mental and physical health services because the significant obstacles are stigma and a lack of coordination between service providers. Research has shown that it provides symptom relief for depression, anxiety, PTSD, and chronic illness; enhances medication compliance; and improves patients' quality of life. The potential to lower healthcare expenses such as hospitalizations and more rational utilization of health resources is also underlined by cost-evaluation studies. Nevertheless, the IPE has scored numerous achievements and still faces challenges, some of which include unfavorable infrastructural facilities, a shortage of workforce and a lack of adequate insurance coverage that hampers its expansion across the country. These barriers must be addressed by association efforts in policy change commitments to training and public sensitization. More extensive implementation and sustainability can be gained through enhancing interprofessional profession collaboration and innovative utilization of technology. Therefore, this paper argues that the collaborative care model is a possible model for enhancing mental health and chronic illness treatment

alongside the costs of care delivery. To achieve scalable and sustainable CoCM implementation globally, it is crucial to address workforce shortages, policy gaps, and funding constraints. Policymakers must prioritize mental health integration within primary care, particularly in resource-limited settings, through targeted training and digital health solutions.

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of the preparation of this manuscript.

**Ethics Approval and Consent to Participate** Not applicable

**Conflict of Interest** Authors declare that they have no conflict of interest.

**Funding Support** No external funding was used for the preparation of this article.

**Availability of Data and Materials** All relevant data are available in the manuscript.

**Acknowledgments** The author gratefully thanks an anonymous reviewer for a thorough review of an earlier version of the manuscript and many helpful comments and suggestions that helped bring clarity and improved the writing.

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**Technologies in the Writing** During the preparation of this work, the authors used ChatGPT to assist with refining the writing process by correcting grammar, and structure of sentences. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

**Received** 29 September, 2024 **Accepted** 30 December, 2024

**Published Online** 31 December, 2024