

A decorative graphic consisting of multiple overlapping, wavy lines in shades of orange and yellow, creating a sense of movement and depth. These lines flow across the middle of the page, framing the central text.

**A Call to Action**  
to Advance Care for People  
With IBD or DGBI  
Using Multidisciplinary Care Models

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## PUBLICATION DISCLOSURES FOR TRANSPARENCY

**Financial support:** The writing of this manuscript was funded by Takeda Pharmaceuticals USA, Inc. Medical writing support was provided by the Lockwood Group, and previously +Intention.,

**Specific author contributions:** Rachel Adams, PhD, RDN, Mena Boules, MD, Ken Freedman, MD, MS, MBA, Ceciel Rooker, Michele Rubin, MSN, APRN, CNS-BC, CGRN, Brian Terreri, PharmD, MBA, and Jason Wagner, PharmD. All authors were involved in the planning and conduct of this review; all authors were involved in the collection and interpretation of data and drafting of the manuscript. All authors approved the final draft submitted.

**Potential competing interests:**

**R.A.:** Is an employee of Takeda Pharmaceuticals USA, Inc., and is a stockholder of Takeda Pharmaceutical Company Limited.

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**K.F.:** Is an employee of CVS Health® Corporation and receives stock and equity, and serves as a Senior Medical Director within Aetna® Medical Affairs, CVS Health®

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## EXECUTIVE SUMMARY

**People impacted by inflammatory bowel disease (IBD) and disorders of gut-brain interaction (DGBI) suffer from physical and psychosocial issues. The complexity of disease, unmet needs, and limitations of existing disease management justify better ways of delivering care to people with IBD or DGBI, all of which led to the inception of the One×One Summit Series Coalition.**

This is a coalition of diverse representation formed by leading providers, payors, advocates, professional organization members, and people with IBD or DGBI with the goal of advancing multidisciplinary care models (MCMs). This initiative encompasses the following: to advocate for the standardization, adoption, and scalability of high-quality MCMs across diverse geographies and practice settings to improve quality of life and clinical outcomes, enhance equity, and reduce healthcare costs for people with IBD and DGBI.

Functioning MCMs focused on IBD or DGBI care come by many different names: Specialty or Patient-Centered Medical Homes, medical neighborhoods, or Integrated Care Models. Despite variations in name, they all share

a common goal of providing team-based, interdisciplinary, integrated holistic care.<sup>1-3</sup> The Coalition defines and advocates for MCMs as highly integrated models that facilitate the collaboration of various specialists as team members and resources to facilitate improvements in care outcomes by providing multidisciplinary care that is holistic, patient centered, integrated, and proactive.

Chronic diseases are conditions where MCMs can potentially have a significant beneficial impact on the care of people with IBD or DGBI. We will discuss the demonstrated benefits of MCMs for those with chronic diseases in other therapeutic areas, suggesting their implementation in IBD and DGBI may have similar results. This white paper will

briefly discuss early attempts at implementing holistic, integrated, interdisciplinary, team-based care models in IBD and DGBI, demonstrating improved care, clinical outcomes, and reduced healthcare utilization and costs for those living with IBD and DGBI.

This white paper draws on peer-reviewed articles related to multidisciplinary care and MCMs and the Coalition's informed perspectives to provide recommendations on important model components; explore model scalability; discuss barriers to model adoption including data gaps such as improvement in long-term health outcomes and cost savings for individuals with IBD and DGBI; and difficulties achieving general consensus "buy-in" and funding from stakeholders.

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## INTRODUCTION

**Inflammatory bowel disease (IBD) and disorders of gut-brain interaction (DGBI) are chronic diseases commonly treated by gastroenterologists and oftentimes require complex care involving additional healthcare providers. IBD includes ulcerative colitis (UC) and Crohn's disease (CD), which are chronic, relapsing-remitting, inflammatory, progressive diseases.<sup>4</sup>**

DGBI, formerly known as functional gastrointestinal disorders, includes a diverse group of diseases defined by their symptomology, such as irritable bowel syndrome (IBS), and functional or chronic constipation.<sup>5,6</sup> In addition to GI symptoms, people with these chronic diseases may have extraintestinal and psychosocial issues related to their disease that are not addressed by gastroenterologists.<sup>5,7</sup> Traditional care is often fragmented, placing the burden of coordinating care on the individual and/or their caregivers.<sup>8,9</sup>

Some providers and institutions in the United States recognize the complexity and rising costs of treating individuals with IBD and DGBI. These providers have shifted from traditional care to providing integrated multidisciplinary care through the implementation of multidisciplinary care models (MCMs).<sup>7,10-12</sup> MCMs can lead to improved care, reduced healthcare costs and utilization, and reduced burden for individuals suffering from IBD or DGBI in the United States.<sup>7,10,12</sup> However, even with such benefits, MCMs are infrequently used in IBD or DGBI care in the United States. Some of the most significant factors cited for the lack of MCMs by providers include a lack of funding, limited access to specialists such as dietitians and psychologists, and the current fee-for-service model that leads to reimbursement for procedures rather than linking reimbursement to quality of patient care..<sup>3,13-15</sup>

**In addition to GI symptoms, people with these chronic diseases may have extraintestinal and psychosocial issues related to their disease that are not addressed by gastroenterologists.**

The Coalition has spent the past 3 years researching MCMs, identifying needs, and defining how the group can support the adoption of MCMs. In 2021, the Coalition completed a literature review to investigate existing MCMs, understand how multidisciplinary care and MCMs have been defined, identify important components of MCMs, validate their benefits, and capture common barriers and solutions to adopting these models. More focused goals included exploring scalability, identifying opportunities, and benefits for health equity, and examining the use of technology within multidisciplinary care settings. The Coalition

also conducted research with providers and people with IBD or DGBI to gain insight on the previous questions and learn about their needs and the perceived barriers to implementing and accessing this type of care.

This paper presents actionable steps to members of the GI community and all healthcare partners at large to facilitate advancement of MCMs for IBD and DGBI as a standard of care (SOC) around the country, with the hopes of global acceptance.

## GOALS OF THIS WHITE PAPER

- **Establish the rationale for integrated multidisciplinary care for people with IBD or DGBI**
- **Communicate the benefits of MCMs for individuals living with IBD and DGBI, including improved health outcomes**
- **Discuss barriers and potential solutions to model adoption**
- **Define and recommend core and extended team members within MCMs**
- **Provide insights on addressing key components and scalability when considering implementation of an MCM**

## DEMONSTRATING THE NEED FOR IBD AND DGBI MCMS

### EPIDEMIOLOGY OF IBD AND DGBI IN THE UNITED STATES

The prevalence of IBD has been increasing globally, with the number of individuals increasing from 3.7 million in 1990 to approximately 7 million in 2017.<sup>16</sup> In the United States IBD is estimated to affect 1.6 million individuals.<sup>17</sup> People with IBD commonly experience abdominal pain, increased stool frequency, diarrhea, constipation, bloody stools, fatigue, and weight loss.<sup>9</sup> The prevalence of DGBI is also significant; the Rome Foundation Global Study found approximately 40% of people in the United States have DGBI.<sup>6</sup> People with DGBI experience common GI symptoms such as reflux symptoms, abdominal pain, nausea, diarrhea, and constipation.<sup>5</sup>

### EXTRAIESTINAL AND PSYCHOLOGICAL IMPACTS OF IBD AND DGBI

Extra-intestinal manifestations are commonly reported among individuals with IBD or DGBI. People with IBD may present with extra-intestinal

manifestations that may include skin, joints, bones, eyes, liver, and the hematologic system that require care from other specialists.<sup>7,9</sup> Symptoms associated with IBD may also lead to significant food avoidance or insufficient nutrient uptake, which may contribute to malnutrition for approximately 65% to 75% of people with CD and approximately 18% to 62% of people with UC.<sup>18</sup> Extraintestinal manifestations impact 34%-50% of people with IBS, including back pain, chronic fatigue, fibromyalgia, headache, pelvic pain, sleep disturbances, and urogenital symptoms.<sup>19</sup>

Many people with IBD or DGBI experience stress, anxiety, depression, fatigue, and insomnia that negatively impact quality of life.<sup>20,21</sup> Among people with IBD, 29% to 35% of those in remission and 60% to 80% of those with active disease experienced anxiety or depression.<sup>21</sup> The frequency of mental comorbidities among people with DGBI in one tertiary care specialty clinic was reported to be 75%.<sup>20</sup> These included somatoform syndrome (65%), depressive syndrome (41%), anxiety syndrome (19%), and diagnosed eating disorders (10%).<sup>20</sup> Psychological stress may be a trigger for disease relapse in people with IBD, with over 90% of them believing stress influences the activity of their disease.<sup>21</sup>



## DIRECT AND INDIRECT COSTS ATTRIBUTED TO INDIVIDUALS WITH IBD AND DGBI

The direct and indirect patient costs of IBD and DGBI create a large economic burden for people with these conditions and the healthcare system.

**Direct patient costs** include those associated with hospitalizations, surgery, ambulatory care, and pharmaceuticals.

- For IBD, direct patient costs exceeded \$6 billion in the United States in 2004<sup>22</sup>
- The mean cost per patient with IBD in North America in 2018 US dollars was \$13,212<sup>23</sup>
- The estimated direct costs for patients with IBS in 2003 were estimated to be over \$1 billion<sup>24</sup>
- The direct costs attributed to individuals with GERD in 2004 were over \$12 billion<sup>25</sup>

**Indirect costs**, such as days lost from work or school, are difficult to quantify for patients with IBD or DGBI, but are believed to be substantially higher than direct costs<sup>22,26,27</sup>

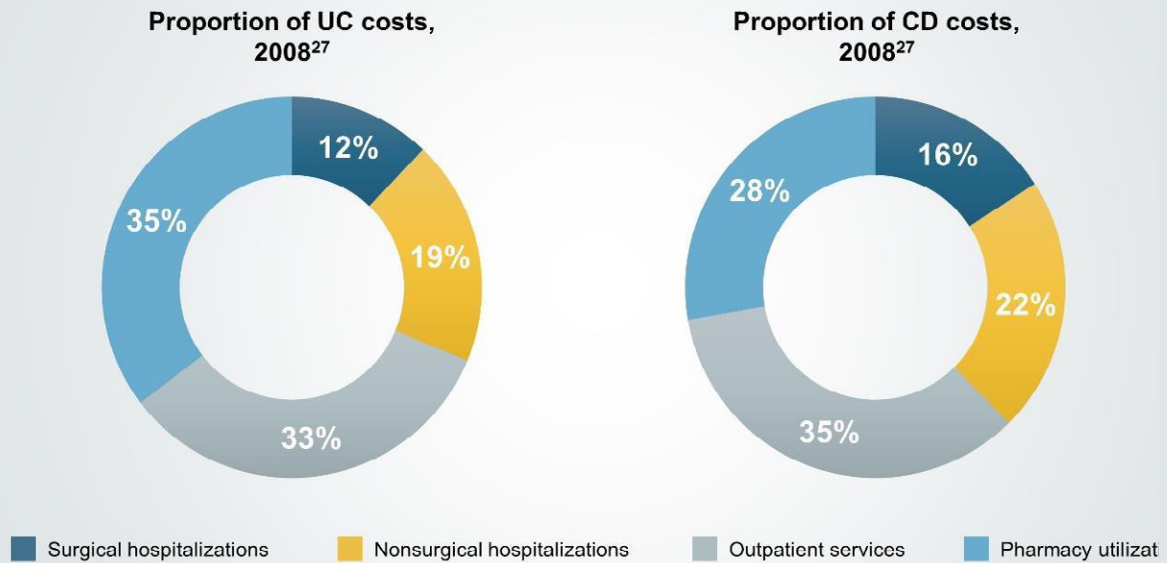
- In 2014, the total direct and indirect patient costs of IBD in the United States was estimated to range between \$14.6 and \$31.6 billion<sup>26</sup>
- The yearly indirect patient costs including absenteeism, work disability, and work loss associated with IBD in the United States that have been reported vary substantially, from \$1877 to \$7442 per individual<sup>28</sup>
- Patients with IBD who were in remission compared with controls had significantly higher presenteeism (54.7% vs 27.3%,  $P < 0.01$ ) costs related to presenteeism (\$17,766/y vs \$9179/y,  $P < 0.03$ )<sup>29</sup>

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The costs of IBD and DGBI care are sizable and also unequally distributed. Literature suggests that among the approximately 18% of people living with IBD account for 80% of total IBD healthcare burden, with the costliest factors for patients are those relating to surgical interventions and hospitalization in the United States.<sup>3,30</sup>



**Figure 1:** Distribution of direct costs for all patients with IBD in the United States in 2008



People with psychiatric impact may find it difficult to participate in their care and be at greater risk of surgical intervention.<sup>31</sup> The unequal distribution of costs suggests there is a subset of those who remain negatively impacted by IBD and DGBI that struggle to receive effective care.<sup>31</sup>

## HEALTH EQUITY

There is limited research evaluating health equity related to IBD and DGBI MCMs, rendering gaps in understanding of how to provide equitable care under these models. Social determinants of health such as financial constraints and lack of education about care options can also limit access to care for people with DGBI.<sup>32</sup> In one study, people with IBD who had the highest medical charges at a tertiary IBD center were more likely to be unemployed, black, have lower income, and have physical and psychiatric comorbidities.<sup>31</sup> These racial and socioeconomic characteristics have been identified as potential barriers to adequate healthcare.<sup>31</sup> A clearer understanding of approaches that can facilitate MCM accessibility and effectiveness for all individuals with IBD or DGBI is important to offer widespread integrated multidisciplinary care.



## POTENTIAL ADVANTAGES OF A WELL-DESIGNED AND IMPLEMENTED MCM FOR IBD OR DGBI

MCMs comprise a comprehensive team of professionals collaborating to provide holistic, patient-centered care and the resources necessary to improve patient outcomes. MCMs have been successful for treating chronic conditions requiring extensive or holistic care in other therapeutic areas. Significant improvements in outcomes include reduced diagnostic time, timeliness of care, improved survival rates and enhanced communication between specialists and people with cancer and decreased healthcare utilization and cost for people with chronic obstructive pulmonary disease and hypertension.<sup>33-36</sup>

In one study of the impact of multidisciplinary care of patients with breast cancer, there was a significantly reduced time between diagnosis and treatment for those who received multidisciplinary care vs those who received SOC (42.2 days vs 29.6 days,  $P < 0.0008$ ).<sup>36</sup> Another study analyzed the difference in 5-year survival before and after the implementation of multidisciplinary teams. Patients who received multidisciplinary care had an 18% lower mortality due to breast cancer and 11%

lower all-cause mortality compared with SOC.<sup>36</sup> In a retrospective study of patients who were diagnosed with esophageal adenocarcinoma who were managed by a multidisciplinary team had an improved 5-year survival compared with SOC (52% vs 10%).<sup>36</sup>

In the 6-month period after the implementation of an interdisciplinary care model in Gdansk, Poland for 44 patients with chronic obstructive pulmonary disease, emergency department visits and hospitalizations decreased compared with the preceding 6 months ( $P = 0.033$ ).<sup>35</sup> Additionally, the number of hospitalizations in the period after implementation of interdisciplinary care was 27 compared to 54 for the preceding 6 months.<sup>35</sup> A retrospective study of 3583 US patients with hypertension who received care through a patient-centered medical home showed 11% lower total costs ( $P = 0.03$ ), 14% lower office-based costs ( $P = 0.01$ ), and 19% lower outpatient costs ( $P = 0.03$ ) compared with matched controls.

## ADVANTAGES OF MCMS REPORTED GLOBALLY

Multidisciplinary models have been implemented outside of the United States for the treatment of IBD including Adelaide, Australia; London, UK; Milan, Italy; Rotterdam, The Netherlands; and Winnipeg, Canada.<sup>37</sup> Multidisciplinary care has demonstrated superiority compared with the traditional SOC for IBD and DGBI outside the United States.<sup>8,37</sup>

An Australian hospital observed many benefits through use of a chronic care integrated care model, including a reduction in direct healthcare patient costs. In a prospective cohort study of 91 people with IBD during 2007/2008 and 2009/2010, the total cost of MCM inpatient care for those living with IBD was US \$12,900 per person compared with SOC inpatient care for those with IBD, which was US \$30,500 (P=0.005). These cost savings were then passed down to the individuals with IBD.<sup>38</sup>

The most prominent research on DGBI MCMs was a randomized trial (MANTRA) conducted in Australia which compared 98 people who received multidisciplinary care from gastroenterologists, dietitians, gut-focused hypnotherapists, psychiatrists, and behavioral physiotherapists compared with 46 people who received SOC. People who received multidisciplinary care were more likely to experience GI symptom improvement (84% [82/98] vs 57% [26/46]; P=0.00045).<sup>8</sup> The average cost per primary outcome of global symptom improvement achieved was lower in the multidisciplinary care group compared with the SOC group (\$1657 vs \$2038).<sup>8</sup> An incremental cost-effectiveness ratio demonstrated another primary outcome of global symptom improvement for every additional \$153 spent, and another quality-adjusted life-year was gained for every \$1891. When the healthcare system spent more, the individuals with DGBI benefited more with improved health-reported outcomes.<sup>8</sup>

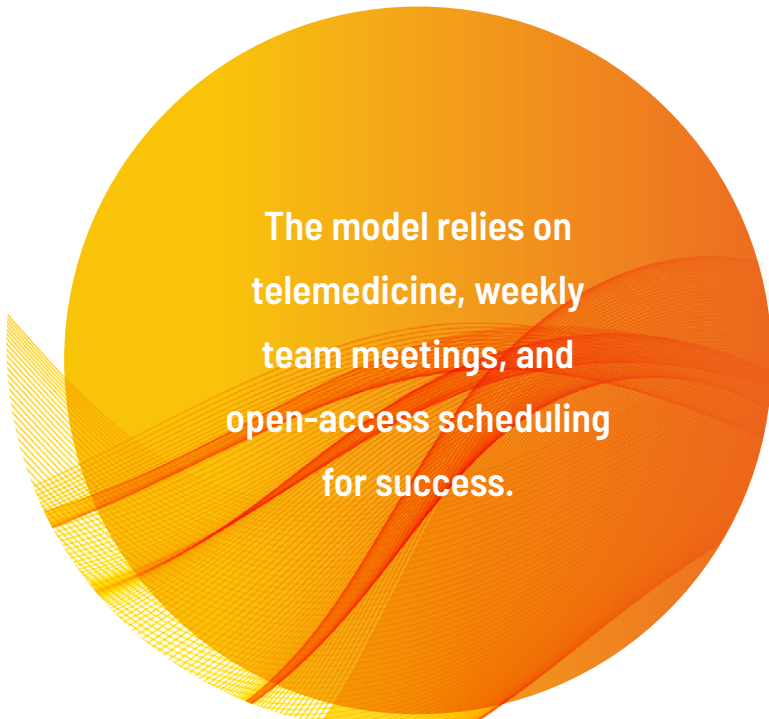
**Identifying opportunities to show that MCM care contributes to less presenteeism and absenteeism can help demonstrate model benefits. While it can be difficult to demonstrate cost reductions, these data can allow for MCM improvements; one of the gastroenterologists interviewed by the Coalition noted that when they were able to demonstrate the financial success of their model, it facilitated the expansion of their multidisciplinary team.**



## OVERVIEW OF CURRENT MCMs FOR IBD OR DGBI IN THE UNITED STATES

**IBD MCMs have been implemented in the United States, typically at academic medical centers and through integrated delivery networks, including those at the University of Pittsburgh Medical Center (UPMC), Mount Sinai in New York, the Mayo Clinic, and Penn State.<sup>7,11,12,39,40</sup> While the operation and team members of each model may vary, they all operate with the goal of providing integrated multidisciplinary care.**

Total Care Patient-Centered Medical Home (PCMH) at UPMC is an IBD MCM founded as a collaboration between a large academic medical center and the UPMC Health Plan.<sup>12</sup> Notably, the UPMC MCM is facilitated by a coordinated payor/provider relationship unavailable to many practices. Their multidisciplinary team includes a gastroenterologist, psychiatrist, dietitian, social worker, advanced practice providers (APPs), and nurse care coordinators that were funded by the UPMC Health Plan.<sup>2,12,41</sup> The program also refers people with IBD to other medical specialists, colorectal surgeons, and peer- volunteer connections.<sup>12</sup> The model relies on telemedicine, weekly team meetings, and open-access scheduling for success.<sup>2,12</sup> Details on the UPMC model and advice for implementing similar MCMs have been published.<sup>12,41</sup> UPMC's IBD PCMH has demonstrated a 47.3% reduction in ED visits ( $P < 0.001$ ) and a 35.9% reduction in hospitalizations ( $P = 0.008$ ), reduced median patient-reported disease activity (Harvey-Bradshaw Index reduced from 4.0 to 3.5;  $P = 0.002$ , ulcerative colitis activity index score from 4 to 3;  $P = 0.0003$ ), improvements in quality of life (median short IBD questionnaire score from 50.0 to 51.8;  $P < 0.0001$ ), reduced anxiety (median generalized anxiety disorder [GAD]-7, 4 to 4;  $P = 0.02$ ) and depression (median patient health questionnaire 9, 6 to 5;  $P < 0.0001$ ) scores in the first year following enrollment, and decreases in unplanned care (226 ED visits for 79 people and 92 hospitalizations for 46 people in the 3 months before entry, vs 32 ED visits for 23 people and 19 hospitalizations for 17 people within 3 months of enrollment in the program  $P < 0.0001$ ).<sup>2</sup>



**The model relies on  
telemedicine, weekly  
team meetings, and  
open-access scheduling  
for success.**



Compared with IBD MCMs, there are a limited number of DGBI MCMs in the United States. The University of Michigan provides multidisciplinary care for people with DGBI through specialty programs and clinics, such as their Functional Bowel Disorders Program.<sup>11</sup> These individuals have access to comprehensive care, including surgical options, behavioral medicine, physical therapy, and nutritional counseling.<sup>11</sup> However, there is a lack of published details on this model, including funding sources and care coordination methods.

The Dartmouth-Hitchcock Health System has incorporated the Collaborative Co-Managed Care model to treat patients with gastrointestinal motility disorders, which are distinct from but overlap with DGBIs.<sup>42</sup> The model incorporates weekly team meetings to facilitate communication and uses electronic health records to automate and standardize routine functions.<sup>42</sup> One goal is to rebuild patient-centered medical homes throughout the region to include at least 2 physicians and 3 advanced practice providers specializing in the treatment of gastrointestinal motility disorders and DGBIs.<sup>42</sup> Scheduling and nursing staff have been given the autonomy to perform their core functions, and administrators have been charged with monitoring adherence to policies and procedures, and leading continuous quality improvement.<sup>42</sup>

## TELEMEDICINE

Digital MCMs and telehealth can resolve geographic access and limited resources that prevent individuals' access to traditional MCMs. These tools have the potential to overcome social determinants of health by ensuring all people access to an HCP regardless of ethnicity or race, thereby improving health equity. There are several digital tools that serve as platforms for integrated care or otherwise support these care models including Oshi Health, IBD.Care, GI OnDemand (ACG's virtual integrated care platform), All4IBD (AGA's app aimed to track symptoms and improve individual health outcomes), Trellus Health, SonarMD, Vivante Health, and Twistle. These digital tools should not replace traditional telemedicine, including calling people with IBD or DGBI using landlines. Some individuals with smart phones could also be reached via text messaging apps.



## THE ROLE OF INTEGRATED MULTIDISCIPLINARY CARE IN TREATMENT

### THE STORY OF A PERSON WITH IBD

While data and objectivity are essential, in the spirit of patient-centered care, it is valuable to hear about the needs and benefits of MCMs from people who have experienced care through this model.

One woman in UPMC's Total Care program shared her story of struggling to manage her GI disease before entering the multidisciplinary care program. In her early teens, she experienced rectal bleeding and terrible pain and lost 25 lbs in a single month. At the age of 15 years, she received an accurate diagnosis: IBD, both CD and UC.

Severe pain and complications from ongoing flares of her Crohn's disease forced her to withdraw from college during her senior year. "I needed 2 surgeries to repair a rectal wound. It took about 7 years to heal," she shared. Over the years, she suffered from mouth ulcers, double pneumonia, viral and bacterial meningitis, and shingles.

Today, after more than 5 years of integrated multidisciplinary care provided by UPMC's Total Care program, she is doing very well. She credits the program for dramatic improvements in her physical and mental health, due in part to being able to see a nutritionist and social worker for the first time. "I've been able to do a lot more with my family and attend more functions. I've been able to exercise, and my nutritionist helped me lose about 90 lbs over the last two and a half years," she said. "I'm so happy."

When asked if there is one element of her MCM that she could not imagine living without, she replied, "It's a combination of going to one place plus the collaboration of a GI doctor, a psychiatrist, and a dietitian discussing my care and then they tell me what they discussed. It's worked out really well."

## KEY MODEL COMPONENTS

**Given the wide variability in available resources and populations of people with IBD or DGBI, there is no one-size-fits-all approach to implementing MCMs for people with IBD or DGBI. However, there are many similar concepts and commonalities within existing successful MCMs that may be considered best practice when establishing new models. These concepts can be classified into:**



**TEAM MEMBERS**

**TANGIBLE COMPONENTS**

**STRATEGIES**

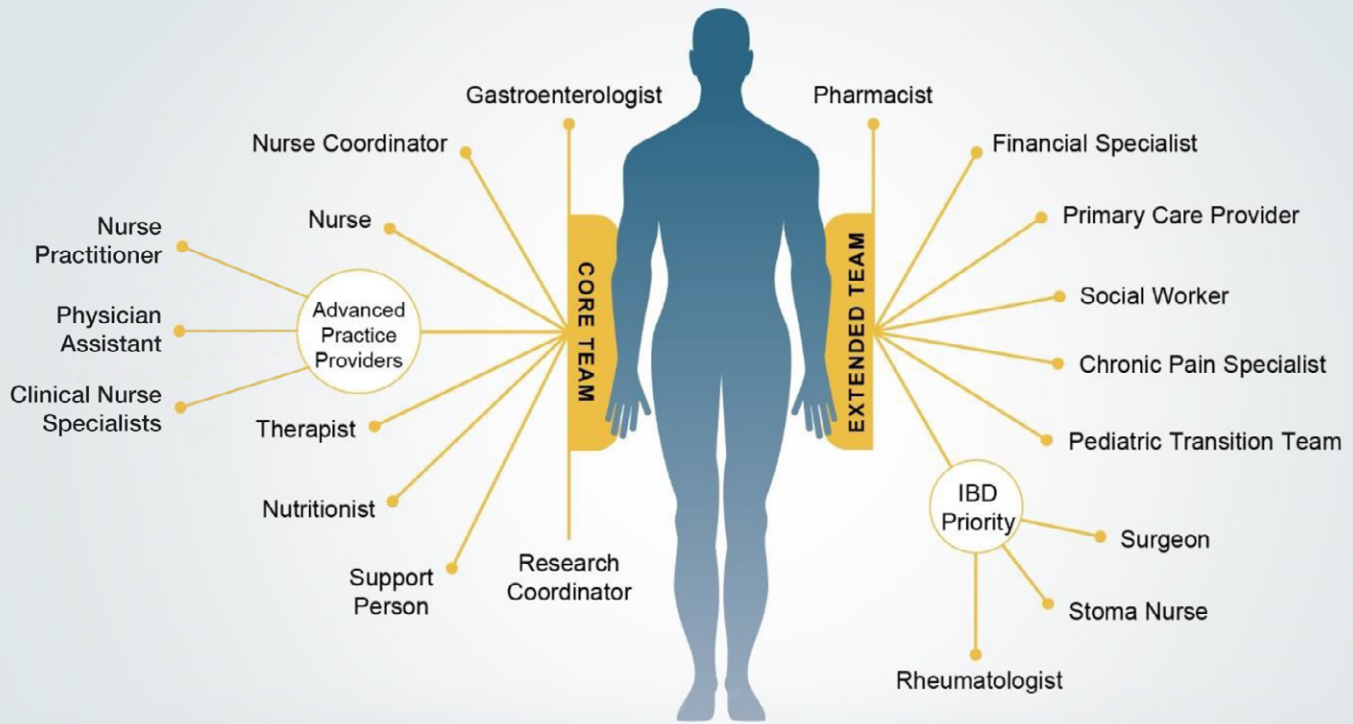
### TEAM MEMBERS

“Team members” defines those disciplines that are often essential and necessary to include in the care of people with IBD or DGBI. Many existing MCMs rely on a division between a core and extended team to ensure individuals can readily access the most needed team members.<sup>41</sup> The Coalition understands the core team as comprising disciplines essential to provide holistic care for people with IBD and DGBI, commonly including representation from at least GI, mental health, and nutritional care specialists.<sup>2</sup>

Members of the core team tend to meet and collaborate more frequently in team meetings. Ideally, core team members should be specialists focused in IBD or DGBI.<sup>2,40</sup>

The extended team provides care or referrals as needed, collaborating less frequently with the core team. Members of the extended team may vary based on the characteristics and needs of the people with IBD or DGBI being served, such as those in rural locations who may not have access to all the relevant specialties. As a result, the members of extended teams of existing IBD and DGBI MCMs vary, with some commonly shared providers. Figure 2 depicts recommendations for core and extended team members that stem from successful, experienced models, and Coalition members’ informed perspectives on the most essential needs of people with IBD or DGBI.

**Figure 2:** Key Model Components: Team Members.



**Note:** Depending on the people with IBD or DGBI represented by the model, it may be necessary to move disciplines from the extended team to the core team to adequately support these individuals. These recommendations are for adults with IBD or DGBI; models for children may require different or additional disciplines.

Implementing a model with a core and extended team should consider the need for these sub-teams rather than strictly including the recommended disciplines because the needs of different people with IBD or DGBI vary. It may be necessary to move disciplines between the core team and the extended team.

IBD and DGBI are systemic illnesses with wide-ranging impacts, a model may also need to provide access to other disciplines such as a rheumatologist, ophthalmologist, dermatologist, or gynecologist to provide holistic care.<sup>7</sup>



## KEY (TANGIBLE) COMPONENTS

“Key components” refers to model components that can be physically or concretely implemented, as opposed to strategic approaches.

### **Key components from the One×One 2021 GI Summit highly supported by the Coalition:**

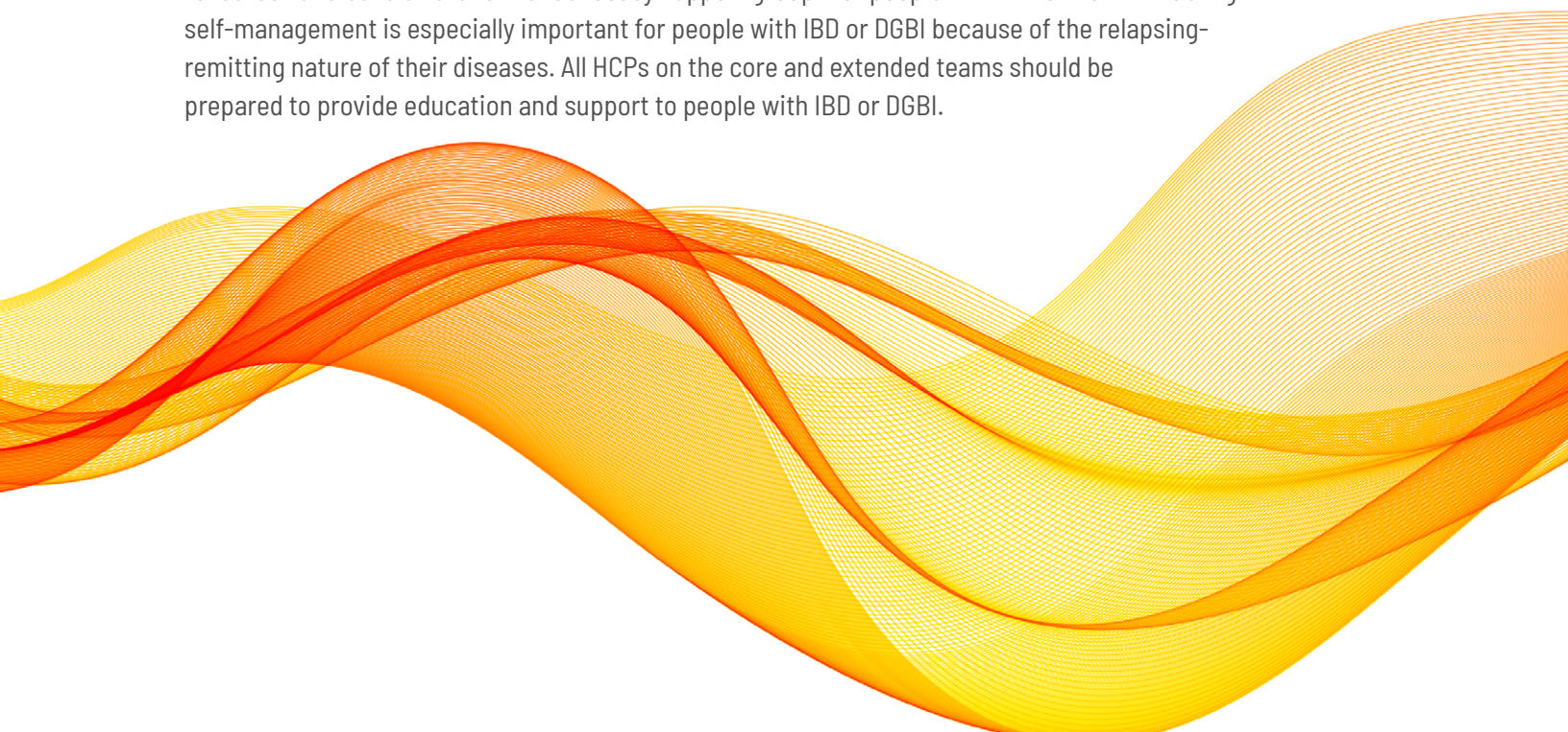
- Disease-specialist team members
- Defined provider roles and responsibilities
- Comprehensive assessments of people with IBD or DGBI (inclusive of nutrition, mental health, and wellness)
- Education for people with IBD or DGBI (potentially via nurses)
- Technology to support communication and education between the team and people with IBD or DGBI
- Telehealth services
- Care team meetings

### **Additional components for consideration:**

- Coordinated scheduling
- Co-location for provider care
- Comprehensive, coordinated intake
- Outcome measures and/or quality indicators
- Protocols for care (establishing care pathways)
- Inclusion criteria for people with IBD or DGBI
- Provider education
- Need to define commitment levels for core and extended team

While the Coalition provides recommendations for the tangible components above and believes in their importance for model success, those creating new models have the freedom in how they choose to implement and scale these components, most of which are contingent on available resources. For example, assessments of people with IBD or DGBI can be executed in different ways by a gastroenterologist, an APP, or via a digital app.

MCMs are encouraged to provide education for people with IBD or DGBI via educational materials and teaching sessions to build health literacy, self-management skills and disease knowledge. They may also share resources and build awareness of advocacy support groups for people with IBD or DGBI.<sup>7</sup> Enabling self-management is especially important for people with IBD or DGBI because of the relapsing-remitting nature of their diseases. All HCPs on the core and extended teams should be prepared to provide education and support to people with IBD or DGBI.



Multiple key tangible components are related to team and care coordination, including coordinating visit scheduling, co-locating providers to improve access and convenience for people with IBD or DGBI, facilitating an ease of collaboration, and offering a streamlined, coordinated intake that evaluates their holistic needs including psychiatric and nutritional assessments. Co-location is typically viewed as a shared physical location, but with technologic advancements, it may also refer to being accessible and able to communicate in the same digital platform.

The Coalition recognizes the importance of technology platforms for the future of IBD and DGBI MCMs and strongly advocates for their use wherever possible to improve care, communication, and increase accessibility. Technology cannot be viewed as a panacea for resolving all problems of care access. It can, however, support and complement data collection for clinical outcome measurements, telemedicine, enhanced effectiveness of team meetings, and communication more generally.<sup>40,43</sup> It also enables education for people with IBD or DGBI, self-management, and support via digital programs, apps, and tools.<sup>7,40</sup>

Gastroenterologists interviewed by the Coalition stated current technology lacks cultural competence, preventing it from supporting individuals of different cultures and languages equally, and sufficiently resolving barriers and difficulties unique to underrepresented people.

## STRATEGIC APPROACHES

In addition to team members, “strategic approaches” or decisions that guide model implementation and operations are important to successfully set up an IBD or DGBI MCM. Employing these strategies can help enhance model operations and center around maintaining engagement for people with IBD or DGBI, an individualized focus, promoting effective team communication and collaboration, and securing and maintaining support from administration and payors.

Establishing ongoing communication between payors and other stakeholder groups can help ensure their continued support and possibly facilitate a sense of accountability toward MCMs. It is pivotal to emphasize with stakeholders the importance of continued dialogue with payors to better understand the payor goal metrics that should be imbedded when establishing an IBD MCM.<sup>41</sup>

Other strategies to consider for advancing team collaboration and model operations, such as clearly defining and dividing up roles and responsibilities among team members, may help the team function.<sup>41</sup> For example, delegating appropriate responsibilities to an IBD nurse or APP can allow other core members to promote efficient use of team members’ time and skills.<sup>41</sup> This is especially useful when considering the additional responsibilities that MCMs demand, such as digital communications and administrative tasks. Non-GI models had success delegating tasks among team members. Omboni et al noted “Defining clear tasks and roles pertinent to the respective educational backgrounds and establishing an efficient communication between the various team members may help to improve the quality and effectiveness of care and integration between various healthcare professionals.”<sup>44</sup> Non-GI MCMs have also demonstrated success when including APPs in the core team to allow physicians to delegate responsibilities like treatment maintenance and the education of people with IBD or DGBI.<sup>44</sup>

## Key Model Components

### Strategic components from the One×One 2021 GI Summit highly supported by the Coalition

- Provide individualized, holistic care from the onset, including mental health and wellness
- Facilitate the participation, willingness, and engagement of people with IBD or DGBI
- Promote and enable self-management of people with IBD or DGBI
- Define provider roles and responsibilities
- Maintain administration leadership commitment
- Establish continued communication with payors and align on program goals
- Implement a sustainable financial model
- Appoint a physician champion to lead the effort
- Enable team-based communication
- Consistently measure outcomes and impact of the model, including cost savings
- Communicate with primary care providers
- Utilize behavioral change theory to create and manage the model





## BARRIERS AND SOLUTIONS TO MCM ADOPTION AND IMPLEMENTATION

Advocates for multidisciplinary care have identified barriers encountered when establishing GI MCMs and anticipated barriers to the widespread adoption and implementation of these models. Advancing integrated multidisciplinary care and promoting benefits for people with IBD or DGBI requires an understanding of these barriers to develop meaningful solutions.

Perhaps the largest barrier preventing adoption of an MCM is difficulty obtaining buy-in from all stakeholders involved in implementing this model, including payors, providers, and people with IBD or DGBI. While each stakeholder group experiences unique obstacles to supporting or participating in MCMs, they often stem from a lack of information related to model awareness and its value compared with traditional approaches to the care of people with IBD or DGBI. Administrators and payors may be hesitant to support MCMs given the limited understanding of these models for people with IBD and DGBI and the limited scope of existing evidence.

MCMs require funding and personnel to operate successfully. Without the support of administrators and payors, they will have difficulties accessing these resources.<sup>43,45</sup> Early research on IBD and DGBI MCMs has focused exclusively on evaluating outcomes. This research has not addressed gaps in understanding the care model scalability in various healthcare settings and adapting these models for different populations. Cost-effectiveness data of MCMs for individuals with IBD or DGBI remain limited in the United States.

The Coalition identified barriers to and proposed solutions for the implementation of MCMs in the United States relevant to 3 groups of stakeholders: providers, payors and policymakers, and people with IBD or DGBI.



## PROVIDERS

### Barriers

Need to achieve personnel buy-in

Financial viability of MCMs is unclear; no clear existing sustainable business model

Time barriers (including lack of time to implement the model and willingness to invest necessary time)

Ensuring model is easy to use

### Solutions

- Communicate benefits of an MCM based on outcomes from existing models as examples
- Collaborate with professional and payor organizations to develop clinical guidelines for better reimbursement for improved patient outcomes
- Implement a value or return on investment (ROI) that includes patient outcomes to encourage providers to participate in the model, such as a bundled payment structure

- Evaluate institutions through case studies that have been able to demonstrate financial viability of MCMs; communicate these findings
- Develop and communicate a business model that demonstrates the potential long-term patient outcome, financial and resource utilization benefits
- Exploration of alternative payment models
- Additional research to develop a body of evidence supporting improvement in long-term patient outcomes and cost-effectiveness, ideally extending beyond a single-center study
- Pilot a program to demonstrate cost- effectiveness and benefits

- Share evidence-based methods to save time and improve efficiency with the model

- Suggest implementing a nurse coordinator and describing potential benefits
- Suggest electronic medical record (EMR) systems that are easy to use, leveraging digital technology by potentially implementing best practice advisory alerts in EMR as a digital tool to remind HCPs to coordinate care with other stakeholders
- Develop a prototype model that can be customized by practices

## PAYORS AND POLICYMAKERS

### Barriers

Lack of well-defined quality and cost metrics; lack of alignment on what are appropriate and meaningful quality metrics

Unclear which patients will benefit most from MCMs

Lack of reimbursement or compensation model that fairly reimburses providers for patient outcomes and quality care and is considered fair and sustainable to payors

### Solutions

- Develop consensus around meaningful quality metrics and then develop tools for risk stratification or cost planning
- Include underrepresented populations and rural and community practices and institutions in developing quality metrics so they are generalizable to all populations
- Create quality metrics
- Study and partner with existing Accountable Care Organization models and MCMs to learn about insightful approaches for beneficial payor interactions

- Conduct health economics and outcomes research (HEOR) analysis to identify risk stratifications; examine healthcare resource utilization and cost around these stratifications
- Conduct HEOR analysis; use results to create models for payor organizations to understand how their utilization trends may change when they cover patients with IBD or DGBI through MCMs
- Conduct HEOR studies in underrepresented populations

- Pilot testing of multiple payment models
- Collect and communicate cost-savings data
- Study how other therapeutic areas, particularly oncology, work with external payors to fund their models
- Look at Current Protocol Terminology codes relevant to MCMs and identify how resource utilization changes for those treated via an MCM vs those who are not

## PEOPLE WITH IBD OR DGBI

### Barriers

Lack of access to technology and technology literacy

Lack of education among people with IBD or DGBI about and awareness of MCMs

Reimbursement difficulties limit access to care for people with IBD or DGBI

Lack of trust among people with IBD or DGBI in providers and the healthcare system

### Solutions

- Providing in-person/office training and education on telehealth tools
- Providing continued tech support for people with IBD or DGBI (online tools, phone support)
- Home visits to help people with IBD or DGBI set up telehealth technology
- Provide decentralized laboratory and imaging visits if institutions have more than one center in their network to ensure that people with IBD or DGBI can complete these without the inconvenience of driving long distances

- Create a digital welcome kit containing MCM details, information about patient assistance programs, support groups for people with IBD or DGBI and direct contact with treatment team members (not just an operator)
- Organize support groups that serve to educate people with IBD or DGBI about the benefits of MCMs

- Include a financial specialist, specialty pharmacist, and social worker in the team

- Explore expectations of program
- Inform people with IBD or DGBI early in their journey about each team member, including mental health providers
- Educate people with IBD or DGBI on disease management guidelines

## SCALING THE MODEL

Classifying key model components into team members, achievable components, and strategies can be helpful for considering model scalability in different clinical contexts. Components that are prioritized and incorporated into the model may vary in number or type depending on available resources. Additional research is needed to better understand best practices to scale the model effectively, including which components are necessary for specific populations and practice types, how to comprehensively fund models in academic centers and other practice settings, and which components should be prioritized when resources are limited.

Given the limited data across various clinical contexts, many of the evidence-based suggestions found in this paper stem from comparatively well-resourced academic medical centers, limiting their generalizability to other practice settings. Some solutions have been identified that allow less-resourced practices to increase model accessibility and incorporate more model components. Technology plays an important role in increasing MCM accessibility beyond the primary physical hub by providing access to people with IBD or DGBI who would otherwise be unable to receive care or utilize certain model features, especially those in rural or medically underserved geographies. This can help ensure these individuals have access to the multidisciplinary care providers they need. However, technology alone does not guarantee integrated care.

Creative payment solutions for reimbursing providers and attempting to gain administrative support may help make integration and other model components possible. Additionally, it may be easier to demonstrate benefits and obtain support by limiting the model initially to high-risk, severe, or people with complex diseases so benefits and cost savings for individuals with IBD or DGBI can be demonstrated.<sup>41</sup> Utilizing these tactics can allow MCMs to gain additional resources to scale models further and provide care for more people.

While offering integrated care is ideal, the Coalition recognizes resource limitations may make offering unintegrated multidisciplinary care a more realistic first step for some. If this is the case, practices can consider referring people with IBD or DGBI to community health providers or relying on telehealth to provide access to necessary disciplines.<sup>13,40,41,43</sup>





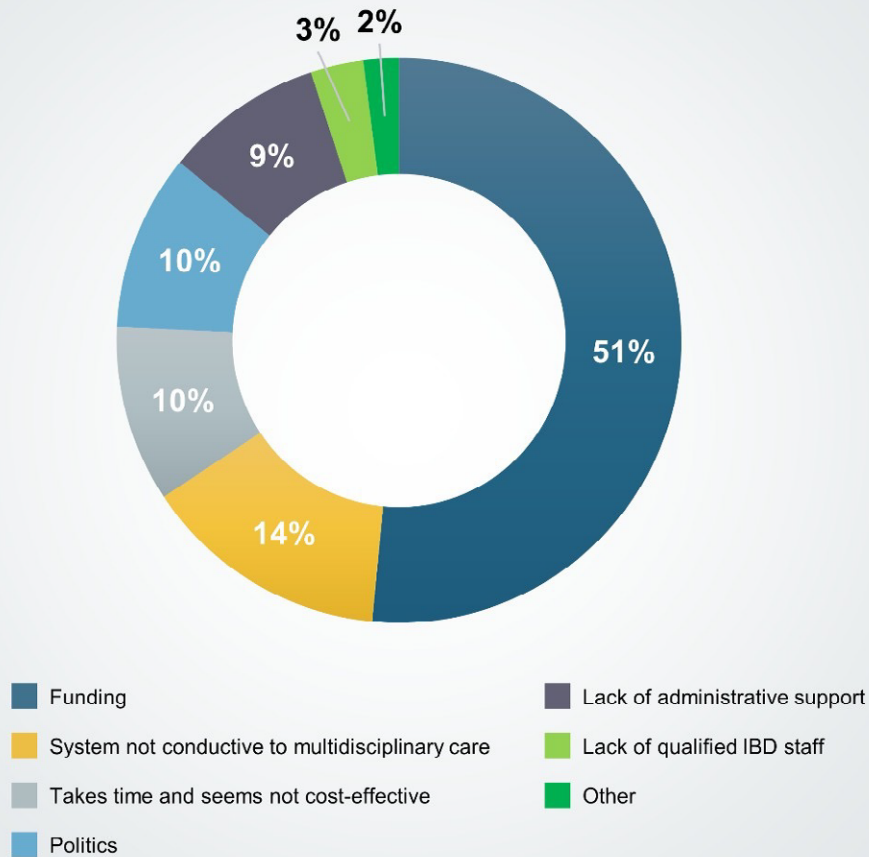
## PAYMENT MODELS

Funding MCMs is one of the largest barriers toward their widespread adoption. Fifty-one percent of respondents in an international survey of healthcare providers working in IBD services perceived funding to be the largest barrier to establishing an ideal IBD service providing holistic, multidisciplinary care.<sup>14</sup> The standard payment model in the United States is fee-for-service (FFS), wherein providers are reimbursed for each service performed. This model does not encourage or support the implementation of multidisciplinary care.<sup>3,43</sup> Under the FFS model, volume is the focus rather than high-quality care.<sup>1</sup> This encourages the potential overuse of billable procedures, drug therapies, reliance on unnecessary referrals and procedures rather than the use of low-cost, high-impact services like care coordinators.

Under FFS, non-billable services can be underutilized.<sup>46</sup>

**Figure 3:** Barriers to introducing the Ideal IBD Model of Care.

**Barriers to Introducing Ideal IBD Model of Care<sup>14</sup>**



The healthcare industry has trended away from the FFS volume-based model throughout the past decade to a value-based system where providers are reimbursed based on health outcomes achieved for a certain cost.<sup>43,45</sup> This led payors and providers to consider alternative payment models that may be more suitable for MCMs than the FFS model.

The optimal payment models for MCMs vary based on factors, including the practice setting, disease state, and population of people with IBD or DGBI being cared for. Existing MCMs have utilized various alternative payment models and solutions to achieve funding for IBD and DGBI MCMs. Commonly mentioned options include shared savings/risks and per-member, per-month (PMPM) models.<sup>1</sup> Shared savings/risk models incentivize providers to reduce healthcare spending by offering them a portion of savings.<sup>1</sup> PMPM payments involve set monthly payments awarded per patient.<sup>1</sup>

Practices take additional responsibility for the quality and cost of care with shared savings and shared risk models that can motivate improved care of people with IBD or DGBI. One gastroenterologist interviewed reinforced the value of a shared-risk approach, stating that being in a shared-risk contract with payors can support investing in additional team members, including physicians and allied health providers. Because these providers help care for the population of people with IBD or DGBI, they are reimbursable. These improvements in quality of care and cost savings are passed down to the individuals with IBD or DGBI.

PMPM payment models could be used for the treatment of chronic diseases, such as IBD, that are primarily treated by gastroenterologists but require care coordination with other specialties.<sup>1</sup> PMPM payment models may also be used to treat people with chronic GI conditions that can be managed primarily by PCPs with the occasional involvement by a specialist.<sup>1</sup> Payment for MCMs is typically provided as PMPM in addition to existing FFS payments, with the expectation that improvements in care will lead to an overall reduction in costs for individuals with IBD and DGBI.<sup>46</sup>



## CALLS TO ACTION

The Coalition's views the most urgent hurdles to overcome to promote the implementation of MCMs as SOC include addressing an inadequate evidence base, a limited understanding of how to adapt the model for adoption, and a lack of awareness among stakeholders about the potential positive impact of holistic, integrated care delivered via MCMs.

These calls to action serve as starting points for stakeholders to help advance MCMs and improve the care of people with IBD or DGBI.



### Establish an evidence base demonstrating the benefits and outcomes of IBD and DGBI MCMs

Data are important to demonstrate patient outcomes and benefits to administration and payors. Gaps in existing data highlight the need for future research. It is also essential to engage with payors to better understand what data and outcomes they need to see to support MCMs.

Future research studies should consider evaluating the following outcomes of IBD and DGBI models:

- Long-term patient outcomes
- Cost effectiveness of patient care
- Effectiveness of specific elements of MCMs
- How MCM effectiveness changes for different subgroups of patients with IBD or DGBI
- Outcomes of MCMs for patients with DGBI more generally
- Additional data and outcomes payors require



**Explore how to  
implement an MCM  
effectively, including  
how to adapt the model  
for adoption**

Additional research is needed to understand how to implement, financially support, and scale a model effectively and ensure it supports all people with IBD or DGBI to widely implement MCMs and gain the support of payors, decision-makers, and administration.

Future research on IBD and DGBI MCMs should consider

- Exploring how models can be effectively adapted and scaled for different practice settings and populations of people with IBD or DGBI
- Identifying optimal payment models for covering integrated multidisciplinary care
- Identifying characteristics of people with IBD or DGBI with the greatest need for MCMs and highest likelihood of benefit, which can drive model inclusion criteria
- Evaluating model modifications that could address inequalities in model effectiveness



**Engage the GI  
community and build  
awareness of the  
existence, importance,  
and benefits of MCMs**

All GI stakeholders, including people with IBD or DGBI, providers, payors, policy- and decision-makers need to support and participate in the model for MCMs to succeed. Stakeholders must first be aware MCMs exist and that they can have positive benefits for patients and the healthcare system that supports them.

GI community members can help build awareness by

- Developing and sharing educational materials with stakeholders
- Engaging in conversations around MCMs and their implementation
- Ensuring advocacy reaches all populations of people with IBD or DGBI, including those who are underrepresented or medically underserved
- Promoting the activation of ongoing communication for people with IBD or DGBI through initiatives, such as peer support/advocacy groups, tailored coaching, education, and health literacy initiatives, to raise their engagement.<sup>47</sup>

## CONCLUSION

**The One×One Summit Series Coalition believes multidisciplinary care models are essential for patients with chronic diseases such as IBD and DGBI. Such patients may benefit from integrated holistic care, and MCMs play an important role in improving the care of people with IBD or DGBI. Leaders in gastroenterology have realized the potential of MCMs to meet the needs of patients with IBD or DGBI and have demonstrated the significant benefits of these models such as improved patient outcomes.**

**Despite the range of demonstrated benefits, significant hurdles remain to widespread adoption of MCMs in the United States, but together they can be overcome. The Coalition continues to identify opportunities to address the barriers outlined in this paper and is prepared to work with the GI community to meet the Calls to Action recommended for advancing MCMs. Together, the GI community can shape the future of gastroenterology and improve life for those living with GI diseases.**

### **Publication Disclosures for Transparency**

Writing was funded by Takeda Pharmaceuticals U.S.A, Inc., with contributions to the writing of this by Ken Freedman, MD, MS, MBA, Ceciel Rooker, and Michele Rubin, MSN, APRN, CNS-BC, CGRN, in addition to medical writing by the Lockwood Group, and previously +Intention.



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Takeda would like to express their appreciation for the members of the One×One Summit Series Coalition and acknowledge their years of work on this project. Thank you for your ongoing commitment to people with IBD and DGBI.

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