Uma Mahadevan MD, Series Editor
guildconference.com

A New Model of Specialty Care – The Inflammatory Bowel Disease Medical Home

Benjamin Click

Miguel Regueiro

Healthcare costs in the United States are escalating at a staggering rate. New models of healthcare delivery have emerged, including patient-centered medical homes, to improve the patient experience, enhance healthcare quality and decrease costs. Previously employed in primary care, such models have not been tested in specialty patient populations. In collaboration with a large integrated healthcare system, we established a specialty medical home for inflammatory bowel disease (IBD). In this manuscript, we review the concept of patient-centered specialty medical homes, potential reimbursement methods, implementation requirements and potential challenges. We also present the process and considerations of developing a specialty medical home, and review our experience with an IBD specialty medical home. We further discuss other alternative value-based IBD models being studied across the country.

HEALTHCARE IN THE UNITED STATES

The United States spends more than any other country on healthcare, estimated at $3.3 trillion in 2016, accounting for 17.9% of the gross domestic product according to the Centers for Medicare and Medicaid Services. Healthcare spending is expected to continue rising by 5.6% per year through 2025. Chronic disease management accounts for the majority of healthcare expenditures. Despite this spending, the U.S. often fails to provide high-quality and efficient care. With an aging population, we can only expect this economic burden to swell.

Benjamin Click MD, Fellow in Gastroenterology, Hepatology, and Nutrition, University of Pittsburgh Medical Center, Pittsburgh, PA Miguel Regueiro MD, Division of Gastroenterology, Hepatology and Nutrition. University of Pittsburgh School of Medicine, Professor of Medicine, University of Pittsburgh School of Medicine Medical Director, Inflammatory Bowel Disease Center Co-Director, Total Care-IBD Division of Gastroenterology, Hepatology & Nutrition University of Pittsburgh Medical Center Senior Medical Lead of Specialty Medical Homes, UPMC Health Plan.Conflict of Interest: Miguel Regueiro serves as a consultant and advisory boards for Abbvie, Janssen, UCB, Takeda, Miraca, Pfizer, Celgene, and Amgen. He also receives research support from Abbvie, Janssen, and Takeda. Benjamin Click serves as consultant for Janssen.

(continued on page 20)

(continued from page 18)

New Models of Care

Over the past decade, new models of healthcare delivery have emerged that seek to address the growing healthcare economic burden by transitioning away from traditional fee-for-service, volume-incentivized reimbursement towards value-based care. Including accountable care organizations and patient-centered medical homes, these models seek to improve patient experience, enhance healthcare delivery and outcomes, and reduce costs by emphasizing care quality. Placing the patient at the center of the healthcare universe, a patient-centered medical home seeks to provide whole-person care to individuals by utilizing a small team of providers to coordinate all of the patient's healthcare needs.

Initially trialed in the primary care setting, patient-centered medical home results are mixed. A systematic review of 19 comparative studies demonstrated that patient-centered medical home interventions had a small positive effect on patient experiences and small-to-moderate positive effects on the delivery of preventive care services with modestly improved staff experiences.[1] Among older adults, there was a reduction in emergency department visits (risk ratio, 0.81 [95% confidence interval, 0.67–0.98]) but not in hospital admissions (risk ratio, 0.96 [95% confidence interval, 0.84–1.10]) in this patient population. Overall, however, there was no evidence for cost savings. The lack of clear success and cost savings with primary care-based patient centered medical home models has been attributed to multiple factors including caring for an older patient population with multiple chronic diseases, variability in patient-centered medical home design and structure, minimal reporting of financial plans utilized, and potential evaluation by entities that do not routinely publish in peer-reviewed journals (e.g., consulting firms).

Specialty Medical Homes – An Ideal Target Disease

Inflammatory bowel diseases (IBD) are life-long, chronic inflammatory conditions affecting the gastrointestinal tracts of approximately 1.6 million Americans, with a rising incidence rate, and are generally diagnosed in young adulthood. IBD is estimated to account for between $14-31 billion in both direct and indirect costs from complex care needs and associated morbidity. IBD patients require integrated medical and surgical management with often costly pharmaceutical and procedural requirements. Additionally, IBD patients have higher rates of behavior comorbidities, which can impact healthcare adherence, medical response, unplanned healthcare utilization, and quality of life. These complex factors can result in fragmented care between multiple providers sometimes in different healthcare systems. Such segmented and fractionated healthcare falls short of seamless integrated care. Due to typical younger age and lack of other medical comorbidities, IBD patients often rely on a gastroenterologist as their primary healthcare coordinator. Thus, IBD may be uniquely situated as a chronic disease with a high economic burden and more focused medical needs to potentially benefit from a patient-centered medical home model.

A Break from Tradition

Patient-centered medical care is unique, especially when considering a specialty population with specialty providers. In traditional specialty care, a provider collaborates with a hospital or medical center, is referred patients by other providers and serves as a consultant, focuses mostly on the specific disease, is reimbursed through a relative value unit (RVU)-, volume-based payment structure, and receives institutional support from downstream revenue such as surgery, pathology, radiology, or infusions.

In comparison, in a patient-centered specialty care model, the provider collaborates with a payer(s) and is referred patients by the payer to provide care for all patients with a certain disease in a population. The provider works with an interdisciplinary team to address all healthcare needs of each patient and is reimbursed through a value-based approach, focusing on implementing quality care, preventative medicine, and incorporating tele- or other tech-oriented medicine. The payer partner provides up-front support to develop this

(continued on page 22)

(continued from page 20)

multidisciplinary team and resources in hopes of improved value and reduced costs.

SMH Requirements and Challenges

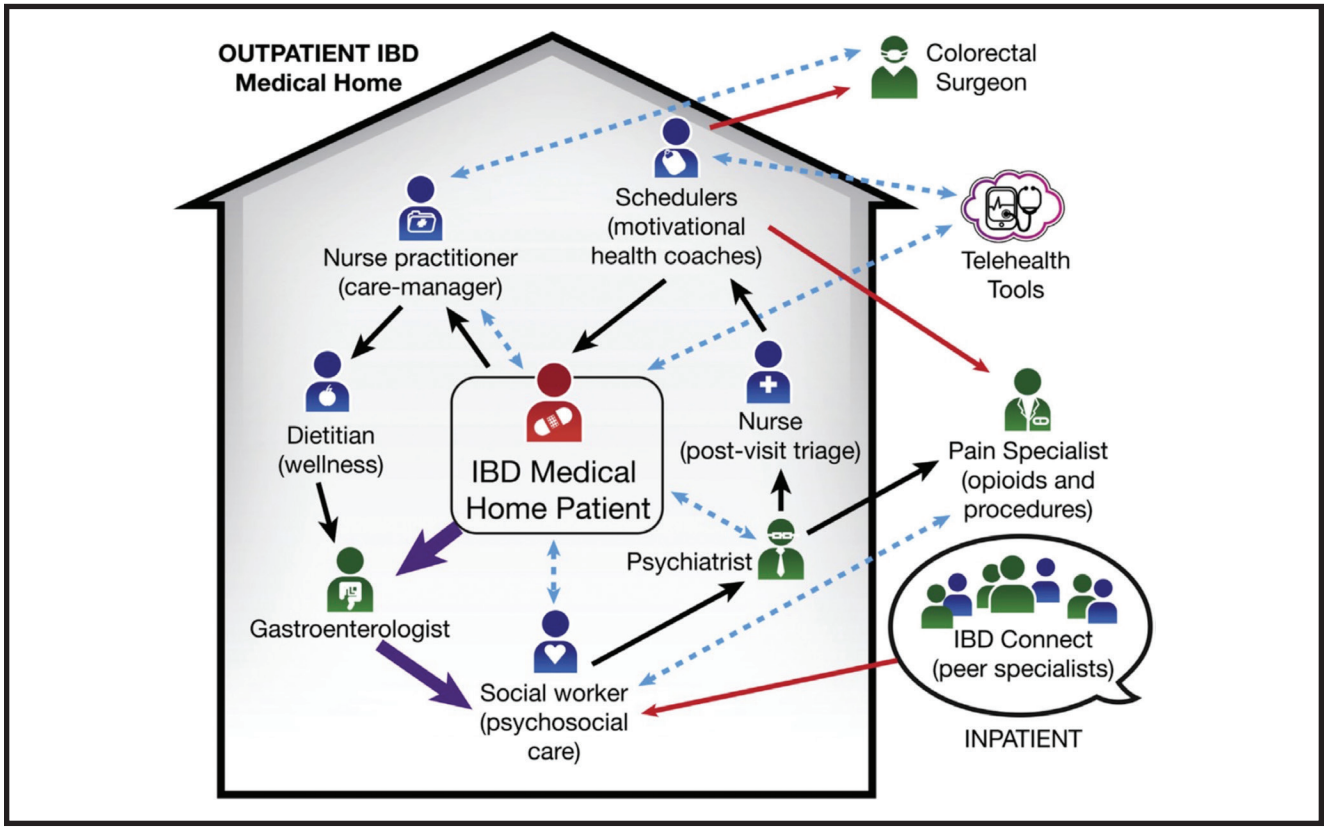
Instituting a SMH requires a significant change and deviation from traditional specialty healthcare. We acknowledge that resources for developing such alternative systems varies from region to region.

We previously detailed the necessary factors to implement a specialty medical home.[2,3] These include a willing payer(s), a large enough IBD patient population, a physician champion, and goals with metrics of success. It is likely best if there is one or a few larger payers in the region to approach for potential collaboration. This will maximize the potential benefits and buy-in from the payer(s). As for patient population, we estimate that the smallest necessary IBD population for such an approach to be successful is approximately 500 active patients. The SMH system can be scaled to larger populations. Transitioning to patient-centered medical care is a departure from traditional specialty practice. In addition to addressing the biologic disease, the emphasis is on whole-patient care – preventive care, behavioral medicine, socioeconomic factors, and provision or coordination of care for non-gastrointestinal symptoms and diseases. In a SMH, the specialist must be willing to incorporate and address all facets of healthcare, addressing unmet needs to improve patient outcomes.

Reimbursement Model

Due to the novelty of SMH, the ideal reimbursement model has yet to be defined. Considerations include a shared-savings or global cap approach with emphasis on total cost of care reduction. This will require particular attention to accrued costs, not only by care for the IBD itself, but also for the total care. While biologic medications incur a significant expense, and will likely continue to increase, this should not deter appropriate utilization in patients that may experience improved IBD outcomes,

Figure 1. Overview of healthcare delivery flow and key personnel in the UPMC-Total Care IBD specialty medical home.



(continued on page 24)

(continued from page 22)

decreased healthcare use, and optimized work and life productivity from these medications. Leveraging the pharmaceutical negotiating power of payer partners may be able to reduce some of the cost impact. Ultimately, the SMH must work together with its partners to achieve high quality care at a lower cost.

UPMC-Total Care IBD as a New Model of Specialty Care

The University of Pittsburgh Medical Center (UPMC) is a large integrated healthcare delivery and finance system that operates both a large academic health system as well as a health insurance plan and currently covers over 3 million individuals, predominantly in Western Pennsylvania. In collaboration with an integrated healthcare delivery network, we formed an IBD specialty medical home (SMH), termed UPMC-Total Care IBD. Incorporating multidisciplinary care, open-access scheduling, and telemedicine, we have enrolled over 650 IBD patients to the SMH to date.

Recognizing the complex medical, behavioral, surgical, and socioeconomic factors that influence IBD patients' healthcare requirements, we implemented a multidisciplinary team including gastroenterologists, a psychiatrist, a social worker, a nutritionist, schedulers, nurse coordinators, and advanced practice providers. The gastroenterologist becomes the principal care provider for this patient cohort and coordinates the total care of each patient. UPMC-Total Care IBD also coordinates with colorectal surgeons and chronic pain specialists for direct care collaboration.

Additional support is provided by the UPMC Health Plan (HP). Health coaches work directly with patients on lifestyle modifications including smoking cessation. UPMC HP also provides operational support in the form of data analytics, collaborative interpretation of data, program publicity, and IBD medication approval facilitation through their pharmacy department.

Patient Enrollment

UPMC-Total Care IBD initiated patient enrollment and care delivery in July 2015. Patients are eligible for enrollment in UPMC-Total Care IBD if they were between 18 and 50 years old and carry a clinical diagnosis of IBD. Initially after launch, the target patient population for UPMC-Total Care IBD were the highest healthcare utilizer patients. Thus, an initial criterion of greater than 25% of medical expenditures in the prior year were related to IBD. After several months of enrollment, to expand the patient population, this requirement was dropped and we now enroll any patient with UPMC HP insurance who has IBD.

Data Collection

At the initial visit, patient demographics and disease characteristics are collected. Prior IBD medications are also reviewed and recorded. At each visit, patient-reported interim healthcare utilization including emergency department visits, hospitalizations, radiographic studies, and endoscopies are documented. IBD medications as well as opiate and antidepressant use are reviewed and updated. Additionally, patient-reported disease activity indices (Harvey-Bradshaw Index [HBI] for CD and ulcerative colitis activity index [UCAI] for UC), disease-related quality of life (QoL) metric (short inflammatory bowel disease questionnaire [SIBDQ]), depression and anxiety screening metrics (patient health questionnaire [PHQ]-9 and generalized anxiety disorder [GAD]-7 respectively) are prospectively collected.

Individualized Treatment Plan

All patients are initially evaluated by the gastroenterologist, dietician, social worker, advanced practice provider, and registered nurse. If scores on mental health metrics indicate a potential mental health issue, the social worker or psychiatrist perform a full evaluation for comorbid behavioral health disorders. Patients requiring further individual psychiatric treatment are scheduled for additional clinical sessions and telemedicine as indicated.

Prior to each clinic session, the UPMC-Total Care IBD team meets to discuss individual patients and determine active factors or issues requiring attention. Based on these discussions, the team allots differential amounts of time for the team member(s) addressing those issues.

(continued on page 28)

(continued from page 24)

Figure 1. depicts key personnel, patient flow, data collection, and collaboration in UPMC-Total Care IBD.

One Year Outcomes

In the first year, UPMC-Total Care IBD enrolled nearly 350 patients. Enrolled patients experienced significant reduction in both emergency room visits by nearly one-half and hospitalizations by approximately one-third. This was accompanied by significant improvement in disease activity scores, quality of life, and mental health metrics. Patients in the most extreme quartiles of these metrics demonstrated the most improvement. Retention in UPMC-Total Care IBD was high, with over 90% patients staying actively engaged at the end of one year. To date, over 650 patients are now actively participating in UPMC-Total Care IBD with ongoing enrollment. Limitations of this initial evaluation include the lack of a standardized control cohort and relatively short-term follow-up. Creation of a comparable control population and longer-term follow-up are underway.

Other Experimental Models

Other centers are also experimenting was variations of value-based care and patient-centered approaches in IBD. The Division of Digestive Disease at UCLA has introduced a comprehensive, integrated, and holistic approach to the management of IBD, incorporating value-based care (the "value quotient") and cost-effective IBD management.[4-7] The Illinois Gastroenterology Group developed a care management system for patients with IBD utilizing nurse care managers and physician medical directors in a team approach, along with clinical decision support and patient engagement, and has recently partnered with a national payer to create a specialist intensive medical home.[8-10]

CONCLUSION

Healthcare spending in the United States is growing exorbitantly and cannot be sustained. Alternative healthcare delivery models are being explored in an attempt to reduce costs of care while improving outcomes, quality of life, and patient experience. IBD is uniquely situated to benefit from a value-based coordinated care model due to the younger patient population affected by a chronic illness requiring multidisciplinary care with a high economic impact. In collaboration with a large integrated healthcare delivery and finance system, we formed a patient-centered specialty medical home for inflammatory bowel disease patients. After one year of enrollment, treatment, and follow-up, we observed a significant reduction in emergent and inpatient healthcare utilization with concordant improvement in disease activity, quality of life, and mental health metrics. This model of caring for IBD patients shows promise in improving outcomes while reducing spending. Extension to other chronic disease models is underway and further evaluation of these alternative models of care will be critical to addressing the future of healthcare in the U.S. ■

References

1. Jackson GL, Powers BJ, Chatterjee R, et al. Improving patient care. The patient centered medical home. A Systematic Review. Ann Intern Med 2013;158:169-78.
2. Regueiro M, Click B, Holder D, et al. Constructing an Inflammatory Bowel Disease Patient-Centered Medical Home. Clin Gastroenterol Hepatol 2017;15:1148-1153.e4.
3. Regueiro MD, McAnallen SE, Greer JB, et al. The Inflammatory Bowel Disease Specialty Medical Home: A New Model of Patient-centered Care. Inflamm Bowel Dis 2016;22:1971-80.
4. Ghosh S, Pariente B, Mould DR, et al. New tools and approaches for improved management of inflammatory bowel diseases. J Crohns Colitis 2014;8:1246-53.
5. Hommes D, Colombel JF, Emery P, et al. Changing Crohn's disease management: need for new goals and indices to prevent disability and improve quality of life. J Crohns Colitis 2012;6 Suppl 2:S224-34.
6. Hommes DW, Esrailian E. How does a gastroenterologist show value? Clin Gastroenterol Hepatol 2015;13:616-7.
7. van Deen WK, Spiro A, Burak Ozbay A, et al. The impact of value-based healthcare for inflammatory bowel diseases on healthcare utilization: a pilot study. Eur J Gastroenterol Hepatol 2017;29:331-337.
8. Kosinski L, Brill JV, Sorensen M, et al. Project Sonar: Reduction in Cost of Care in an Attributed Cohort of Patients With Crohn's Disease. Gastroenterology 2016;150:S173.
9. Kosinski LB, Charles; Sorensen, Michael; Rosenberg, Jonathan; Sales, David; Blumenstein, Brian; Merel, Nina; Moxon, Darran; Losurdo, Joseph; Cox, Billie; Haverty, Marianne; Jardinico, Chrissa; Panice, Marguerite; Prorok, Loretta; Conroy, Mary. Project Sonar: Improvement in Patient Engagement Rates Using a Mobile Application Platform. Inflammatory Bowel Diseases 2016;22:S72.
10. Kosinski LR, Brill J, Regueiro M. Making a Medical Home for IBD Patients. Curr Gastroenterol Rep 2017;19:20.