

Effectiveness of a 5-year Online Educational Continuum for Clinicians Treating Patients with IBD

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INTRODUCTION

There is considerable practice variability among providers caring for inflammatory bowel disease (IBD) patients. Limited data exists on the effectiveness of educational interventions targeting IBD providers to address these practice gaps. We report outcomes for a 5-year provider education/training program (ACCME-accredited) which culminated in the launch of a novel clinical decision support tool (described at right) and a series of new educational interventions to address specific gaps identified over this period.

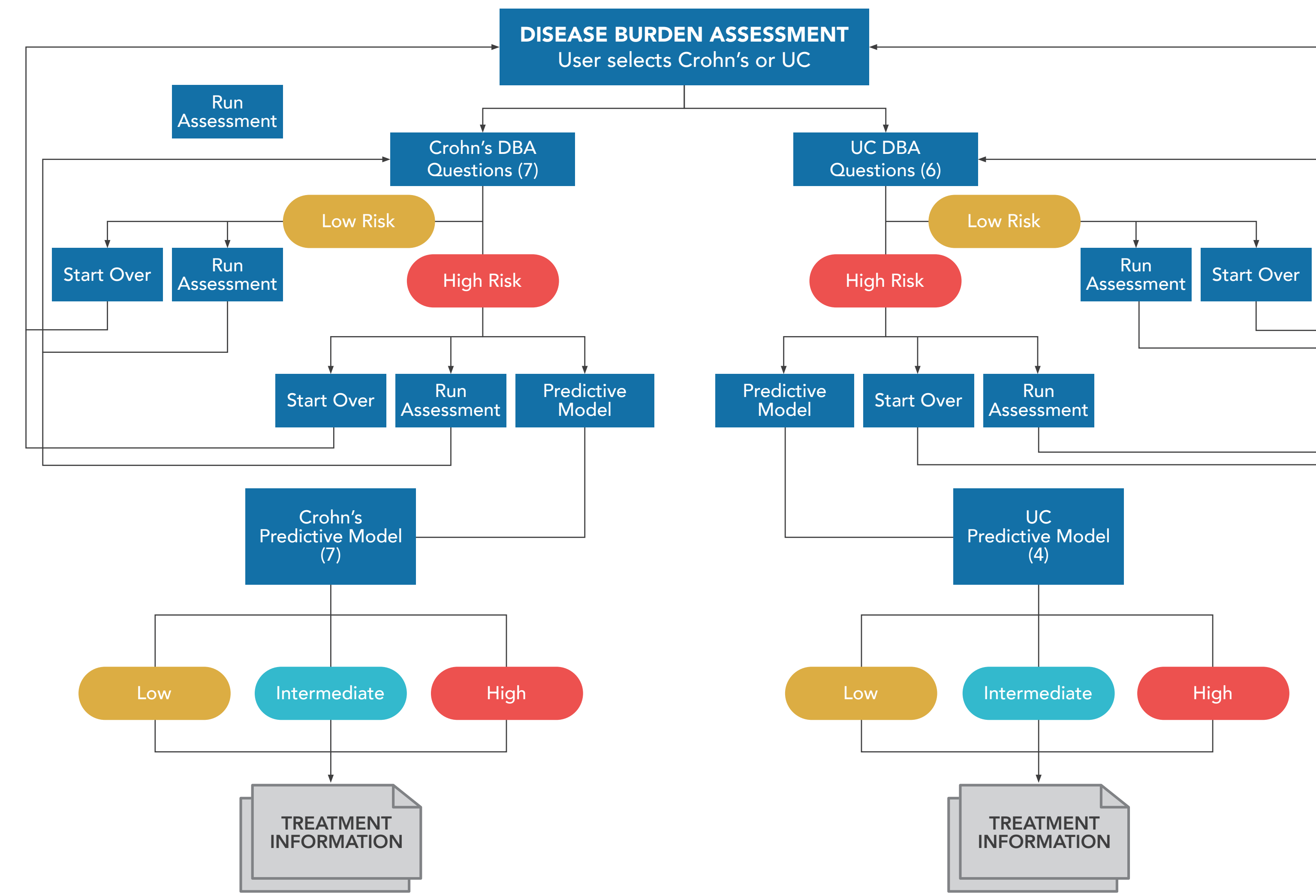
Beginning in 2016, successive educational programming was designed to address gaps identified in the education released the previous year. The net result was that even though these programs were released to diverse audiences (though with the same target specialties), progressive improvement and uptake of concepts surrounding treatment safety and efficacy and the practical application thereof were observed.

Further, this strategy allowed for the educational content to be adapted to the demonstrated needs of the learner population as evidenced by the evolution of course content to reflect areas of focus supplemental to the central target of the programming. For the purposes of introducing a clinical decision support tool (CDST) to the audience, the utility of this educational model allowed for the tool to be contextualized within an extant framework of proven education with demonstrated efficacy in assisting clinicians with integrating novel treatment strategies for IBD patients.

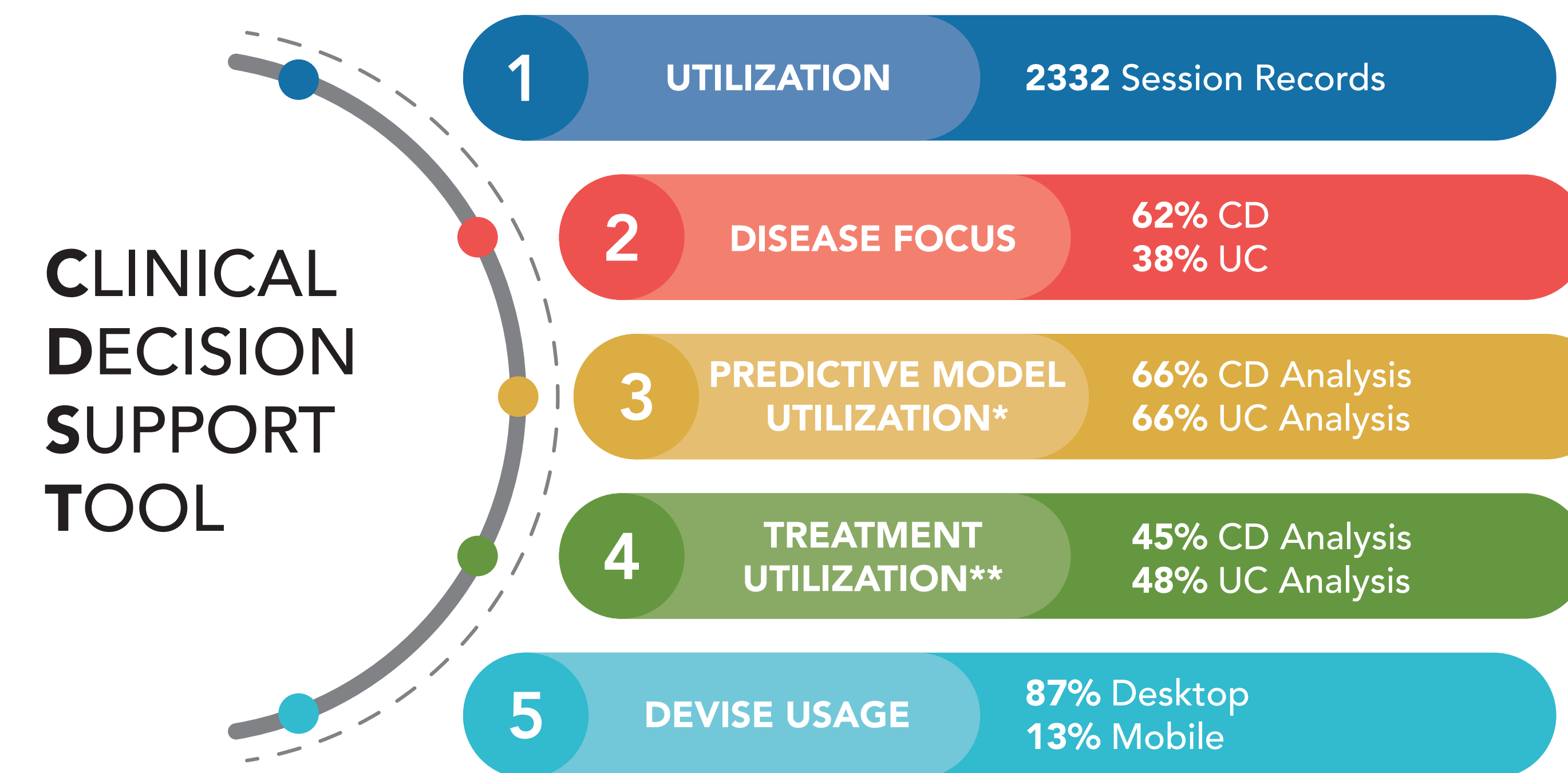
Year of Education	2014	2016	2017	2019	2020
Tx Safety Gaps	Assimilate Data	Clinical Trial Data Current Tx	Clinical Trial Data Current & Future Tx (Intro Biologics?)	Utilizing Biologics	Individualized tx plan based on benefits and risks (Stratify by severity and complication risk)
Tx Safety LOs	Efficacy & Safety Data New & Emerging Tx (IBD)	Compare/Contrast Clinical Trial Data (IBD)	Differentiate btwn Current/Emerging/Future Tx based on safety (IBD)	Utilize decision support tools in Tx Selection (IBD)	Methods to perform early risk stratification (Employ CDST to guide TX)
Tx Selection Gaps	Tx Selection based on Efficacy/Safety Data	Criteria for early aggressive Tx	Utilization of evidence-based Tx protocols	Aligning Patient to Biologic & Monitoring response	Tx selection based on risk stratification (Select initial biologic and Tx Escalation)
Tx Selection LOs	Individualize Tx: remission, minimize complication, avoid relapse	Individualize Tx: remission, minimize complication, avoid relapse, minimize toxicity	Individualize Tx: remission, minimize complication, avoid relapse	Implement Biologics	Evidence-based management based on risk of complications (Use probability of response to incorporate biologics)
Monitoring Gaps	Mucosal Healing as target/Monitoring Response & Adherence	Mucosal Healing as target//Monitoring Response & Adherence	Disease Progression & Drug Monitoring to optimize Tx	2019	2020
Monitoring LOs	Monitor: treatment efficacy & adjust accordingly	Monitor: Tx efficacy & disease progression	Monitor: Tx efficacy & disease progression	Monitor: Tx efficacy (biologics focus) to intensify appropriately	Individualize tx based on benefits and risk (Need for combo Tx and treat-to-target)
SDM Gaps	2014	Awareness of AGA & CCF released IBD specific process measures for improved patient outcomes	Techniques to foster patient education and engagement	2019	2020
SDM LOs	2014	Implement Practice/Quality of care/Outcomes Measures	Implement collaborative role with patients	2019	2020

CDST

The US IBD Health Outcomes Clinical Decision Support Tool (CDST) is a web-based interactive point-of-care tool designed for clinicians to assess disease burden and provide guidance on optimal treatment selection based on prognostic and predictive modeling for patients with Crohn's disease (CD) or ulcerative colitis (UC).



CDST DATA THROUGH FEBRUARY 1, 2021



*Predictive Model Utilization: How many users that started the process proceeded to the Predictive Model portion of the CDST?
**Treatment Utilization: How many users proceeded to the Treatment portion of the CDST?

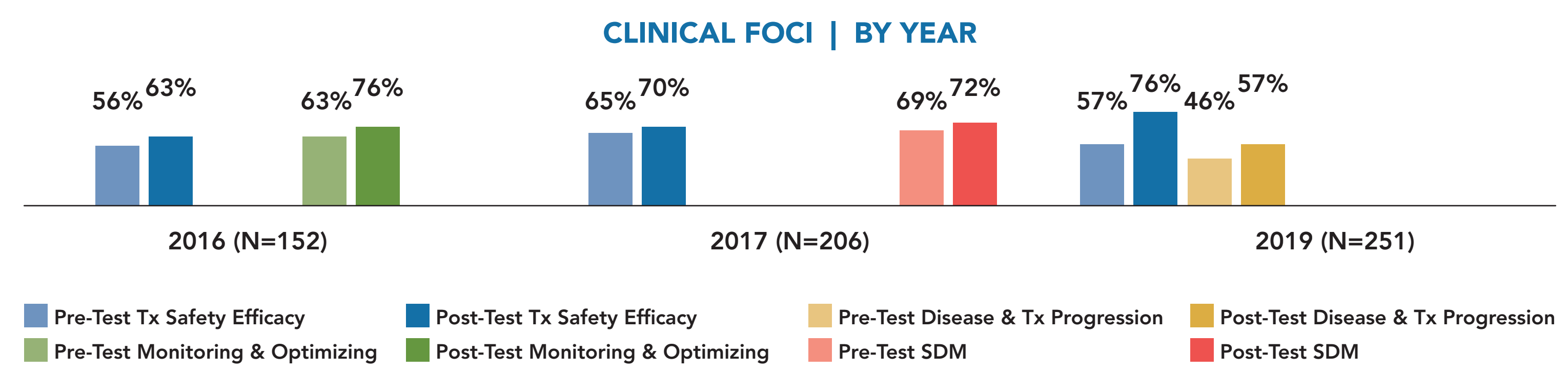
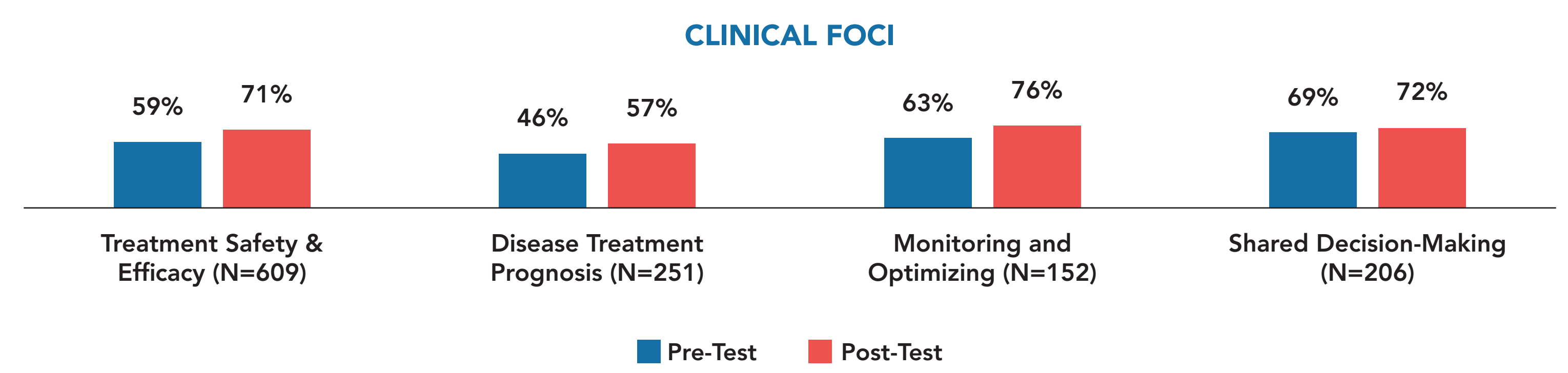
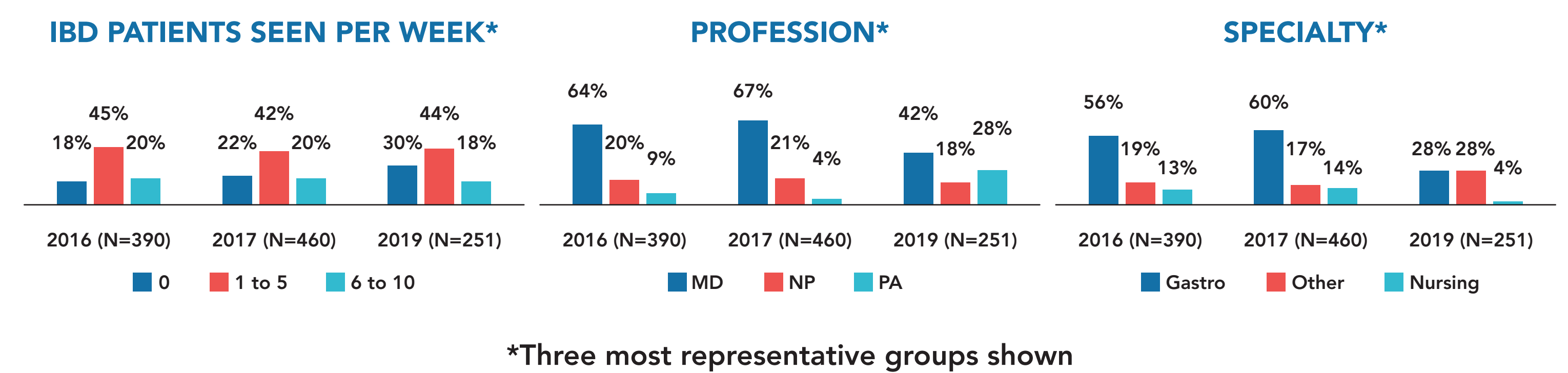


The American Gastroenterological Association has officially endorsed this Clinical Decision Support Tool.

METHODS

For the purposes of understanding the evolving needs of this population of clinicians across time, a retrospective review of educational outcomes to date was conducted.

- All included programs were delivered online, utilized matched pre and post testing, and included all learning domains (Knowledge, Competence, Clinical Decision-Making).
 - Three activities across three years (2016, 2017, and 2019) were included in the analysis.
- Demographic variables were used to parse the population into common groups.
 - Profession, Specialty, and Number of IBD patients seen per week.
- Continuity expressed across time represents comparisons made based on the likeness of one group to the other predicated by self reported demographic factors.
 - Roughly comparable populations of Physicians, Gastroenterologists, and Low-volume (1-5 patients per week) treaters were observed across the three years; thus, findings will be largely representative of those groups.
- Aggregate metrics were developed based on the individual learner data collected during the accreditation cycles of the included programs measuring the four areas of clinical focus.
- Means were calculated at Pre-Test and Post-Test for each group split by year.
 - Matched data was used.
- Evaluation of changes across time were assessed primarily based on Post-Test scores.
 - Significance testing was done using T-Tests.



DISCUSSION

Across the 1,101 unique providers included in our analysis, the most highly represented populations were physicians specializing in gastroenterology who see 1-5 IBD patients per week. Significant improvements were observed in post-test question responses across IBD concepts of treatment safety and efficacy ($p < 0.001$), disease and treatment prognosis ($p = 0.016$), and monitoring and optimization ($p = 0.017$). Based on learner's difficulty applying course content to patient case scenarios, an online enduring educational program coupled with a clinical decision support tool was built.

Over a 12-month period the tool was accessed 2,332 times, and providers accessing the accompanying online educational interventions reported being significantly ($p < .05$) more likely (than at pre-test) to feel moderately confident or very confident in using decision support tools to guide clinical decision making. In this novel approach to iterative medical education strategy, we identified practice gaps in IBD care during 5 years of accredited continuing education activities. We subsequently implemented an interactive point-of-care CDST in our accredited continuing education activities in order to address the identified gaps and provide guidance on optimal treatment selection in IBD.