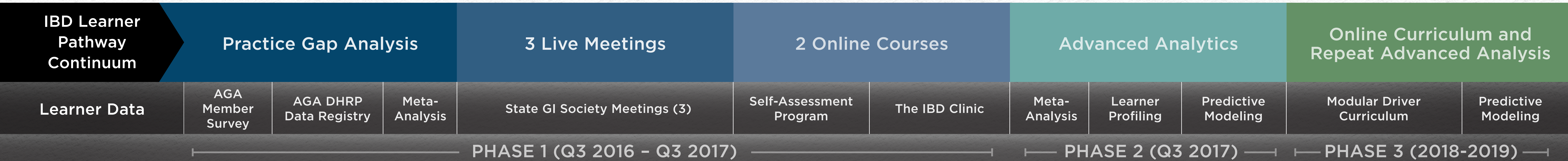


The Gastroenterology Learner Pathway in IBD: An Outcomes-Based Iterative Approach to IBD Education Using Advanced Analytics and Predictive Modeling to Sustain Behavioral Change

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INTRODUCTION

Clinician performance was evaluated (for 18 months) across IBD-focused continuing medical education activities prior to the development of the educational content included in this program. This meta-analysis revealed persistent practice gaps in the management of IBD, which were addressed in this curriculum and will continue to be addressed in future activities.

PRACTICE GAPS

Gastroenterologists and other healthcare providers (HCPs) who manage IBD:

- May not be fully aware of clinical effects of IBD therapies and their mechanisms of action.
- Fail to appropriately and aggressively treat patients with IBD in accordance with guidelines and evidence that early aggressive treatment impacts patient outcomes.
- May not appropriately utilize mucosal healing as a treatment goal in IBD and may not be using objective measures for monitoring treatment response and adherence.
- May not be familiar with the AGA-released IBD-specific performance measures. These have the potential to increase patient safety, improve treatment, increase the use of steroid-sparing treatments and decrease complications of various treatments.

To address the above identified gaps, the American Gastroenterological Association (AGA), a medical specialty member group, RMEI Medical Education (RMEI), a medical education company, and RealCME, an educational technology and outcomes company, designed and implemented a phased continuing medical education curriculum, directed at 16,000 AGA members and a national sample of GI clinicians actively involved in the treatment of IBD patients.

The evolving needs of the target population were best met through the use of a phased curriculum design, facilitating the development of highly interactive and adaptive interventions which identify and address the underlying factors influencing population performance in areas of educational need. Use of this methodology has, thus far, resulted in sustained practice changes and the continued evolution of the AGA into a “rapid learning professional organization.” This initiative was organized along four specific areas of clinical focus (Learning Objectives) and aggregated by five specific Learning Domains to develop a cohesive framework which facilitates data analysis across learning modalities.

METHODOLOGY

Phase 1 included a review of current (based on newly developed educational activities) and historic (beginning in 2016) data to identify evidence-based ongoing areas of educational need. Phase 2 included a variety of advanced analytic techniques (eg, learner profiling and predictive modeling) for the purposes of developing targeted education in Phase 3. Phase 3 (data collection ongoing) includes a modular certificate-based online curriculum (Fig. 1) as well as repeat advanced analytics and predictive modeling to evaluate the impact of targeted Phase 3 education on this learner population. All phases of this initiative include a variety of educational modalities (ie, live events and online activities) and intervention types (ie, self-assessment program, case-based education, and member survey) to better address the diverse needs of the population of interest.

RESULTS

At the time of analysis, 1,643 clinicians had participated in the curriculum (84% physicians, 51% seeing 1-5 IBD patients per week, (Fig. 2).

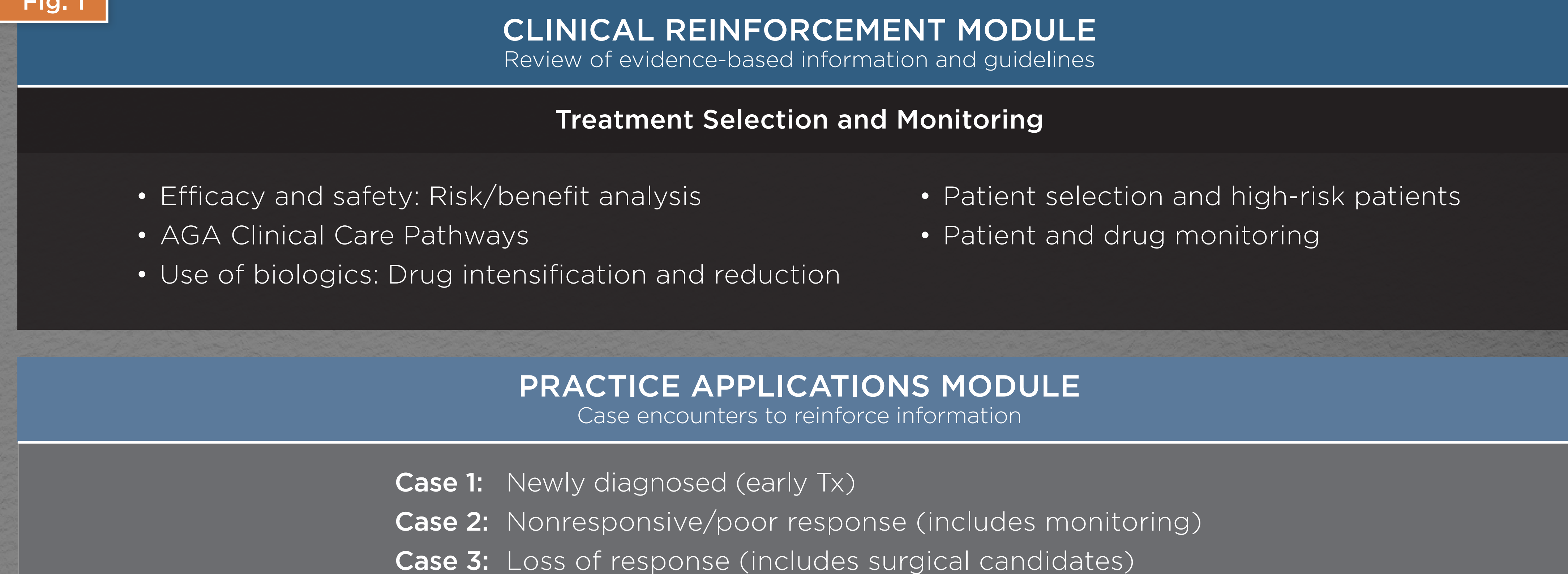
Learners (n=326, matched) demonstrated statistically significant improvements across all curriculum Learning Objectives (Fig. 3) and Learning Domains (Fig. 4). Preliminary retention data (n=35 matched learners) demonstrated sustained behavioral change with net improvement ranging from 5%-26% across all learning domains (not shown).

All items included in the Post-Test were analyzed to identify the lowest scoring curriculum items. Results of that analysis revealed that Treatment Selection/Individualization remained an area of educational need after Phase 1. A linear regression model evaluating the relationship between the non-gap quantitative and qualitative variables revealed 7 statistically significant drivers influencing learner proficiency on the identified gap. If subsequent education (Phase 3) effectively addresses the 7 identified drivers (Fig. 5), then an average improvement of 29% in proficiency pertaining to treatment selection and individualization may be observed.

CONCLUSION

The design and results of this model represent an innovative catalyst for the development of educational interventions targeting practice gaps in IBD, and establishing a model in which the value of subsequent activities, based on continuously refined gaps and drivers, can increase significantly for learners, in an ongoing cycle. It also demonstrates the value of advancing beyond the traditional approach to outcomes assessment, to more advanced and predictive analytics that analyze historical and current data to generate a model with definable benchmarks of success.

Fig. 1



ADVANCED ANALYTICS AND PREDICTIVE MODELING

Fig. 2

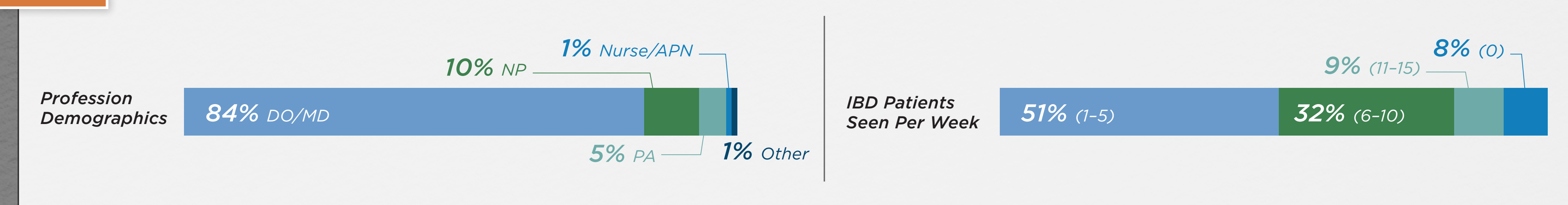


Fig. 3

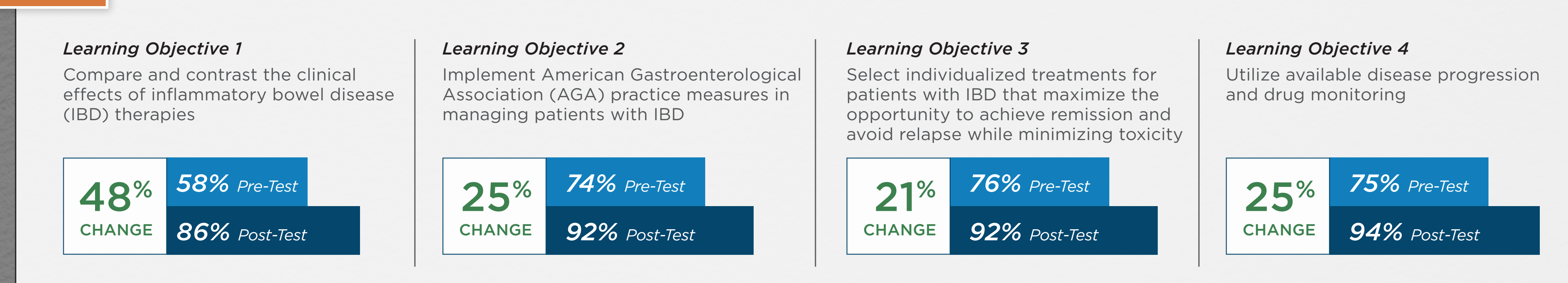


Fig. 4

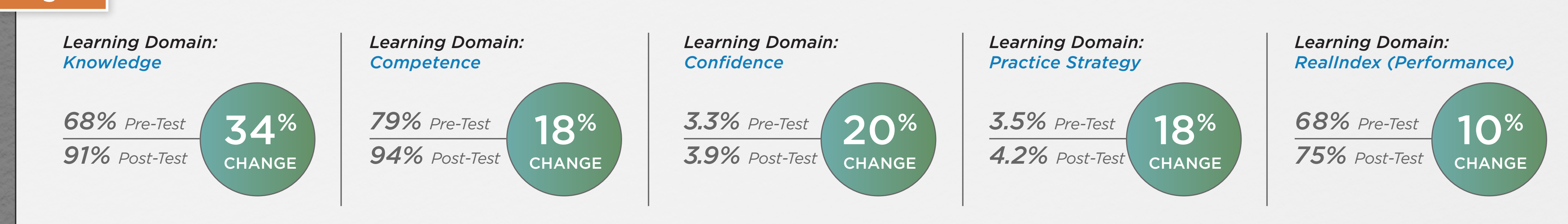


Fig. 5

