

Economic Impact of Upadacitinib for the Treatment of Moderate-to-Severe Crohn's Disease and Ulcerative Colitis: Induction and Maintenance Phase 3 Results on Work Productivity Loss

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OBJECTIVE

To estimate the economic impact of upadacitinib (UPA) on work productivity related to Crohn's disease (CD) and ulcerative colitis (UC) using data from UPA induction and maintenance Phase 3 trials

CONCLUSIONS

Patients with moderate-to-severe CD or UC demonstrated greater improvements in absenteeism, presenteeism, and productivity loss at the end of both induction and maintenance therapy with UPA compared to placebo (PBO)

Improvements in work productivity measures translated into substantial indirect cost savings for patients with CD and UC, which were seen at the end of induction and maintenance with all doses of UPA compared to PBO

These results infer that induction and maintenance therapy with UPA may provide substantial economic benefits to patients by reducing the work-related impairment incurred from CD and UC symptoms

INTRODUCTION

- Patients with either CD or UC experience negative impacts on their work productivity, resulting in the high indirect costs associated with these diseases^{1,2}
- The efficacy and safety of UPA, a selective, reversible Janus kinase inhibitor, has been demonstrated in phase 3 trials in CD and UC as both an induction and maintenance therapy^{3,4}
- Currently, there are limited data on CD- and UC-related work productivity and the associated economic impacts, so further investigation is required

METHODS

Study Design and Patients

- Patients aged 18 (CD)/16 (UC) to 75 years, with moderate-to-severe disease were enrolled into multicenter, double-blind, PBO-controlled, phase 3 trials investigating UPA in CD (U-EXCEED, NCT03345849; U-EXCEL, NCT03345836; U-ENDURE, NCT03345823) and UC (U-ACHIEVE, NCT02819635; U-ACCOMPLISH, NCT03653026)

METHODS CONTINUED

- During induction, patients were randomized to once daily (QD) UPA 45 mg or PBO for 12 weeks in CD trials and 8 weeks in UC trials
- Patients with CD and UC who achieved clinical response were re-randomized to receive QD UPA 15 mg, UPA 30 mg, or PBO as maintenance for 52 weeks

Outcomes

- Impact on work productivity was measured by the Work Productivity and Activity Impairment questionnaire, of which the following categories were reported as least squares (LS) mean change from baseline:
 - Absenteeism (work missed)
 - Presenteeism (impairment at work/reduced work effectiveness)
 - Productivity loss (overall work impairment)
- Treatment differences were measured as changes from baseline to the end of induction (CD, week 12; UC, week 8) or week 0 through week 52 of maintenance for UPA compared to PBO and were reported as percentages with 95% confidence intervals
- The reduction in indirect cost was calculated from start of induction through end of maintenance by multiplying the hours gained in work productivity by the 2022 US average net compensation (\$29.43/hour)

Statistical Analyses

- LS mean change analyses were performed using mixed-effect model repeated measures in induction and return-to-baseline multiple imputation in maintenance, which were adjusted (**Figure 1**)

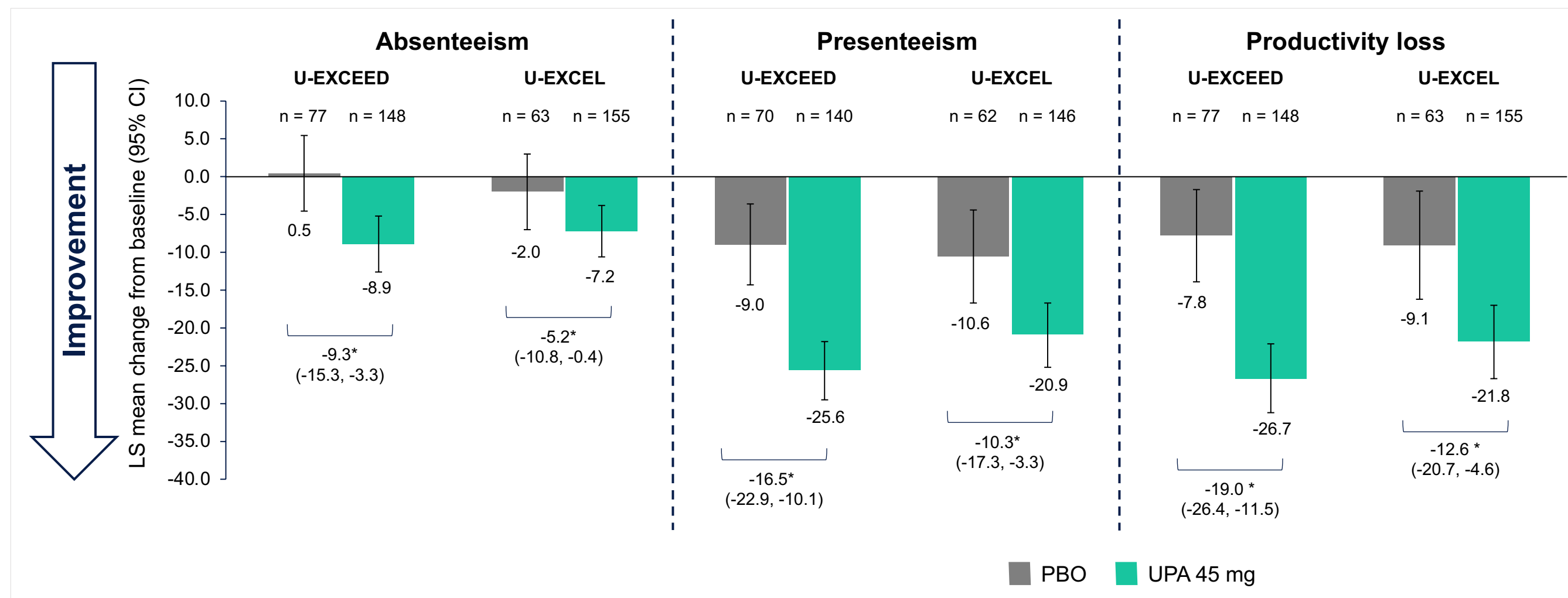
Figure 1. Adjustment of Statistical Models

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|-----------|-----------------------|---|
| CD trials | Induction baseline: | <ul style="list-style-type: none">Corticosteroid use: yes or noEndoscopic disease severity: SES-CD <15 or ≥15Number of prior failed biologics: >1 or ≤1 |
| | Maintenance baseline: | <ul style="list-style-type: none">Clinical remission per PROs status: yes or noEndoscopic response status: yes or no |
| UC trials | Induction baseline: | <ul style="list-style-type: none">Corticosteroid use: yes or noAdapted Mayo score: ≤7 or >7Status: Bio-IR or non-Bio-IR |
| | Maintenance baseline: | <ul style="list-style-type: none">Clinical remission status: yes or no |

Bio-IR, biologics inadequate response; CD, Crohn's disease; PROs, patient-reported outcomes, SES-CD, simple endoscopic score for CD; UC, ulcerative colitis.

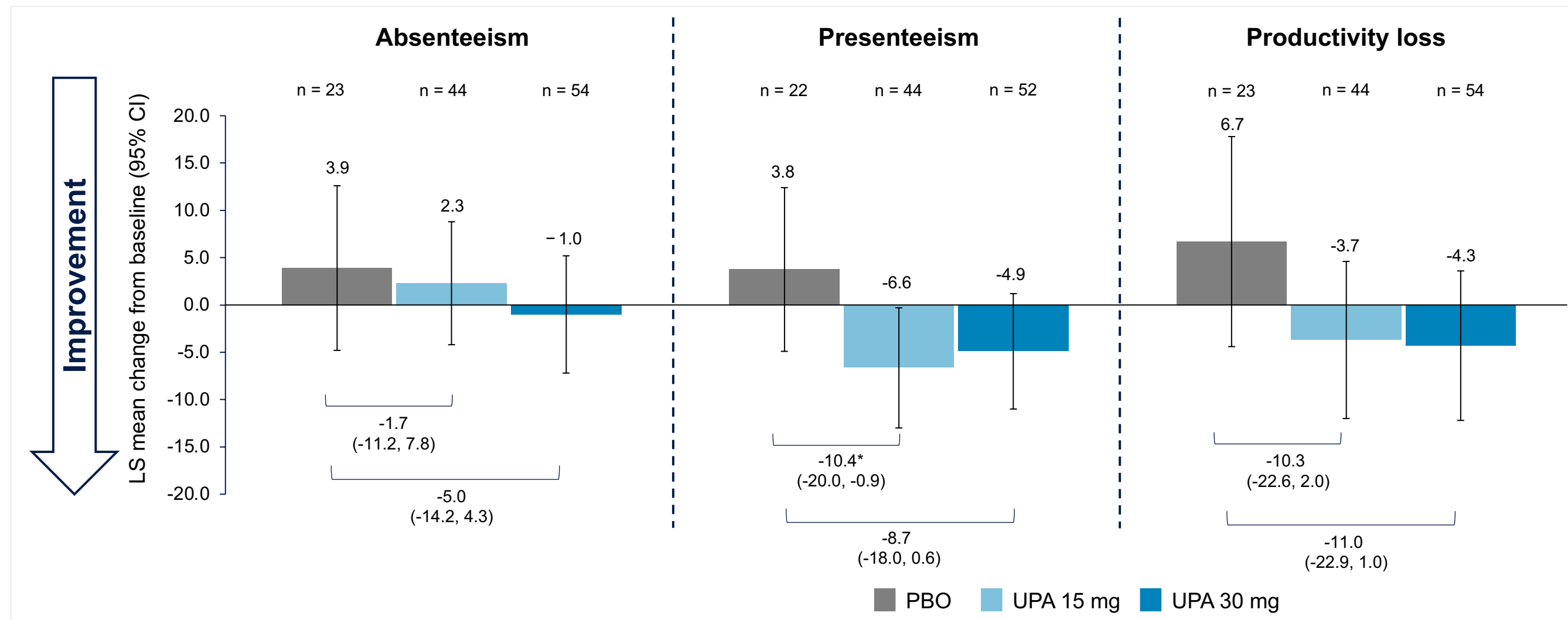
RESULTS

Figure 2. In Patients With CD, Significant Improvements in Productivity Loss Were Observed From Baseline to Week 12 of Induction With UPA 45 mg vs PBO in Both U-EXCEED and U-EXCEL



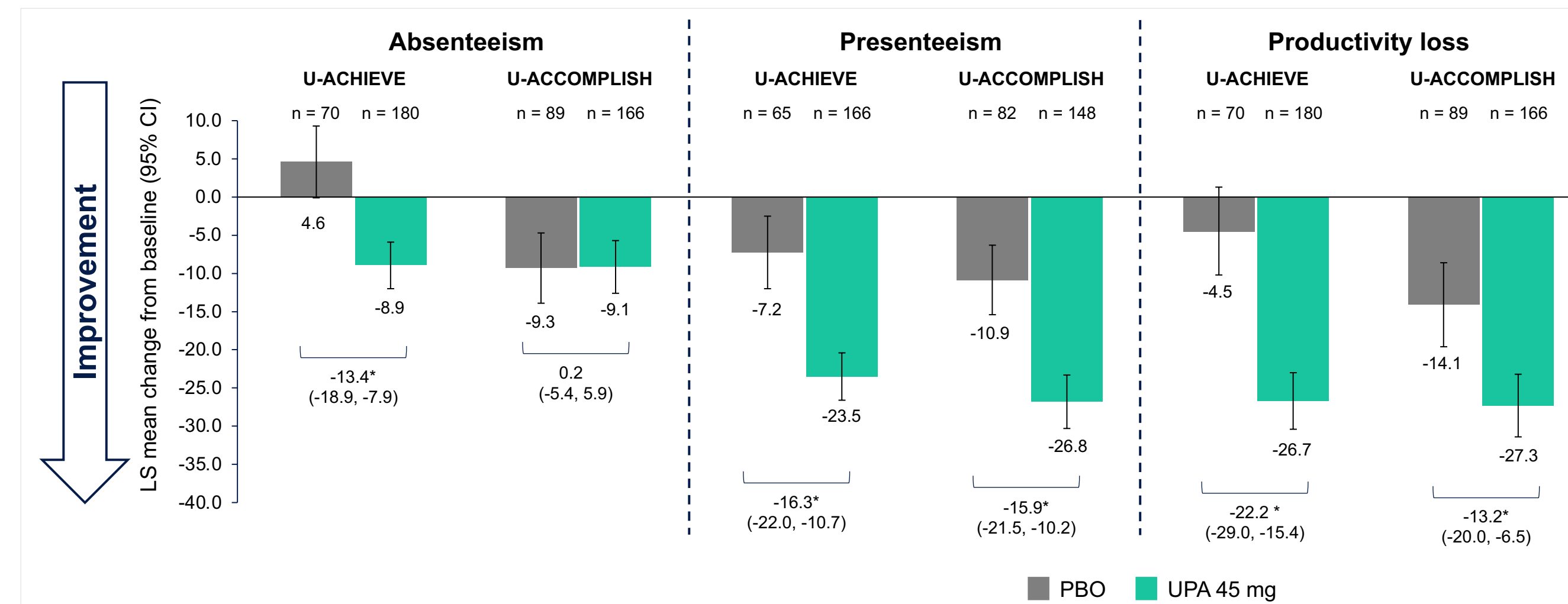
CD, Crohn's disease; CI, confidence interval; LS, least squares; PBO, placebo; UPA, upadacitinib. *P < .05 for UPA vs PBO.

Figure 4. In Patients With CD, Improvements in Productivity Loss Seen During Induction Were Maintained at Week 52 of Maintenance With Some Continued Improvement for UPA vs PBO in U-ENDURE



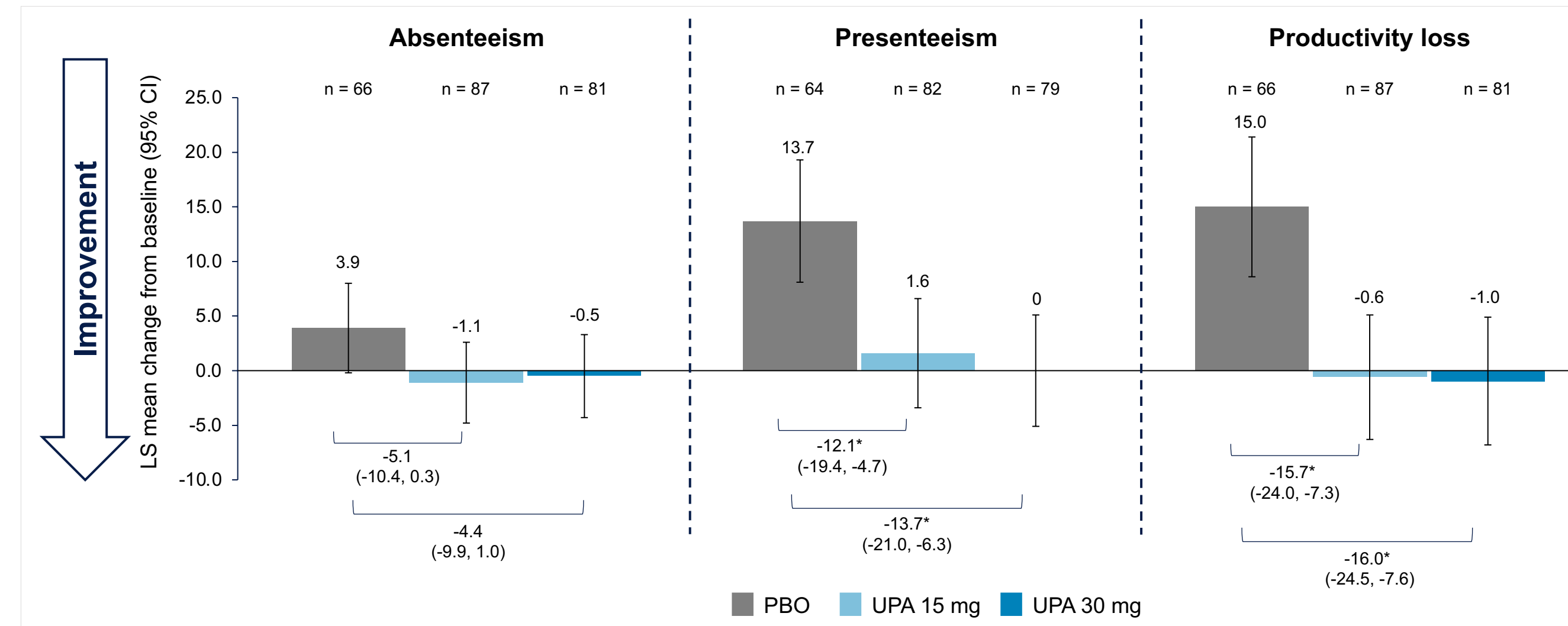
CD, Crohn's disease; CI, confidence interval; LS, least squares; PBO, placebo; UPA, upadacitinib. *P < .05 for UPA vs PBO.

Figure 3. In Patients With UC, Significant Improvements in Productivity Loss Were Observed From Baseline to Week 8 of Induction With UPA 45 mg vs PBO in Both U-ACHIEVE and U-ACCOMPLISH



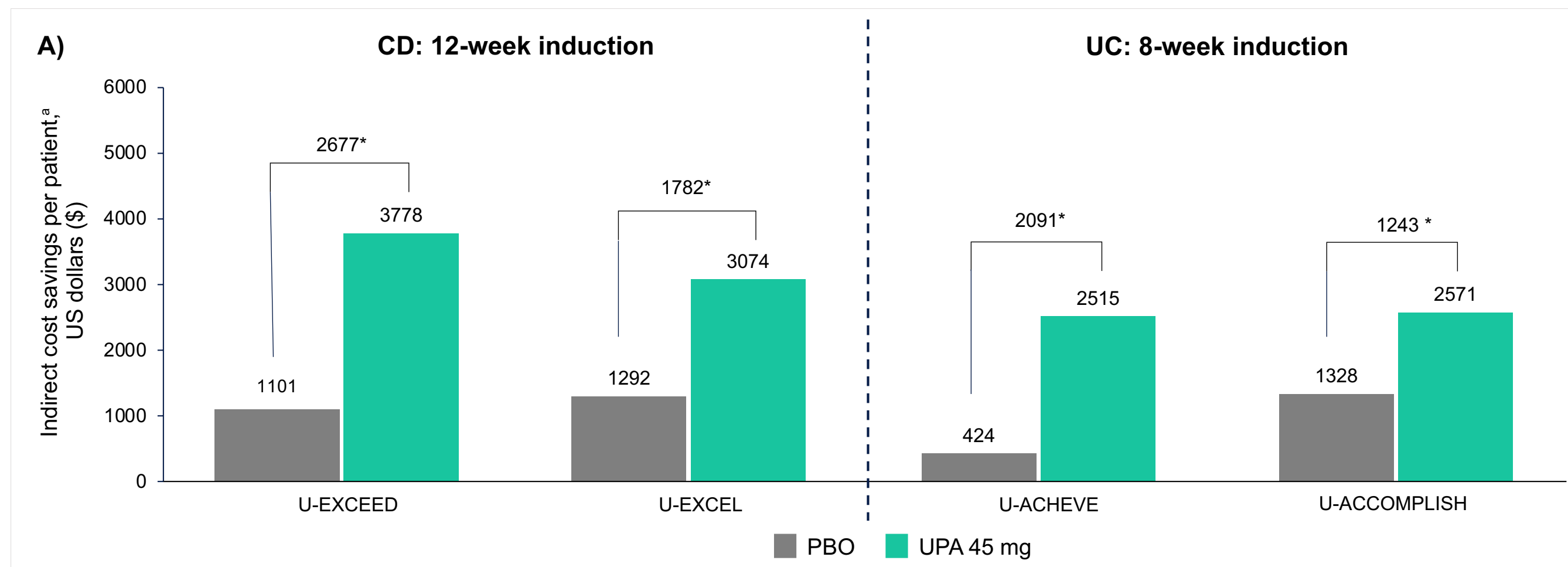
CI, confidence interval; LS, least squares; PBO, placebo; UC, ulcerative colitis; UPA, upadacitinib. *P < .05 for UPA vs PBO.

Figure 5. In Patients With UC, Significant Improvements in Productivity Loss Were Observed From Week 0 to Week 52 of Maintenance With UPA 15 mg and UPA 30 mg vs PBO in U-ACHIEVE



CI, confidence interval; LS, least squares; PBO, placebo; UC, ulcerative colitis; UPA, upadacitinib. *P < .05 for UPA vs PBO.

Figure 6. Both Patients With CD and Patients With UC Experienced Greater Indirect Cost Savings With UPA Compared to PBO at the End of Induction (A) and the End of Maintenance (B)

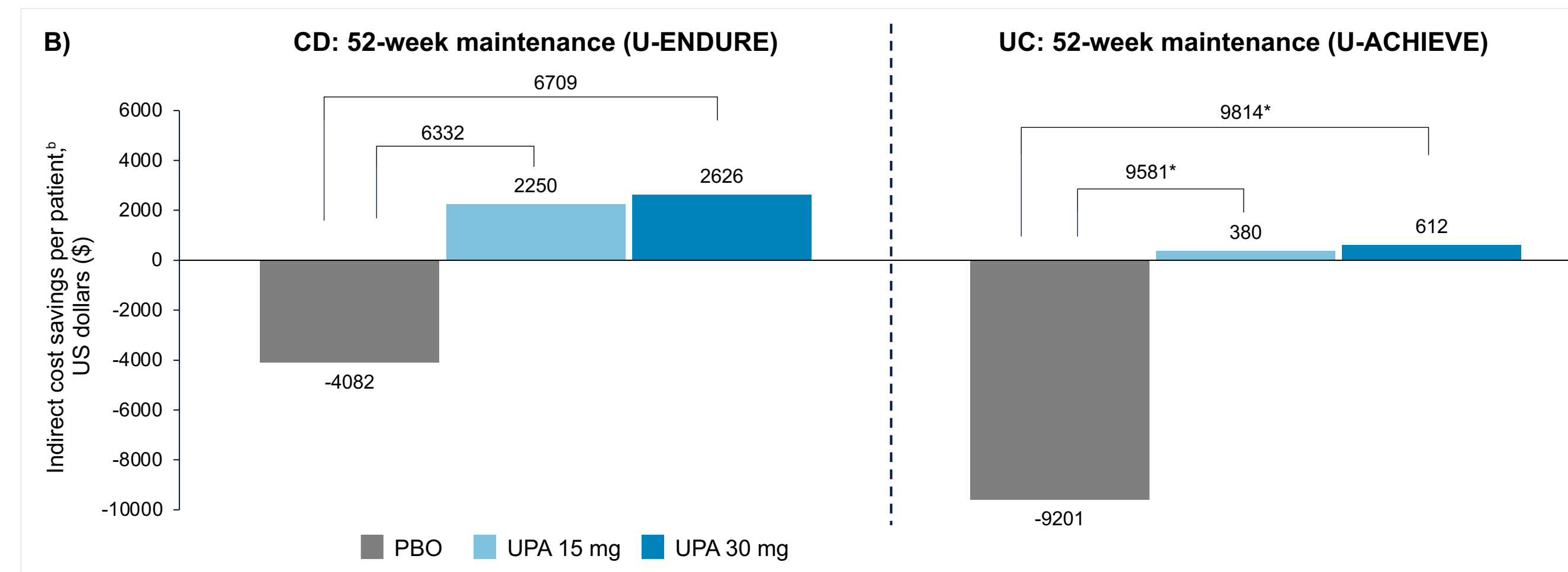


CD, Crohn's disease; PBO, placebo; UC, ulcerative colitis; UPA, upadacitinib.

*P < .05 for UPA vs PBO.

*Costs were calculated from week 0 of induction to week 12 of induction.

*Costs were calculated from week 0 of maintenance to week 52 of maintenance.



Medical writing support was provided by Kay Hallam, MSc, of Fishawack Facilitate Ltd, part of Avalere Health, funded by AbbVie.

AbbVie funded the study and participated in interpretation of data, review, and approval of the poster. All authors contributed to the development of the poster and maintained control over final content. No honoraria or payments were made for authorship.

T. Yu received fellowship stipend support from AbbVie. P.S. Dulai has served on advisory boards for and/or has received research support and/or speaker/consultation fees from AbbVie, Abivax, Adiso, BMS, Geneoscopy, GSK, Janssen, Lilly, Pfizer, Roivant, and Takeda. J. Griffith and D. Sharma are employees of AbbVie and may hold stock options. E.V. Loftus, Jr. served as a consultant for and/or received research grants from AbbVie, Amgen, Arena, Astellas, Avalo, AZ, BI, BMS, Celgene, Celltrion, Fresenius Kabi, Genentech, Gilead, GSK, Gossamer Bio, Iota, Iterative Scopes, Janssen, Lilly, Morphic, Ono, Pfizer, Protagonist, Receptos, Surrozen, Sun, Takeda, Theravance, TR1X, and UCB; and is a shareholder of Exact Sciences.

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