PATTERNS OF ADOPTION AND DIFFUSION OF BIOLOGICAL THERAPIES IN INFLAMMATORY BOWEL DISEASE: PATIENT-CENTRIC INSIGHTS FROM ISRAEL

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Background

Inflammatory Bowel Disease (IBD), including of Crohn's Disease (CD) and Ulcerative Colitis (UC), is a chronic relapsing incurable intestinal inflammatory disorder of the gastrointestinal tract. IBD significantly impacts healthcare costs and patient health-related quality of life. The introduction of biologic drugs, while transformative in clinical outcomes, presents challenges due to high costs and varied patterns of adoption and diffusion.

Objectives

To understand the impact of socio-demographic, disease-related, and treatment-related factors on the adoption and diffusion of biologic drugs in IBD patients in Israel, comparing patterns between CD and UC, and between different biologic drugs.

Methods
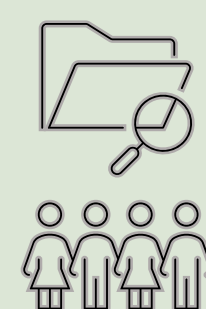
- Nationwide retrospective cohort study
- Patients of all four Israeli health maintenance organizations (HMOs)
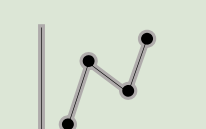- Covering ~98% of the population
- 1998-2018, up to 20 years follow-up
- Outcome: Biologic drugs initiation, stratified by:
  - Sex
  - Age group
  - Ethnicity
  - Drug Type
- Diffusion trends, survival analysis, and multivariable Cox models

N=49,267

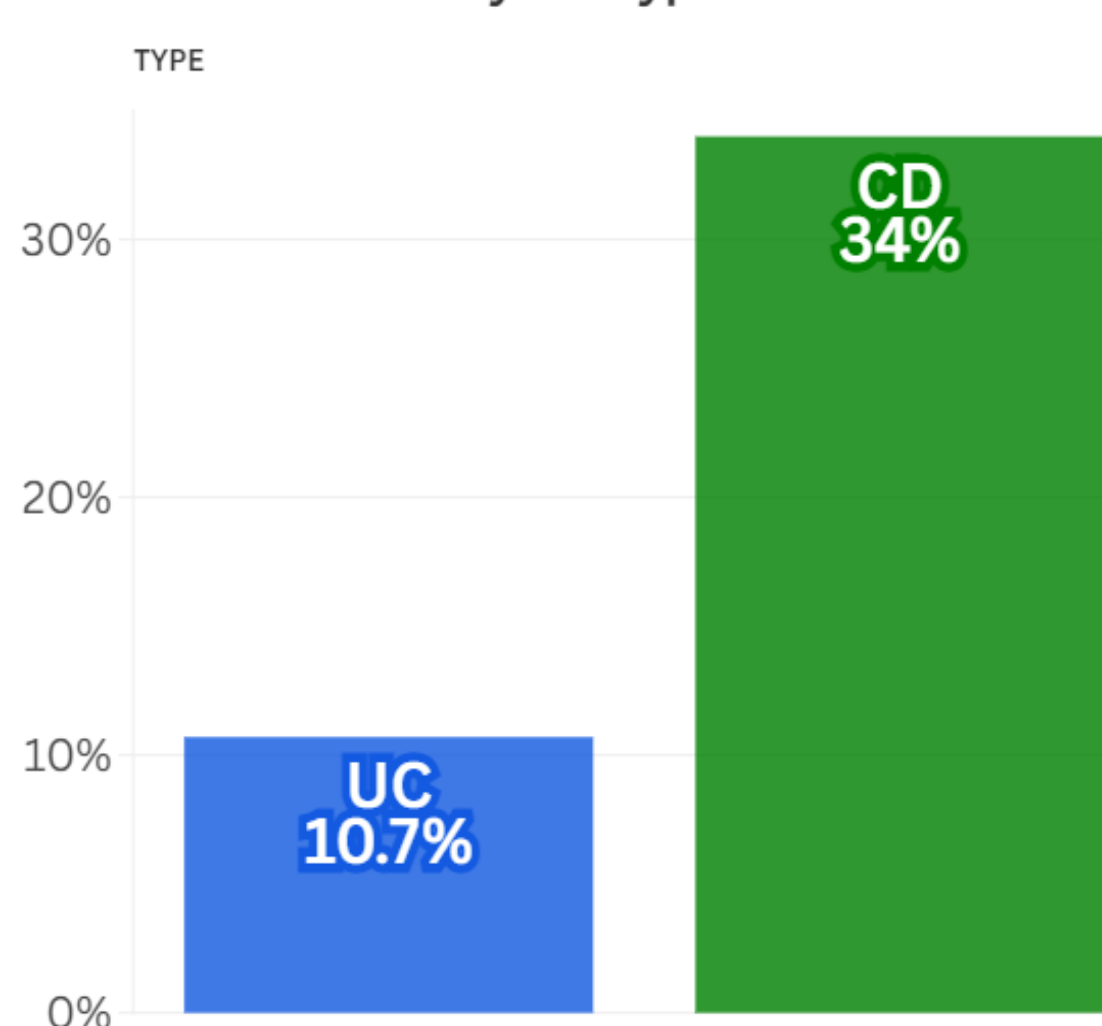Mean age at onset: 36.8 ± 18.5
Male: 50.6%
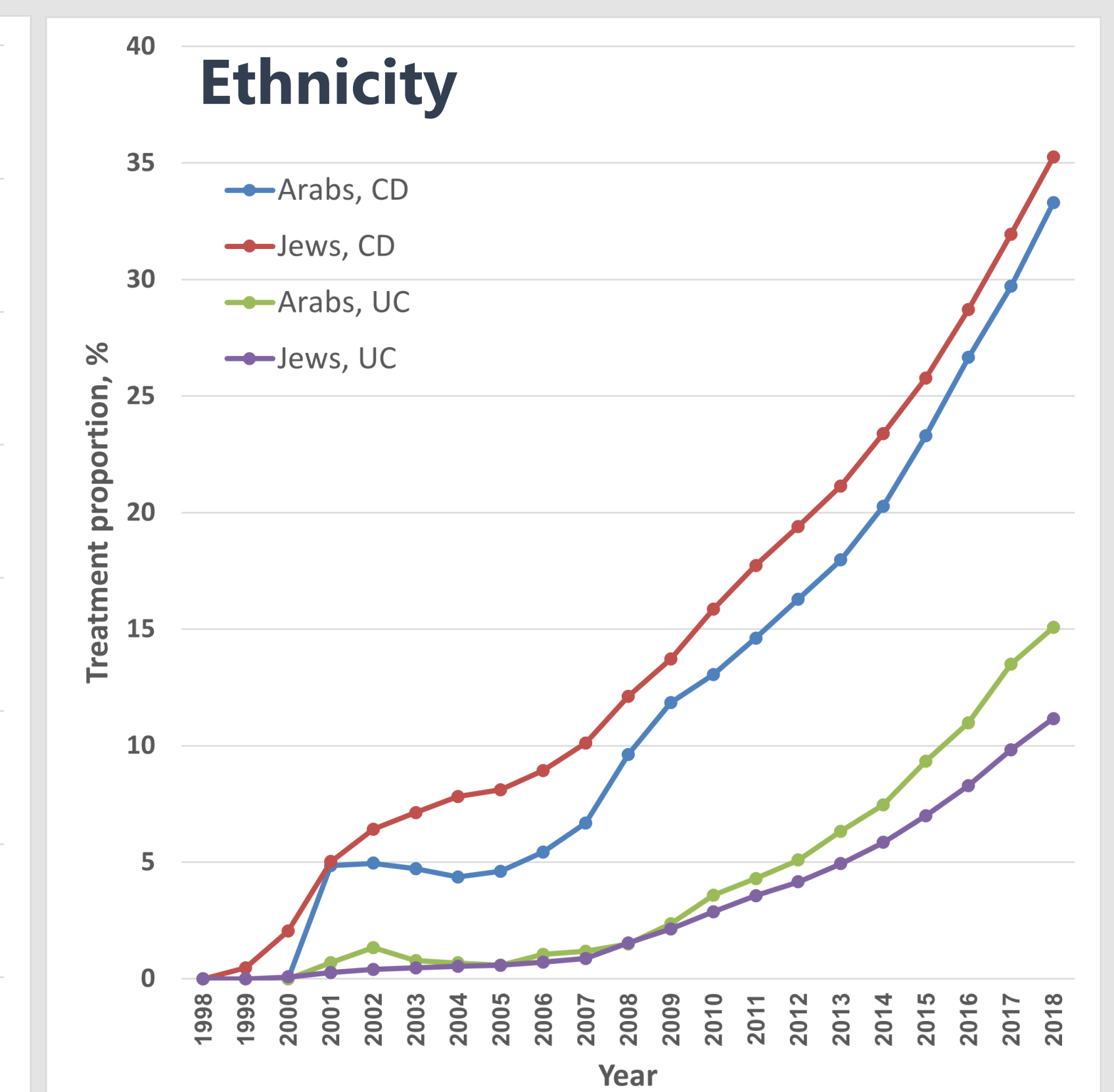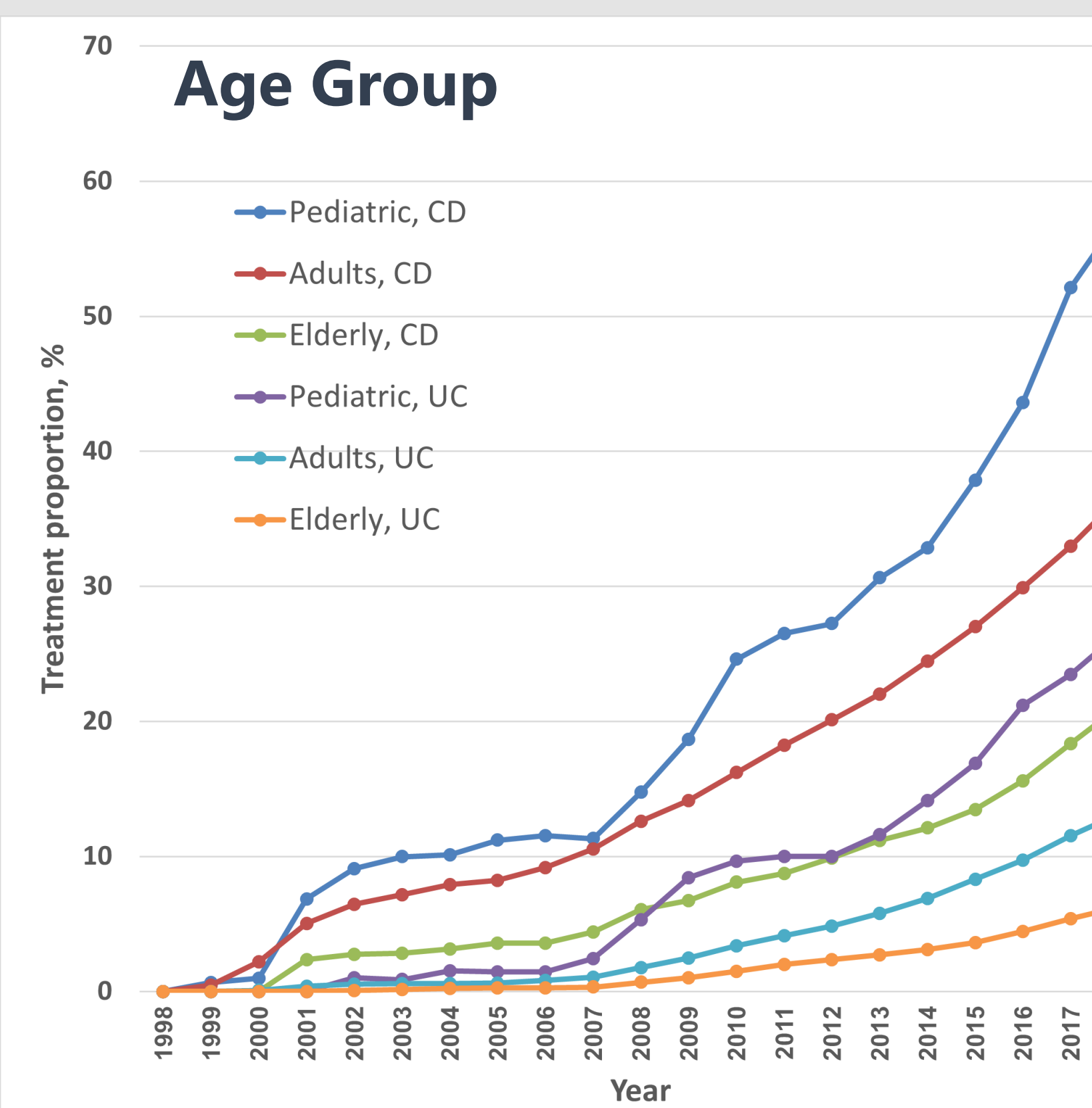Mean follow-up: 11.0 ± 1.2 years
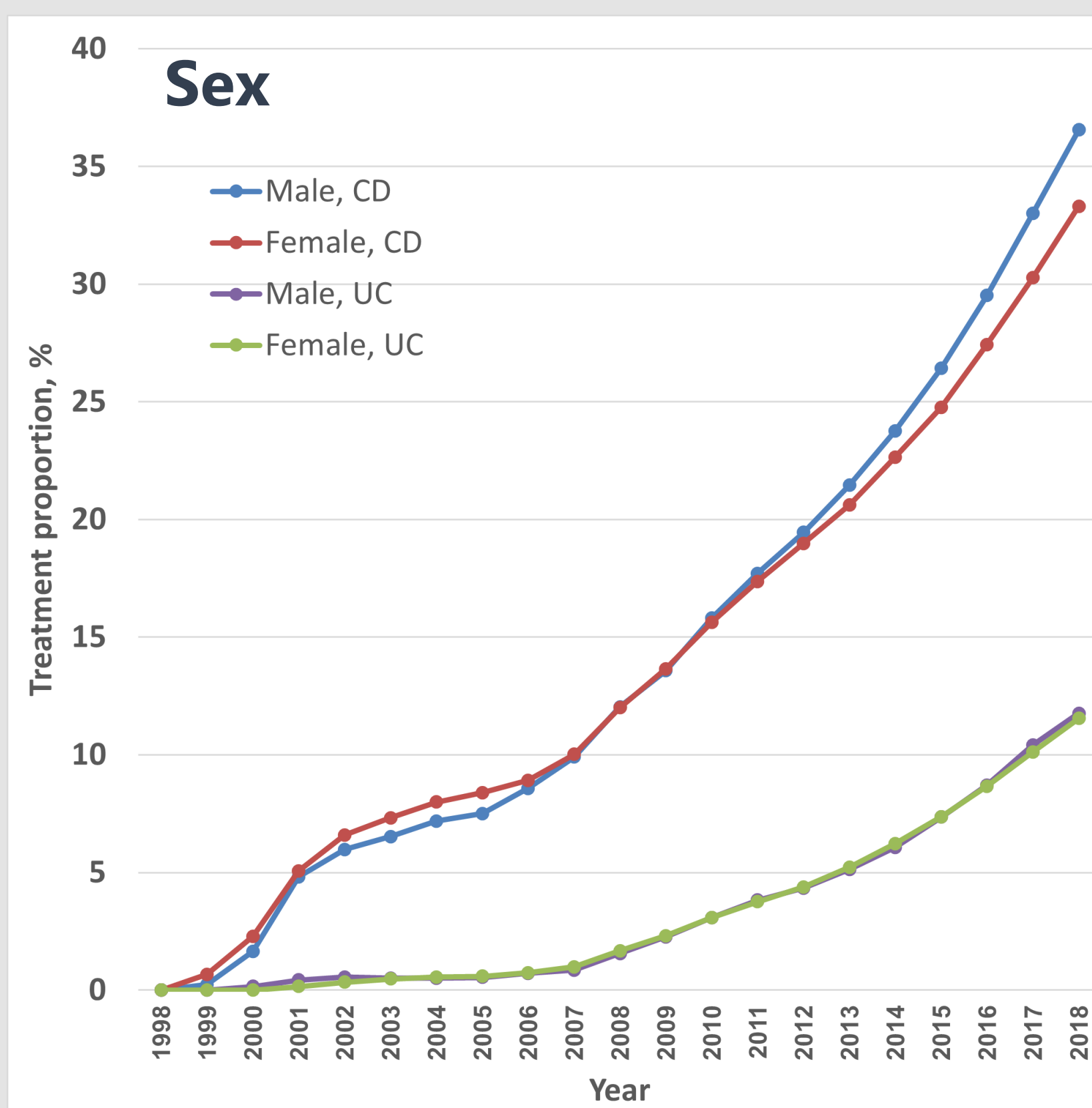CD: 53.3%, UC: 46.7%

Results

1. Biologics Adoption

Overall percent of patients treated with biologics, by IBD type
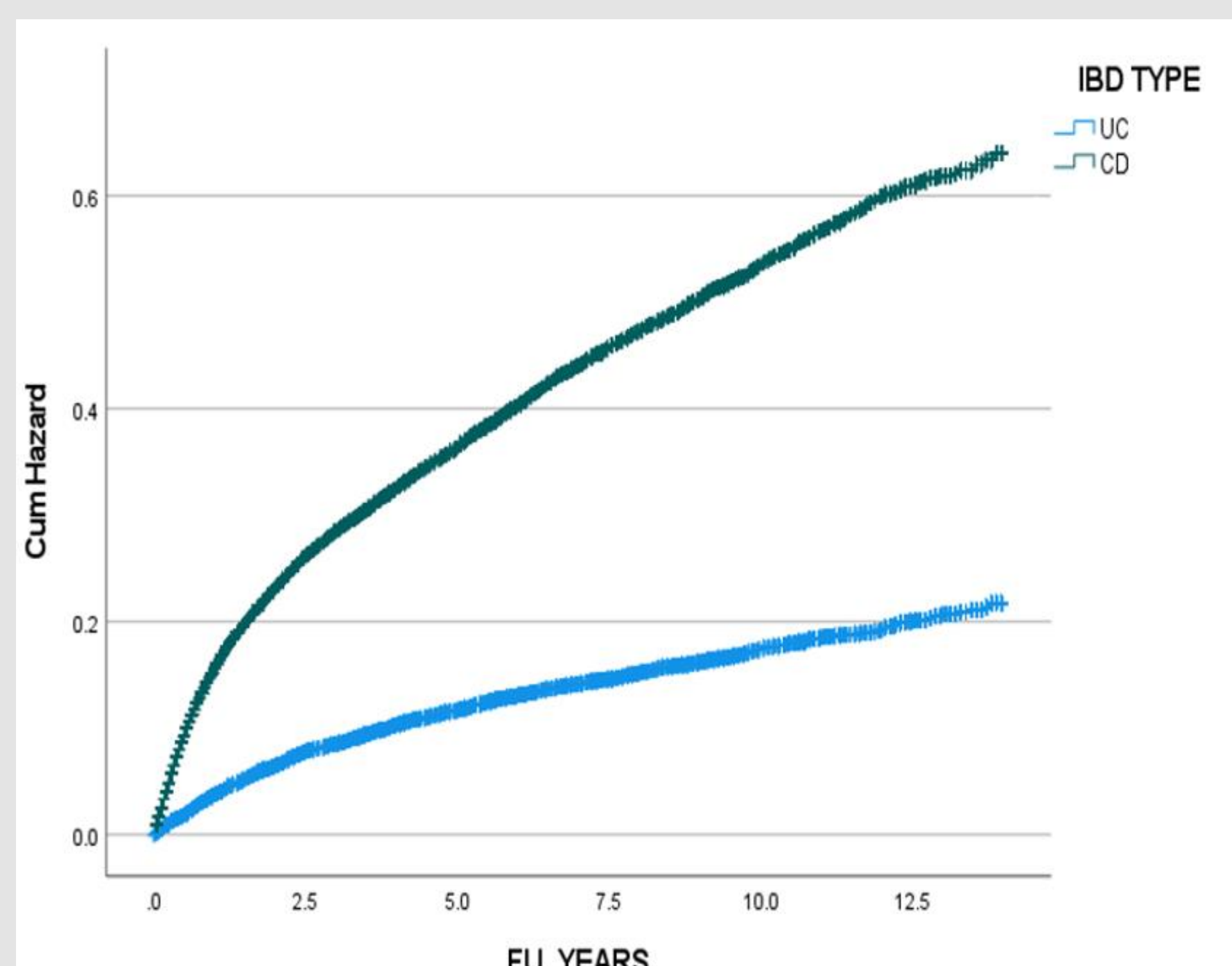
CD 34%
UC 10.7%

- Pediatric-onset and high-risk patients (e.g., surgery or corticosteroid users) adopted biologic drugs more & earlier.

2. Diffusion of Biologic Drugs by Sex, Age group & Ethnicity

- Diffusion curves followed expected S-shapes, notably driven by the initial biologic drug (Infliximab).

3. Rate & Predictors of Biologic Drugs Adoption

Higher adoption
- Jewish population
- Male
- Pediatrics patients
- Previous surgery
- Previous immunotherapy
- Onset calendar year

Lower adoption
- Older adult patients
- Previous 5ASA treatment

Conclusions & Recommendations

Socio-demographic and clinical factors significantly influence the adoption and diffusion of biologic drugs in IBD, highlighting a shift towards patient-centric, severity-based approaches. Understanding these factors can inform policy-making and collaboration strategies to enhance patient access and optimize healthcare value. Future research should explore the economic and clinical outcomes associated with varying diffusion patterns.
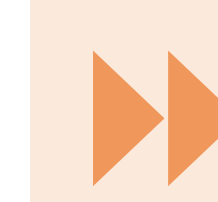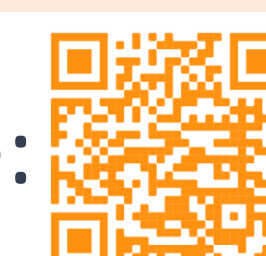
Contact us here: This study was supported by: THE LEONA M. AND HARRY B. Helmsley CHARITABLE TRUST