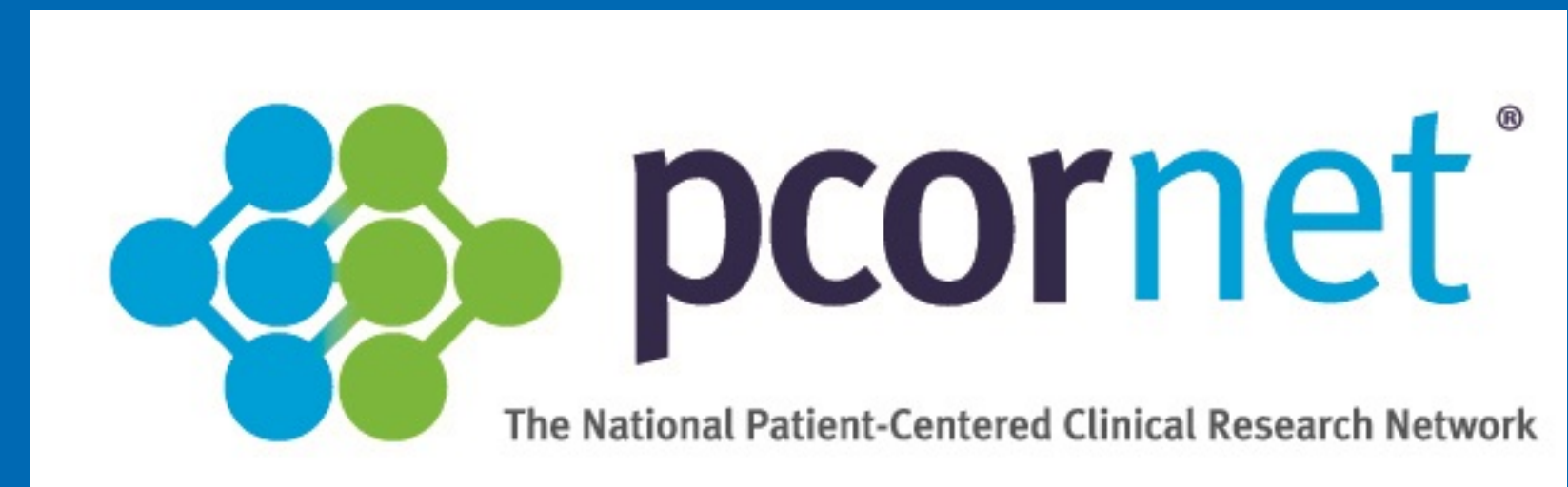


# Comparative Effectiveness of Bariatric Procedures Among Adolescents: PCORnet Bariatric Study

Thomas Inge, R. Yates Coley; Lydia Bazzano, Stavra Xanthakos, Kathleen McTigue, David Arterburn, Neely Williams; Rob Wellman; Karen J. Coleman, Anita P. Courcoulas, Nirav Desai, Jane Anau; Roy Pardee; Sengwee Toh, Cheri D. Janning, Andrea Cook, Jessica Sturtevant, Casie Horgan, Ava Zebrick, and Marc P. Michalsky



## Background

Severe obesity adversely affects the health and well-being of adolescents. Bariatric surgery has been used for treatment of severe obesity in adolescents but most studies have been small and limited in follow up.

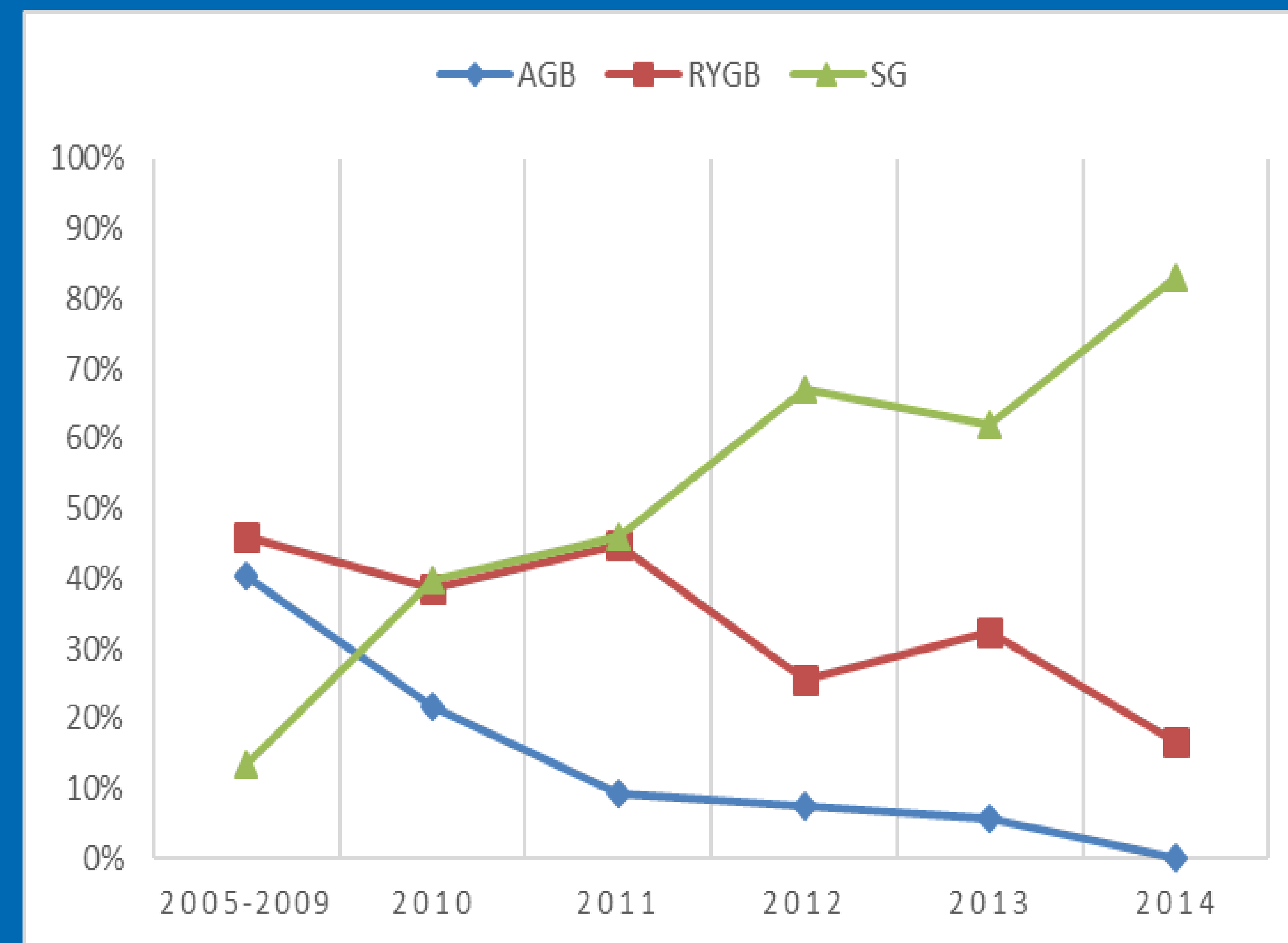
## Methods

Adolescents (age <20 years) who underwent a primary bariatric procedure at 41 contributing health systems participating in 11 Clinical Data Research Networks (CDRN) of National Patient-Centered Clinical Research Network (PCORnet) sites from 2005-2015 were identified. Propensity score regression was used to estimate the percent change in BMI at 1 and 3 years for patients undergoing sleeve gastrectomy (SG), Roux-en-Y gastric bypass (RYGB), and laparoscopic adjustable gastric banding (AGB). 95% confidence intervals and p-values were estimated for procedures with more than 25 patients at each time period; otherwise descriptive estimates were calculated.

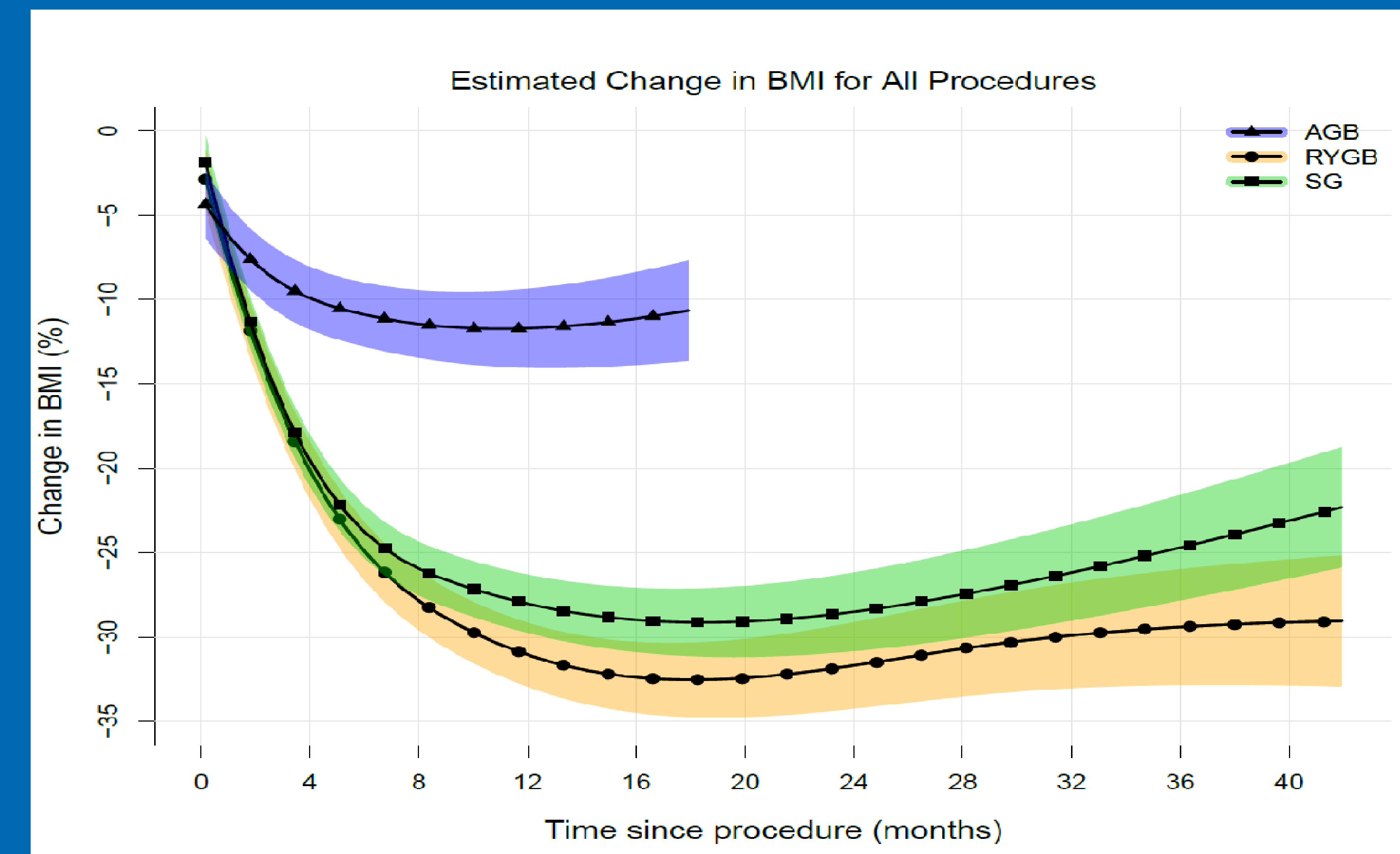
## Cohort Characteristics

- **Age:** Mean (SD), 17.3 (1.6) years; age 12-15, 14%; age 16-17, 29%; age 18-19, 57%
- **Sex:** % Male:Female, 21:79
- **Race/Ethnicity:** 66% White, 25% Black, 17% Hispanic
- **Baseline BMI:** mean (SD) 49.8kg/m<sup>2</sup> (7.8)
- **Baseline BMI Categories:** 35-39, 5%; 40-49, 52%; 50-59, 32%; >60, 11%

## Procedure Prevalence

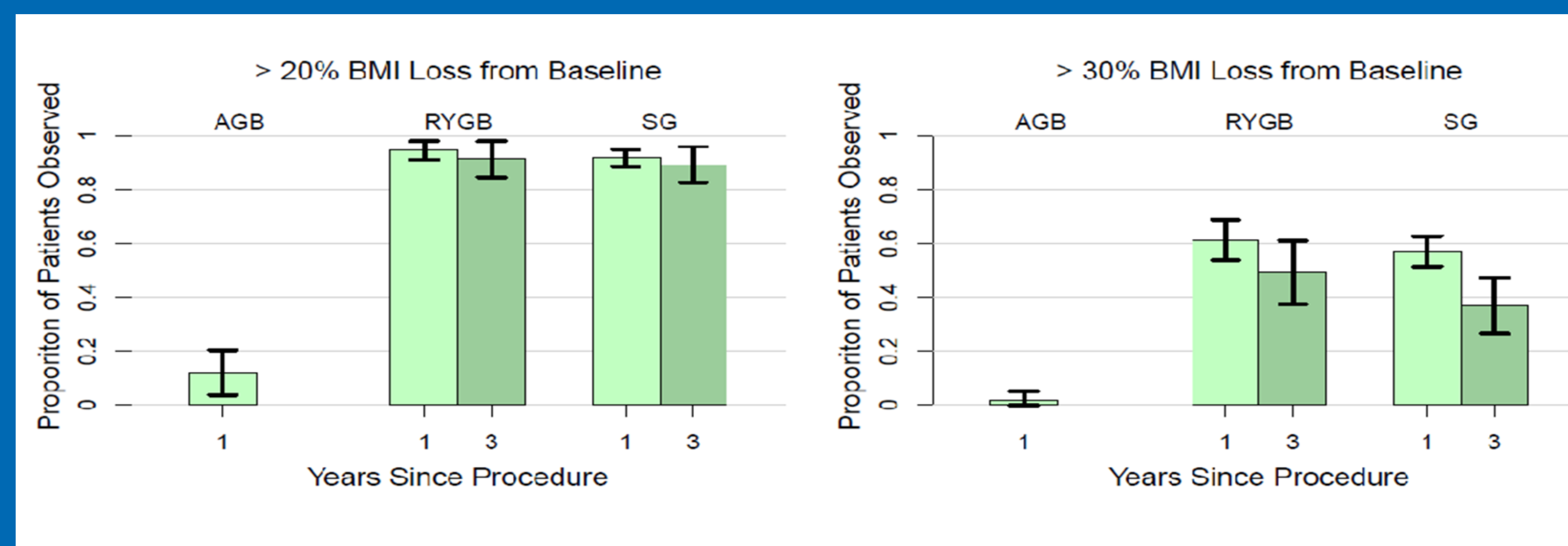


## Percentage Change in Body Mass Index after Bariatric Surgery, by Procedure Type\*



\*This plot shows the estimated change in BMI for the average patient. The confidence intervals for RYGB and SG overlap here even though the difference was significant at 1 year because these curves also take into account uncertainty in the effect of other variables. Sample sizes were insufficient for AGB to model 3 years of follow-up.

## Proportions of Adolescent Patients Undergoing RYGB, SG, and AGB with Weight Loss of >20% and >30% at 1 and 3 years, by Procedure



## Conclusions

The PCORnet Bariatric Study analyzed electronic health record data for the largest sample of adolescents undergoing bariatric surgery to date. Adolescents undergoing SG and RYGB experienced greater declines in BMI at 1- and 3-year follow-up time points, while AGB was significantly less effective for BMI reduction for participants who chose this procedure.

## Acknowledgements

The PCORnet® Study reported in this presentation was conducted using PCORnet®, the National Patient-Centered Clinical Research Network, an initiative funded by the Patient-Centered Outcomes Research Institute (PCORI). The study was funded by PCORI through PCORI Award OBS-1505-30683. The views presented in this [work, publication, article, report, etc.] are solely the responsibility of the author(s) and do not necessarily represent the views of the other organizations participating in or collaborating with PCORnet® or of the Patient-Centered Outcomes Research Institute (PCORI).