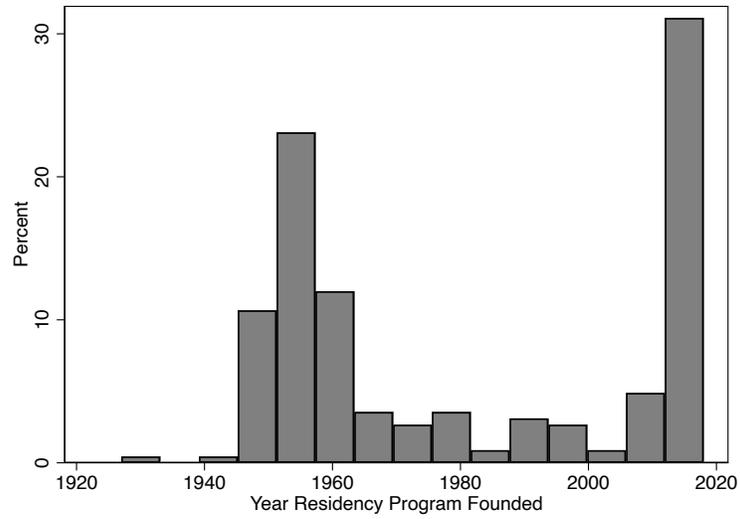
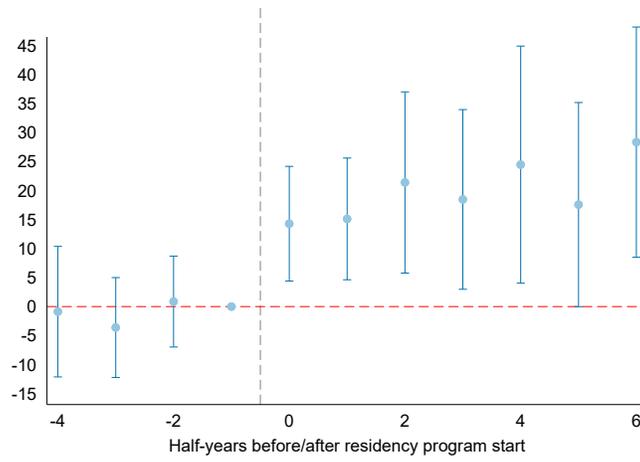


# Appendix

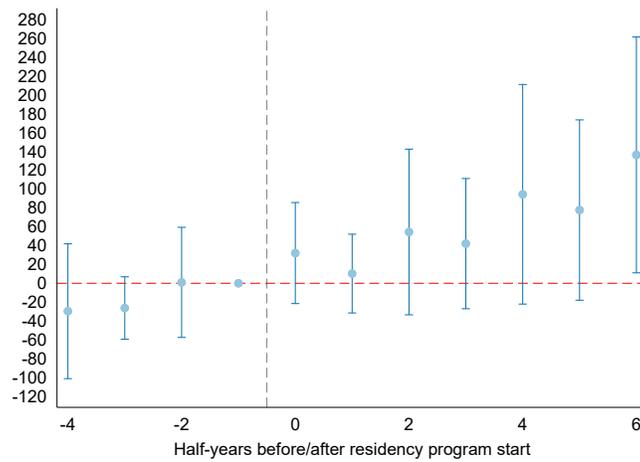


Appendix Figure 1. Annual Physician Residency Training Program Debuts for General Surgery

*Notes:* Historical residency information collected from web-based lookups as described in Section III.



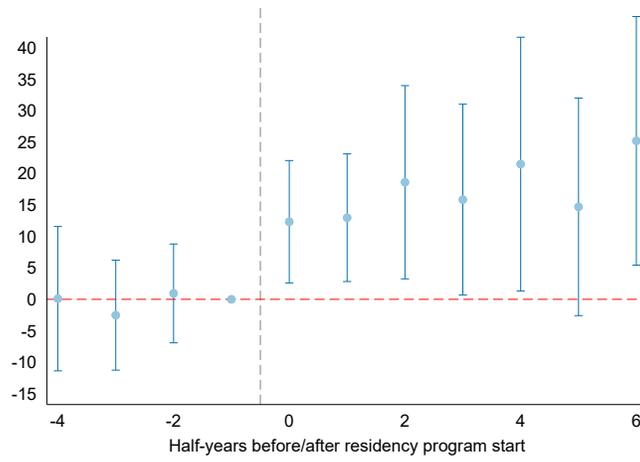
**(a) Hospital Inpatient**



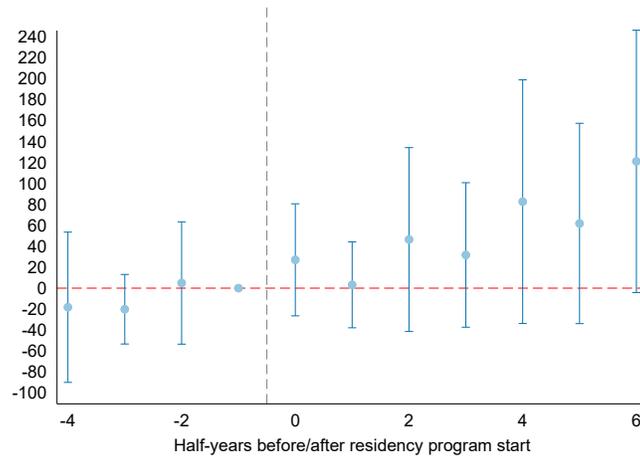
**(b) Hospital Outpatient**

Appendix Figure 2. Effects on Number of Medicare Procedures Stratified by Clinical Setting When Exclude Within-Market Competitors

*Notes:* Procedure volumes are at the half-year level for the Medicare market. Zero time point is the half-year the residency program officially launched. This sensitivity check purges the control group of any hospitals co-located within the same HRR as the treatment group hospitals.



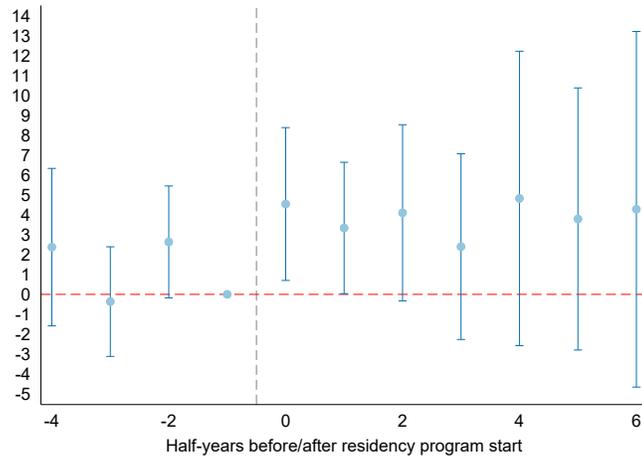
**(a) Hospital Inpatient**



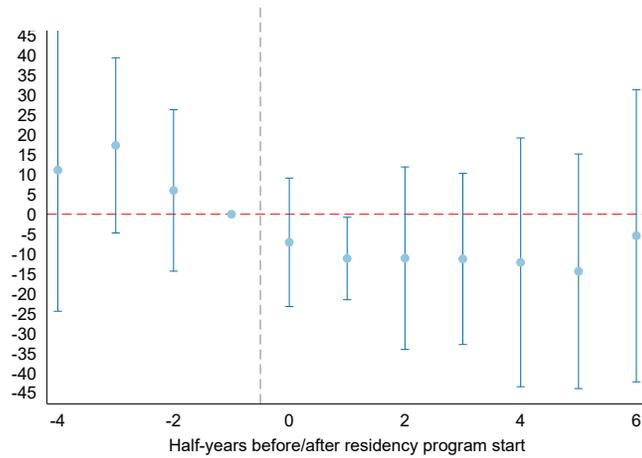
**(b) Hospital Outpatient**

Appendix Figure 3. Effects on Number of Medicare Procedures Stratified by Clinical Setting When Restrict to Higher Procedure Volume Control Group Hospitals

*Notes:* Procedure volumes are at the half-year level for the Medicare market. Zero time point is the half-year the residency program officially launched. This sensitivity check restricts the control group hospitals to those performing at least 150 inpatient procedures at baseline (i.e., during the first half of 2014).



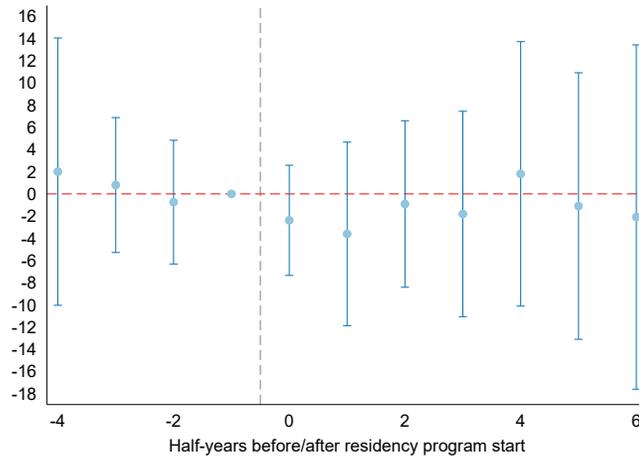
**(a) Hospital Inpatient**



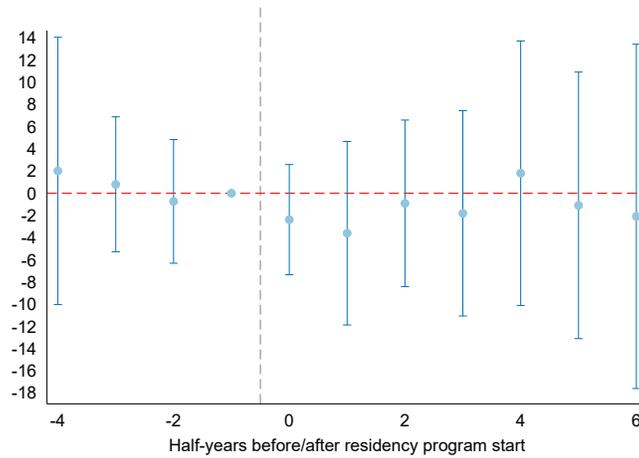
**(b) Hospital Outpatient**

Appendix Figure 4. Event Study Estimates for Market Level Effects of Trainee Program Launch on Number of Medicare Procedures Stratified by Clinical Setting.

*Notes:* Procedure volumes are at the half-year and hospital referral region (HRR) level for the Medicare market. Zero time point is the half-year the relevant treatment group residency program officially launched within the corresponding HRR.



**(a) Unique Fully Trained Physicians**



**(b) Unique Fully Trained Physicians – Vertically Integrated**

Appendix Figure 5. Event Study Estimates for Effects of Trainee Program on Number of Non-Training Surgeons.

*Notes:* Physician counts are at the half-year level and capture unique physician NPIs as the rendering physician for one or more procedures in the relevant hospital. Zero time point is the half-year the residency program officially launched. Hospital employment (i.e., vertical integration) is defined at the NPI-level and is based on information reported within the SK&A data for the corresponding calendar year. Treatment group is restricted to hospitals below the median FTEs corresponding to their newly launched general surgery residency (i.e., the relatively smaller new programs).