

Online Appendix

We construct zip-code level measures of the share of the market served by hospitals j with each hospital characteristic H in zip-code k , Z_k^H , as

$$Z_k^H = \sum_{\substack{j \text{ serving} \\ \text{zip code } k}} a_{jk} \times \sum_{\substack{k \text{ admitting} \\ \text{to } j}} b_{kj} \times \sum_{\substack{j \text{ serving} \\ \text{zip code } k}} a_{jk} AHA_j^H,$$

where a_{jk} is the share of elderly Medicare patients who live in zip k admitted to hospital j ; b_{kj} is the share of patients admitted to hospital j who live in zip k ; and AHA_j^H is an indicator variable from the American Hospital Association survey that is equal to 1 if the hospital has characteristic H , including indicators for <100 and >300 beds (comparison category is 100-300 beds), for-profit/nonprofit ownership (comparison category is public ownership), teaching status (>20 full-time-equivalent residents), system status, and physician-integration status (we consider a hospital to be integrated with its physicians if it reports any of the following relationships with physicians: integrated salary model, equity model, or foundation).¹ The b_{kj} -weighting in Z_k^H assumes that the characteristics of hospital j 's market depends on the weighted average of all of the zip-code patient residence areas that it serves; the final a_{jk} -weighting defines a zip-code's characteristics as the weighted average of all of the hospitals that serve patients who live in zip code k .

We also construct an Hirschman-Herfindahl index of hospital services, HHI_{it} :

$$Z_k^H = \sum_{\substack{j \text{ serving} \\ \text{zip code } k}} a_{jk} \times \sum_{\substack{k \text{ admitting} \\ \text{to } j}} b_{kj} \times \sum_{\substack{j \text{ serving} \\ \text{zip code } k}} a_{jk}^2.$$

¹ a_{jk} and b_{kj} are derived from 20% MEDPAR inpatient claims files, matched with fee-for-service Medicare enrollment files.