

Appendix Methods. Model Specifications

We used a difference-in-differences method and a set of generalized linear models with identity links and normal distributions to estimate differential changes in outcomes for bundled payment versus non-bundled payment patients in the baseline versus BPCI periods (which were hospital-specific and time-varying), including an interaction between hospital safety-net status and the bundled payment participation variable.

Specification: $Y_{i,h,t}(\text{outcome}) = \alpha_h + \beta_1 * \text{BPCI_now}_{h,t} + \beta_2 * \text{SNH_indi}_{h,t} * \text{BPCI_now}_{h,t} + \beta_3 * \text{Quarter_FE}_t + \beta_4 * \text{Hospital_FE}_h + \beta_5 * \text{DRG_FE}_n + \theta * X_{pti,h,t} + M_{m,t} + e_{i,h,t}$.

For i patient, h hospital, t time, m market, and n MS-DRG

BPCI_now was the time-varying indicator of hospital participation in BPCI, which together with hospital and time quarter fixed effects, provided the difference-in-differences estimate for hospital BPCI participation – that is differential changes in outcomes before versus after hospitals began participating in the BPCI program. SNH was a dichotomous indicator for a hospital's safety-net status. The interaction term BPCI_now * SNH gave the heterogeneity of treatment effect of interest – the differential effect of BPCI participation on outcomes for outcomes among patients receiving medical condition episode care at Safety-Net versus Non-Safety-Net Hospitals within BPCI. Xpti was a vector of patient characteristics including age, sex, race/ethnicity, disability status, dual eligibility for Medicare and Medicaid, and 29 Elixhauser clinical conditions. M was a vector of time-varying market characteristics including Medicare Advantage penetration, Accountable Care Organization penetration, and number of Medicare beneficiaries. Because we used hospital fixed effects, which are smaller units than market fixed effects (which would be subsumed in the hospital fixed effect), our models produced within-market (i.e., within-hospital) estimates.

We used results from these regression models to estimate the changes in outcomes associated with admission for medical condition episode care under bundled payments separately for Safety-Net and Other Hospitals. We used Wald tests to evaluate whether differences in outcomes between the Safety-Net and Other Non-Safety-Net Hospital groups were statistically different from zero (i.e., a statistical test on the significance of the interaction between the bundled payments participation variable and hospital safety-net status attribution status [β_2 in equation above]).