Table 4. Summary of Studies Comparing Medicare HEDIS Effectiveness of Care Metrics						
Study	Study Population	Data Time Period	Data Source	Metrics and Analysis	Main Findings	Methodological Notes
Ayanian et al. 2013a	Medicare beneficiaries 65+ enrolled in MA HMOs vs. TM (excludes PPOs, PFFS plans, and HMOs with fewer than 100 enrollees, beneficiaries enrolled less than 1 year).	2003–2009	HEDIS submissions for HMOs, matched to 20% sample Medicare claims for TM beneficiaries; CAHPS data for both groups.	Five HEDIS measures and replicated claims data: mammography screening, diabetes (three measures), and cholesterol testing. HEDIS comparison matches HMO to TM beneficiaries in zip codes by age, sex, race, and ethnicity. Analysis also included four CAHPS measures: ratings of personal doctors and specialists, and influenza and pneumococcal vaccinations.	Beneficiaries enrolled in HMOs had higher ratings of clinical care than TM on all 5 HEDIS measures in all years. The size of this gap narrowed on two metrics over the study period – mammography screenings and HbA1c testing. On CAHPS metrics, HMOs performed better on the 2 immunization metrics throughout the study period. Ratings for personal doctors were higher for TM than HMOs at the beginning of the study period but worse for TM by 2009. Ratings of specialists were the only measure on which TM performed better than HMOs on all years. Twenty-one larger, not-for-profit HMOs established before 2006 had the highest measures of care compared to TM.	National study, which creates comparable HMO/TM metrics adjusted for geography and socio-demographic characteristics. Scope of its findings are limited to metrics that mainly involve preventive services, which prior studies have shown to be an HMO strength. Findings limited to HMO plan type only. HEDIS clinical quality measures not adjusted for health status.
Ayanian et al. 2013b	Female Medicare beneficiaries ages 65–69 enrolled for a full year in Medicare HMOs, PPOs, or TM. Excludes MA plans with less than 500 enrollees.	2009	HEDIS submissions for HMOs and PPOs, matched to 20% sample of Medicare claims for TM beneficiaries.	HEDIS measure for mammography use among women ages 65–69. TM beneficiaries were matched by race/ethnicity, age, eligibility for Medicaid, and geography).	Mammography rates were highest for all women enrolled in HMOs compared to all women in PPOs or TM; minority women enrolled in HMOs and PPOs had higher rates of mammography than minority women in TM. Compared to matched white women, minority women enrolled in MA had higher rates of mammography, except Asian/Pacific Islanders enrolled in PPOs, which had lower rates compared to matched white women in PPOs. In contrast, minority women enrolled in TM had lower rates of mammography than matched white women. Black women enrolled in TM did not have statistically significantly different rates of mammography than matched white women.	National study and one of the few to include PPOs, with comparable metric for TM created and adjusted for geography and sociodemographic characteristics. No adjustment for health status in HEDIS metrics. Study included only a single metric (mammography rates). Unclear how findings could be affected by changes in the standard Medicare benefits package in 2010 that reduce cost sharing for preventive care. (Before then, HMO and PPO coverage for mammography likely was better.)

Table 4 *(continued)*. Summary of Studies Comparing Medicare HEDIS Effectiveness of Care Metrics						
Study	**Study Population**	**Data Time Period**	**Data Source**	**Metrics and Analysis**	**Main Findings**	**Methodological Notes**
Brennan and Shephard 2010	Medicare beneficiaries enrolled in MA (HMO, POS, PPO) and TM.	2006-2007	Publicly reported and NCQA-audited Medicare HEDIS data; TM HEDIS estimates use claims-based metrics created by GEMS project.	Eleven process-based HEDIS measures, including 5 from administrative data and 6 using hybrid measures in HMOs, which allow use of medical record-generated information. MA/TM comparison matched TM sample to MA distribution by state.	MA scores significantly higher than TM on 8 measures of 11, including breast cancer screening, measures associated with diabetes, and beta-blocker use after heart attacks. Traditional Medicare performed better on two measures in both years: monitoring of persistent medications and persistence of beta-blockers, and slightly better on anti-rheumatic drug therapy in 2006. MA plans authorized to use hybrid measures (HMOs) scored higher than those using administrative data measures (PPOs and traditional Medicare). These findings were stable from 2006 to 2007.	National study. The TM comparison data are limited to those with Part D coverage. There is no separate adjustment for sociodemographic characteristics or health status across sectors. Findings for PPOs specifically reported only for 8 metrics of the 11 metrics due to insufficient data. Because the data sources used by HMOs and PPOs to construct measures differed over this period, it is difficult to distinguish whether differences in performance by plan type reflect true performance differences vs. PPOs' use of administrative data that could result in lower scores on metrics.
MedPAC 2014a	HMOs (excluding cost contracts) and local PPOs participating in Medicare Advantage that had HEDIS data for each of the two years. Regional PPOs and private fee-for-service plans are excluded due to insufficient data.	HEDIS data covering care received in 2011 and 2012.	Plan-level HEDIS data reported in the 2012 and 2013 calendar years,	HEDIS measures involving clinical processes, intermediate outcomes, and hospital readmission rates.	In 2012, HMOs scored higher on HEDIS measures, on average, than local PPOs, though the gap between the HMOs and PPOs is narrowing. HMOs performed better on metrics that involve medical record abstraction. Of the 42 HEDIS measures, PPOs performed better than HMOs only in four measures. Improvements in HEDIS indicators between 2012 and 2013 are uneven. More than one-third of the clinical process measures improved across the two years, but HEDIS outcome measures generally remained stable. Hospital readmission rates declined in HMOs, PPOs, and—per MedPAC—TM, over the period.	MedPAC's analysis has the most current data on MA performance on HEDIS indicators of all those reviewed and the main source of comparison between HMOs and local PPOs. The study design is descriptive. There are no comparisons against TM or adjustments for enrollee health status or risk, other than those that are part of the HEDIS specifications. MedPAC notes that there is considerable "noise" in data across years by plan, particularly for metrics relying on medical records.

Table 4 *(continued)*. Summary of Studies Comparing Medicare HEDIS Effectiveness of Care Metrics						
Study	**Study Population**	**Data Time Period**	**Data Source**	**Metrics and Analysis**	**Main Findings**	**Methodological Notes**
NCQA 2013	HMOs and PPOs that report HEDIS scores for Medicare, Medicaid, or commercial insurance.	2010–2012 (prior years' data shown for some metrics)	Plan-level HEDIS data.	Publicly reported HEDIS measures. Appendices include extensive tabular data, with HMO and PPO national average scores (2012) and variation between the 90th and 10th percentile.	Measures that are part of the star rating system show improvement between 2010 and 2012. Over that period, Medicare HMOs improved the most on colorectal cancer screening, persistence of beta blockers after heart attack, and potentially harmful drug interactions. Substance abuse treatment metrics (not in the star ratings) declined, most notably for Medicare PPOs.	This report covers HEDIS performance in MA. Its focus is to provide a descriptive review of the state of quality in the US in 2013 across managed care payer markets (including commercial, Medicare, and Medicaid). Report does not test for statistical significance or test trends.
Trivedi et al. 2005	Medicare beneficiaries 65+ enrolled in Medicare health plans (mainly HMOs), with comparison of white vs. black subgroups.	1997–2003	Beneficiary-level HEDIS data for 183 plans participating in all five years, matched with the Medicare enrollment file.	Nine HEDIS measures for breast cancer screening (1), diabetes care (5), and cardiovascular care (3). Statistical analysis used to adjust white/black rates by year, race, age, sex, zip code of residence, and Medicaid coverage.	HEDIS rates for whites and blacks improved on all measures over the period. The disparity between whites and blacks improved on 7 of the 9 measures. Results were not explained by changes in sociodemographics. Authors note that rates still could be better and that disparities still were extensive.	This study's main conclusion is to suggest a link between improvements in quality in HMOs and reduced disparities in care, at least for whites vs. blacks. A sensitivity test that included all health plans participating for at least one year (a less restrictive condition) generated similar results.
Schneider et al. 2005	Medicare HMO beneficiaries enrolled in for-profit and nonprofit plans in 1997.	1997	1998 HEDIS files	Four HEDIS measures: breast cancer screening, diabetic eye exam, beta blockers after myocardial infarction, and follow-up after mental health hospitalization. Analysis is based on 231 plans reporting on at least one measure and having other matchable demographic data.	Nonprofit plans had higher scores on all 4 metrics that persisted after adjustments for geographic, selection, and other health plan differences. Findings show network/IPAs are more common in for-profit plans, suggesting that differences in managerial processes could explain some of the results.	While the data used in this study are from 1997, the study is nationally focused and includes controls for a number of potentially confounding variables. The comparison used zip code-based adjustment for demographic differences and socio-demographically-adjusted comparisons by plan type. Other differences were addressed by county-specific comparisons.

SOURCE: Authors' analysis based on review of published papers.