2024 National Impact Assessment of the Centers for Medicare & Medicaid Services (CMS) Quality Measures Report

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Prepared for CMS by Health Services Advisory Group, Inc. (HSAG)

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Executive Summary

This report summarizes the quality and efficiency impacts associated with measures used in CMS programs.

The Impact Assessment, as required under section 1890A(a)(6) of the Social Security Act (the Act), is a triennial analysis of the quality and efficiency impact of the use of endorsed measures in 26 Centers for Medicare & Medicaid Services (CMS) quality and value-based incentive payment programs. For completeness, the report also includes analyses of non-endorsed measures. This is the fifth Impact Assessment Report in the series beginning with the inaugural 2012 publication,[1] and it captures a unique moment in history. The initial period included in the analysis (2016–2019) demonstrates that trends in improvement observed in prior reports generally continued. However, in March 2020, the health care world changed and coronavirus disease 2019 (COVID-19) became a global pandemic, resulting in more than 1 million lives lost in the United States.[2,3] Facing a surge of critically ill patients, the health care system had to react quickly to address constrained resources and the challenges of the pandemic. Because of the time frame, this report compares quality measure scores pre-COVID-19 with results in 2020 and 2021, the initial years of the COVID-19 public health emergency (PHE). The story will continue in subsequent impact assessments as more complete data emerge.

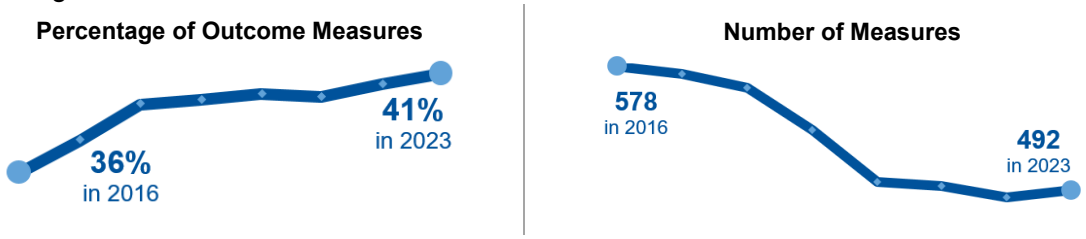
Impact for this report is defined as progress supporting the CMS National Quality Strategy,[4] including the health care quality priorities, goals, and objectives of the Cascade of Meaningful Measures 2.0 framework.[5] The analyses assess the CMS measure portfolio (current through March 2023), including progress in reducing measurement burden, and track national measure performance trends, segregating annual data during the COVID-19 PHE that deviated from historical trends. The report quantifies patient impacts and costs avoided from improving measure performance rates and identifies disparities. Focus groups representing underserved communities explored drivers of disparities to inform measure development. While the progress of quality measures in achieving CMS priorities and goals is quantified, it is important to note that this report is not designed to discern the causal mechanism for changes in performance.

CMS Measures Portfolio (2023 Performance Year)

26 Quality Programs	**492** Unique Measures	**204** Outcome	**251** Process	**8** Structure	**29** Cost

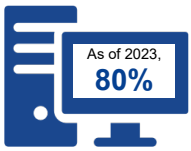
Focus on outcomes and burden reduction

Percentage of outcome measures increased, while overall count of measures decreased, 2016–2023:



Digital data sources

At least one reporting option for a measure uses data from electronic health records; case management, administrative, or laboratory systems; health information exchanges; prescription drug monitoring programs; clinical registries; electronically submitted assessments; or patient portals, applications, or wearable devices.[6]



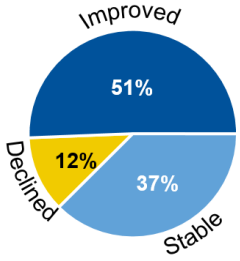
of measures at the program level* use **digital data sources**

*Program-level measure count for the 2023 performance year is 703; duplicate counts occur when measures are used across programs.

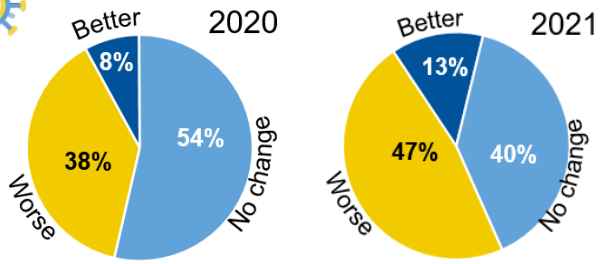
Pre-COVID-19 PHE Measure Performance Trends

371 measures with ≥3 years of reliable data from **2016 to 2019** were analyzed. See Appendix E for analytic results for all measures.

88% of the analyzed measures had **improved or stable performance** prior to the COVID-19 PHE.



Measure Performance Differences During the COVID-19 PHE



Of 371 measures with pre-COVID-19 trend data, 57% in 2020 and 80% in 2021 had sufficient data for this analysis.

46% in **2020**
60% in **2021**
had differences from 2016–2019 trends (better or worse)

Effects of COVID-19 Public Health Emergency on Quality Measures

- **≥ 50% of measures** in five priorities had 2021 rates **worse than expected** from 2016–2019 baseline trends; measure topics below represent notable examples. A percentage change is an absolute difference except in Safety, where a change in SIR is a relative difference.

  Wellness and Prevention (69% of measures): cancer screenings reported by Medicare Advantage plans, accountable care organizations (ACOs), Merit-based Incentive Payment System (MIPS) clinician groups reporting via Web Interface, and Marketplace plans
  - breast: 2.8 to 7.4 percentage points worse
  - colorectal: 2.7 to 8.3 percentage points worse

  Behavioral Health (55%): tobacco use – treatment provided or offered in inpatient psychiatric facilities (IPFs), 8.1 to 13.7 percentage points worse; depression screening and follow-up plan, reported by ACOs and by MIPS clinician groups via Web Interface, 7.4 to 22.4 percentage points worse

  Safety (54%): standardized infection ratio (SIR) in acute care hospitals (relative difference):
  - central line–associated bloodstream infection (CLABSI), 94% worse
  - methicillin-resistant *Staphylococcus aureus* (MRSA), 55% worse
  - catheter-associated urinary tract infection (CAUTI), 34% worse

Chronic Conditions (52%): among patients associated with ACOs, Medicare Advantage enrollees, and Marketplace members:
- blood pressure control (ACOs only): 2.8 percentage points worse
- hemoglobin A1c control: 1.5 to 7.5 percentage points worse

Seamless Care Coordination (50%): transition records from IPFs: provider-to-provider, 16.0 percentage points worse; provider-to-patient, 20.9 percentage points worse

- **≥ 35% of measures** in two priorities had 2021 rates **better than expected** from 2016–2019 baseline trends; measure topics below represent notable examples. Percentage changes are absolute differences.

  Seamless Care Coordination (50%): mental health follow-up after hospitalization for patients in IPFs and Medicare Advantage enrollees, 5.9 to 9.8 percentage points better

  Affordability and Efficiency (38%): potentially preventable readmissions in post-acute care settings, 0.5 to 2.7 percentage points better; hospitalizations of nursing home and home health patients, 0.7 to 1.5 percentage points better; emergency department visits for home health patients, 1.4 percentage points better

National Disparities and Health Equity

- Most CMS programs (85%) and 265 of 590 (45%) measures with data had results stratified by at least one variable: race/ethnicity (45%), urban/rural location (33%), Area Deprivation Index [ADI] (28%), and dual eligibility (27%).
- Disparities were most prevalent among racial and ethnic groups and dual-eligible enrollees; notable examples include readmissions and medication adherence.
- Wellness and Prevention had the highest percentage of measures showing disparities; notable examples include pneumococcal and influenza vaccinations among racial and ethnic groups, dual-eligible enrollees, and residents of high ADI areas.
- Among 197 measures with at least one disparity detected, disparities were observed as follows:
  - Persistent (disparity in first and last data years): 85% of measures, mostly in race/ethnicity comparisons; notable examples include dialysis facility patients waitlisted for transplants, hemoglobin A1c control, hospital visits after colonoscopy, and mental health follow-up after hospitalization.
  - Emerging (disparity in the last data year but not the first): 46% of measures, mostly in race/ethnicity and urban/rural strata; notable examples include bronchodilator medication prescribing, comprehensive assessment at admission for hospice, and antidepressant adherence.
  - Eliminated (disparity in the first data year but not the last): 39% of measures, mostly in race/ethnicity and urban/rural strata; notable examples include overall rating of health plan, fall risk, and fibrinolytic therapy within 30 minutes of emergency department (ED) arrival.
- Focus groups identified social drivers of health, barriers in the health system, and barriers in clinical encounters as factors contributing to disparities.

High-Impact Measurement for CMS Health Care Quality Priorities

The following notable examples highlight areas of improvement and patient impact from the health care quality priority chapters, noting effects of the COVID-19 PHE where applicable.

Person-Centered Care

- 1.1 million more comprehensive assessments at admission to hospice and palliative care were completed as measure scores improved from 78.5% to 94.8% (2016–2021).
- 3.2 million more home health assessment episodes documented improved outcomes in bathing, bed transferring, and dyspnea (2016–2019). Scores were worse than expected in 2020 and 2021.
- Nearly 2 million more Medicare enrollees with Part D in the medication therapy management program completed a comprehensive medication review (2016–2020) as the Medicare fee-for-service (FFS) rate improved from 19.1% to 40.1%, and the Medicare Advantage rate improved from 61.3% to 83.3%. Scores for both populations were worse than expected in 2021.

Safety

- 34,455 fewer cases of CAUTI, CLABSI, and MRSA were reported in acute care facilities prior to the COVID-19 PHE (2015–2019). Total cost-avoided estimates ranged widely from $93.8 million to $1.3 billion. Scores were all worse than expected in 2020 and 2021. In contrast, from 2016 to 2021 (no data available for 2020), healthcare-associated infections (HAIs) in long-term care hospitals improved, resulting in 1,588 fewer CAUTIs and 1,751 fewer CLABSIs.
- 451 fewer falls with major injury (2017–2021) occurred in inpatient rehabilitation facilities (IRFs) and long-term care hospitals. Similarly, skilled nursing facility rates also improved (2017–2019), but rates were worse than expected in 2021 (no 2020 data were available). In contrast, more long-stay nursing home residents experienced falls (2016–2020), but rates were better than expected in 2021.

Affordability and Efficiency

- 22,617 fewer all-cause readmissions of Medicare Advantage enrollees occurred as rates improved from 11.5% to 10.8% (2016–2021); estimated costs avoided ranged from $385.6 million to $395.8 million. By contrast, hospital-wide all-cause readmission rates for Medicare FFS patients were stable (15.3% to 15.5%, 2016–2020) and better than expected in 2021 (15.0%). These measures are included in the Universal Foundation.[7]
- Costs per episode for total hip/knee arthroplasty (THA/TKA) decreased from $25,533 to $21,096 (2016–2020) for Medicare FFS patients. During that period, 2,062 fewer patients were readmitted after THA/TKA (4.4% versus 4.1%). Complications occurred in 1,931 fewer patients (2.8% versus 2.4%, 2016–2021), representing estimated costs avoided ranging from $28.0 million to $66.9 million.

Chronic Conditions

- 11,417 fewer deaths of Medicare FFS patients occurred within 30 days of admission for acute myocardial infarction (AMI), stroke/cerebrovascular accident (CVA), heart failure (2016–2020), and coronary artery bypass graft (CABG) (2016–2021).
- 3.7 million more Medicare FFS and Medicare Advantage enrollees (2016–2020) and 234,474 more Marketplace members (2016–2021) were adherent to statin medications, representing estimated costs avoided of $11.6 billion and $732.5 million, respectively. Also, adherence to diabetes and renin-angiotensin system (RAS) antagonist medications improved for the same populations.
- Nearly 400,000 more patients associated with ACOs exhibited blood pressure control as rates on this Universal Foundation measure improved from 70.6% to 74.9% (2016–2019). Scores were worse than expected in 2020 and 2021. In contrast, between 2016 and 2021, MIPS clinician groups reporting via Web Interface recorded stable performance.

Wellness and Prevention

- 3.4 million more influenza vaccines were administered to patients associated with ACOs as scores improved from 68.0% to 80.1% (2016–2021). By comparison, MIPS clinician groups reporting via Web Interface also recorded improved scores for the same period.
- Universal Foundation measure impacts included the following:
  - 1.1 million more colorectal cancer screenings for patients associated with ACOs were completed as performance improved from 61.4% to 70.4% (2016–2019). Scores were worse than expected in 2020 and 2021. By comparison, performance improved for MIPS clinician groups reporting via Web Interface (2016–2020) but was worse than expected in 2021.
  - 194,000 more breast cancer screenings were provided to patients associated with ACOs as performance improved from 67.4% to 73.4% (2016–2019). Scores were worse than expected in 2020 and 2021. By comparison, measure performance improved for MIPS clinician groups reporting via Web Interface (2016–2020) but was worse than expected in 2021.
  - Adolescent immunization rates increased from 13.4% to 23.3% (2016–2018) among Marketplace members. Data for 2019 were unavailable, but scores were worse than expected in 2020 and 2021.

Seamless Care Coordination

- Medication review by a physician or pharmacist improved from 89.6% to 91.8% of older adults in Medicare Advantage special needs plans (2016–2020). Scores were worse than expected in 2021.

Behavioral Health

- 3.6 million more patients associated with ACOs received depression screening and follow-up as rates improved from 54.3% to 70.2% (2016–2019). By comparison, rates reported by MIPS clinician groups via Web Interface during the same period improved from 45.8% to 73.4%. Rates for this Universal Foundation measure in both programs were worse than expected in 2020 and 2021.
- 10,981 additional Medicare Advantage enrollees newly diagnosed with major depression adhered to medication as rates improved from 55.5% to 57.2% (2016–2018). In contrast, rates remained stable for Marketplace members. Scores in both programs were better than expected in 2020 and 2021.
- 4,664 more adolescent and adult Marketplace members initiated and engaged in alcohol and drug use disorder treatment as rates improved from 21.4% to 23.7% (2016–2018). Scores for the measure were worse than expected in 2020 and 2021.

Burden Reduction

Results of the 2023 measures portfolio analysis reflect CMS' commitment to reducing administrative and regulatory burden while strengthening access to high-quality care.

- A net reduction of 86 unique measures (15%) from 2016 to 2023 reflects progress in CMS' efforts to optimize the measure portfolio, including the Meaningful Measures Initiative,[8] CMS measure removal criteria,[9(p. 42391)] and the annual Measure Set Review.[10]
- 20% of unique measures are used in more than one CMS quality program, an indicator of alignment efforts such as the Universal Foundation of measures, coordination with federal partners, and participation in the public-private Core Quality Measures Collaborative (CQMC) to develop core measure sets.[11]
- 80% of measures, including 10% implemented as electronic clinical quality measures (eCQMs), offer at least one reporting option at the program level using a digital data source. eCQMs have been shown to use fewer resources to calculate and validate than, for example, chart-abstracted metrics.[6,12]

Conclusion

The report findings suggest that improvements in measure performance are associated with patient impacts and costs avoided for select CMS health care quality priorities and programs, particularly prior to the COVID-19 PHE. During 2020 and 2021, a relatively large proportion of measures had worse than expected performance, including significant worsening of key patient safety metrics. COVID-19 created challenges for most health systems that limited capacity to sustain improvement for certain priorities and goals during a pandemic. CMS continued progress in increasing the proportion of outcome measures and reducing burden through use of fewer measures across the portfolio. Persistent health equity gaps for historically disadvantaged groups were identified for the vast majority of measures analyzed, and perspectives from focus groups underscored the critical need to develop equity measures that address bias in care delivery and deficits in cultural competency, unmet health-related social needs, access, and health literacy.

Introduction

As the nation's largest health insurer, the Centers for Medicare & Medicaid Services (CMS) has established quality standards, metrics, and programs to improve health care not just for the 170 million individuals supported by its programs, but for all Americans.[13] The *2024 National Impact Assessment of CMS Quality Measures Report* (Impact Assessment Report), as required under section 1890A(a)(6) of the Social Security Act, assesses the quality and efficiency impact of measures endorsed by the consensus-based entity[i] and used by CMS. This is the fifth Impact Assessment Report in the series beginning with the inaugural 2012 publication.

CMS curates a portfolio of measures to support a patient-centered health care delivery system focused on quality, efficiency, and equity. Public reporting of measure results ensures transparency, drives improvement, and supports patients and caregivers in making informed health care decisions. The 2024 Impact Assessment Report comprehensively assembles and analyzes evidence to guide those efforts. Report development is guided by input from a multidisciplinary Technical Expert Panel (TEP) and a Federal Assessment Steering Committee (FASC). (See Appendix A.) The TEP assembles national experts in quality measurement, health care policy, and statistics, as well as patients/caregivers who share their lived experiences. The FASC is composed of experts from CMS and other agencies of the U.S. Department of Health and Human Services (HHS). The report is intended for use by a wide array of interested parties in national health care quality, including policymakers, health services researchers, payers, providers, and patients and their caregivers.

Impact is defined for this report as progress supporting the CMS National Quality Strategy,[4] including the health care quality priorities, goals, and objectives of the Cascade of Meaningful Measures 2.0 framework.[5] As the time frame for these retrospective analyses (2016–2021) represents a critical period in U.S. health care marked by the unprecedented effects of the pandemic, this report compares national measure performance trends pre-COVID-19 (2016–2019) with results in 2020 and 2021, the initial years of the COVID-19 public health emergency (PHE). Also, with health equity as a goal of the CMS National Quality Strategy, CMS enhanced analyses for the 2024 Impact Assessment Report to identify national patterns of disparities from quality measure data and obtain input from underserved communities on the drivers of disparities to inform future measure development. Additional analyses assess patient impact and costs avoided under CMS health care quality priorities. While the progress of quality measures in achieving CMS priorities and goals is quantified, it is important to note that this report is not designed to discern the causal mechanism for observed changes in measure performance.

A key component of the Meaningful Measures Initiative[8] is using high-value measures and reducing burden; therefore, the report examines key metrics for the CMS measure portfolio (current as of 2023), including the proportion of outcome measures, trends in the number of unique measures, and the percentage of measures that use digital data sources, to track progress. CMS has a multifaceted approach to optimize the portfolio and reduce burden, including annual

[i] For completeness, the report includes analyses of both endorsed and non-endorsed measures in CMS programs.

reviews of measures that apply a set of standards (e.g., cost-benefit analysis),[9(p. 42391)] consensus-based entity (CBE) review of measure sets,[10] and retirement of measures as new measures are added. Further burden reduction is achieved by aligning measures across CMS, federal agencies, and payers. Efforts to align measures include the Universal Foundation of quality measures highlighted throughout the report, which focuses provider attention on high-value measures that allow comparisons across programs.[7] Public-private alignment efforts include the Core Quality Measures Collaborative (CQMC), which represents a broad-based coalition of health care leaders working to facilitate cross-payer alignment through the development of core sets of measures.[11]

In all of these activities, CMS works closely with other federal agencies, such as the Centers for Disease Control and Prevention (CDC), Agency for Healthcare Research and Quality (AHRQ), and Departments of Veterans Affairs and Defense, to further the development of a coherent and efficient quality measurement system.

Finally, CMS has a goal to accelerate the transition to a digital and data-driven health care system,[4] and a critical first step is use of digital data sources for measures. The report highlights the percentage of measures that use digital data sources within the health care quality priorities and for the overall portfolio.

Guide to Report Organization

The following chapters and appendices comprise the report:

Chapter 1: COVID-19 PHE Effect on Quality Measurement

The goal of this chapter is to determine whether measure scores during the COVID-19 PHE (2020–2021) differed from expectations based on trends prior to the PHE (2016–2019) and to characterize the findings by accountable entity and by health care quality priority. Measure data that are identified as deviating significantly from expected trends were excluded from inferential analysis in the subsequent chapters. Further analysis examines whether the effects observed during the COVID-19 PHE differ by subpopulations of interest.

Chapter 2: National Findings on Health Equity

This chapter provides both quantitative and qualitative data in support of CMS' drive to advance health equity and to inform future quality measure development. The first section of the chapter summarizes analyses to determine whether population groups differed in quality measure performance at a national level. Key disparity variables including race/ethnicity, dual eligibility, residential location on an urban/rural continuum, and the Area Deprivation Index are examined. Both recent results and trend categories are summarized across CMS health care quality priorities to demonstrate where disparities are prevalent and to assess progress.

In the second section of the chapter, results are summarized from focus groups representing underserved communities, convened to examine drivers of disparities in health care delivery and health outcomes. The lived experiences of community-based health and social service workers and the populations they serve provide relatable context for the analytic evidence of disparities and important insights on topics that quality measurement could address. The chapter concludes by identifying lessons learned that CMS is addressing to support measurement which advances health equity for underserved communities.

Chapters 3–10: Health Care Quality Priorities

The remainder of the report is organized by the Meaningful Measures 2.0 framework. Chapters address measures supporting the eight health care quality priorities: Person-Centered Care, Equity, Safety, Affordability and Efficiency, Chronic Conditions, Wellness and Prevention, Seamless Care Coordination, and Behavioral Health. Graphics and text reveal characteristics of the CMS measure portfolio, display performance trends, and examine measure-specific results of disparity analyses, as follows:

Measure Portfolio

The measure portfolio analysis includes statistics about the measures included in 26 CMS quality programs between 2016 and 2023 as finalized through rulemaking or program announcements published through March 2023. As measures can be used across multiple programs, duplicates were removed to identify unique counts

of measures. Measures for the 2023 performance period, according to published rules or documentation for each CMS program, are available in Appendix B.

Focus on outcomes and burden reduction: Metrics showing outcome measures as an increasing percentage of the portfolio from 2016 to 2023 demonstrate CMS' efforts to measure what is most meaningful to patients and clinicians.

Digital data sources: CMS quality programs are transitioning to digital quality measures (dQMs), which use standardized, digital data captured from one or more sources of health information and exchanged via interoperable systems; use code packages to apply standards-based specifications; and are easily computable in an integrated environment.[6] The percentage of measures using digital data sources is provided for each priority.

Portfolio coverage: A table indicates which accountable entities (e.g., hospitals, health plans, clinicians) report measures targeting specific CMS goals. Table 1 identifies the included programs.

Impact of measures for each priority: Select findings of measures with notable improving trends, patient impact, and costs avoided are summarized and are characterized with COVID-19 PHE findings. When available, comparisons with external sources of quality data, including national and international reports, provide context for the results.

Table 1: CMS Quality Programs Included in the 2024 Impact Assessment Report (by Accountable Entity)

Accountable Care Organization
Medicare Shared Savings Program
Acute Care Facility
Ambulatory Surgical Center Quality Reporting Program
Hospital-Acquired Condition Reduction Program
Hospital Inpatient Quality Reporting Program
Hospital Outpatient Quality Reporting Program
Hospital Readmissions Reduction Program
Hospital Value-Based Purchasing Program
Inpatient Psychiatric Facility Quality Reporting Program
Promoting Interoperability Programs
Prospective Payment System–Exempt Cancer Hospital Quality Reporting Program*
Clinician
Merit-based Incentive Payment System
Health Plan
Medicare Part C & D Star Ratings
Medicare Part C & D Display Measures
Marketplace Quality Rating System
Fee-for-Service (FFS) Consumer Assessment of Healthcare Providers and Systems® (CAHPS®)**
Post-Acute Care/Dialysis Organization
Dialysis Facility Compare
End-Stage Renal Disease Quality Reporting Program
Home Health Quality Reporting Program
Hospice Quality Reporting Program
Inpatient Rehabilitation Facilities Quality Reporting Program
Long-Term Care Hospital Quality Reporting Program
Skilled Nursing Facility Quality Reporting Program
Skilled Nursing Facility Value-Based Purchasing Program
Nursing Home Quality Initiative/Nursing Home Compare***
State/Medicaid
Medicaid Adult Core Set
Medicaid and Children's Health Insurance Program Child Core Set

* Eleven specialized facilities in the nation are designated Prospective Payment System (PPS)-Exempt Cancer Hospitals.

** FFS CAHPS fulfills a statutory requirement to facilitate comparisons of Medicare managed care with care in FFS Medicare; therefore, it is included under Health Plan.

***"Nursing home" refers to both Medicare- and Medicaid-certified facilities.

Disparities results: A summary table indicates the presence of significant disparities by population stratum (e.g., race/ethnicity, urban/rural location, dual eligibility for Medicare and Medicaid, Area Deprivation Index [ADI]).[14]

Key disparities findings: The text describes significant disparities detected for vulnerable and underserved groups. The analysis characterizes disparities as eliminated, emerging, and persistent, based on differences near the beginning and end of the period evaluated in this report.

Chapter 11: Lessons Learned Across CMS Health Care Quality Priorities for a Resilient Health Care System

A discussion of lessons learned, recommendations, and planned actions to improve resilience centers on select key findings from the preceding health care quality priorities, supported by findings in the literature.

Chapter 12: Conclusion and Future Directions

The report closes with a summary of CMS progress, challenges during the COVID-19 PHE, and a look ahead to the next Impact Assessment in a post-pandemic health care environment.

Appendices

Appendix A acknowledges contributors to the report. Appendix B contains a sortable measure inventory spreadsheet. Appendix C documents the focus group activities described in *National Findings on Health Equity*. Appendix D details analytic methods, and Appendix E contains comprehensive trend, disparity, patient impact, and cost results for all measures analyzed.

Analytic Terms and Methods

Area Deprivation Index (ADI) is a measure of socioeconomic disadvantage based on 17 indicators.[ii] When linked to residential nine-digit ZIP codes, the ADI provides supplemental information about education, housing, and employment status.

Average annual percentage change (AAPC), a measure of relative change over time, is used to determine trends in measure performance in relative terms.

Cost-avoided analysis interprets improvement in national measure scores during the trend series in terms of potential costs avoided from the payer perspective based on patient populations. Per-event cost estimates or ranges from published research and grey literature were converted into 2021 dollars and multiplied by the number of additional favorable events estimated in the patient impact analysis. Appendix D contains a bibliography of research that informed the estimates.

COVID-19 analysis compares recent measure performance with projections of trends prior to the PHE (i.e., observed versus expected rates) to identify changes in scores, nationally and across populations.

Direct standardization, which allows direct comparison of rates with different age and sex distributions, was employed for outcome measures when unadjusted data were available. No other adjustments were made. An exception is noted when measure scores were adjusted by the data owner and were not available in raw form.

Disparities analyses focused on comparisons of measure performance for population subgroups based on race/ethnicity, urban/rural location, dual-eligibility (Medicare and Medicaid) status, or ADI. Because of differences in statistical methodology and definitions of dual eligibility, disparity results for the dual-eligible population in this report may differ from those in stratified reports by the CMS Office of Minority Health (OMH).[15]

Medicare Bayesian Improved Surname Geocoding (MBISG) 2.1 was used to impute race and ethnicity if the data owner did not provide those data elements. OMH also uses MBISG 2.1 in stratified reporting.

Patient impact analysis was performed on measures with event-level trend data. For each year of data, the difference between the number of *observed* numerator events and the *expected* number if the rate had remained stable (based on the current denominator size) was calculated. Attribution of factors contributing to positive changes in measure performance rates is beyond the scope of these analyses, but given the central role of quality measures in CMS programs and initiatives, it is plausible to attribute at least some of the improvements characterized in this report to measurement.

Patient-level data, whenever possible, were requested directly from CMS quality programs and their respective contractors.

Performance period is the span of time in which measured activities occur.

Social drivers of health are nonmedical factors that influence health outcomes, such as food insecurity, housing instability, transportation needs, utility difficulties, and interpersonal safety.

Trends in national performance were interpreted from an analysis of measure scores using at least three and at most six annual data points between 2016 and 2021. The AAPC was combined with 90% confidence intervals to characterize the precision in measure trend estimates.

[ii] For the purposes of this report, the ADI results should be interpreted with caution. The reader should understand that use of the ADI is limited to detecting broad national-level associations between measure scores and area deprivation. More information about the potential strengths and limitations of the ADI can be found at the following links:
The Neighborhood Atlas Area Deprivation Index for Measuring Socioeconomic Status: An Overemphasis on Home Value
The Area Deprivation Index Is the Most Scientifically Validated Social Exposome Tool Available for Policies Advancing Health Equity

1. COVID-19 PHE

A key component of this assessment examines how measure rates changed during the COVID-19 public health emergency.

CMS Eased Reporting Requirements to Support Providers and Payers

Leveraged statutory waiver authority[iii] to issue exceptions and exemptions for reporting quality measures across programs and settings[16,17]

- Extended certain deadlines to report quality measures
- Modified quality measure specifications to include telehealth services in denominators and expanded payment for telehealth services
- Suppressed data from value-based programs[18] and selectively applied payment determinations based on quality measure reporting/performance to avoid unfairly penalizing providers[19,20]

Timeline for 2024 Impact Assessment Report (2016–2021)

Changes in Utilization of Health Care Services and Case Mix

Published literature and reports using data from 2020 to 2021 document impact on utilization that varied widely across settings, differentially affecting quality measures.

- **Outpatient telemedicine utilization** expanded greatly, taking the place of many in-person visits. CMS issued waivers that facilitated telemedicine services, particularly among Medicare FFS patients, including those in the most disadvantaged neighborhoods.[21]
- **Elective and outpatient procedures** were delayed or postponed during early 2020.[22,23]
- **Utilization across the care continuum** of inpatient, emergency, and outpatient services decreased in 2020,[24-26] and rates for some chronic disease control measures concurrently declined.
- **Hospital discharge rates to skilled nursing facilities** declined, while certain hospital discharge rates—including discharges to home, home health, and inpatient rehabilitation facilities—remained stable during 2020 compared with the 2019 baseline.[27]
- **Hospital Medicare case-mix index** increased in 2020,[28] driven by patients with high severity of illness despite lower overall patient volumes. This shift in patient population indicates fewer elective procedures and increased volume of COVID-19 patients.

[iii] Section 1135 of the Social Security Act.

Effects on Quality Measure Performance

The abrupt changes in the health care environment during the beginning of the COVID-19 PHE, including workforce staffing challenges and shifts in patient comorbidities, also altered some data collection and reporting of quality measures and contributed to variable effects on performance scores (Figure 1). Analyses were conducted to examine whether observed data points in 2020 and 2021 deviated significantly from expected scores derived from available trend data. These analyses were limited to measures with sufficient data available to establish a baseline trend before the COVID-19 PHE (at least three annual data points).

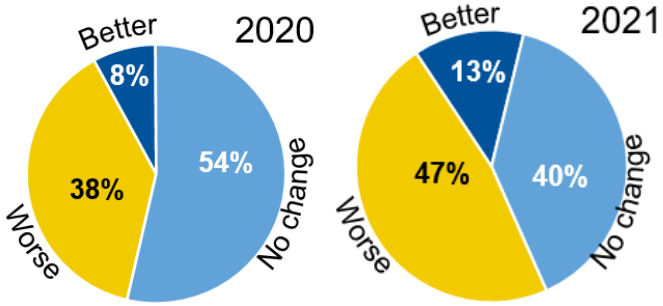
Significant deviations provide evidence that, in many cases, measure scores during the COVID-19 PHE were not consistent with historical measure performance trends.

Figure 1: Potential Influences on Quality Measure Scores

Potential Reporting Bias

Analyses also examined whether changes in reporting by accountable entities (e.g., clinicians, facilities, health plans) during the COVID-19 PHE could account for such deviations from expected score trends. This was done by examining performance in years prior to the COVID-19 PHE and comparing the measure scores of entities that did report data from either 2020 or 2021 and those that did not. A significant difference in measure scores could indicate that a nonrandom subset of accountable entities decided to report data from these periods, potentially biasing the scores. Among the measures analyzed, minimal reporting bias was identified.

Measure Trend Differences During the COVID-19 PHE

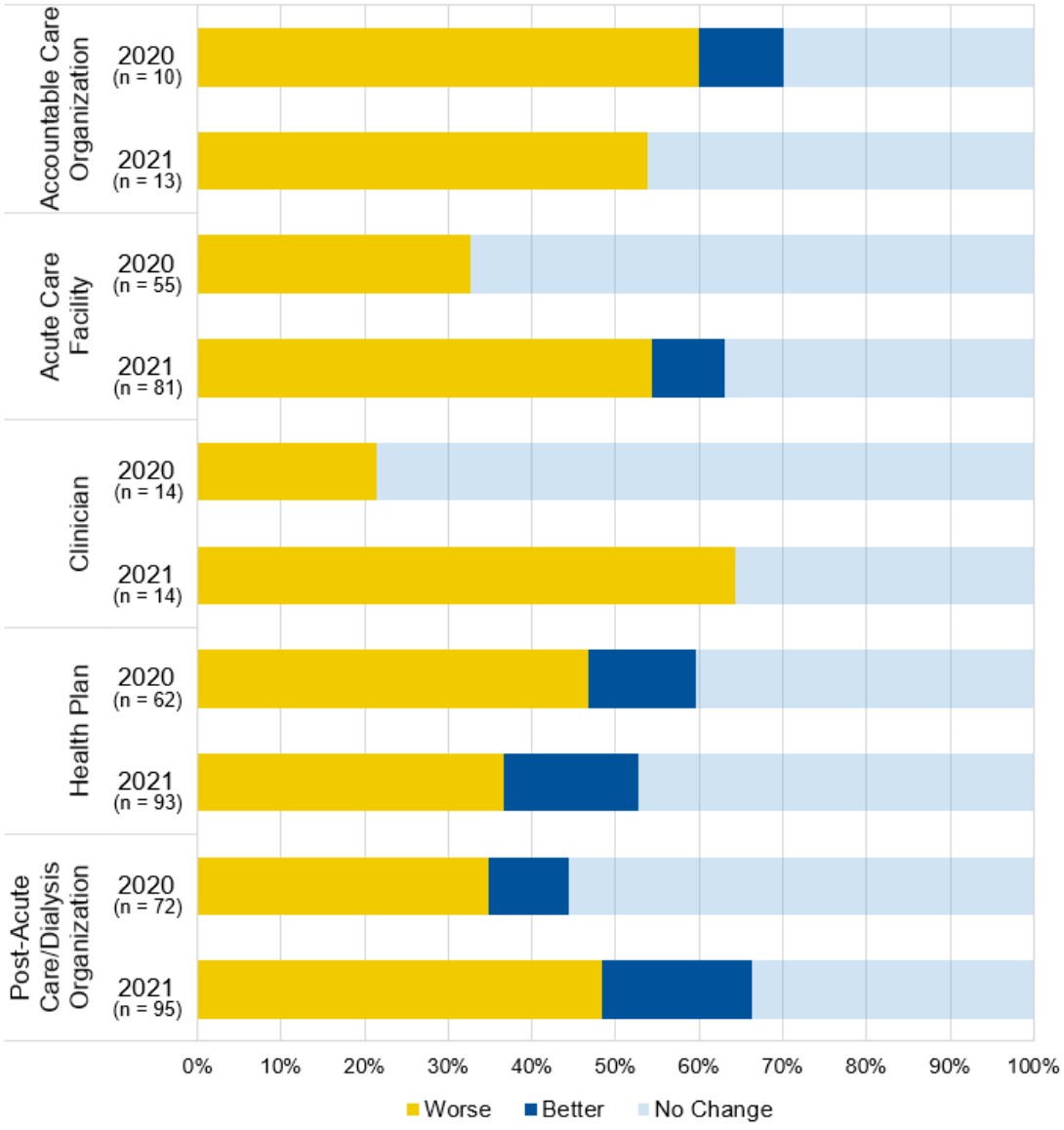


Measures with ≥ 3 years of data prior to 2020 and at least 1 year of data in 2020 (n = 213) or 2021 (n = 296) were analyzed.

46% in **2020**
60% in **2021**
had differences from 2016–2019 trends (better or worse)

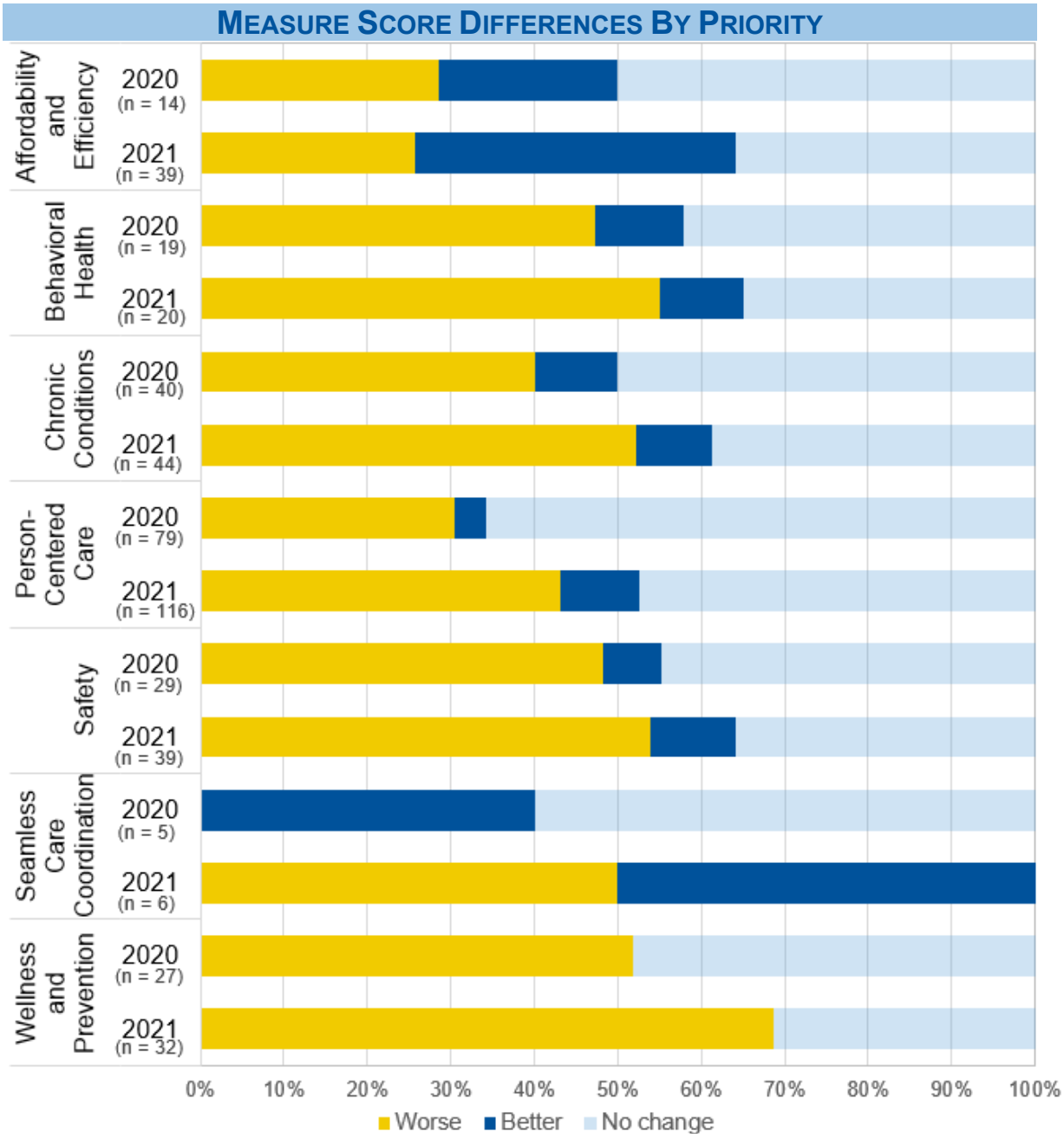
The following graph, organized by the types of accountable entities reporting quality measures, compares effects on measure scores, characterized as worse or better than expected or no change from the baseline trend. The number of measures analyzed for each year (n) is noted; horizontal bars reflect proportions of those measures in which an effect was detected. State/Medicaid data were not available for analysis.

MEASURE SCORE DIFFERENCES BY ACCOUNTABLE ENTITY



Accountable entities with the highest proportions of worse than expected results in 2021 were clinicians (64%), accountable care organizations (54%), and acute care facilities (54%).

The next graph categorizes COVID-19 effects on scores by health care quality priority; no Equity measures were available for analysis. The number of measures analyzed for each year (n) is noted; horizontal bars reflect proportions of those measures in which an effect was detected.



Priorities with the highest proportions of worse than expected results in 2021 were Wellness and Prevention (69%), Behavioral Health (55%), Safety (54%), Chronic Conditions (52%), and Seamless Care Coordination (50%). Priorities with the highest proportions of better than expected results in 2021 were Seamless Care Coordination (50%) and Affordability and Efficiency (38%).

Key Findings

Example measures representative of CMS priorities and programs were selected based on the magnitude of differences from baseline trends during calendar year 2020 and/or 2021; comparable results are provided for context.

Affordability and Efficiency

- Elective delivery prior to 39 completed weeks gestation in acute care hospitals: 0.6 to 0.9 percentage points worse in 2020 and 2021
- Potentially preventable readmissions within 30 days post discharge in 2021:
  - 2.7 percentage points better for long-term care hospitals
  - 0.7 percentage points better for inpatient rehabilitation facilities
  - 0.5 percentage points better for skilled nursing facilities
- Emergency department use by home health patients without hospitalization: 1.4 percentage points better in 2021
- Acute care hospitalization in the first 60 days of home health in 2021: 1.5 percentage points better in 2021
- Rehospitalization after admission of short-stay nursing home residents in 2021: 0.7 percentage points better in 2021

Behavioral Health

- All tobacco use – treatment provided or offered measures in inpatient psychiatric facilities: 2.1 to 13.7 percentage points worse in 2020 and 2021
- Screening for depression and follow-up plan: 15.8 to 22.4 percentage points worse in 2020 and 2021 for patients of MIPS clinician groups reporting via Web Interface and 5.2 to 7.4 percentage points worse for patients associated with ACOs
- Antidepressant medication management: 5.1 to 5.9 percentage points better for Medicare Advantage members and 3.6 to 5.9 percentage points better for Marketplace members in 2020 and 2021

Chronic Conditions

- High blood pressure control: 2.8 to 3.3 percentage points worse for hypertensive patients associated with ACOs in 2020 and 2021. No effects were detected among patients of MIPS clinician groups reporting via Web Interface.
- Poor hemoglobin A1c control: 1.5 to 8.4 percentage points worse in 2020 and 2021 for patients with diabetes enrolled in Medicare Advantage and those associated with ACOs. Appropriate hemoglobin A1c control: 5.0 to 5.9 percentage points worse in 2020 and 2021 for Marketplace members.

Person-Centered Care

- Patients leaving the emergency department without being seen: 1.4 percentage points worse in 2021. No effect was detected in 2020.

Safety

- Relative differences in standardized infection ratios, 2020/2021, respectively:
  - Catheter-associated urinary tract infection (CAUTI) in acute care: 12.4%/33.8% worse
  - Central line-associated bloodstream infection (CLABSI) in acute care: 53.6%/94.1% worse
  - Methicillin-resistant *Staphylococcus aureus* (MRSA) in acute care: 26.9%/54.6% worse
  - CAUTI in IRFs: 5.5% better in 2021; no 2020 data available
- Pressure ulcers among long-stay nursing home residents: 12.2% worse in 2020 and 15.7% worse in 2021 (relative differences)

Seamless Care Coordination

- Transition records from inpatient psychiatric facilities (provider-to-patient and provider-to-provider): 16.0 and 20.9 percentage points worse in 2021, respectively. No effect was detected in 2020.
- Mental health follow-up after hospitalization: 4.5 to 5.9 percentage points better for inpatient psychiatric facility patients in 2021 (no 2020 data available); 7.9 to 9.8 percentage points better for Medicare Advantage enrollees in 2020 and 2021; and 10.7 percentage points better for Marketplace members in 2020 (no 2021 data available).

Wellness and Prevention

- Breast cancer screenings: 1.6 to 5.6 percentage points worse for Medicare Advantage enrollees and patients associated with ACOs in 2020 and 2021; 3.3 to 7.4 percentage points worse for patients of MIPS clinician groups (Web Interface) and Marketplace members in 2021. No effects were detected in 2020.
- Colorectal cancer screenings: 1.1 to 8.3 percentage points worse for Medicare Advantage enrollees, patients associated with ACOs, and Marketplace members in 2020 and 2021; 7.4 percentage points worse for patients of MIPS clinician groups (Web Interface) in 2021. No effects were detected in 2020.

Measure Score Differences by Subpopulations

An analysis was performed to investigate effects of the COVID-19 PHE on measure scores for subpopulations of interest, stratified by race/ethnicity, Medicare/Medicaid dual eligibility, urban/rural location, and Area Deprivation Index (ADI). Differences in the estimated measure score changes during 2020 and 2021 were calculated for pairs of groups within each stratifying variable. Given limitations in data availability, these examples of some of the largest differential effects should not be considered representative of the full scope of possible differential effects of the COVID-19 PHE.

Race/Ethnicity

Some racial and ethnic groups experienced larger effects on measure scores during the COVID-19 PHE than did other groups. These effects were observed for measures associated with preventive screenings and management of diabetes:

- Black or African American enrollees in Medicare Advantage in 2021 had rates of osteoporosis management 22.4 percentage points worse, a substantially larger effect than was detected for Asian/Native Hawaiian or Other Pacific Islander (5.2 percentage points worse) and White (14.4 percentage points worse) enrollees. A similar pattern with smaller differences between groups was observed in 2020.
- American Indian/Alaska Native patients with diabetes enrolled in Medicare Advantage in 2021 had worse than expected rates of eye exams and blood sugar control (13.9 and 18.9 percentage points worse), while White patients had a smaller decline on these measures (8.3 and 8.1 percentage points, respectively). The pattern and magnitudes of differences were similar in 2020.
- Among Asian and Black or African American patients with end-stage renal disease, ratings of dialysis facilities were worse than expected in 2021 (2.3 and 2.8 percentage points, respectively); scores for White patients were 0.4 percentage points worse. These differences were not observed in 2020.
- American Indian/Alaska Native enrollees in Medicare Advantage in 2021 had rates 14.2 points worse for breast cancer screening; other groups had rates 2.3 to 6.0 percentage

points worse. A similar pattern with smaller differences between groups was observed in 2020.

Area Deprivation Index

Large effects were detected for osteoporosis management and measures related to medication management and breast cancer screening. In addition,

- Rates of comprehensive medication review completion were 9.2 percentage points worse for Medicare FFS Part D enrollees in the most deprived areas in 2021; rates for enrollees in other areas were 5.2 percentage points worse. These differences were not observed in 2020.
- Rates of counseling on the risk of falling were 3.2 percentage points worse for Medicare Advantage enrollees in the most deprived areas in 2020, whereas rates for enrollees in less deprived areas were 2.1 percentage points worse. Data on rates of counseling on the risk of falling for ADI in 2021 were not available for analysis.

Urban/Rural

Rural residents experienced large differential effects in breast cancer screening and management of serious conditions such as chronic obstructive pulmonary disease (COPD):

- Rates of pharmacotherapy management of COPD exacerbation (systemic corticosteroid) were 11.4 percentage points worse for Medicare Advantage enrollees living in noncore (rural) areas in 2021; rates were 8.5 percentage points worse for enrollees living in large fringe metro (suburban) areas. A similar pattern with smaller differences between groups was observed in 2020.

Dual-Eligible

Similar to results for other stratifying variables, patients who were dual-eligible for Medicare and Medicaid experienced large differential effects on rates for osteoporosis management, comprehensive medication review completion, and pharmacotherapy management of COPD exacerbation, mostly observed in 2021. Notably,

- Rates of osteoporosis management were 17.3 percentage points worse for dual-eligible Medicare Advantage enrollees in 2021, whereas rates for non–dual-eligible enrollees were 11.4 percentage points worse. A similar pattern with smaller differences between groups was observed in 2020.

Lessons Learned for a Resilient Health Care System

As CMS evaluates the policy changes issued throughout the COVID-19 PHE, best practices are being identified to prepare for future public health emergencies. The following lessons learned and recommendations relate directly to quality reporting as CMS helps to build a resilient health care system:

- CMS enacted waivers and flexibilities at the onset of the COVID-19 PHE to reduce burden for providers while maintaining reasonable continuity of quality measurement. Despite creation of some measurement data gaps, continued collection of quality measure data during the COVID-19 PHE allowed for the majority of measures to be compared with long-term measure performance trends.

- Despite improving or stable trends across most health care quality priorities preceding the COVID-19 PHE (2016–2019), worsening of key metrics for many CMS priorities (e.g., Safety) will necessitate strategic actions to return to prepandemic levels and improve the resilience of the health care system.[4]
- Notable examples of COVID-19 PHE effects on subpopulations of interest were identified (e.g., for race/ethnicity groups in preventive screenings and management of diabetes, rural residents in COPD management, and dual-eligible enrollees in osteoporosis management), indicating the need to monitor for differential impacts.

Recommendations

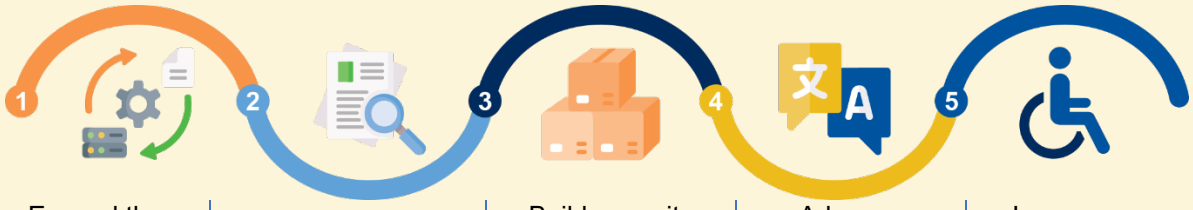
- Assess for alignment of future waivers and flexibilities across quality programs to facilitate comparative analysis of impacts of future public health emergencies.
- Accelerate the transition to digital quality measures, which could mitigate the need to suspend quality reporting in response to public health emergencies.
- Stratify measures by race/ethnicity and social drivers of health for public reporting when feasible to identify differential effects of public health emergencies.
- Avoid selective exclusion from measure cohorts or denominators during public health emergencies to ensure consistent data sets for future impact assessment.

2. National Findings on Health Equity

Quality measures reveal persistent differences in health care and patient outcomes that impede CMS' efforts to assure health equity for all.

CMS Framework to Advance Health Equity

Addressing the health disparities that underlie the U.S. health care system is a pillar of the CMS Strategic Plan and a National Quality Strategy goal.[4,29] The CMS *Framework for Health Equity 2022–2032* outlines 5 priorities to pursue over a decade to advance health equity[30]:



1	2	3	4	5
Expand the collection, reporting, and analysis of standardized data.	Assess causes of disparities within CMS programs, and address inequities in policies and operations to close gaps.	Build capacity of health care organizations and the workforce to reduce health and health care disparities.	Advance language access, health literacy, and the provision of culturally tailored services.	Increase all forms of accessibility to health care services and coverage.

Health equity: Attainment of the highest level of health for all people, where everyone has a fair and just opportunity to attain their optimal health regardless of race, ethnicity, disability, sexual orientation, gender identity, socioeconomic status, geography, preferred language, or other factors that affect access to care and health outcomes.

— CMS Framework for Health Equity 2022–2032

National Disparities Findings

265 measures analyzed, representing **22** programs	**46** Affordability and Efficiency	**12** Behavioral Health	**41** Chronic Conditions	
	108 Person-Centered Care	**38** Safety	**10** Seamless Care Coordination	**10** Wellness and Prevention

Disparities analysis is a fundamental step in determining how to achieve equity for CMS enrollees and within the greater health care system. It identifies whether differences in population groups exist at the national level, quantifies those results, and characterizes measure performance trends without making inferences about causation. (See Appendix D – *Impact Assessment Methods*).

Candidate measures for this analysis included those with:

- Patient-level data or national scores stratified by sociodemographic and social drivers of health.
- At least one annual data point considered reliable for score estimation.

Figure 2 shows the percentage of measures across CMS health care quality priorities for which at least one disparity was detected in the latest year of available data. The analysis excluded the years found to be affected by the COVID-19 PHE, as described in the preceding chapter. Disparity results are presented at an aggregate level in this chapter and at the measure level in the health care quality priority chapters. Data for Equity measures that were new to CMS programs in 2023 are not included in the 2016–2021 time frame for report analyses.

Figure 2: Disparities Across Priorities

Percentage of measures analyzed within each priority for which at least one comparison (e.g., White compared with Black/African American) shows evidence of a disparity in the latest year of available data.

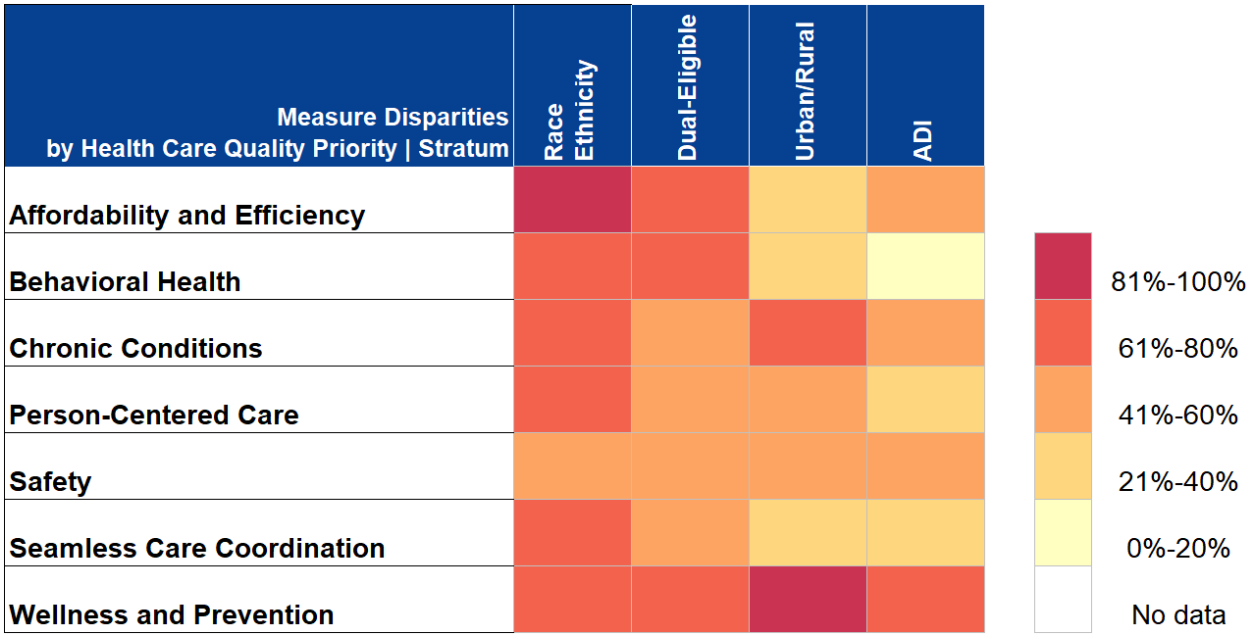


Figure 2 stratifies results by four variables: race/ethnicity, dual eligibility for Medicare and Medicaid, residential location on an urban/rural continuum, and the Area Deprivation Index, a population-level index of deprivation. However, the data available in each stratum varied with each measure. Detailed examination of results revealed the population groups that experience the most prevalent disparities.

Race/Ethnicity

Disparities were most prevalent in this stratum. Comparison groups fared worse than the White reference group on 40 of 45 (88.9%) Affordability and Efficiency measures and 32 of 41 (78.0%) Chronic Conditions measures. Disparities were most prevalent among:

- Black or African American patients in 32 (71.1%) Affordability and Efficiency measures, mostly relating to readmissions.
- American Indian/Alaska Native patients in 23 (56.1%) Chronic Conditions measures, a majority relating to medication adherence and prescribing.

Dual-Eligible

Disparities among dual-eligible enrollees versus the Medicare-only reference group were more prevalent in Affordability and Efficiency (21 of 28 measures, 75.0%), mostly relating to facility-wide and disease-/ condition-specific readmissions; Behavioral Health (7 of 11 measures, 63.6%), mostly in prevention and treatment measures about opioid use; and Wellness and Prevention (7 of 9 measures, 77.8%), mostly concerning optimal vaccination rates.

Urban/Rural

The National Center for Health Statistics classifies U.S. counties as either metropolitan—small, medium, or large (further divided into central and fringe)—or nonmetropolitan, including micropolitan (urban clusters of 10,000–49,999 population) and noncore (predominantly rural).[31] On this urban-rural continuum, residents of large fringe metro areas were the reference group.

Disparities were most often detected in Wellness and Prevention (10 of 10 measures, 100%) and Chronic Conditions (20 of 32 measures, 62.5%)—in particular, among:

- Micropolitan residents on 9 (90%) Wellness and Prevention measures, mostly relating to influenza and pneumococcal immunizations.
- Noncore (rural) residents on 13 (40.6%) Chronic Conditions measures, primarily addressing medication adherence and prescribing.

ADI

This population-level index of socioeconomic disadvantage indicated lower percentages of disparities than did other indicators across most health care quality priorities. Wellness and Prevention (7 of 9 measures, 77.8%) was the only priority with a majority of measures with a disparity in this stratum, mostly in optimal vaccination rates.

Categories of Disparities

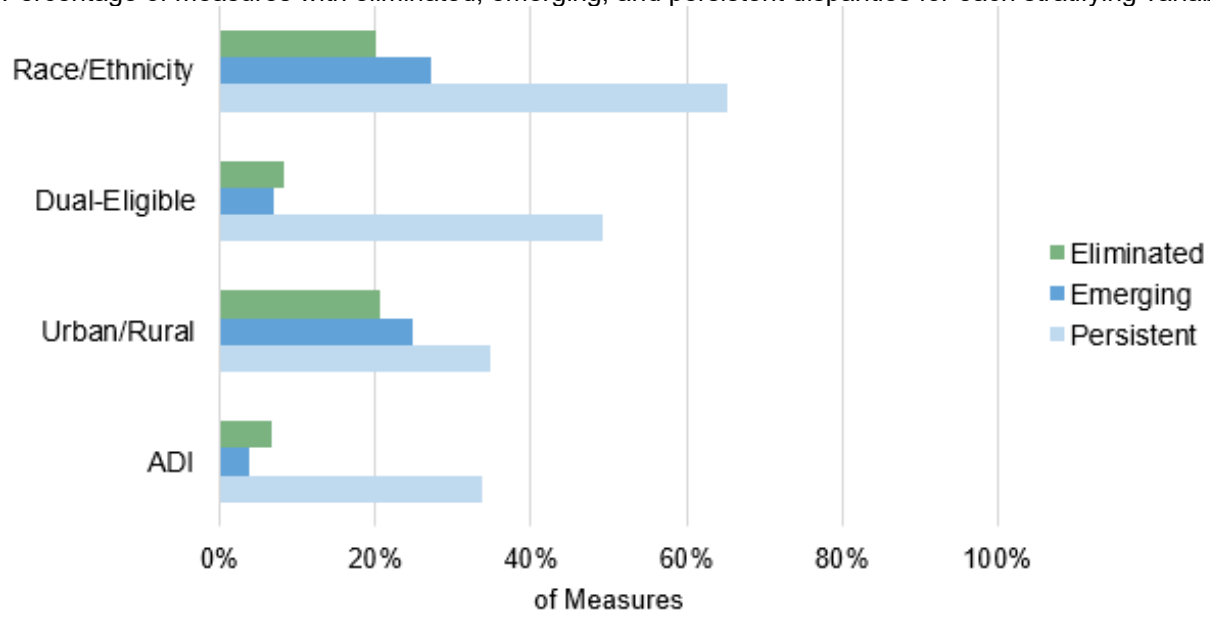
Analysis for the 197 measures with a disparity in the first or last year of data reveals the elimination of previously detected disparities and the emergence of new ones while assessing the direction of change for persistent disparities. Figure 3 indicates the percentage of measures in each category.

Eliminated

Preexisting disparities in the results of 77 of 197 (39.1%) measures, primarily in Person-Centered Care (33 measures), were no longer detected in the latest year of available data. Comparisons in the race/ethnicity and urban/rural strata, where such improvements were most prevalent, showed eliminated disparities for these groups:

- American Indian/Alaska Native patients (20 measures, including 10 in Person-Centered Care), most often in optimal patient experience and readmissions across various programs.
- Micropolitan residents (14 measures, 6 in Person-Centered Care), mostly addressing optimal patient experience across various programs.

Figure 3: Disparities by Type
Percentage of measures with eliminated, emerging, and persistent disparities for each stratifying variable



Emerging

New disparities were detected in 91 of 197 (46.2%) measures, predominantly in Person-Centered Care (38 measures) and in the race/ethnicity and urban/rural strata. In comparisons with the reference groups, the most affected groups were:

- American Indian/Alaska Native patients (30 measures, 15 in Person-Centered Care) predominantly in optimal patient experience in hospice and evidence-based health care in Medicare Part C and D programs.
- Large central metro (urban) residents (22 measures, 11 in Person-Centered Care) mostly addressing optimal patient experience across various programs.

Persistent

The analysis identified 168 of 197 (85.3%) measures with at least one disparity in the first and last years of available data, including 77 measures in Person-Centered Care. Among notable results:

- Nearly all measures with stratified data that could be trended had at least one disparity categorized as stable (no significant or practical change over the data period) or undetermined.
- A small percentage of stratified measures that could be trended had at least one comparison with a worsening (8 of 143, or 5.6%) or closing (9 of 143, or 6.3%) disparity, mostly in Person-Centered Care and Chronic Conditions.
- Persistent disparities were most prevalent in the race/ethnicity stratum, primarily affecting Asian/Native Hawaiian or Other Pacific Islander patients (85 measures) and Black or African American patients (89 measures).
- American Indian/Alaska Native patients showed improvement on 3 measures, but disparities widened on 3 other measures.

Community Perspectives on Drivers of Disparities

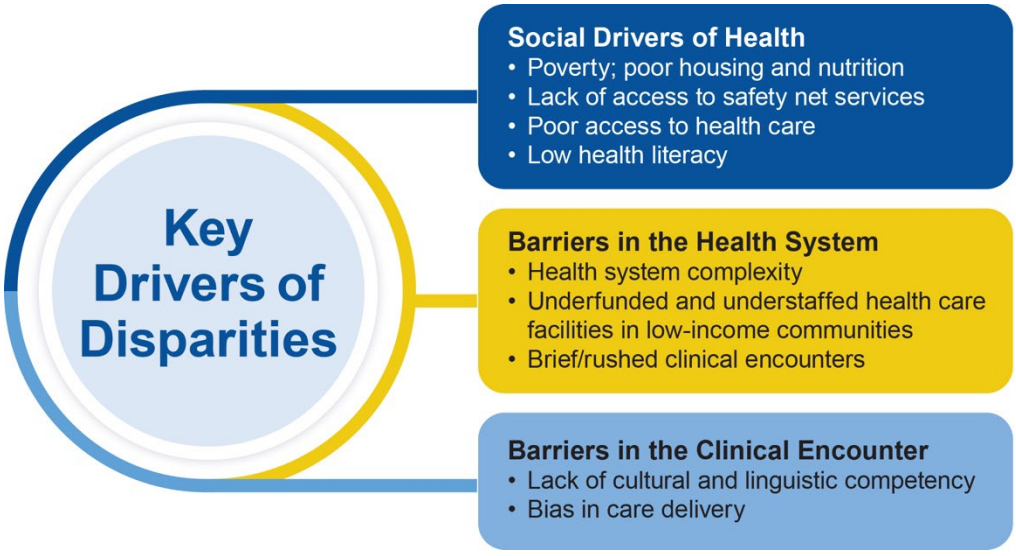
CMS engages patients, providers, and other interested parties to inform current and future quality measure development.[32] A qualitative assessment of drivers of disparities in the quality of health care delivery and health outcomes was conducted as part of this impact assessment. Nine groups were convened to represent underserved communities across the United States, each consisting of community health workers and other persons serving a population of interest:

- Black or African American (two groups)
- American Indian/Alaska Native
- Asian/Native Hawaiian or Other Pacific Islander (two groups)
- Hispanic or Latino (two groups)
- Low-income
- Rural

Discussions among the focus group members covered three open-ended topics:

- What quality in health care looks like from the perspective of the communities they serve
- Disparities in the quality of health care delivery that affect those communities
- Personal observations about factors contributing to disparities

Participants then were shown examples of statistically significant disparities in CMS quality measure data. They were asked to comment on how such disparities impact their communities (see Appendix C – *Methods and Results for Focus Groups Convened to Explore Drivers of Health Care Disparities*). Feedback was collected and analyzed for recurring themes. Participants mentioned drivers of disparities within the patient's environment, the health care system, and the clinical encounter:



Key findings are presented with representative quotes from participants, identified by the focus group they attended and a self-reported description of the community the speaker serves with respect to income, rural/urban status, and/or predominant race/ethnicity. Additional focus group results appear in Appendix C.

Key Findings and Representative Quotes

Baseline needs such as housing, nutrition, and transportation are prerequisites to accessing high-quality health care and achieving favorable outcomes.

"It's sad to say, but there is a significant [number] of Alaska Natives in these bigger centers that are homeless, and they can't get their medication because they don't have a permanent address. Their medication may go to a shelter that they were at 30 days ago."
–American Indian/Alaska Native | low-income, rural community

Facility closures and provider shortages present challenges in low-income and rural communities.

"In our community, we lost one neighborhood hospital. … Our community members are so used to that neighborhood hospital, and now it's gone. It's closed. And within close proximity, there is no hospital emergency room … so patients have to transport … five miles away."
–Asian/Native Hawaiian or Other Pacific Islander | low-income, urban community

Providers' lack of cultural and linguistic competency contributes to deficiencies in access to and quality of care. Patients from underserved communities need more time to interact with clinicians.

"Somebody not from the Hispanic community, they think [it] is just one community. … They 'one-size-all' the whole Hispanic community. … There [are] big language barriers between the providers and the people who are getting the services."
–Hispanic or Latino | urban community

Poor health literacy is a key barrier to access and adherence to treatment.

"[Low literacy] among our elderly, probably sixth- to eighth-grade education. And so we find we have to really keep that in mind because a lot of the discharge information that we give is printed information, you know, that comes out of a program. … They're not understanding information as it's presented."
–Low-income | predominantly White community

Insurance plans and health care services can be too complex for patients to navigate.

"After we help people to apply for Medicaid, a lot of times they don't know how to use it. They don't know what benefits they hold. If we don't follow up with them, they will just be like, 'Oh, I'm just afraid to use any services that might risk myself getting a bill.' "
–Low-income | Asian/Native Hawaiian or Other Pacific Islander, urban community

Members of communities that have experienced institutional bias and individual prejudice in the health care system mistrust providers and are reluctant to seek care.

"When our people are disrespected, they don't want to go back to the health care system. I have elders who still won't take shots because they had a bad experience. … They won't even get surgery because they were disrespected at some time in their life."
–American Indian/Alaska Native | low-income community

Cultural stigma is a key barrier to accessing behavioral health services.

"We have always wanted to bring out mental health awareness but have faced so many barriers of cultural stigma. For many Asians, seeing a therapist or [getting] counseling is not very common. We don't really go to a counselor unless something really serious happens."
–Low-income | urban Asian/Native Hawaiian or Other Pacific Islander community

Lessons Learned for Health Equity

- Data were available to conduct disparities analyses for 265 of 590 measures (44.9%), representing 22 of 26 programs (84.6%). More robust disparities analysis of measures would require expanded data collection on social drivers of health.
- Disparities were most prevalent among underserved racial and ethnic groups, closely followed by dual-eligible enrollees. The highest percentages of measures with disparities by race and ethnicity were in Affordability and Efficiency and Person-Centered Care, indicating the need for quality improvement supporting those priorities.
- Among 197 measures with a disparity in the first or last year of data:
    - 39.1% showed improvement that eliminated a disparity; notable examples affected American Indian/Alaska Native and micropolitan populations.
    - 46.2% exhibited emerging disparities, primarily in race/ethnicity and rural/urban comparisons.
    - 85.3% showed at least one persistent disparity. Race/ethnicity comparisons accounted for the majority of those disparities, indicating room for improvement for historically underserved groups.

- Focus group participants identified social drivers of health, barriers in the health system, and barriers in clinical encounters as key drivers of disparities, indicating the need to develop equity measures focused on unmet health-related social needs, multiple barriers to access, bias in care delivery and cultural competency, and patient health literacy.[33-35]

CMS Actions to Achieve Health Equity

Continue to expand data collection for social drivers of health to improve health outcomes. In the *CMS Framework for Health Equity*[30] and *The Path Forward: Improving Data to Advance Health Equity Solutions,*[36] the agency has prioritized expanding data collection of patient-level demographic data to increase understanding of social risk factors. Examples include new data collection in post-acute care settings.[37]

Enhance existing measures to stratify by social drivers of health and reward progress toward health equity. CMS is enhancing existing measures by stratifying rates by dual eligibility and low-income subsidy and introducing incentives for providers to improve their performance with regard to health equity. Recent enhancements under the Rewarding Excellence for Underserved Populations (REUP)[38] approach include establishing a health equity adjustment for ACOs,[39(p. 69838)] the Hospital Value-Based Purchasing Program,[40(p. 59334)] and skilled nursing facilities[41(p. 53306-53316)] and rewarding Medicare Advantage contractors for high performance on a Health Equity Index.[42(p. 22277)] Enhancements to payment and service delivery models developed and tested by the Center for Medicare & Medicaid Innovation include adding the state-based ADI to the Health Equity Benchmark Adjustment used in the ACO Realizing Equity, Access, and Community Health (ACO REACH) Model.[43,44]

Develop new measures that assess health equity to fill gaps in existing measures. Focus group feedback indicates the need for additional measures to reduce gaps in health equity. Several CMS programs recently adopted equity measures that align with focus group concerns about assessing unmet health-related social needs and provider bias, screening for social drivers of health in hospitals[45(p. 48785)] and clinician practices,[39(p. 70253)] hospital commitment to health equity,[45(p. 49191)] and patient perception of bias in the clinical setting.[46]

3. Person-Centered Care

Measures assess whether care is delivered with consideration for the needs, values, and goals of the individual, caregiver, and family.

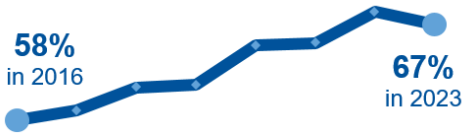
Person-Centered Care Measures Portfolio

22 Quality Programs	112 Unique Measures	75 Outcome	35 Process	2 Structure

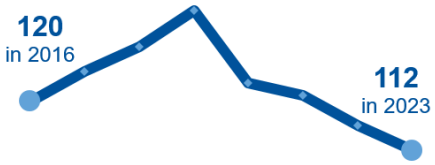
Focus on outcomes and burden reduction

Percentage of outcome measures in portfolio increased, while count decreased, 2016–2023:

Percentage of Outcome Measures

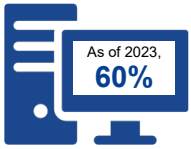


Number of Measures



Digital data sources

At least one reporting option for a measure uses data from electronic health records; case management, administrative, or laboratory systems; health information exchanges; prescription drug monitoring programs; clinical registries; electronically submitted assessments; or patient portals, applications, or wearable devices.[6]



of measures at the program level* use **digital data sources**

*Program-level measure count for the 2023 performance year is 149; duplicate counts occur when measures are used across programs.

Coverage of CMS Person-Centered Care goals by quality measures

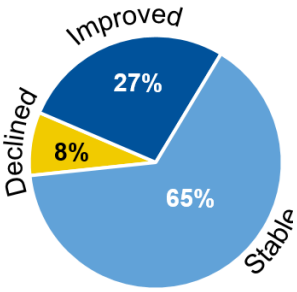
Person-Centered Care Goal | Accountable Entity	ACO	Acute Care Facility	Clinician	Health Plan	PAC/Dialysis Organization	State/ Medicaid
Optimal Functional Outcomes	—	✓	✓	✓	✓	—
Optimal Home- and Community-Based Services	—	—	—	—	—	—
Optimal Patient Engagement	—	—	✓	—	—	✓
Optimal Patient Experience	✓	✓	✓	✓	✓	✓

✓ = *Measure(s)* — = *No measures*

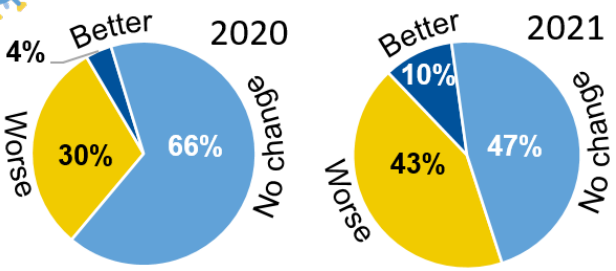
Pre-COVID-19 PHE Measure Performance Trends

136 Person-Centered Care measures with ≥3 years of reliable data from 2016 to 2019 were analyzed. See Appendix E for analytic results for all measures.

92% of the analyzed Person-Centered Care measures had **improved or stable performance** prior to the COVID-19 PHE.



Measure Performance Differences During the COVID-19 PHE



Of 136 measures with pre-COVID-19 trend data, 58% in 2020 and 85% in 2021 had sufficient data for this analysis.

34% in **2020**
53% in **2021**
had differences from 2016–2019 trends (better or worse)

High-Impact Measurement for Person-Centered Care

The selected results represent notable impacts associated with improved trends. Data identified as deviating from historical trends (i.e., COVID-19 PHE effects better or worse than expected) were excluded from the trend analysis but are provided for context.

- Comprehensive assessment at admission (**overall treatment**) for hospice and palliative care patients increased from 78.5% to 94.8% (2016–2021), resulting in 1.1 million more assessments being completed.
- Nearly 2 million more Medicare enrollees with Part D in the **medication therapy management** program completed a comprehensive medication review (2016–2020). Rates for Medicare FFS enrollees increased from 19.1% to 40.1%, resulting in 899,098 more completions, and rates for Medicare Advantage enrollees increased from 61.3% to 83.3% over the same period, resulting in 1.1 million more completions. FFS measure scores and Medicare Advantage scores were both worse than expected in 2021.
- Home health measures showed improvements from 2016 to 2020 in **ambulation-locomotion** (71.1% to 81.2%; translating to a patient impact of 1.5 million more episodes) and **self-management of oral medication** (60.9% to 78.0%; 2.1 million more episodes). Scores improved from 2016 to 2019 in **bathing** (74.2% to 82.3%; 873,011 more episodes), **bed transferring** (68.1% to 81.2%; 1.4 million more episodes), and **dyspnea** (72.9% to 82.9%; 885,996 more episodes). Scores were worse than expected for **bathing**, **bed transferring**, and **dyspnea** in 2020 and all assessments in 2021.
- Short-stay nursing home residents made **improvements in function** at an increased rate, from 63.1% to 66.9% (2016–2020). By comparison, long-stay nursing home residents requiring help with **activities of daily living** decreased from 15.5% to 14.9% (2016–2019). Short-stay rates were better than expected in 2021; long-stay rates were worse than expected in 2020 and 2021.

Measure Disparity Results

Among 160 Person-Centered Care measures with at least one reliable data point for analyses from 2016 to 2021, disparities analyses were performed on 108 measures with adequate data (67.5%). The table identifies where disparities were detected in the latest year of data by stratum (e.g., race/ethnicity) under each Person-Centered Care objective and measure topic. Appendix E contains additional detail on disparities.

Person-Centered Care Measure Disparities by Goal and Objective | Stratum	Race / Ethnicity	Dual Eligible	Urban / Rural	ADI
Optimal Functional Outcomes				
Patient- / provider-reported functional outcome				
Bladder control	---	---	---	---
Health Outcomes Survey – Physical Functioning Activities of Daily Living	◆	◆	---	◆
Optimal Patient Experience				
Access and timely care				
Emergency department	◆		◆	
Primary care	◆	---	◆	◆
Transplant waitlist	◆	◆	◆	◆
Clear communication				
Medication therapy management	◆	---	---	---
Provider communication	◆	---	◆	---
End of stage / End of life care				
Care preferences	◆	◆	◆	◆
Dyspnea	◆	---	◆	---
Hospice visits	◆	◆	◆	---
Overall treatment	◆	◆	◆	---
Other: Patient experience survey				
Care coordination	◆	◆	---	◆
Care transition	---			
Courtesy and respect	◆	◆	◆	---
Emotional and spiritual support	◆			
Getting needed care and appointments quickly	◆	◆	◆	◆
Getting needed drugs	◆	◆	◆	◆
Hospital/facility environment	◆			
Overall health, functional status, and education	◆	---	---	---
Overall rating	◆	◆	◆	◆
Provider communication	◆	◆	◆	◆
Rating of facility/staff	◆	◆	---	---
Rating of provider	◆	◆	◆	---
Recommend facility/agency	◆			
Responsiveness of staff	◆			
Shared decision-making	◆		---	---
Stewardship	◆	◆	---	---
Pain management				
Emergency department	---		◆	
Pain assessment / control	◆	◆	◆	---

Legend: ◆ *= Disparity identified* --- *= No disparity identified* *Blank = No data to perform analysis*

Selected Disparities Findings

Eliminated

⇒ Among American Indian/Alaska Native enrollees in Medicare FFS: **overall rating** of health plan (2021)

⇒ Among dual-eligible enrollees in Medicare Advantage and Medicare FFS (2020) and large central metro residents and Black or African American enrollees in Medicare FFS (2020): **medication therapy management** (program completion rate for comprehensive medication review)

> *"How are [the nurse and the hospice team] reacting to the cultural observances? Many Asians will do prayers, will have monks come into the house and do prayers. So, how [is] the team honoring it or working around it?"*
>
> –Asian/Native Hawaiian or Other Pacific Islander | urban community

Emerging

⇒ Among Asian/Native Hawaiian or Other Pacific Islander patients and large central metro residents: comprehensive assessment at admission for hospice and palliative care (**overall treatment,** 2021)

⇒ Among residents of high ADI areas and American Indian/Alaska Native enrollees in Medicare Advantage (2019); also among large central metro, micropolitan, and noncore (rural) residents and Black or African American patients in Medicare FFS (2021): **provider communication**

⇒ Among Hispanic or Latino patients in Prospective Payment System (PPS)-exempt cancer hospitals: **communication** with nurses (2021)

Persistent

⇒ **Overall rating of care** (home health, 2021)[iv]

Stratum	Population group	% rate (▲higher = better)	Difference (% points)
Race/ethnicity	White	85.5	–
	Asian	74.8	-10.7▼
	American Indian/Alaska Native	81.7	-3.8▼
	Native Hawaiian/Other Pacific Islander	82.0	-3.5▼
	Black or African American	83.3	-2.2▼

⇒ **Rating of health plan** (Medicare Advantage, 2021)[iv]

Stratum	Population group	% rate (▲higher = better)	Difference (% points)
Race/ethnicity	White	87.8	–
	Asian/Native Hawaiian or Other Pacific Islander	84.9	-2.9▼

⇒ Dialysis facility patients **waitlisted** for transplants (2019)

Stratum	Population group	% rate (▲higher = better)	Difference (% points)
Urban/rural	Large fringe metro	21.9	–
	Noncore	13.5	-8.4▼
	Micropolitan	14.0	-7.9▼
	Small metro	15.9	-6.0▼
	Medium metro	17.8	-4.1▼
ADI	Low ADI	20.8	–
	High ADI	12.8	-8.0▼
Dual-eligible	Non–dual-eligible	21.2	–
	Dual-eligible	16.1	-5.1▼
Race/ethnicity	White	17.3	–
	American Indian/Alaska Native	12.1	-5.2▼

[iv] Known differences in responses to rating questions may partially explain lower observed mean CAHPS scores for Asian enrollees. Source: Less Use of Extreme Response Options by Asians to Standardized Care Scenarios May Explain Some Racial/Ethnic Differences in CAHPS Scores

4. Equity

Measures advance quality of care for underserved and disadvantaged communities so that everyone has a fair and just opportunity to attain optimal health.

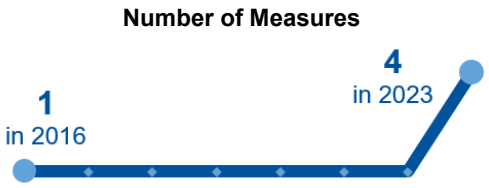
Equity Measures Portfolio

3 Quality Programs	4 Unique Measures	0 Outcome	2 Process	2 Structure

Focus on outcomes and burden reduction

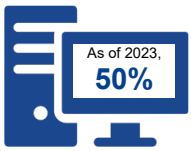
Percentage of outcome measures in portfolio remained zero, while count increased, 2016–2023:

Measures assigned to this priority address aspects of an individual's environment to identify potential drivers of health disparities across subpopulations. Most were new to the CMS measure portfolio in 2023; no measures met the criteria for analysis.



Digital data sources

At least one reporting option for a measure uses data from electronic health records; case management, administrative, or laboratory systems; health information exchanges; prescription drug monitoring programs; clinical registries; electronically submitted assessments; or patient portals, applications, or wearable devices.[6]



of measures at the program level* use **digital data sources**

*Program-level measure count for performance year 2023 is 6; duplicate counts occur when measures are used across programs.

Coverage of CMS Equity goals by quality measures

Equity Goal | Accountable Entity	ACO	Acute Care Facility	Clinician	Health Plan	PAC/Dialysis Organization	State/ Medicaid
Equitable Care	—	✓	—	—	—	—
Equity Data Collection	—	—	—	—	—	—
Identification of Social Risk Factors and Mitigation	—	✓	✓	✓	—	—

✓ = *Measure(s)* — = *No measures*

"Health disparities don't just stop at health care. I'm thinking of them as housing crisis, as food deserts, as reentry barriers into society. Health disparities are widened because of those things. And when we don't address them … when we limit health disparities to only the conversation around what's going on in the doctors' offices, we don't fully capture the problem at hand."
–Black or African American | low-income, urban community

5. Safety

Measures promote a culture in which health care management practices and policies support patient and worker safety.

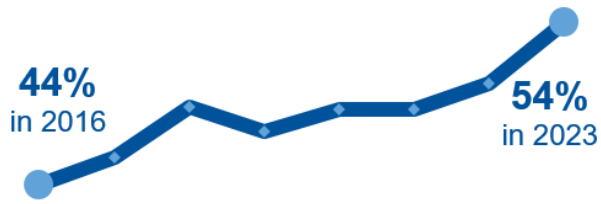
Safety Measures Portfolio

22 Quality Programs	94 Total Measures	51 Outcome	41 Process	2 Structure

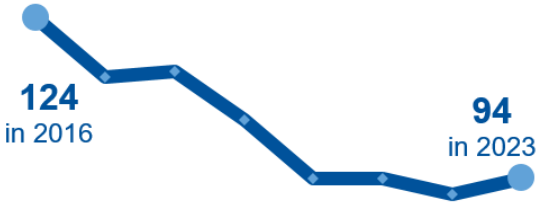
Focus on outcomes and burden reduction

Percentage of outcome measures in portfolio increased, while count decreased, 2016–2023:

Percentage of Outcome Measures



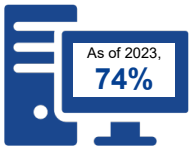
Number of Measures



Broader coverage of healthcare-associated conditions remains a priority for CMS to add quality measures under the goal Reduction in National Serious Safety Events, as recommended in a 2022 report by the Department of Health and Human Services (HHS) Office of Inspector General.[47]

Digital data sources

At least one reporting option for a measure uses data from electronic health records; case management, administrative, or laboratory systems; health information exchanges; prescription drug monitoring programs; clinical registries; electronically submitted assessments; or patient portals, applications, or wearable devices.[6]



of measures at the program level* use **digital data sources**

*Program-level measure count for performance year 2023 is 136; duplicate counts occur when measures are used across programs.

Coverage of CMS Safety goals by quality measures

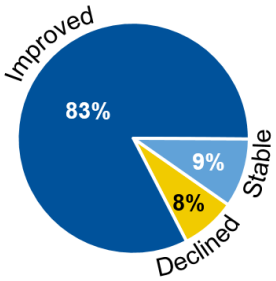
Safety Goal | Accountable Entity	ACO	Acute Care Facility	Clinician	Health Plan	PAC/Dialysis Organizations	State/ Medicaid
Reduced Preventable Harm	✔	✔	✔	✔	✔	—
Safety Culture	—	—	—	—	—	—
Safety for Special Populations	—	✔	✔	✔	✔	✔
Workforce and Caregiver Safety	—	—	—	—	—	—

✔ = *Measure(s)* — = *No measures*

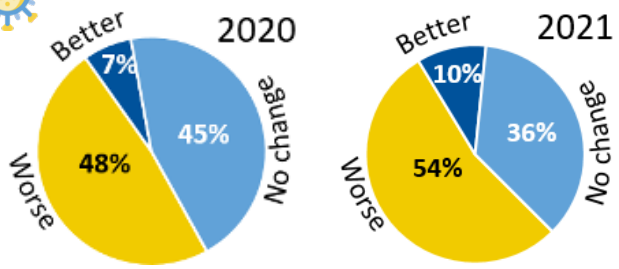
Pre-COVID-19 PHE Measure Performance Trends

52 Safety measures with ≥3 years of reliable data from **2016 to 2019** were analyzed. See Appendix E for analytic results for all measures.

92% of the analyzed Safety measures had **improved or stable performance** prior to the COVID-19 PHE.



Measure Performance Differences During the COVID-19 PHE



Of 52 measures with pre-COVID-19 trend data, 56% in 2020 and 75% in 2021 had sufficient data for this analysis

55% in **2020**
64% in **2021**
had differences from 2016–2019 trends (better or worse)

High Impact Measurement for Safety

The selected results represent notable impacts associated with improved trends. Data identified as deviating from historical trends (i.e., COVID-19 PHE effects better or worse than expected) were excluded from the trend analysis but are provided for context.

- Before the COVID-19 PHE (2015–2019), 34,455 fewer **healthcare-associated infections** (HAIs) were reported in acute care settings; estimates of costs avoided ranged widely from $93.8 million to $1.3 billion. Severity of infection, length of hospitalization, treatment protocols, and other clinical factors affect cost estimates.

Infection Type	Reduced Infections, 2015–2019	Estimated Costs Avoided
CLABSI	15,543	$30.5M–$901.5M
CAUTI	14,022	$15.5M–$226.1M
MRSA	4,890	$47.8M–$154.6M
Total	34,455	$93.8M–$1.3B

- In line with other studies, standardized infection ratios (SIRs) for CLABSI, CAUTI, and MRSA were worse than expected in acute care settings during 2020 and 2021, reversing improvements prior to the COVID-19 PHE.[48-50]

Infection Type	COVID-19 PHE Effect / Years	% Worse Than Expected in 2021 (Relative Difference in SIR)
CLABSI	Worse – 2020, 2021	94.1%
CAUTI	Worse – 2020, 2021	33.8%
MRSA	Worse – 2020, 2021	54.6%

- In contrast with acute care settings, HAIs in long-term care hospitals (post-acute care setting) improved (2016–2021; no data available in 2020), resulting in 1,588 fewer CAUTI (SIR 0.96 to 0.75) and 1,751 CLABSI (SIR 0.95 to 0.75) HAIs. Conversely, the CAUTI rate in inpatient rehabilitation facilities increased from 2016 to 2019 (no data available in 2020) but was better than expected in 2021.

- Hospital-onset *Clostridioides difficile* infections (CDI) decreased by 130,050 from 2015 to 2020; costs avoided ranged from $564.3 million to $2.6 billion. While CDI results were worse than expected in 2021, CDC analyses identified declines in CDI in acute care settings in 2020 and 2021.[51] Improvements in post-acute care translated to 8,207 fewer CDIs in long-term care hospitals (2016–2021; no data for 2020) and 3,982 fewer in inpatient rehabilitation facilities (2016–2019; no data for 2020); 2021 rates were worse than expected.
- 6,145 fewer colon **surgical site infections** (SSIs) were reported in acute care settings from 2015 to 2021; estimated costs avoided ranged from $176.7 million to $585.2 million. During the same period, SSIs for abdominal hysterectomy were stable. While the volume of surgeries decreased, no COVID-19 PHE effects were detected.
- Long-stay nursing home residents (2016–2020) experienced declining use of physical **restraints** (from 0.6% to 0.2%) and fewer **urinary tract infections** (from 3.9% to 2.5%). Rates in 2021 were better than expected for use of physical restraints but worse than expected for urinary tract infections.
- **Falls with major injury** (2017–2021) decreased from 0.2% to 0.1% in inpatient rehabilitation facilities, translating to 352 fewer falls, and on average by 10.5% in long-term care hospitals, representing 99 fewer falls. By comparison, rates in skilled nursing facilities decreased on average by 0.7% (2017–2019) but were worse than expected in 2021. In contrast, rates for long-stay nursing home residents increased on average by 0.9% (2016–2020) but were better than expected in 2021.

Measure Disparity Results

Among 112 Safety measures with at least one reliable data point from 2016 to 2021, disparities analyses were performed on 36 measures with adequate data (32.1%). The table identifies where disparities were detected in the latest year of data by stratum under each Safety objective and measure topic. Appendix E contains additional detail on disparities.

Safety Measure Disparities by Goal and Objective | Stratum	Race / Ethnicity	Dual Eligible	Urban / Rural	ADI
Reduced Preventable Harm				
Reduction in healthcare-associated complications				
Ambulatory/outpatient surgery	◆	◆	◆	
Colonoscopy	◆	◆	◆	◆
Hip / knee arthroplasty	---	◆	---	◆
Patient safety and adverse events composite	◆	◆	◆	◆
Pneumonia mortality	---			
Surgical error		---	---	
Surgical mortality	◆			
Venous thromboembolism	◆		◆	
Reduction in healthcare-associated infections				
Sepsis	◆		---	
Vascular access	◆	---	---	◆
Reductions in medication error				
Medication reconciliation	◆	◆	---	---
Psychotropic medications	◆	---	◆	---

Safety Measure Disparities by Goal and Objective | Stratum	Race / Ethnicity	Dual Eligible	Urban / Rural	ADI
Safety of the patient environment				
Burns	---	---	◆	
Falls	---	---	◆	---
Safety for Special Populations				
Elder care / geriatrics / nursing home residents				
High-risk medications	◆	◆	◆	◆

Legend: ◆ = Disparity identified --- = No disparity identified Blank = No data to perform analysis

Selected Disparities Findings

Eliminated

⇒ Among noncore (rural) residents in Medicare Advantage: reducing risk of **falls** (2019)

Emerging

⇒ Among dual-eligible and American Indian/Alaska Native enrollees in Medicare Advantage: **medication reconciliation** post-discharge (2018)

> *"What's happening at our dialysis center ... they're short-staffed. … You might have one nurse that's monitoring up to 10 people at one time. And you might have a medical assistant ... to fill in the gap while the nurse is trying to set up everyone."*
> –Black or African American | urban community

Persistent

⇒ Hemodialysis **vascular access**: standardized fistula rate for dialysis organizations (2019)

Stratum	Population group	% rate (▲higher = better)	Difference (% points)
ADI	Low ADI	65.5	–
	High ADI	61.4	- 4.1▼
Race/ethnicity	White	66.6	–
	Black or African American	58.3	-8.3▼

⇒ Hospital visit within 7 days of receiving an outpatient **colonoscopy** (2019)

Stratum	Population group	**%** rate (▼lower = better)	Difference (% points)
Dual-eligible	Non–dual-eligible	14.6	–
	Dual-eligible	27.2	+12.6▲
ADI	Low ADI	15.1	–
	High ADI	20.6	+5.5▲
Race/ethnicity	White	16.0	–
	American Indian/Alaska Native	24.3	+8.3▲
	Black or African American	22.0	+6.0▲
	Hispanic or Latino	18.8	+2.8▲
Urban/rural	Large fringe metro	15.3	–
	Noncore	17.1	+1.8▲

⇒ Complications for acute care patients after **total hip/knee arthroplasty** (2021)

Stratum	Population group	% rate (▼lower = better)	Difference (% points)
Dual-eligible	Non–dual-eligible	2.0	–
	Dual-eligible	3.3	+1.3▲
ADI	Low ADI	2.1	–
	High ADI	2.4	+0.3▲

6. Affordability and Efficiency

Measures drive improvement in the effectiveness and efficiency of care, thus improving health care affordability.

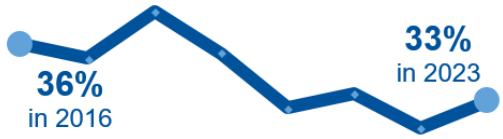
Affordability and Efficiency Measures Portfolio

22 Quality Programs	90 Unique Measures	30 Outcome	30 Process	1 Structure	29 Cost

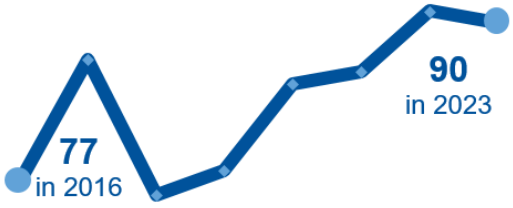
Focus on outcomes and burden reduction

Percentage of outcome measures slightly decreased, while count increased, 2016–2023.*

Percentage of Outcome Measures



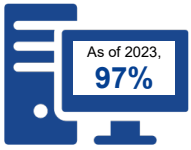
Number of Measures



*MIPS used 25 population, episode-based, or condition-specific cost measures, accounting for the increase in this portfolio. Cost measures targeting an estimated 50% of expenditures under Parts A and B are a statutory requirement for the Quality Payment Program.[v]

Digital data sources

At least one reporting option for a measure uses data from electronic health records; case management, administrative, or laboratory systems; health information exchanges; prescription drug monitoring programs; clinical registries; electronically submitted assessments; or patient portals, applications, or wearable devices.[6]



of measures at the program level* use **digital data sources**

*Program-level measure count for performance year 2023 is 119; duplicate counts occur when measures are used across programs.

Coverage of CMS Affordability and Efficiency goals by quality measures

Affordability and Efficiency Goal | Accountable Entity	ACO	Acute Care Facility	Clinician	Health Plan	PAC/Dialysis Organization	State/ Medicaid
Appropriate Use of Healthcare Services	—	✓	✓	✓	✓	✓
Cost	—	✓	✓	—	✓	—
Price Transparency	—	—	—	✓	—	—
Rebalanced Long-Term Services and Supports	—	—	—	—	—	—
Reduced Readmissions, Including Observation	✓	✓	✓	✓	✓	✓

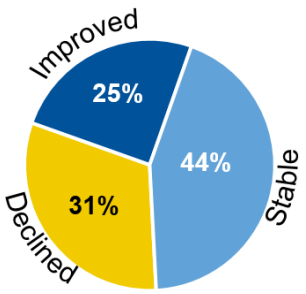
✓ = *Measure(s)* — = *No measures*

[v] Section 1848(r)(2)(D)(i)(I) of the Social Security Act

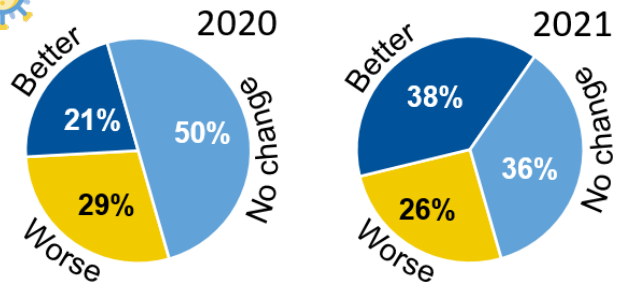
Pre-COVID-19 PHE Measure Performance Trends

48 Affordability and Efficiency measures with ≥3 years of reliable data from **2016 to 2019** were analyzed. See Appendix E for analytic results for all measures.

69% of the analyzed Affordability and Efficiency measures had **improved or stable performance** prior to the COVID-19 PHE.



Measure Performance Differences During the COVID-19 PHE



Of 48 measures with pre-COVID-19 trend data, 29% in 2020 and 81% in 2021 had sufficient data for this analysis

50% in **2020**
64% in **2021**
had differences from 2016–2019 trends (better or worse)

High-Impact Measurement for Affordability and Efficiency

The selected results represent notable impacts associated with improved trends. Data identified as deviating from historical trends (i.e., COVID-19 PHE effects better or worse than expected) were excluded from the trend analysis but are provided for context.

- **All-cause** readmission rates among Medicare Advantage enrollees 65 and older declined from 11.5% to 10.8%, 2016–2021, translating to 22,617 fewer readmissions and an estimated $385.6 million to $395.8 million in costs avoided. In contrast, rates for hospital-wide all cause readmissions remained stable from 2016 (15.3%) to 2020 (15.5%) among Medicare FFS patients 65 years and older but were better than expected in 2021 (15.0%). These measures are included in the Universal Foundation.[7]
- 30-day readmission rates following **coronary artery bypass graft** (CABG) surgery and **acute myocardial infarction** (AMI) improved for Medicare FFS patients 65 years and older (2016–2021), decreasing from 13.8% to 12.1% for CABG (1,632 fewer readmissions) and from 16.3% to 15.2% for AMI (3,448 fewer readmissions).
- 30-day cost per episode for **total hip/knee arthroplasty** decreased from $25,533 to $21,096 (2016–2020), and 2,062 fewer THA/TKA patients were readmitted (4.4% versus 4.1%). Scores for both measures were worse than expected in 2021. **Complications** occurred among 1,931 fewer THA/TKA patients (2.8% versus 2.4%, 2016–2021), representing $28.0 million to $66.9 million in estimated costs avoided.
- From 2017 to 2019, **emergency department** (ED) visits per 1,000 beneficiary months decreased significantly from 44.8 to 43.3 for children and adolescents enrolled in Medicaid and the Children's Health Insurance Program.[52] By comparison, ED utilization by home health patients remained stable (2016–2019), while short- and long-stay nursing home residents experienced worsening trends from 2017 to 2019. Home health and nursing home rates were better than expected in 2021.

Measure Disparity Results

Among 63 Affordability and Efficiency measures with at least one reliable data point from 2016 to 2021, disparities analyses were performed on 46 measures with adequate data (73.0%). The table identifies where disparities were detected in the latest year of data by stratum (e.g., race/ethnicity) under each Affordability and Efficiency objective and measure topic. Appendix E contains additional detail on disparities.

Affordability and Efficiency Measure Disparities by Goal and Objective | Stratum	Race / Ethnicity	Dual Eligible	Urban / Rural	ADI
Appropriate Use of Health Care Services				
Adherence to Clinical Guidelines				
Acute myocardial infarction	◆		◆	
Stroke / CVA	◆		◆	
Appropriate use criteria				
Computed tomography	◆	◆	◆	◆
Emergency department	◆	◆	◆	◆
Disease- / condition-specific overuse or underuse of resources				
Imaging	◆	◆	---	---
Cost				
Episode-based cost				
Hip / knee arthroplasty		◆	---	---
Medicare spending per beneficiary				
Medicare spending per beneficiary	◆	◆	◆	---
Reduced Readmissions, Including Observations				
Disease- / condition-specific readmissions				
Acute myocardial infarction	◆			
Cancer	◆	◆	---	---
Chronic obstructive pulmonary disease	◆			
Coronary artery bypass graft	◆	◆	---	◆
Heart failure	◆			
Hip / knee arthroplasty	◆	◆	---	◆
Pneumonia	◆			
Stroke / CVA	◆			
Facility-wide all-cause readmissions				
All-cause	◆	◆	◆	◆
Discharge to community	◆	◆	◆	◆
Potentially preventable readmission	◆	◆	---	◆

Legend: ◆ *= Disparity identified* --- *= No disparity identified* *Blank = No data to perform analysis*

Selected Disparities Findings

> *"The patients are ... going back to hospitals because they're being undertreated while they're hospitalized. ... They're sent home [without] proper follow-up ... whether or not they have a [primary care provider], whether or not they have a caregiver."*
> –Black or African American | urban community

Eliminated

⇒ Among American Indian/Alaska Native FFS patients admitted for **acute myocardial infarction:** readmission after discharge from an acute setting (2021)

⇒ Among Hispanic or Latino patients admitted for **acute myocardial infarction**: fibrinolytic therapy within 30 minutes of ED arrival (2019)

⇒ Among Hispanic or Latino FFS patients admitted for **heart failure**: readmission after discharge from an acute setting (2020)

⇒ Among Hispanic or Latino enrollees and residents of high-ADI areas in Medicare Advantage: all-cause **readmissions** (2021)

Emerging

⇒ Among American Indian/Alaska Native FFS patients admitted for **heart failure:** readmission after discharge from an acute setting (2020)

⇒ Among Black or African American FFS patients: **all-cause** readmissions during the first 60 days of home health (2019)—results similar to those the Agency for Healthcare Research and Quality [AHRQ] identified.[53] Also, **potentially preventable readmissions** (2019) and failed **discharge to community** from an inpatient rehabilitation facility (2021)

⇒ Among American Indian/Alaska Native FFS patients: **potentially preventable readmission** from a skilled nursing facility (2019)

Persistent

⇒ **All-cause readmissions** after discharge from an inpatient psychiatric facility (2020)

Stratum	Population group	% rate (▼lower = better)	Difference (% points)
Dual-eligible	Non–dual-eligible	14.6	–
	Dual-eligible	22.2	+7.6▲
Race/ethnicity	White	19.0	–
	Hispanic or Latino	23.8	+4.8▲
	Black or African American	22.6	+3.6▲

⇒ **All-cause readmissions** after discharge from an acute inpatient hospital (2020); similar patterns were observed for Medicare enrollees associated with an ACO.

Stratum	Population group	% rate (▼lower = better)	Difference (% points)
Dual-eligible	Non–dual-eligible	12.1	–
	Dual-eligible	17.0	+4.9▲
Race/ethnicity	White	15.0	–
	Black or African American	19.4	+4.4▲
	Hispanic or Latino	17.5	+2.5▲
	American Indian/Alaska Native	17.0	+2.0▲
ADI	Low ADI	12.9	–
	High ADI	14.5	+1.6▲

⇒ **All-cause readmissions** after discharge from a skilled nursing facility (2021)

Stratum	Population group	% rate (▼lower = better)	Difference (% points)
Race/ethnicity	White	19.6	–
	Black or African American	25.0	+5.4▲
	Hispanic or Latino	22.7	+3.1▲
	American Indian/Alaska Native	22.4	+2.8▲
	Asian/Native Hawaiian or Other Pacific Islander	22.0	+2.4▲

7. Chronic Conditions

Measures promote evidence-based care for management of chronic conditions, including efforts to reduce complications and mortality.

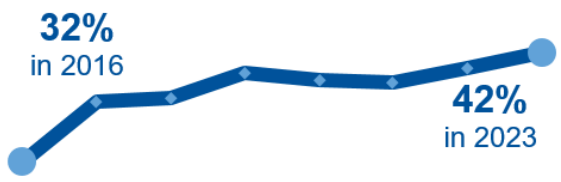
Chronic Conditions Measures Portfolio

14 Quality Programs	92 Total Measures	39 Outcome	53 Process	0 Structure

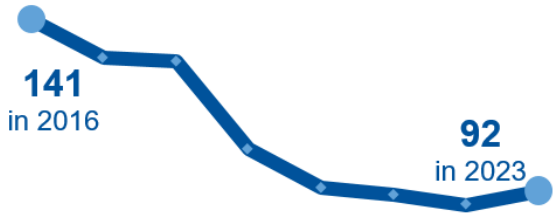
Focus on outcomes and burden reduction

Percentage of outcome measures in portfolio increased, while count decreased, 2016–2023:

Percentage of Outcome Measures

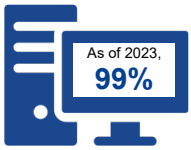


Number of Measures



Digital data sources

At least one reporting option for a measure uses data from electronic health records; case management, administrative, or laboratory systems; health information exchanges; prescription drug monitoring programs; clinical registries; electronically submitted assessments; or patient portals, applications, or wearable devices.[6]



of measures at the program level* use **digital data sources**

*Program-level measure count for performance year 2023 is 119; duplicate counts occur when measures are used across programs.

Coverage of CMS Chronic Conditions goals by quality measures

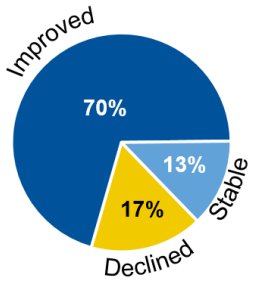
Chronic Conditions Goal | Accountable Entity	ACO	Acute Care Facility	Clinician	Health Plan	PAC/Dialysis Organization	State/ Medicaid
Evidence-Based Health Care	✓	✓	✓	✓	✓	✓
Improved Disease-Specific Outcomes	✓	—	✓	✓	✓	✓
Optimal Functional Outcomes	—	—	✓	—	—	—
Reduced Disease-Specific Mortality	—	✓	✓	—	✓	—
Reduced Preventable Admissions	✓	✓	✓	✓	✓	✓

✓ = *Measure(s)* — = *No measures*

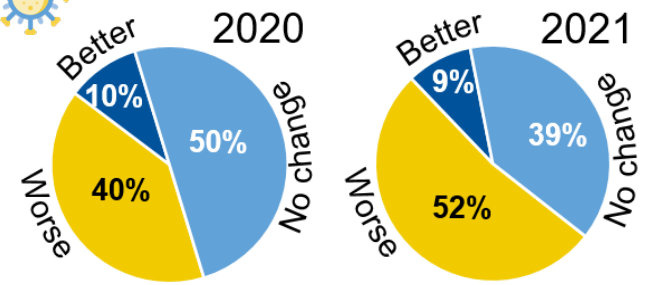
Pre-COVID-19 PHE Measure Performance Trends

54 Chronic Conditions measures with ≥3 years of reliable data from **2016 to 2019** were analyzed. See Appendix E for analytic results for all measures.

83% of the analyzed Chronic Conditions measures had **improved or stable performance** prior to the COVID-19 PHE.



Measure Performance Differences During the COVID-19 PHE



Of 54 measures with pre-COVID-19 trend data, 74% in 2020 and 81% in 2021 had sufficient data for this analysis.

50% in **2020**
61% in **2021**
had differences from 2016–2019 trends (better or worse)

High-Impact Measurement for Chronic Conditions

The selected results represent notable impacts associated with improved trends. Data identified as deviating from historical trends (i.e., COVID-19 PHE effects better or worse than expected) were excluded from the trend analysis but are provided for context.

- **Mortality** rates improved among Medicare FFS patients aged 65 and older, as 11,417 fewer deaths occurred within 30 days of admission to an acute care facility with **heart failure** (2016–2020), **acute myocardial infarction** (2016–2020), **stroke/CVA** (2016–2020), and **coronary artery bypass graft** (2016–2021). In 2021, deaths occurring within 30 days of admission were worse than expected for **heart failure**, **acute myocardial infarction**, and **stroke/CVA**. For context, in the 2020 OECD database, the United States was 12th of 37 developed countries for AMI mortality and 6th of 37 for stroke mortality rates among patients aged 45 years and older.[54]
- **Medication adherence** to specific drug classes improved among Medicare FFS and Medicare Advantage enrollees with Part D and among Marketplace members:
    - **Statins**: 3.7 million more Medicare enrollees (2016–2020) and 234,474 more Marketplace members (2016–2021) were adherent; estimated costs avoided: $11.6 billion and $732.5 million, respectively. The Medicare rate was worse than expected in 2021.
    - **Diabetes medications**: 857,402 more adherent Medicare enrollees (2016–2020); estimated costs avoided: $505.9 million to $1.8 billion. 104,005 more adherent Marketplace members (2016–2021); estimated costs avoided: $61.4 million to $214.4 million. The Medicare rate was worse than expected in 2021.
    - **Renin and angiotensin system (RAS) antagonists**, including angiotensin-converting enzyme inhibitors and angiotensin-receptor blockers: 3.2 million more adherent Medicare enrollees (2016–2021); estimated costs avoided: $12.4 billion to $15.8 billion. 104,894 more adherent Marketplace members (2016–2020);

estimated costs avoided: $405.5 million to $515.6 million. The Marketplace rate was worse than expected in 2021.

- **Hemoglobin A1c control** is an essential part of diabetic patient health and part of the Universal Foundation of Measures.[7]
    - Among patients associated with ACOs, rates of poor **hemoglobin A1c control** improved from 18.4% to 13.9% (2016–2019), translating to 145,149 fewer enrollees with poor control; measure rates were worse than expected in 2020 and 2021. Rates for Medicare Advantage enrollees improved from 23.2% to 19.6% (2016–2018), totaling 193,741 fewer patients with poor **hemoglobin A1c control**, but were worse than expected in 2020 and 2021. By comparison, rates for Medicaid enrollees were stable, ranging from 39.3% to 37.5% (2017–2019).[55] In context, commercial rates (health maintenance organizations and preferred provider organizations) for poor **hemoglobin A1c control** (2016–2021) ranged from 29.8% to 43.9%.[56]
    - Rates of **hemoglobin A1c control** for Marketplace members improved from 53.9% to 57.0% (2016–2018). Rates were worse than expected in 2020 and 2021.

- An estimated 396,902 more patients associated with ACOs maintained **blood pressure control** as a result of a rate increase from 70.6% to 74.9% (2016–2019) on this Universal Foundation measure.[7] Rates were worse than expected in 2020 and 2021. By comparison, MIPS clinician groups reporting via Web Interface recorded a stable trend with rates ranging between 69.1% and 71.8% (2016–2021).
- Inpatient hospital admissions per 100,000 beneficiary months for **COPD or asthma** decreased from 93.5 to 62.8 (2017–2019) for Medicaid enrollees aged 40 to 64.[55]

Measure Disparity Results

Among 81 Chronic Condition measures with at least one reliable data point from 2016 to 2021, disparities analyses were performed on 41 measures with adequate data (50.6%). The table identifies where disparities were detected in the latest year of data by stratum under each Chronic Conditions objective and measure topic. Appendix E contains additional detail on disparities.

Chronic Conditions Measure Disparities by Goal and Objective | Stratum	Race / Ethnicity	Dual Eligible	Urban / Rural	ADI
Evidence-Based Health Care				
Acute and chronic kidney disease				
Dialysis adequacy	◆		---	---
Vascular access	◆		---	
Bone and joint				
Osteoporosis	---	---	◆	---
Rheumatoid arthritis	---	---	---	◆
Cardiovascular disease				
Medication adherence – cholesterol	◆	◆	◆	◆
Medication prescribing	◆	---	◆	---

Chronic Conditions Measure Disparities by Goal and Objective | Stratum	Race / Ethnicity	Dual Eligible	Urban / Rural	ADI
Chronic obstructive pulmonary disease / asthma				
Medication prescribing	◆	---	◆	---
Spirometry evaluation	◆	◆	◆	---
Diabetes				
Kidney disease	---	---	◆	---
Medication adherence	◆	◆	◆	◆
Medication prescribing	◆	---	◆	---
Vision	---	◆	◆	---
Hypertension				
Medication adherence - blood pressure	◆	◆	◆	◆
Improved Disease-Specific Outcomes				
Acute and chronic kidney disease				
Dialysis adequacy	◆	◆	◆	---
Laboratory testing	◆			
Transfusion ratio	---	---	◆	---
Vascular access	◆		---	
Diabetes				
HbA1c	◆	◆	◆	---
Hypertension				
Blood pressure control	◆	◆	---	---
Reduced Disease-Specific Mortality				
Acute and chronic kidney disease				
End-stage renal disease	---	---	---	
Cardiovascular disease				
Acute myocardial infarction	◆			
Coronary artery bypass graft	◆			
Heart failure	---			
Chronic obstructive pulmonary disease / asthma				
Chronic obstructive pulmonary disease	---			
Stroke / neurology				
Stroke / CVA	---			
Reduced Preventable Admissions				
Cancer				
Chemotherapy	◆	◆	◆	◆
Multiple chronic conditions				
All-cause	◆	◆	---	◆
Other: acute and chronic conditions				
Potentially preventable hospitalization	◆	◆	---	◆

Legend: ◆ *= Disparity identified* --- *= No disparity identified* *Blank = No data to perform analysis*

Selected Disparities Findings

> *"One of the biggest problems ... is denial. ... The chronic conditions—diabetes, high blood pressure, cholesterol, obesity—sometimes they're not associated with pain. ... We're taught in the United States that if you feel sick, then you get the medication and you treat it."*
> –Hispanic or Latino | urban community

Eliminated

⇒ Among dual-eligible beneficiaries and Asian/ Native Hawaiian or Other Pacific Islander enrollees in Medicare Advantage: **kidney disease** monitoring for members with diabetes (2021)

⇒ Among Black or African American enrollees with traditional Medicare fee-for-service and Part D: **medication prescribing** (statins) for persons with diabetes (2021)

⇒ Among Asian/Native Hawaiian or Other Pacific Islander and Hispanic or Latino patients: peritoneal **dialysis adequacy** above minimum (2021)

⇒ Among Medicare Advantage enrollees in a high ADI area: control of **HbA1c** with diabetes (2018)

⇒ Among dual-eligible enrollees in Medicare Advantage: **osteoporosis** management for women who had a fracture[vi,15] (2018)

Emerging

⇒ Among Asian and Hispanic or Latino patients: mortality within 30 days following hospitalization for **acute myocardial infarction** (2020)

⇒ Among American Indian/Alaska Native enrollees in Medicare Advantage: bronchodilator **medication prescribing** for management of COPD exacerbation (2021)

⇒ Among dual-eligible enrollees: **vision** testing for Medicare Advantage enrollees with diabetes (2018) and peritoneal **dialysis adequacy** for patients with end-stage renal disease (2021)

Persistent

⇒ **All-cause** admissions for multiple chronic conditions among patients associated with ACOs (2019)

Stratum	Population group	% rate (▼lower = better)	Difference (% points)
Dual-eligible	Non–dual-eligible	52.0	–
	Dual-eligible	70.3	+18.3▲
Race/ethnicity	White	53.5	–
	Black or African American	69.0	+15.5▲
	American Indian/Alaska Native	65.2	+11.7▲
	Hispanic or Latino	61.7	+8.2▲
ADI	Low ADI	54.0	–
	High ADI	60.4	+6.4▲

⇒ Among dual-eligible and race/ethnicity groups and residents of high ADI areas in Medicare FFS with Part D: **medication adherence** – cholesterol (2020); similar results were observed for Medicare Advantage enrollees.

Stratum	Population group	% rate (▲higher = better)	Difference (% points)
Dual-eligible	Non–dual-eligible	87.5	–
	Dual-eligible	83.5	-4.0▼
Race/ethnicity	White	87.9	–
	American Indian/Alaska Native	73.0	-14.9▼
	Black or African American	79.1	-8.8▼
	Hispanic or Latino	80.2	-7.7▼
	Asian/Native Hawaiian or Other Pacific Islander	85.2	-2.7▼

[vi] Because of differences in statistical methodology and definitions of dual eligibility, disparity results for the dual-eligible population in this report may differ from those in stratified OMH reports.

Stratum	Population group	% rate (▲higher = better)	Difference (% points)
ADI	Low ADI	87.1	–
	High ADI	83.7	-3.4▼

⇒ Among dual-eligible and race/ethnicity groups and residents of high ADI areas in Medicare Advantage and Medicare FFS with Part D (2020): Similar disparities were observed in other measures of **medication adherence** to diabetes and RAS antagonist medications—with the exception of Asian enrollees, who had no disparity in diabetes medication adherence.

⇒ Among dual-eligible and race/ethnicity groups and noncore (rural) and small metro area residents: poor **HbA1c** control (Medicare Advantage, 2018). OMH reported similar results by race/ethnicity.[57]

Stratum	Population group	% rate (▼lower = better)	Difference (% points)
Dual-eligible	Non–dual-eligible	18.4	–
	Dual-eligible	22.8	+4.4▲
Race/ethnicity	White	19.2	–
	American Indian/Alaska Native	22.7	+3.5▲
	Hispanic or Latino	22.4	+3.2▲
	Black or African American	22.3	+3.1▲
Urban/rural	Large fringe metro	19.0	–
	Noncore	24.7	+5.7▲
	Small metro	21.6	+2.6▲

8. Wellness and Prevention

Measures assess preventive care and public health infrastructure, including disease surveillance and emergency preparedness, to promote individual, family, and community well-being.

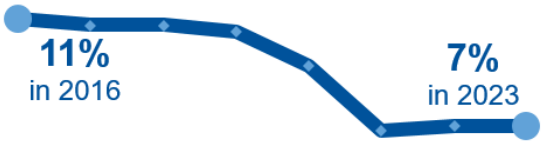
Wellness and Prevention Measures Portfolio

20 Quality Programs	42 Total Measures	3 Outcome	39 Process	0 Structure

Focus on outcomes and burden reduction

Percentage of outcome measures in portfolio and count both decreased, 2016–2023:

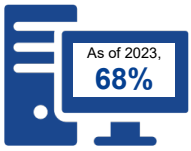
Percentage of Outcome Measures



Number of Measures

Digital data sources

At least one reporting option for a measure uses data from electronic health records; case management, administrative, or laboratory systems; health information exchanges; prescription drug monitoring programs; clinical registries; electronically submitted assessments; or patient portals, applications, or wearable devices.[6]



of measures at the program level* use **digital data sources**

*Program-level measure count for performance year 2023 is 82; duplicate counts occur when measures are used across programs.

Coverage of CMS Wellness and Prevention goals by quality measures

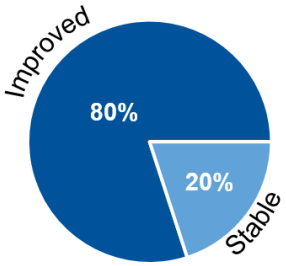
Wellness and Prevention Goal | Accountable Entity	ACO	Acute Care Facility	Clinician	Health Plan	PAC/Dialysis Organization	State/ Medicaid
Adherence to Age-Specific Prevention Guidelines	—	—	✓	✓	—	✓
Adherence to Preventive Pediatric Guidelines	—	✓	—	✓	—	✓
Chronic Conditions Screening	✓	—	✓	✓	—	✓
Contraceptive Care	—	—	—	—	—	—
Dental Care	—	—	✓	✓	—	✓
Immunizations	✓	✓	✓	✓	✓	✓
Nutrition and Physical Activity	—	—	✓	✓	—	✓
Public Health	—	—	—	—	—	—
Well-Being	—	—	✓	—	—	—

✓ = *Measures* — = *No measures*

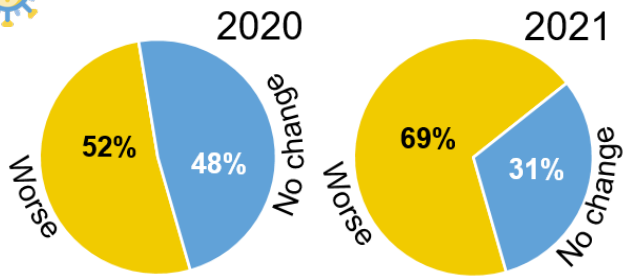
Pre-COVID-19 PHE Measure Performance Trends

45 Wellness and Prevention measures with ≥3 years of reliable data from **2016 to 2019** were analyzed. See Appendix E for analytic results for all measures.

100% of the analyzed Wellness and Prevention measures had **improved or stable performance** prior to the COVID-19 PHE.



Measure Performance Differences During the COVID-19 PHE



Of 45 measures with pre-COVID-19 trend data, 60% in 2020 and 71% in 2021 had sufficient data for this analysis.

52% in **2020**
69% in **2021**
had differences from 2016–2019 trends (better or worse)

High-Impact Measurement for Wellness and Prevention

The selected results represent notable impacts associated with improved trends. Data identified as deviating from historical trends (i.e., COVID-19 PHE effects better or worse than expected) were excluded from the trend analysis but are provided for context.

- **Influenza** vaccine measure rates for patients associated with ACOs increased from 68.0% to 80.1% (2016–2021), representing an estimated cumulative impact on 3.4 million patients. Measure performance also improved for patients of MIPS clinician groups reporting via Web Interface. For context, in 2021 OECD statistics, the United States was 10th of 37 developed countries in vaccinating people aged 65 and older for influenza.[54]
- Completion of vaccinations for adolescents enrolled in the Marketplace increased from 13.4% to 23.3% (2016–2018). Scores were worse than expected in 2020 and 2021. **Childhood status** for immunizations is a Universal Foundation measure.[7]
- Among patients prescribed an antipsychotic medication at discharge from an inpatient psychiatric facility, **comprehensive metabolic screening** increased from 65.1% to 77.6% (2017–2020). The measure score was worse than expected in 2021. Antipsychotic medication increases the risk of metabolic disease, and early detection may reduce the risk of cardiovascular complications.
- Selected performance rates for children and adults in Medicaid prior to the COVID-19 PHE (2017–2019) include the following:
    - **Well-care visits** with a primary care physician or obstetrician/gynecologist significantly improved from 48.8% to 54.0% for ages 12 to 21.[52] This is a Universal Foundation measure.[7]
    - **Postpartum care** for women ages 15 to 20 significantly improved in providing an effective or moderately effective contraceptive within 3 days of delivery (3.5% to 5.0%) and within 60 days of delivery (41.7% to 44.4%).[52] Rates for women ages

21 to 44 also significantly improved for such postpartum contraceptive care within 3 days of delivery (from 10.8% to 11.9%) and within 60 days of delivery (from 39.4% to 42.7%).[55]

- **Postpartum care** providing a long-acting reversible method of contraception within 3 days of delivery increased for women aged 21 to 44 (0.8% to 2.0%).[55]

- **Colorectal cancer** screenings increased from 61.4% to 70.4% (2016–2019) among patients associated with ACOs, representing a cumulative impact on 1.1 million patients. Rates increased from 61.5% to 69.5% (2016–2020) for patients whose MIPS clinician groups reported via Web Interface but were worse than expected in 2021. Rates also were worse than expected for patients associated with ACOs in 2020 and 2021. In context, colorectal cancer screenings substantially declined in the first months of the COVID-19 PHE, followed by a recovery close to prepandemic rates that is largely credited to an increase in noninvasive screening approaches (i.e., fecal immunochemical testing [FIT] and stool DNA).[58,59] Screening and early detection of colon cancer is part of the Universal Foundation of Measures.[7] The United States was 3rd of 25 developed countries in 2021 for colorectal screening of adults aged 50–74 in the OECD database.[54]

- **Breast cancer** screenings for ages 50–74 increased from 67.4% to 73.4% of patients associated with ACOs (2016–2019), representing an impact on 193,929 individuals in 2019. MIPS clinician groups reporting via Web Interface recorded a comparable increase from 67.7% to 71.7% (2016–2020). Screening scores were worse than expected in 2020 and 2021 for those MIPS clinician groups as well as for ACOs. Breast cancer screening is part of the Universal Foundation of Measures.[7] For context in 2021, the United States was 6th of 36 developed countries for screening in the OECD database.[54]

Measure Disparity Results

Among 80 Wellness and Prevention measures with at least one reliable data point from 2016 to 2021, disparities analyses were performed on 10 measures with adequate data (12.5%). The table identifies where disparities in the latest year of data were detected by stratum (e.g., race/ethnicity) for each Wellness and Prevention objective and measure topic. Appendix E contains additional detail on disparities.

Wellness and Prevention Measure Disparities by Goal and Objective | Stratum	Race / Ethnicity	Dual Eligible	Urban / Rural	ADI
Adherence to Age-Specific Prevention Guidelines				
Appropriate disease- / condition-specific screening				
Osteoporosis	◆	◆	◆	◆
Chronic Conditions Screening				
Appropriate screening and diagnostic testing				
Breast cancer	---	◆	◆	---
Colorectal cancer	◆	◆	◆	◆
Immunizations				
Optimal vaccination rates				
Influenza	◆	◆	◆	◆

Wellness and Prevention Measure Disparities by Goal and Objective | Stratum	Race / Ethnicity	Dual Eligible	Urban / Rural	ADI
Pneumococcal	◆	◆	◆	◆
Nutrition and Physical Activity				
Optimal physical activity				
Monitoring physical activity	---	---	◆	---
Reduced obesity				
Body mass index	---	---	◆	◆

Legend: ◆ = Disparity identified --- = No disparity identified Blank = No data to perform analysis

Selected Disparities Findings

Eliminated

⇒ Among American Indian/Alaska Native enrollees in Medicare Advantage:
- **Monitoring physical activity** with a physician (2019)
- **Breast cancer** screening with a mammogram (2018)

Emerging

⇒ Among Medicare Advantage enrollees in high-ADI areas: **colorectal cancer** screenings (2018)

Persistent

⇒ **Pneumococcal** vaccination rates for Medicare Advantage enrollees (2021); similar rates were observed for Medicare FFS patients.

Stratum	Population group	% rate (▲higher = better)	Difference (% points)
Race/ethnicity	White	75.1	–
	Hispanic or Latino	53.9	- 21.2▼
	Black or African American	57.7	-17.4▼
	Asian/Native Hawaiian or Other Pacific Islander	68.5	- 6.6▼
Dual-eligible	Non–dual-eligible	73.5	–
	Dual-eligible	57.3	-16.2▼
ADI	Low ADI	71.8	–
	High ADI	59.8	-12.0▼
Urban/rural	Large fringe metro	72.7	–
	Noncore (rural)	67.5	-5.2▼

⇒ **Influenza** vaccination rates in Medicare FFS (2021); similar results were observed for Medicare Advantage enrollees, though the disparity was just emerging in micropolitan areas.

Stratum	Population group	Rate (▲higher = better)	Difference (% points)
Dual-eligible	Non–dual-eligible	77.7	–
	Dual-eligible	63.0	-14.7▼
Race/ethnicity	White	77.1	–
	Black or African American	63.3	-13.8▼
	Hispanic or Latino	68.9	-8.2▼
ADI	Low ADI	76.5	–
	High ADI	66.1	-10.4▼
Urban/rural	Large fringe metro	78.5	–
	Noncore (rural)	69.8	-8.7▼
	Micropolitan (nonmetro)	71.9	-6.6▼

> *"My mother goes to the doctor on a regular basis. Well, they find out my mother has breast cancer. [She] had not had a mammogram for three years. And how is it that my mother is going to the doctor on a regular basis … but that had not been done?"*
>
> –Black or African American | urban community

9. Seamless Care Coordination

Measures support successful transitions of care with providers leveraging technology to develop and follow coordinated plans.

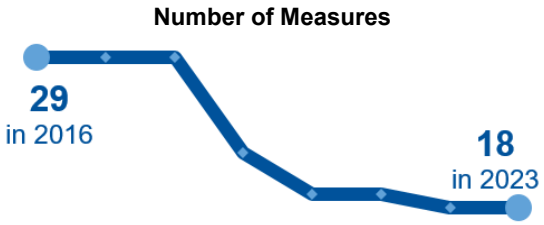
Seamless Care Coordination Measures Portfolio

11 Quality Programs	18 Total Measures	0 Outcome	17 Process	1 Structure

Focus on outcomes and burden reduction

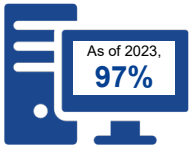
Count of measures in portfolio decreased, 2016–2023:

Changes in the Meaningful Measures 2.0 framework reclassified Seamless Care Coordination outcome measures to Affordability and Efficiency, leaving none in this priority.



Digital data sources

At least one reporting option for a measure uses data from electronic health records; case management, administrative, or laboratory systems; health information exchanges; prescription drug monitoring programs; clinical registries; electronically submitted assessments; or patient portals, applications, or wearable devices.[6]



of measures at the program level* use **digital data sources**

*Program-level measure count for performance year 2023 is 33; duplicate counts occur when measures are used across programs.

Coverage of CMS Seamless Care Coordination goals by quality measures

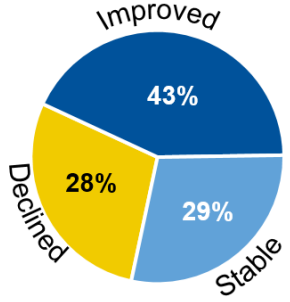
Seamless Care Coordination Goal | Accountable Entity	ACO	Acute Care Facility	Clinician	Health Plan	PAC/Dialysis Organization	State/ Medicaid
Care Coordination	—	✓	✓	✓	—	✓
Optimal Interoperability and Data Availability/Reconciliation	—	—	✓	✓	✓	—
Optimal Transitions of Care	—	—	✓	✓	—	✓

✓ = *Measure(s)* — = *No measures*

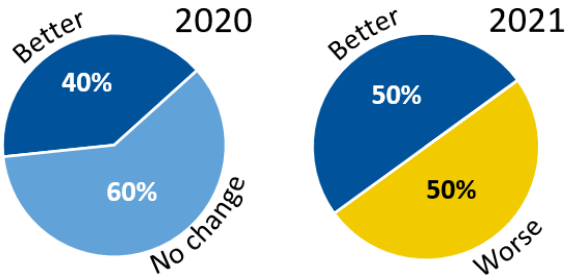
Pre-COVID-19 PHE Measure Performance Trends

14 Seamless Care Coordination measures with ≥3 years of reliable data from **2016 to 2019** were analyzed. See Appendix E for analytic results for all measures.

72% of the analyzed Seamless Care Coordination measures had **improved or stable performance** prior to the COVID-19 PHE.



Measure Performance Differences During the COVID-19 PHE



Of 14 measures with pre-COVID-19 trend data, 36% in 2020 and 43% in 2021 had sufficient data for this analysis.

40% in **2020**
100% in **2021**
had differences from 2016–2019 trends (better or worse)

High-Impact Measurement for Seamless Care Coordination

The selected result represents an impact associated with improved trends. Data identified as deviating from historical trends (i.e., COVID-19 PHE effects better or worse than expected) were excluded from the trend analysis but are provided for context.

- A measure addressing frequency of medication review by a physician or clinical pharmacist in **care for older adults** in Medicare Advantage special needs plans showed improvement from 89.6% to 91.8% (2016–2020). The score was worse than expected in 2021.

Measure Disparity Results

Among 33 Seamless Care Coordination measures with at least one reliable data point from 2016 to 2021, disparities analyses were performed on 10 measures with adequate data (30.3%). The table identifies where disparities in the latest year of data were detected by stratum under each objective and measure topic. Appendix E contains additional detail on disparities.

Seamless Care Coordination Measure Disparities by Goal and Objective | Stratum	Race/ Ethnicity	Dual Eligible	Urban/ Rural	ADI
Care Coordination				
Coordinated plans developed and followed				
Mental health follow-up after hospitalization	◆	◆	◆	◆
Optimal Transitions of Care				
Ensuring follow-up care				
Mammography	---	---	---	---
Multiple chronic conditions	---	---	---	---
Plan quality improvement	◆	◆	---	◆
Handoffs				
Emergency department	◆		---	

Legend: ◆ *= Disparity identified* --- *= No disparity identified* *Blank = No data to perform analysis*

Selected Disparities Findings

Eliminated

⇒ Among dual-eligible enrollees in Medicare Advantage: a health plan measure of **mental health follow-up** within 30 days after discharge from hospitalization[vii,15] (2018)

Emerging

⇒ Among American Indian/Alaska Native enrollees: the same measure of **mental health follow-up after hospitalization** (2018)

> *"A patient that came into the hospital for suicidal thoughts … got admitted, and then when they were ... discharged, they came back because the referral that [the hospital] gave the patient did not accept their insurance."*
> –Hispanic or Latino | low-income, urban community

Persistent

⇒ **Mental health follow-up** [within 30 days] **after hospitalization** in an inpatient psychiatric facility (2020)

Stratum	Population group	% rate (▲higher = better)	Difference (% points)
Race/ethnicity	White	52.7	–
	Black or African American	37.4	-15.3▼
	Hispanic or Latino	46.1	-6.6▼
	American Indian/Alaska Native	46.5	-6.2▼
Urban/rural	Large fringe metro	53.8	–
	Large central metro	46.4	-7.4▼
	Noncore (rural)	49.0	-4.8▼
ADI	Low ADI	50.9	–
	High ADI	44.3	-6.6▼

⇒ **Mental health follow-up** [within 30 days] **after hospitalization** (Medicare Advantage, 2018). OMH reported similar results by race/ethnicity.[57]

Stratum	Population group	% rate (▲higher = better)	Difference (% points)
Race/ethnicity	White	49.6	–
	Black or African American	38.1	-11.5▼
Urban/rural	Large fringe metro	47.3	–
	Noncore (rural)	41.5	-5.8▼

[vii] Because of differences in statistical methodology and definitions of dual eligibility, disparity results for the dual-eligible population in this report may differ from those in stratified OMH reports.

10. Behavioral Health

Measures promote screening and treatment for mental health and substance use disorders and support integration of physical and behavioral health.

Behavioral Health Measures Portfolio

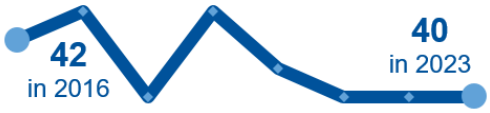
11 Quality Programs	40 Total Measures	6 Outcome	34 Process	0 Structure

Focus on outcomes and burden reduction

Percentage of outcome measures in portfolio increased, while count decreased, 2016–2023:

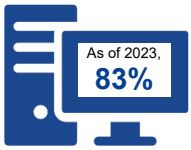
Percentage of Outcome Measures

Number of Measures



Digital data sources

At least one reporting option for a measure uses data from electronic health records; case management, administrative, or laboratory systems; health information exchanges; prescription drug monitoring programs; clinical registries; electronically submitted assessments; or patient portals, applications, or wearable devices.[6]



of measures at the program level* use **digital data sources**

*Program-level measure count for the 2023 performance year is 60; duplicate counts occur when measures are used across programs.

Coverage of CMS Behavioral Health goals by quality measures

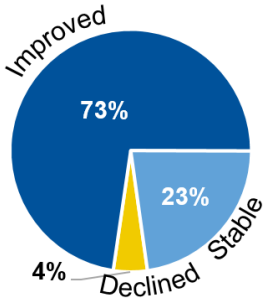
Behavioral Health Goal | Accountable Entity	ACO	Acute Care Facility	Clinician	Health Plan	PAC/Dialysis Organization	State/ Medicaid
Integrated Physical and Behavioral Healthcare	—	—	—	—	—	—
Mental Health Disorders Screening and Treatment	—	✓	✓	✓	✓	✓
Opioid Use and Disorders Prevention and Treatment	—	✓	✓	✓	—	—
Substance Use Disorders Prevention and Treatment	—	—	—	✓	—	✓
Suicide Prevention	—	—	✓	—	—	—

✓ = *Measure(s)* — = *No measures*

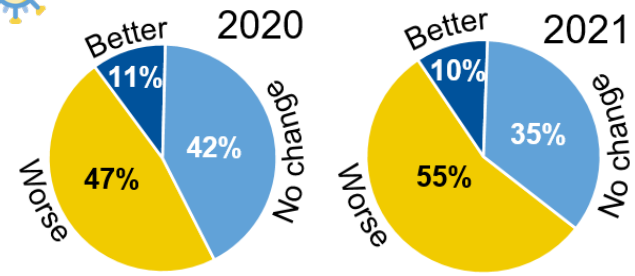
Pre-COVID-19 PHE Measure Performance Trends

22 Behavioral Health measures with ≥3 years of reliable data from **2016 to 2019** were analyzed. See Appendix E for analytic results for all measures.

96% of the analyzed Behavioral Health measures had **improved or stable performance** prior to the COVID-19 PHE.



Measure Performance Differences During the COVID-19 PHE



Of 22 measures with pre-COVID-19 trend data, 86% in 2020 and 91% in 2021 had sufficient data for this analysis.

58% in **2020**
65% in **2021**
had differences from 2016–2019 trends (better or worse).

High-Impact Measurement for Behavioral Health

The selected results represent notable impacts associated with improved trends. Data identified as deviating from historical trends (i.e., COVID-19 PHE effects better or worse than expected) were excluded from the trend analysis but are provided for context.

- **Depression** screening and follow-up for patients associated with ACOs improved from 54.3% to 70.2% (2016–2019), representing 3.6 million more patients screened. Similarly, rates reported by MIPS clinician groups via Web Interface over the same period improved from 45.8% to 73.4%. Rates for this Universal Foundation measure[7] in both programs were worse than expected in 2020 and 2021.
- Marketplace plans reported that the percentage of adolescent and adult enrollees who initiated and engaged in treatment for **alcohol or other drug use disorder** improved from 21.4% to 23.7% (2016–2018), representing 4,664 more enrollees treated. Rates for this Universal Foundation measure[viii,7] were worse than expected in 2020 and 2021.
- Patients in inpatient psychiatric facilities received a prescription or referral for **alcohol or other drug use disorder** treatment at rates improving from 54.0% to 63.1% (2017–2020). Rates for this measure were worse than expected in 2021.
- **Medication adherence** improved from 55.5% to 57.2% (2016–2018) for Medicare Advantage enrollees newly diagnosed with major depression, representing better adherence for 10,981 enrollees. In contrast, rates for Marketplace members remained stable during the same period. Measure scores in both programs were better than expected in 2020 and 2021. Medicaid also reported a significant improvement in adult enrollees who remained on antidepressant medication management, from 34.8% to 37.5% (2017–2019).[55]

[viii] *Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment* (CMIT # 394) is included in the Adult Universal Foundation of Measures.

- **Tobacco use** – treatment provided or offered to adults after discharge from an inpatient psychiatric facility improved from 15.0% to 21.5% (2017–2019). Rates were worse than expected for 2020 and 2021.
- Rates of Marketplace members whose clinicians discussed or provided **tobacco use** cessation methods or strategies improved from 48.9% to 54.3% (2017–2021; no data reported in 2019).

Measure Disparity Results

Among 59 Behavioral Health measures with at least one reliable data point from 2016 to 2021, disparities analyses were performed on 12 measures with adequate data (20.3%). The table identifies where disparities were detected in the latest year of data by stratum under each Behavioral Health objective and measure topic. Appendix E contains additional detail on disparities.

Behavioral Health Measure Disparities by Goal and Objective | Stratum	Race / Ethnicity	Dual Eligible	Urban / Rural	ADI
Mental Health Disorders Screening and Treatment				
Depression screening and treatment				
Depression	◆			
Medication adherence	◆	---	◆	---
Other: Psychiatric disorders				
Health Outcomes Survey – Improving or Maintaining Mental Health	◆	◆	---	◆
Medication adherence	◆	---	◆	---
Opioid Use and Disorders Prevention and Treatment				
Opioid prescribing / provider				
Opioids	◆	◆	◆	◆
Opioids/benzodiazepines	---	◆	---	---
Substance Use Disorders Prevention and Treatment				
Alcohol, tobacco, and illicit drug use				
Alcohol or other drug use disorder	◆	---	---	---

Legend: ◆ *= Disparity identified* --- *= No disparity identified* *Blank = No data to perform analysis*

Selected Disparities Findings

Eliminated

⇒ Among Medicare Advantage enrollees with dual-eligible status: **antidepressant medication** management (**adherence)** at 6 months[ix,15] (2018)

⇒ Among Medicare Advantage enrollees residing in micropolitan and noncore (rural) areas and among Hispanic or Latino enrollees: engagement of **alcohol or other drug use disorder** treatment (2021)

> *"Having an integrated behavioral health provider within a medical setting … is really critical because in tribal communities … probably 75% of the conditions that go unresolved over a long period of time have a underlying mental health or substance abuse disorder or a dual diagnosis … undergirding that chronic disease."*
>
> –American Indian/Alaska Native | low-income urban community

[ix] Because of differences in statistical methodology and definitions of dual eligibility, disparity results for the dual-eligible population in this report may differ from those in stratified OMH reports.

Emerging

⇒ Among Medicare Advantage enrollees living in large central metro and micropolitan areas: **antidepressant medication** management (**adherence)** at 6 months (2018)

⇒ Among Asian/Native Hawaiian or Other Pacific Islander enrollees in Medicare Advantage: engagement of **alcohol or other drug use disorder** treatment (2021)

Persistent

⇒ **Antidepressant** medication management **(adherence)** at 6 months **(**Medicare Advantage enrollees, 2018). Similar results were found by OMH for acute and continuation phase treatment.[57]

Stratum	Population group	% rate (▲higher = better)	Difference (% points)
Race/ethnicity	White	60.8	–
	Black or African American	46.1	-14.7▼
	Asian/Native Hawaiian or Other Pacific Islander	48.4	-12.4▼
	American Indian/Alaska Native	50.7	-10.1▼
	Hispanic or Latino	52.0	-8.8▼

⇒ Improving or maintaining mental health (Medicare Advantage enrollees, 2021)

Stratum	Population group	% rate (▲higher = better)	Difference (% points)
Race/ethnicity	White	83.2	–
	Hispanic or Latino	76.4	-6.8▼
	Asian/Native Hawaiian or Other Pacific Islander	77.2	-6.0▼
	Black or African American	77.5	-5.7▼
Dual-eligible	Non–dual-eligible	83.5	–
	Dual-eligible	75.6	-7.9▼
ADI	Low ADI	82.2	–
	High ADI	78.4	-3.8▼

⇒ Medication continuation (**medication adherence)** following inpatient psychiatric discharge (2020)

Stratum	Population group	% rate (▲higher = better)	Difference (% points)
Race/ethnicity	White	75.1	–
	Black or African American	65.9	-9.2▼
	American Indian/Alaska Native	69.3	-5.8▼
Urban/rural	Large fringe metro	74.7	–
	Large central metro	69.6	-5.1▼

11. Lessons Learned Across CMS Health Care Quality Priorities for a Resilient Health Care System

As CMS evaluates the policy changes issued throughout the COVID-19 PHE, best practices are being identified to prepare for future public health emergencies. Despite improving or stable trends across most health care quality priorities preceding the COVID-19 PHE (2016–2019), subsequent worsening of key metrics necessitates strategic actions to return to prepandemic levels and improve the resilience of the health care system. Lessons learned, recommendations, and planned actions to improve resilience are discussed for select measure topics and grouped by health care quality priority.

Person-Centered Care

- Mobility in the home health setting was worse than expected during the COVID-19 PHE. This could indicate a need for new techniques for maintaining improvements in activities of daily living during a pandemic, such as with the use of a telehealth exercise program in combination with in-person care.[60]

Safety

- Measure scores for CLABSI, CAUTI, and MRSA in acute care settings were worse than expected during the COVID-PHE. Relative declines in performance on safety measures from 2019 to 2021 ranged from 10% to 44%, indicating the need to focus on systems of safety, reinforce practices that endure under stress, and promote a culture of safety.[48] The CMS National Quality Strategy aims to return safety metrics to prepandemic levels by 2025 and "reduce harm by an additional 25% by 2030 through expanded safety metrics, targeted quality improvement, patient engagement, and Conditions of Participation."[4] Advancing principles of diagnostic excellence[61] would reduce a main cause of harm to patients in all settings.[62] The President's Council of Advisors on Science and Technology (PCAST) recommends safety-enhancing technologies leveraging electronic health records to reduce preventable harm and more rapidly assess threats to patient safety.[63]
- No measures existed for workplace safety, a precondition to patient safety. The COVID-19 PHE exacerbated health care staffing shortages[64,65] and negatively affected the workplace environment.[63,66,67] Opportunities exist to prioritize structural quality measures such as the new *Total Nursing Hours per Resident Day* measure for skilled nursing facilities[68(p. 47570)] and align CMS regulations with anticipated patient and workforce safety recommendations by the HHS National Healthcare System Action Alliance.[69]

Chronic Conditions

- Hemoglobin A1c control was worse than expected during the COVID-19 PHE. Adoption of newer technology could help individuals with diabetes maintain contact with their physicians and achieve metabolic control.[70,71]
- Blood pressure control was worse than expected during the COVID-19 PHE. Enrollees used telehealth to receive 12 percent of their services during the first year of the pandemic.[72] Greater use of self-monitoring of blood pressure at home could reduce the incidence of hypertension-related cardiovascular disease.[73,74]

Wellness and Prevention

- Completion of vaccines among adolescents was worse than expected during the COVID-19 PHE. Unlike other aspects of a well care visit, vaccinations cannot be accomplished through telehealth. To mitigate setbacks in vaccination rates in future PHEs, strategies such as separating well and sick visit areas, limiting the number of people in a setting, and administering vaccinations in an open-air area or personal vehicle could be implemented.[75,76] Continual communication and educational outreach to families about the importance of routine vaccinations during future PHEs is needed.[75]
- Breast cancer screening was worse than expected during the COVID-19 PHE. Breast cancer screening scores declined during the COVID-19 PHE from initial lockdowns and shutdowns of nonessential care, including screening programs.[77] Caution about avoiding the COVID-19 virus contributed to delayed or missed screenings and treatment.[78,79] Returning to prepandemic levels is especially critical for women in minority racial or ethnic groups,[80] who were more likely to have missed or delayed screening during the pandemic.[77]

Seamless Care Coordination

- Rates for medication review were worse than expected during the COVID-19 PHE. Medication review is essential to prevent inappropriate prescribing for older adults and reduce the risk of adverse drug events.[81] Communication with the care team can be labor-intensive and time-consuming for patients and caregivers. In future emergencies, taking advantage of electronic health records, telehealth, and web portals can facilitate medication review.[82]

Behavioral Health

- Rates were worse than expected for measures for depression screening and follow-up and for multiple measures of treatment for alcohol, other drug use disorder, and tobacco; however, the need for behavioral health screening and treatment increased during the COVID-19 PHE.[83-85] The largest decline in in-person health care visits for Medicare FFS enrollees was for behavioral health.[86] Flexibilities that expanded access to telehealth resulted in FFS and Medicare Advantage enrollees using telehealth for behavioral health services more than other health care services.[72,86] Ensuring that all enrollees have equitable access for behavioral health services, including care delivered via telehealth and other technologies, aligns with the CMS Behavioral Health Strategy[87] and would support efforts to recover lost progress in behavioral health quality measures.

12. Conclusion and Future Directions

CMS has made progress toward meaningful measurement with lower burden by optimizing the measure portfolio, employing digital data sources, and aligning measures across programs, settings, and U.S. government agencies. First, CMS efforts guided by the Meaningful Measures Initiative[8] from 2016 to 2023 resulted in a 15% reduction in measures for the 26 programs highlighted in this report while increasing the proportion of outcome measures to 41%. In addition, as of 2023, 80% of measures use digital data sources, a foundational step toward the transition to digital quality measures. Finally, measures aligned across multiple settings, resulting from the CMS Universal Foundation measures[7] and other efforts, contribute critical comparative data while decreasing burden overall.

Analysis of quality measure results from 2016 to 2021 across 26 CMS quality and value-based incentive payment programs shows that improvements in measure performance, largely prior to the COVID-PHE, were associated with positive impacts for millions of patients and substantial costs avoided. From 2016 through 2019, 88% of measures showed stability or improvement that in some instances continued through 2020–2021. Targeted initiatives implemented under the CMS Quality Improvement Organization umbrella supported progress in hospitals, nursing homes, and physician practices.[88,89] Health care quality priorities and corresponding measure topics with notable patient impacts prior to the pandemic include Safety (healthcare-associated infections), Wellness and Prevention (colorectal and breast cancer screenings) and Behavioral Health (depression screening and follow-up).

The COVID-19 PHE had major impacts on measure performance. Among measures with data available for the analysis, 38% in 2020 and 47% in 2021 had worse than expected performance. In some cases, these effects reversed recent gains in measure performance. The strains placed on the health care system revealed, at least for some measures, a limited capacity to sustain improvements in quality.

Despite progress in measure performance nationally, issues of equity of care remain. Disparities were most prevalent in racial and ethnic groups and among dual-eligible enrollees, especially in Wellness and Prevention measures. Persistent disparities were found in 85% of the measures with any disparity in the first or last year of data. Although improvement in the form of eliminated disparities was found in 39% of those measures, this progress was countered by emerging disparities detected in 46% of those measures. Focus group interviews confirmed that equity of care is critical to patients, specifically in terms of addressing unmet health-related social needs, barriers to access, bias in care delivery, cultural competency, and patient health literacy. Identified through the lived experiences of focus group participants, these concerns underscore the importance of ongoing CMS initiatives to address equity.

This report provides a broad analysis of disruptions observed early in the COVID-19 PHE and progress toward CMS quality goals. Conclusions based on the report findings should be considered in the context of limitations arising from historic changes in the health care system. Gaps in data, changes in patient characteristics and utilization patterns, and uncertain attribution of apparent positive or negative impacts to measurement itself all contribute to these limitations. Consequently, this report does not attempt to establish causal relationships or attribution for specific CMS measures or quality programs. However, the observed patterns documented in this

report provide important lessons and serve as guidance for future studies to explore the impact and resilience of quality measurement in the face of a public health emergency. CMS recognizes that more frequent analysis of national measure performance and disparities included in this report could better inform efforts to improve the health care system.

Future Directions

This report captures CMS quality measurement data from a unique moment in history: the onset of the COVID-19 PHE. Results for a large proportion of measures analyzed show deviations from prior performance trends, in some cases eroding recent gains. Uncertainty remains about the lasting effects of the pandemic and the resilience of the health care system. For the 2027 Impact Assessment Report, data will be available to examine measure performance post pandemic, and methods can be refined to determine to what degree measure scores have returned to prepandemic trends. As persistent disparities were widespread in the measure results analyzed for this report, ongoing analyses will inform CMS' long-term strategies to advance health equity, and reporting of measure portfolio statistics will track CMS' steadfast efforts to reduce burden while improving outcomes for all patients.

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