

# Addressing Health Care Disparities Using a Health Plan Quality Measures Index

Joseph A. Stankaitis, MD, MPH; Samyukta Singh, MHA; and Sean Nicholson, PhD

**T**he Robert Wood Johnson Foundation defines *health equity* as a state in which “everyone has a fair and just opportunity to be as healthy as possible.”<sup>1</sup> Measuring health equity should help reduce or remove differences in factors influencing health and outcomes, particularly those impacting marginalized or excluded groups.<sup>1</sup> Health care disparities are well documented across socioeconomic status, race, ethnicity, education, and place of residence.<sup>2-4</sup> COVID-19’s impact on minority and impoverished communities and public outrage over systemic racism in the US raised awareness of existing health care disparities.<sup>5-8</sup> Poverty, a major social determinant of health (SDOH), drives health care disparities in the US;<sup>9</sup> 2019 US Department of Agriculture data show poverty rates notably higher across all racial and ethnic groups in rural areas (15.4%) compared with urban areas (11.9%),<sup>10</sup> implying that health care disparities extend beyond just inner-city populations.

For more than 15 years, the Agency for Healthcare Research and Quality (AHRQ) has reported on health care quality and disparities,<sup>4</sup> utilizing more than 250 measures from national data assessing structures, processes, and outcomes across health care settings. Some state initiatives<sup>11</sup> track indicators of racial and ethnic health care disparities. This preponderance of information can overwhelm organizations, hindering their ability to prioritize actionable steps. Organizations could benefit from more manageable data sets closely aligned with their organizational activities.

Health plans and health care systems are well positioned to identify improvement opportunities and influence narrowing of health care disparities. Unlike governmental agencies, health plans and health care systems face significant challenges in obtaining accurate data identifying individuals by race and ethnicity.<sup>12</sup> CMS acknowledges that reporting of race, ethnicity, language, disability status, and sexual orientation/gender identity remains inconsistent at best.<sup>13</sup>

Health plans and organizations serving socioeconomically disadvantaged populations (primarily Medicaid) could utilize a readily available set of publicly reported measures to assess health care disparities. This alternative could focus on improving care delivery for Medicaid enrollees relative to enrollees in commercial/

## ABSTRACT

**OBJECTIVES:** To develop an index using publicly available data to measure progress in addressing health care disparities.

**STUDY DESIGN:** Given inherent socioeconomic differences between individuals insured by commercial/private insurance and those insured by Medicaid, we selected, based on set criteria, a portfolio of metrics comparing the national average performance between these 2 product lines from the Healthcare Effectiveness Data and Information Set (HEDIS).

**METHODS:** Using data from the National Committee for Quality Assurance publicly reported national averages for HEDIS quality metrics from commercial/private insurance and Medicaid managed care, observed differences for these measures were aggregated to establish the index.

**RESULTS:** The Health Insurance Disparities Index (HeIDI) demonstrated a gradual worsening of disparities nationally between individuals with commercial/private insurance and individuals with Medicaid insurance from 2017 to 2022, with a substantial deterioration during and after the COVID-19 pandemic years.

**CONCLUSIONS:** Because HeIDI assesses the status of health care disparities impacting individuals of lower socioeconomic status by insurance lines, it is useful for assessing performance for health plans, states, regions, and health systems utilizing verified HEDIS data.

*Am J Manag Care.* 2025;31(9): In Press

private health plans. KFF data for 2022 reveal that 60.6% of Medicaid enrollees aged 0 to 64 years are non-White (Black, Hispanic, Asian/Native Hawaiian and Pacific Islander, American Indian, and multiple race) compared with 37.9% in employer/nongroup commercial/private plans (Table 1).<sup>14</sup> Among those covered by commercial/private insurance, 58.9% have incomes at or above 400% of the federal poverty level, whereas only 10.5% of Medicaid enrollees fall into this income bracket. These statistics highlight a disproportionate enrollment of lower-income and minority racial/ethnic group individuals within Medicaid compared with commercial/private insurance. Medicaid patients with breast, colorectal, lung, or prostate cancers or non-Hodgkin lymphoma have significantly higher risks of dying within 5 years of diagnosis (ranging from 21% to 198% higher) than those who are commercially/privately insured.<sup>15</sup>

These findings support comparing quality of care delivered to enrollees in Medicaid managed care vs those in commercial/private managed care plans. Previous efforts highlighted disparities in health quality between these 2 insurance products using the National Committee for Quality Assurance (NCQA) Healthcare Effectiveness Data and Information Set (HEDIS) measures.<sup>16</sup> Other methodologies used diverse data sets to record performance among states, different plan ownerships, or specific plans.<sup>17,18</sup> Some initiatives have attempted to develop health care disparities indexes, including a summary index of several indicators,<sup>19</sup> and another focused purely on the hospital environment.<sup>20</sup>

Two reported efforts assessed health care disparities within Medicare Advantage. One study used a composite of 8 health behavior measures comparing outcomes between dually Medicare/Medicaid eligible White and Black members,<sup>21</sup> whereas another approach stratified 12 measures of clinical quality and patient experience by race/ethnicity and dual-eligibility status, using these as a proxy for socioeconomic characteristics.<sup>22</sup> Both approaches require accurate racial and ethnic data for effective analyses.

Our study proposes a simple method to measure health care disparities using a performance index based on nationally available HEDIS measures. This approach is a practical tool measuring disparities and identifying opportunities for improvement pending more comprehensive enrollee- and patient-level race, ethnicity, and income data becoming readily available and actionable for insurers and their health care delivery partners.

Measuring overall health status across a health plan's entire membership presents challenges, especially in identifying meaningful and valid combinations of process and outcome measures to accurately assess performance. Our approach integrates a combination

## TAKEAWAY POINTS

The Health Insurance Disparities Index (HeIDI) offers a relatively uncomplicated approach with validated and readily available public data for governmental/regulatory agencies, health policy researchers, states, health plans, and other stakeholders to detect trends in progress and identify workable interventions. We find that there has been a lack of progress in addressing these disparities of care nationally.

- ▶ Most reports on health care disparities are extensive, complicated, and unwieldy.
- ▶ HeIDI effectively tracks progress and may be used in policy assessments, program development, and value-based payment approaches.
- ▶ To date, nationally, there has been a regression in effectively addressing health care disparities.

**TABLE 1.** US Health Insurance Coverage Demographics of Individuals Aged 0-64 Years

Individual characteristics	Medicaid insurance	Employer/nongroup private (commercial) insurance
Non-White (Black, Hispanic, Asian/Native Hawaiian and Pacific Islander, American Indian, and multiple race)	60.6%	37.9%
White	39.4%	62.1%
Income ≥ 400% of federal poverty level	10.5%	58.9%

Source: KFF.<sup>14</sup>

of processes and outcomes of care data empowering health plans, delivery systems, and other stakeholders to identify opportunity areas for improvement.

Quality of care delivered to commercially/privately insured vs Medicaid enrollees can differ for 2 main reasons: Enrollees in Medicaid face greater structural inequities from different SDOH, and differences exist in health plan characteristics, such as the breadth and quality of a health plan's provider network. Our proposed index combines both these effects, capturing the full magnitude of the existing inequities. However, because health plans have greater control over plan-specific levers than structural factors, this index is more appropriate for surveillance and diagnostic purposes than for value-based reimbursement reward/penalty mechanisms, which would require risk adjustment to account for differences in enrollee characteristics. Our proposed index is most appropriate for the vast majority of health plans subject to the Affordable Care Act (ACA) requirement that preventive medical services be offered without any patient cost sharing, facilitating the receipt of services included in the index by enrollees in Medicaid and commercial/private plans.

## METHODS

This study was exempt from institutional review board review because it utilized publicly available aggregated data for quality improvement purposes. The proposed Health Insurance Disparities Index (HeIDI) includes 39 health care-focused HEDIS measures. Currently, NCQA's HEDIS data set, one of health care's most widely

used performance measurement and improvement tools, includes more than 200 million US enrollees.<sup>23</sup>

After independent audit to ensure compliance with required measure data specifications, health plans report these measures to NCQA for plan accreditation, for Medicare payment incentives, and/or to meet state regulatory requirements. Consistent with NCQA's categories of health plans, HeIDI focuses on comparing performance in the managed care realm between commercial/private health maintenance organization (HMO) plans and Medicaid HMO plans. HeIDI utilizes national averages from NCQA for measurement years 2017 through 2022.

CMS incorporates HEDIS measures into its Star Ratings system and for various Medicare quality, reporting, and payment programs.<sup>24</sup> States such as New York<sup>25</sup> and Massachusetts<sup>26</sup> publicly report the same or similar HEDIS measures for their value-based payment (VBP) or accountable care organization (ACO) initiatives. The National Quality Forum (NQF)<sup>27</sup> or its successors, the Partnership for Quality Measurement (PQM)<sup>28</sup> and the Core Quality Measures Collaborative (CQMC),<sup>29</sup> have endorsed many of these measures. NCQA requires HEDIS measures for its health plan accreditation and rankings programs for commercial/private and Medicaid plans<sup>30,31</sup> and has evaluated Medicaid's use of quality measures to achieve equity goals.<sup>32</sup>

HeIDI aims to empower state regulators, insurers, and care delivery entities such as health systems, ACOs, and physician practices to assess their progress in addressing health care disparities. Many participate in VBP programs utilizing selected HEDIS measures, routinely collecting performance data from VBP-contracted provider partners for these metrics. Given the relative ease of access to reported quality measure performance information and no extensive statistical analysis needed to produce HeIDI, this approach offers a useful and actionable tool for stakeholders.

Selection of appropriate measures that effectively capture and address disparities between individuals covered by commercial/private and Medicaid plans was critical in developing HeIDI. HEDIS measures have uniform data specifications, are audited annually, and are reported for both insurance types. Selected measures needed to be recognized by reputable national endorsing entities as being important for disparities measurement and substantially utilized by states with Medicaid managed care programs.

NCQA's HEDIS measures for its accreditation programs and health plan rankings for both commercial and Medicaid plans<sup>30,31</sup> are reported annually for both product types. CMS establishes Child and Adult Core Sets of health care quality measures for Medicaid,<sup>24</sup> whereas NQF previously identified a Disparities-Sensitive Measures Set.<sup>27</sup> CQMC has developed its own Consensus Core Sets<sup>29</sup> as well. The programs of the 20 states that account for the vast majority of Medicaid managed care enrollment (54.5 million of the total 66 million individuals) in Medicaid managed care across 42 states (82.5% of all Medicaid managed care enrollees) were reviewed to assess the extent of utilization of these measures for VBP and/or public reporting.

For a quality measure to be included in HeIDI, the selection criteria are as follows:

- A measure used for public performance reporting and/or in VBP quality programs impacting at least 50% of state Medicaid managed care organization (MCO) program enrollees nationally is automatically included as a HeIDI measure.
- A measure endorsed by more than 2 nationally recognized authoritative entities (NCQA, CMS, NQF, or CQMC) as a disparities measure and/or for public reporting is designated as a HeIDI measure.
- A measure used for public performance reporting and/or in VBP quality programs impacting more than 30% but less than 50% of state Medicaid MCO program enrollees nationally is considered equivalent to 1 certified entity endorsement as allowed in the second criterion above.

For NCQA's health plan accreditation and health plan rankings programs,<sup>30,31</sup> process measures receive a relative weight of 1, whereas outcome and high-priority process measures (per NCQA) receive a relative weight of 3. HeIDI embraced this measure weighting approach. **Table 2**<sup>23</sup> lists each measure in the HeIDI index, along with its assigned weight and whether the measure is subject to the ACA's prohibition of patient cost sharing for preventive services, including the sponsoring regulatory and/or guideline authority, professional organization, or guideline entity deeming the importance of the measure. **Appendix 1** (eAppendices available at [ajmc.com](http://ajmc.com)) additionally details how each measure met the selection criteria, identifying which national authoritative entities provided endorsement and which states utilize a given measure with its associated national percentage of use.<sup>33,34</sup> This portfolio of measures consists of 24 physical medicine measures and 15 behavioral health (BH) measures, totaling 39 measures from NCQA's HEDIS 96-measure data set spanning 6 domains of care.

HeIDI measures represent child/adolescent care; BH care; women's health care; adult care; and care for chronic conditions such as diabetes, respiratory diseases, and cardiovascular conditions. Each measure is annually reported to NCQA for both commercial/private and Medicaid managed care plans. Prior to measurement year 2023, colorectal cancer screening, an important measure, was nationally reported only by commercial/private plans (not by Medicaid plans) to NCQA, so it is not included in the current HeIDI measurement set. Newly implemented and reported measures meeting HeIDI selection criteria will be added after an established record of reporting and reliability.

Some states carve out BH services from the Medicaid health plan's benefit package. To address this, the HeIDI non-BH (NBH) version excludes the 15 BH measures from the index, offering the option for a more comparable assessment when analyzing organizations across states or regions with different Medicaid BH benefit packages.

Data utilized for HeIDI originate from publicly reported and available sources, including NCQA's website<sup>23</sup> for national HEDIS

**TABLE 2.** NCQA HEDIS Measures Meeting HeIDI Selection Criteria

Measures <sup>a</sup>	Regulatory and/or guideline authority	Relative weight
Weight assessment for children/adolescents (WCC)	ACA, USPSTF	1
Counseling for nutrition for children/adolescents (WCC)	ACA, USPSTF	1
Counseling for physical activity for children/adolescents (WCC)	ACA, USPSTF	1
Well-child visits in the first 30 months of life (6 or more visits in the first 15 months) (W30)	ACA, AAP Bright Futures	1
Child and adolescent well-care visits (WCV)	ACA, AAP Bright Futures	1
Childhood immunization status (CIS and CIS-E)	ACA, ACIP	3
Immunizations for adolescents (IMA and IMA-E)	ACA, ACIP	3
Breast cancer screening (previously BCS retired; now only BCS-E)	ACA, HRSA, ACS, USPSTF	1
Cervical cancer screening (CCS and CCS-E)	ACA, ACS, USPSTF	1
Chlamydia screening in women (CHL)	ACA, USPSTF	1
Appropriate treatment for upper respiratory infection (URI)	CDC	1
Avoidance of antibiotic treatment for acute bronchitis/bronchiolitis (AAB)	CDC	1
Asthma medication ratio – total (AMR)	CDC	1
Controlling high blood pressure (CBP)	ACC/AHA	3
Statin therapy for patients with cardiovascular disease – received statin therapy (SPC)	ACA, ACC/AHA	1
Statin therapy for patients with cardiovascular disease – statin adherence 80% (SPC)	ACA, ACC/AHA	1
Comprehensive diabetes care – blood pressure controlled (<140/90 mm Hg) (BPD)	CDC, ADA	3
Comprehensive diabetes care – poor HbA <sub>1c</sub> control (lower rate is better) (HBD)	CDC, ADA	3
Comprehensive diabetes care – HbA <sub>1c</sub> control (< 8.0%) (HBD)	CDC, ADA	3
Comprehensive diabetes care – dilated eye exam (EED)	CDC, ADA	1
Timeliness of prenatal care (PPC)	ACA, DHHS, CDC, ACOG	1
Postpartum care (PPC)	ACA, DHHS, CDC, ACOG	1
Prenatal immunization status – combination (PRS-E)	ACA, DHHS, CDC, ACOG	1
Plan all-cause readmissions (PCR) [converted from inverse results]	DHHS, CMS	1
<b>Behavioral health measures that are included in the HeIDI and excluded in the HeIDI non-behavioral health tool</b>		
Follow-up after hospitalization for mental illness – 7 days (FUH)	SAMHSA	1
Follow-up after hospitalization for mental illness – 30 days (FUH)	SAMHSA	1
Follow-up care for children prescribed ADHD medication – follow-up care after initiation of treatment (ADD and ADD-E)	APA	1
Follow-up care for children prescribed ADHD medication – follow-up care during continuation of treatment (ADD and ADD-E)	APA	1
Use of first-line psychosocial care for children and adolescents on antipsychotics (APP)	AHRQ	1
Metabolic monitoring for children and adolescents on antipsychotics (APM)	AHRQ	1
Adherence to antipsychotic medications for individuals with schizophrenia (SAA)	APA	3
Follow-up after emergency department visit for mental illness – 7 days (FUM)	SAMHSA	1
Follow-up after emergency department visit for mental illness – 30 days (FUM)	SAMHSA	1
Follow-up within 7 days after emergency department visit for substance use – total (FUA)	SAMHSA, CDC	1
Follow-up within 30 days after emergency department visit for substance use – total (FUA)	SAMHSA, CDC	1
Initiation of substance use disorder treatment – total (IET)	SAMHSA, CDC	1
Engagement of substance use disorder treatment – total (IET)	SAMHSA, CDC	1
Pharmacotherapy for opioid use disorder (POD)	SAMHSA, CDC	1
Antidepressant medication management effective continuation phase treatment (AMM)	CMS, CDC, NAMI	1

AAP, American Academy of Pediatrics; ACA, Affordable Care Act; ACC/AHA, American College of Cardiology/American Heart Association; ACIP, Advisory Committee on Immunization Practices; ACOG, American College of Obstetricians and Gynecologists; ACS, American Cancer Society; ADA, American Diabetes Association; ADHD, attention-deficit hyperactivity disorder; AHRQ, Agency for Healthcare Research and Quality; APA, American Psychiatric Association; HbA<sub>1c</sub>, hemoglobin A<sub>1c</sub>; HEDIS, Healthcare Effectiveness Data and Information Set; HeIDI, Health Insurance Disparities Index; HRSA, Health Resources and Services Administration; NAMI, National Alliance on Mental Illness; NCQA, National Committee for Quality Assurance; SAMHSA, Substance Abuse and Mental Health Services Administration; USPSTF, United States Preventive Services Taskforce.

<sup>a</sup>Review of HEDIS measures definitions from NCQA.<sup>23</sup>

**TABLE 3.** General HeIDI Formula and a Simplified Example

HeIDI index in year $t = \frac{\sum [  C_i - M_i  \times w_i ] \times I[C_i > M_i]}{\sum w_i \times C_i}$			
where $C_i$ and $M_i$ represent the average performance of commercial and Medicaid plans nationally, respectively, for measure $i$ in year $t$ ; $w_i$ is a weight equal to 1 when $i$ is a process measure and 3 when $i$ is an outcome measure; and $I[C_i > M_i]$ is an indicator function that equals 1 when $C_i$ is greater than $M_i$ , and 0 otherwise. Each performance measure is measured as the percentage of patients in a type of plan who receive the recommended medical care or achieve the recommended outcome, where a higher value indicates superior medical care, on average, for the enrollees.			
As a simple example, consider a situation where the HeIDI index is based only on 3 measures, 2 of which are process measures and 1 is an outcome measure:			
HEDIS measure	Weight	Commercial plan	Medicaid plan
6 or more well-child visits in the first 15 months of life	1	90%	70%
% of women, aged 21 to 64 years, screened for cervical cancer	1	75%	80%
% of relevant patients with blood pressure adequately controlled	3	70%	60%
HeIDI index = $\frac{[(90 - 70) \times (1) \times (1)] + [(75 - 80) \times (1) \times (0)] + [(70 - 60) \times (3) \times (1)]}{[(1 \times 90) + (1 \times 75) + (3 \times 70)]} = 13.3$			

HEDIS, Healthcare Effectiveness Data and Information Set; HeIDI, Health Insurance Disparities Index.

performance results (measurement years 2017-2022), NCQA's Quality Compass licensed database, and state-provided public reporting websites.<sup>35</sup> NCQA's website compiles results and reports national averages by product line, eliminating the need for modifications or changes to HEDIS measurement specifications beyond what NCQA performs for its reporting.

HeIDI compares the performance on each measure between commercial/private HMOs and Medicaid HMOs using NCQA-reported national averages for each product line. If the performance difference between the 2 favors commercial/private plans over Medicaid plans for a given metric, that difference serves as the score indicating a disparity. For measures assigned a relative weight of 3 in HeIDI (and by NCQA), any disparities identified are multiplied by 3.

HeIDI aligns with the World Health Organization's principle of reducing systematic differences in health between different socioeconomic groups, in which "the ultimate vision is to eliminate such inequities by raising health outcomes to the level of the most advantaged group."<sup>36</sup> Consequently, HeIDI calculations offer no "extra credit" for measures where the Medicaid product outperforms the commercial product. Thus, the disparity is set to zero rather than a negative number.

To compute the HeIDI score for a given year, the differences in performance for each measure are appropriately weighted and summed up to form a difference (gap) numerator value. This value is then divided by the denominator of the weighted sum of the commercial/private product's performance rates for all measures (Table 3). The HeIDI score is essentially the percentage-point difference in the quality of care received by Medicaid enrollees relative to commercial enrollees. A perfect HeIDI score, indicating that disparities relative to Medicaid have been effectively addressed and parity achieved, would equal zero. Scores greater than zero

indicate the aggregate presence of health care disparities for Medicaid managed care enrollees.

Thus, HeIDI tracks progress in addressing disparities impacting Medicaid enrollees nationally while supporting comparisons for which statewide or individual health plan data are accessible from either Quality Compass or the state.

To currently evaluate how commercial/private and Medicaid product lines fared independently in meeting the 39 selected measures for the HeIDI index, data from 2017 through 2022 were aggregated for each product line. Each year's total possible points and actual points achieved by product lines were recorded, along with the percentage relative to the maximum potential score (HEDIS performance data are found in [eAppendix 2](#)). For this analysis, Medicaid plans received credit when their performance exceeded that of the commercial/private plans for a particular measure, although

in using the HeIDI tool, Medicaid plans do not.

## RESULTS

As depicted in [Figure 1](#),<sup>23</sup> the commercial/private product line reached 58.1% in achieving perfect HEDIS scores in 2022, whereas Medicaid was lower at 52.4%, indicating that nationally, regardless of product line, there is still considerable opportunity to improve health care delivery reflected by the HeIDI HEDIS measures. Unlike the HeIDI results reported below, the 5.7–percentage point difference in [Figure 1](#) does give Medicaid plans credit when they outperform commercial plans on a specific measure.

In applying HeIDI using national data (2017 through 2022) using the averages for commercial/private HMOs against the averages for Medicaid HMOs ([Figure 2](#)<sup>23</sup>), one discovers a growing disparities gap of 3.25 points year over year from 2017 through 2022, with a marked worsening from 2020 onward of nearly 2 points in HeIDI nationally between these insurance programs (computation of HeIDI values is found in [eAppendix 3](#)). Similarly, the NBH HeIDI experienced a parallel change across the 6 measurement years, with an observed erosion nationally from 2017 onward of 4.45 points in the index score. The goal would be to achieve a value of zero for HeIDI and NBH HeIDI, indicating that Medicaid enrollees are receiving health care quality at the same level as enrollees in commercial/private plans. This is certainly not the case.

In [eAppendix 4](#), we report HeIDI scores when we increase the third inclusion criterion from the range of more than 30% to less than 50% of state Medicaid MCO program enrollees nationally using a measure to a range of more than 40% to 50%. The results are similar. In [eAppendix 5](#), we report HeIDI scores using all measures, including those for which Medicaid plans outperform commercial



plans and receive extra credit. The results are qualitatively similar.

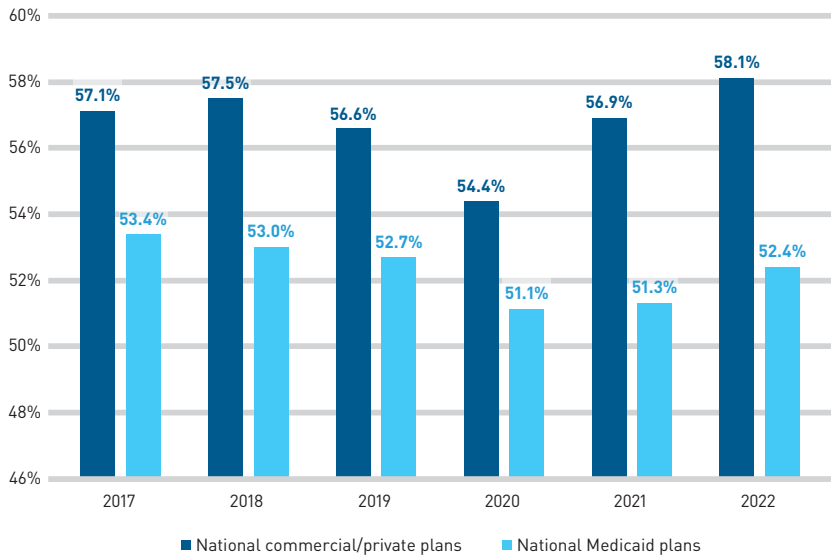
## DISCUSSION

Addressing US health care disparities is like managing a complex, poorly understood, and difficult-to-treat chronic disease. Underlying sources are diverse, including widespread poverty, embedded racism within the health care system, SDOH, variations in health care financing and coverage, disparities in access to care, practitioner training, understanding of public health issues, and health care delivery system design and operations including cultural competency gaps. Although this problem lacks simple or quick solutions, it presents opportunities for health care stakeholders to reexamine their respective roles, identify underlying issues, and develop interventions to advance health care equity.

As the analysis using HeIDI shows, the gap in health care disparities continues to worsen, indicating that more work needs to be done. The COVID-19 pandemic impacted health care workforce staffing, resulting in reduced access to health care services overall,<sup>37</sup> which probably contributed to the worsening in index scores from 2020 onward. CMS and others are also concerned that the expanded use of virtual and telemedicine services during the pandemic widened health inequities, specifically for low-income or working poor individuals, and rural populations that generally have less access to these services than those from higher socioeconomic backgrounds.<sup>38-41</sup>

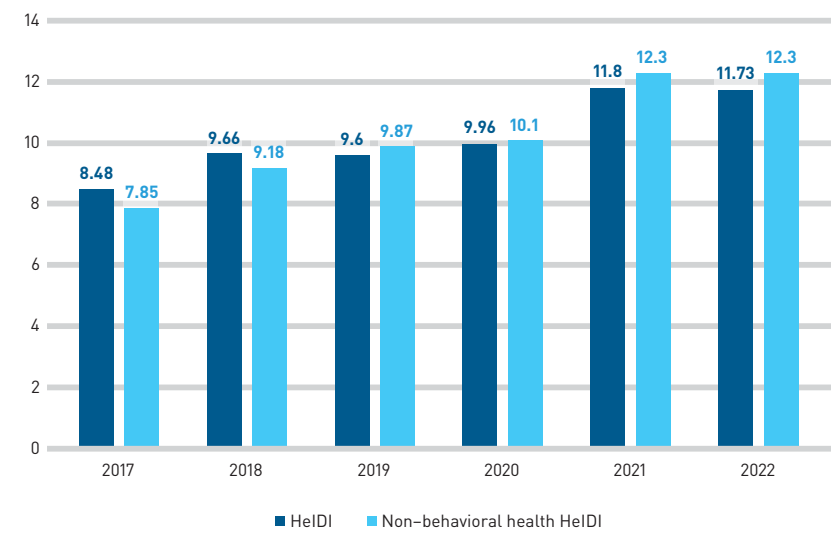
The federal government and many states have conducted numerous studies publicly reporting the status of health care disparities, which might be unwieldy and not actionable without extensive further analysis. To mitigate this, the HeIDI scoring system is a tool that health plans, states, care delivery systems, researchers, and others can use to track progress in managing disparities and identify the greatest opportunities for improvement. HeIDI leverages readily available, publicly reported information for a large number of process and outcome measures that do not require extensive statistical and analytical expertise, thus offering a practical means for health care stakeholders to assess the progress of their efforts to address

**FIGURE 1.** Level of Performance to Achieve Perfect Scores for HeIDI HEDIS Measures, 2017 to 2022<sup>a</sup>



HEDIS, Healthcare Effectiveness Data and Information Set; HeIDI, Health Insurance Disparities Index.  
<sup>a</sup>National performance averages for each HeIDI measure by product line for measurement years 2017 through 2022 obtained from the National Committee for Quality Assurance.<sup>23</sup> The authors used the reported values to calculate the independent aggregate performance of commercial/private and Medicaid product lines against the potential maximal scores if all the selected measures were perfectly achieved.

**FIGURE 2.** 2017-2022 HeIDI Results<sup>a</sup>



HeIDI, Health Insurance Disparities Index.  
<sup>a</sup>National performance averages for each HeIDI measure by product line for measurement years 2017 through 2022 obtained from the National Committee for Quality Assurance.<sup>23</sup> The authors used the reported values to calculate the HeIDI using the HeIDI scoring methodology for both the comprehensive HeIDI that includes the entire 39-measure portfolio (physical medicine and behavioral health measures) and the non-behavioral health HeIDI that only uses 24 physical medicine measures out of the total 39 measures, excluding the 15 behavioral health measures.

disparities. The strength of this new index is that it captures the full magnitude of the inequality in care between socioeconomically disadvantaged and advantaged individuals. The weakness is that health plans and providers acting unilaterally can only readily address some of the factors creating inequities. Therefore, this index would be most valuable when used in conjunction with measures that compare quality of care within the same plan, or same type of plan, for disadvantaged vs advantaged groups.<sup>42,43</sup>

Additionally, HeIDI can support health systems researchers in exploring various underlying variables contributing to the performance of an entity (such as states, health plans, delivery systems), including the impact of carved-out services, health plan size, tax status of organizations, state eligibility rules, benefits provided, waiver programs, financial incentives, implementation of alternative payment mechanisms, existence of sister commercial/private plans alongside Medicaid, and regional characteristics.

The HeIDI NBH tool comparably analyzes the performance of BH carve-out plans against those plans that provide BH services benefits. With growing support for integrating physical health services and BH services into whole-person care,<sup>13,44-47</sup> until such integration becomes standard practice nationally, the HeIDI NBH scoring tool allows measurement of health insurance disparities adjusting for this.

### Limitations

Although HeIDI may be impacted by updates implemented by the various stewards and developers of these measures, including NCQA, states, CMS, PQM, CQMC, and other national entities,<sup>33</sup> such changes in data specifications and measures typically apply across all health plan product lines, thereby minimizing this impact on comparisons. Should any measure be retired, other measures meeting inclusion criteria will be considered as replacements without significantly impacting the tool's integrity.

## CONCLUSIONS

HeIDI is a practical tool for assessing progress in addressing and eliminating health care disparities across different insurance product lines. By measuring performance disparities, it can help identify where attention is needed to implement changes that improve and promote equitable care, regardless of the insurance product enrollment. With the worsening of health care disparities as spotlighted by HeIDI, determining effective interventions remains a pressing challenge for all stakeholders committed to addressing this critical issue in our health care system and society. ■

### Acknowledgments

The authors wish to thank Caroline N. Stankaitis, DPT, and Peter Coyle, PhD, for their feedback on an earlier version of this paper.

The primary source for data contained in this publication is NCQA's publicly accessible website titled "HEDIS Measures and Technical Resources" for HEDIS measurement years 2017 through 2022. Any data display, analysis, interpretation, or conclusion based on these data is solely that of the authors, and NCQA holds no responsibility for any such display, analysis, interpretation, or conclusion. Quality Compass is a registered trademark of NCQA. HEDIS is a registered trademark of NCQA.

**Author Affiliations:** Sloan Program in Health Administration, Cornell University Brooks School of Public Policy (JAS, SS, SN), Ithaca, NY; Department of Economics, Cornell University (SN), Ithaca, NY.

**Source of Funding:** None.

**Author Disclosures:** The authors report no relationship or financial interest with any entity that would pose a conflict of interest with the subject matter of this article.

**Authorship Information:** Concept and design (JAS, SN); acquisition of data (JAS); analysis and interpretation of data (JAS, SS, SN); drafting of the manuscript (JAS, SS, SN); critical revision of the manuscript for important intellectual content (JAS, SS); and administrative, technical, or logistic support (JAS).

**Address Correspondence to:** Joseph A. Stankaitis, MD, MPH, Cornell University Brooks School of Public Policy, 24 Hiram Way, Honeoye Falls, NY 14472. Email: jas2242@cornell.edu.

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**eAppendix 1. NCQA HEDIS Measures Meeting HeIDI Selection Criteria**

Measures <sup>a</sup> with abbreviations, regulatory and/or guideline authority, and relative weight	NCQA HPR required measure <sup>b</sup>		CMS core set <sup>c</sup>	NQF <sup>d</sup> / PQM <sup>e</sup>	CQMC core set <sup>f</sup>	State use	States using measure and percentage of national Medicaid managed care enrollees <sup>g,h</sup>
	Commercial	Medicaid					
Weight assessment for children/adolescents (WCC) (ACA, USPSTF) (weight=1)	X	X	X		X	X	CA, GA, IL, LA, MD, NJ, NY, NC, OH, PA, TN, VA (37,125,000/66,062,000=56.2%)
Counseling for nutrition for children/adolescents (WCC) (ACA, USPSTF) (weight=1)	X	X	X		X	X	CA, GA, IL, LA, MD, NJ, NY, NC, OH, PA, TN, VA (37,125,000/66,062,000=56.2%)
Counseling for physical activity for children/adolescents (WCC) (ACA, USPSTF) (weight=1)	X	X	X		X	X	CA, GA, IL, LA, MD, NJ, NY, NC, OH, PA, TN, VA (37,125,000/66,062,000=56.2%)
Well-child visits in the first 30 months of life (6 or more visits in the first 15 months) (W30) (ACA, AAP Bright Futures) (weight=1)			X			X	AZ, CA, GA, IL, LA, MI, MN, NJ, NY, NC, PA, TN, VA, WA, WI (42,401,000/66,062,000=64.2%)
Child and adolescent well-care visits (WCV) (ACA, AAP Bright Futures) (weight=1)			X		X	X	AZ, CA, GA, IL, LA, MA, MI, MN, NJ, NY, NC, OH, TN, VA, WA, WI (43,244,000/66,062,000=65.5%)
Childhood immunization status (CIS and CIS-E) (ACA, ACIP) (weight=3)	X	X	X		X	X	CA, FL, GA, IL, LA, MA, MD, MI, MN, NJ, NY, NC, PA, TN, TX, VA, WA, WI (47,032,000/66,062,000=71.2%)
Immunizations for adolescents (IMA and IMA-E) (ACA, ACIP) (weight=3)	X	X	X		X	X	CA, FL, GA, IL, LA, MA, MD, MI, MN, NJ, NY, NC, PA, TN, VA, WI (41,237,000/66,062,000=62.4%)
Breast cancer screening (previously BCS retired; now only BCS-E) (ACA, HRSA, ACS, USPSTF) (weight=1)	X	X	X	X	X	X	AZ, CA, FL, IL, MI, MN, NJ, NY, NC, OH, PA, TN, TX, WI (44,555,000/66,062,000=67.4%)
Cervical cancer screening (CCS and CCS-E) (ACA, ACS, USPSTF) (weight=1)	X	X	X	X	X	X	CA, FL, IL, LA, MD, MI, MN, NJ, NY, NC, OH, PA, TN, TX, VA, WI

							(40,944,000/66,062,000=62.0%)
Chlamydia screening in women (CHL) (ACA, USPSTF) (weight=1)	X	X	X		X	X	CA, FL, IL, LA, MD, MI, NJ, NY, NC, OH, PA, TN, TX, VA, WA, WI (44,937,000/66,062,000=68.0%)
Appropriate treatment for upper respiratory infection (URI) (CDC) (weight=1)	X	X			X	X	CA, LA, MD, NJ, NY, PA, TN, TX (30,681,000/66,062,000=46.4%)
Avoidance of antibiotic treatment for acute bronchitis/bronchiolitis (AAB) (CDC) (weight=1)	X	X	X			X	CA, GA, LA, MD, NY, PA, TN, VA, WI (29,385,000/66,062,000=44.5%)
Asthma medication ratio—total (AMR) (CDC) (weight=1)	X	X	X		X	X	CA, GA, MA, MN, NJ, NY, NC, PA, TN, WI (36,445,000/66,062,000=55.2%)
Controlling high blood pressure (CBP) (ACC/AHA) (weight=3)	X	X	X	X	X	X	CA, FL, GA, IL, LA, MA, MD, MI, MN, NJ, NY, NC, OH, PA, TN, VA, WI (62,251,000/66,062,000=94.2%)
Statin therapy for patients with cardiovascular disease—received statin therapy (SPC) (ACA, ACC/AHA) (weight=1)	X	X			X	X	CA, LA, NJ, NY, OH, PA, TN, WA (29,692,000/66,062,000=44.9%)
Statin therapy for patients with cardiovascular disease—statin adherence 80% (SPC) (ACA, ACC/AHA) (weight=1)	X	X			X	X	CA, LA, MD, NJ, NY, NC, PA, TN (28,206,000/66,062,000=42.7%)
Comprehensive diabetes care—blood pressure controlled (< 140/90 mm Hg) (BPD) (CDC, ADA) (weight=3)	X	X		X		X	CA, LA, MD, MI, MN, NJ, NY, NC, OH, PA, TN, WA (36,758,000/66,062,000=55.6%)
Comprehensive diabetes care—poor HbA <sub>1c</sub> control (lower rate is better) (HBD) (CDC, ADA) (weight=3)				X		X	CA, IL, LA, MD, MA, MI, MN, NJ, NY, NC, OH, PA, TN, WA (40,217,000/66,062,000=60.9%)
Comprehensive diabetes care—HbA <sub>1c</sub> control (<8.0%) (HBD) (CDC, ADA) (weight=3)	X	X	X	X		X	CA, FL, GA, LA, MD, MI, MN, NJ, NY, NC, OH, PA, TN, TX, VA, WI (47,365,000/66,062,000=71.7%)
Comprehensive diabetes care—dilated eye exam (EED) (CDC, ADA) (weight=1)	X	X		X		X	CA, FL, LA, MD, MI, MN, NJ, NY, NC, OH, PA, TN, WA (40,567,000/66,062,000=61.4%)

Timeliness of prenatal care (PPC) (ACA, HHS, CDC, ACOG) (weight=1)	X	X	X			X	CA, FL, GA, IL, LA, MA, MD, MI, MN, NJ, NY, NC, OH, PA, TN, TX, VA, WA, WI (49,176,000/66,062,000=74.4%)
Postpartum care (PPC) (ACA, HHS, CDC, ACOG) (weight=1)	X	X	X		X	X	CA, FL, GA, IL, LA, MD, MI, MN, NJ, NY, NC, OH, PA, TN, TX, VA, WI (46,561,000/66,062,000=70.5%)
Prenatal immunization status—combination (PRS-E) (ACA, HHS, CDC, ACOG) (weight=1)	X	X			X		CA, NY, PA (20,105,000/66,062,000=30.4%)
Plan all-cause readmissions (PCR) (converted from inverse results) (HHS, CMS) (weight=1)	X	X	X		X	X	CA, GA, LA, MD, MA, MN, NJ, NY, NC, PA, TN, WA, WI (34,755,000/66,062,000=52.6%)
<b>Behavioral health measures that are included in the HeIDI and excluded in the HeIDI non-behavioral health tool</b>							
Follow-up after hospitalization for mental illness—7 days (FUH) (SAMHSA) (weight=1)	X	X	X		X	X	AZ, CA, FL, GA, IL, LA, MA, MN, NJ, NY, NC, PA, TN, TX, VA, WA, WI (47,303,000/66,062,000=71.6%)
Follow-up after hospitalization for mental illness—30 days (FUH) (SAMHSA) (weight=1)			X		X	X	AZ, CA, FL, GA, IL, LA, MA, MN, NJ, NY, NC, PA, TN, TX, VA, WA, WI (47,303,000/66,062,000=71.6%)
Follow-up care for children prescribed ADHD medication—follow-up care after initiation of treatment (ADD and ADD-E) (APA) (weight=1)	X	X	X		X	X	FL, GA, LA, MA, MD, NJ, NY, NC, PA, TN, TX, WI (28,087,000/66,062,000=42.5%)
Follow-up care for children prescribed ADHD medication—follow-up care during continuation of treatment (ADD and ADD-E) (APA) (weight=1)	X	X	X		X	X	GA, LA, MA, MD, NJ, NY, NC, OH, PA, TN, WI (31,083,000/66,062,000=47.1%)
Use of first-line psychosocial care for children and adolescents on antipsychotics (APP) (AHRQ) (weight=1)	X	X	X			X	AZ, GA, LA, NY, NC, OH, PA, TX, VA, WI (24,856,000/66,062,000=37.6%)

Metabolic monitoring for children and adolescents on antipsychotics (APM) (AHRQ) (weight=1)	X	X	X		X	X	AZ, GA, IL, LA, MA, MD, NJ, NY, NC, PA, TN, TX, VA, WI (30,505,000/66,062,000=46.2%)
Adherence to antipsychotic medications for individuals with schizophrenia (SAA) (APA) (weight=3)	X	X	X	X	X	X	LA, MD, NJ, NY, NC, PA, TN, TX, VA, WI (23,248,000/66,062,000=35.2%)
Follow-up after emergency department visit for mental illness—7 days (FUM) (SAMHSA) (weight=1)	X	X	X		X	X	AZ, GA, IL, LA, MA, NJ, NY, NC, PA, TN, TX, VA, WA, WI (30,757,000/66,062,000=46.6%)
Follow-up after emergency department visit for mental illness—30 days (FUM) (SAMHSA) (weight=1)			X		X	X	AZ, GA, IL, MA, NJ, NY, NC, PA, TN, WI (26,734,000/66,062,000=40.5%)
Follow-up within 7 days after emergency department visit for substance use—total (FUA) (SAMHSA, CDC) (weight=1)	X	X	X			X	AZ, CA, GA, IL, LA, MA, NJ, NY, NC, PA, TN, VA, WA, WI (38,384,000/66,062,000=58.1%)
Follow-up within 30 days after emergency department visit for substance use—total (FUA) (SAMHSA, CDC) (weight=1)			X			X	AZ, CA, GA, IL, LA, MA, NJ, NY, NC, PA, TN, VA, WA, WI (38,384,000/66,062,000=58.1%)
Initiation of substance use disorder treatment—total (IET) (SAMHSA, CDC) (weight=1)	X	X	X			X	AZ, GA, IL, LA, MA, MN, NY, NC, PA, TN, VA (23,928,000/66,062,000=36.2%)
Engagement of substance use disorder treatment—total (IET) (SAMHSA, CDC) (weight=1)	X	X	X			X	GA, IL, LA, MA, MN, NY, NC, PA, TN, VA, WI (22,309,000/66,062,000=33.8%)
Pharmacotherapy for opioid use disorder (POD) (SAMHSA, CDC) (weight=1)	X	X	X		X	X	CA, IL, LA, MD, NY, PA, TN, VA (29,870,000/66,062,000=45.2%)
Antidepressant medication management effective continuation phase treatment (AMM) (CMS, CDC, NAMI) (weight=1)	X	X	X			X	GA, LA, MD, MA, MN, NJ, NY, NC, OH, PA, TN, VA, WI (26,540,000/66,062,000=40.2%)

AAP, American Academy of Pediatrics; ACA, Affordable Care Act; ACC/AHA, American College of Cardiology/American Heart Association; ACIP, Advisory Committee on Immunization Practices; ACOG, American College of Obstetricians and Gynecologists;

ACS, American Cancer Society; ADA, American Diabetes Association; ADHD, attention-deficit hyperactivity disorder; AHRQ, Agency for Healthcare Research and Quality; APA, American Psychiatric Association; CQMC, Core Quality Measures Collaborative; HbA<sub>1c</sub>, hemoglobin A<sub>1c</sub>; HEDIS, Healthcare Effectiveness Data and Information Set; HeIDI, Health Insurance Disparities Index; HPR, Health Plan Ratings; HRSA, Health Resources and Services Administration; NAMI, National Alliance on Mental Illness; NCQA, National Committee for Quality Assurance; NQF, National Quality Forum; PQM, Partnership for Quality Measurement; SAMHSA, Substance Abuse and Mental Health Services Administration; USPSTF, United States Preventive Services Taskforce.

<sup>a</sup>Review of HEDIS measures definitions from NCQA.<sup>23</sup>

<sup>b</sup>Review of NCQA 2025 HPR required HEDIS, Consumer Assessment of Healthcare Providers and Systems, and Health Outcomes Survey measures for commercial and Medicaid.<sup>31,33</sup>

<sup>c</sup>Review of CMS core measures sets from CMS Measures Inventory.<sup>24</sup>

<sup>d</sup>Review of NQF measures, reports, and tools.<sup>27</sup>

<sup>e</sup>Review of PQM measures.<sup>28</sup>

<sup>f</sup>Review of CQMC implementation guide.<sup>29</sup> The authors used these data sources in support of the analysis used to select appropriate HEDIS measures for inclusion in HeIDI.

<sup>g</sup>Enrollment data for use in calculating utilization for each HeIDI measure by states from KFF: State Health Facts: Total Medicaid MCO Enrollment for 2021.<sup>34</sup>

<sup>h</sup>State websites for quality improvement programs to assess utilization of measures by states: Arizona, California, Florida, Georgia, Illinois, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Texas, Virginia, Washington, Wisconsin. These states in aggregate account for 82.5% of all Medicaid managed care enrollees nationally (54.5 million/66 million). Authors calculated the percentage of utilization of each HeIDI measure using KFF and most recently reported state information and data.







National HeIDI HEDIS Measures (Comparing Commercial to Medicaid National Averages) w/o HeIDI

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>Mcaid 2022</u>	<u>Mcaid 2021</u>	<u>Mcaid 2020</u>	<u>Mcaid 2019</u>	<u>Mcaid 2018</u>	<u>Mcaid 2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>
30	Child and Adolescent Well-Care Visits- Total (WCV)	1	2022	57.60	48.60	9.00	48.60						57.6					
31			2021	58.00	49.50	8.50		49.50						58				
32			2020	53.70	46.10	7.60			46.10						53.7			
33			2019	50.60	55.50	-4.90				55.50						50.6		
34			2018	50.30	53.20	-2.90					53.20						50.3	
35			2017	48.40	53.00	-4.60						53.00						48.40
36																		
37	Childhood Immunization Status (Combo 10) (CIS and CIS-E)	3	2022	57.30	31.90	25.40	95.7						171.9					
38			2021	61.20	35.90	25.30		107.7						183.6				
39			2020	58.00	38.90	19.10			117						174			
40			2019	57.90	38.10	19.80				173.7						173.7		
41	(Combo 3)		2018	77.70	68.10	9.60					204.3						233.1	
42	(Combo 3)		2017	76.80	69.40	7.40						208.2						230.4
43																		
44	Immunizations for Adolescents (Combo 2) (IMA and IMA-E)	3	2022	35.00	35.60	-0.60	106.8						105					

National HeIDI HEDIS Measures (Comparing Commercial to Medicaid National Averages) w/o HeIDI

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>Mcaid 2022</u>	<u>Mcaid 2021</u>	<u>Mcaid 2020</u>	<u>Mcaid 2019</u>	<u>Mcaid 2018</u>	<u>Mcaid 2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>
45			2021	34.20	36.10	-1.90		108.3						102.6				
46			2020	31.90	37.80	-5.90			113						95.7			
47			2019	30.30	37.60	-7.30				112.8						90.9		
48			2018	28.10	35.30	-7.20					105.9						84.3	
49			2017	24.00	32.70	-8.70						98.1						72
50																		
51	Breast Cancer Screening (Previously BCS Retired. Now only BCS-E)	1	2022	73.80	52.40	21.40	52.40						73.8					
52			2021	71.10	51.00	20.10		51.00						71.1				
53			2020	71.20	53.70	17.50			53.70						71.2			
54			2019	73.70	58.40	15.30				58.40						73.7		
55			2018	73.50	58.40	15.10					58.40						73.5	
56			2017	72.70	58.30	14.40						58.30						72.7
57																		
58	Cervical Cancer Screening (CCS and CCS-E)	1	2022	74.20	55.90	18.30	55.90						74.2					
59			2021	74.20	56.30	17.90		56.30						74.2				
60			2020	73.80	56.80	17.00			56.80						73.8			
61			2019	76.20	60.10	16.10				60.10						76.2		
62			2018	75.20	59.30	15.90					59.30						75.2	
63			2017	74.30	59.40	14.90						59.40						74.3





National HeIDI HEDIS Measures (Comparing Commercial to Medicaid National Averages) w/o HeIDI

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>Mcaid 2022</u>	<u>Mcaid 2021</u>	<u>Mcaid 2020</u>	<u>Mcaid 2019</u>	<u>Mcaid 2018</u>	<u>Mcaid 2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>
80	Avoidance of Antibiotic Treatment for Acute Bronchitis/ Bronchiolitis (AAB)	1	2022	50.60	62.20	-11.60	62.20						50.6					
81																		
82			2021	47.60	55.70	-8.10		55.70						47.6				
83			2020	44.30	55.30	-11.00			55.30						44.3			
84			2019	41.20	52.30	-11.10				52.30						41.2		
85			2018	35.10	36.40	-1.30					36.40						35.1	
86			2017	32.00	33.80	-1.80						33.80						32
87																		
88	Asthma Medication Ratio – Total (AMR)	1	2022	83.00	65.50	17.50	65.50						83					
89			2021	81.00	64.90	16.10		64.90						81				
90			2020	80.10	65.40	14.70			65.40						80.1			
91			2019	78.50	63.00	15.50				63.00						78.5		
92			2018	79.80	63.00	16.80					63.00						79.8	
93			2017	78.60	61.40	17.20						61.40						78.6
94																		
95	Controlling High Blood Pressure (CBP)	3	2022	63.80	60.90	2.90	182.7						191.4					
96			2021	60.30	58.60	1.70		175.8						180.9				



National HeIDI HEDIS Measures (Comparing Commercial to Medicaid National Averages) w/o HeIDI

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>Mcaid 2022</u>	<u>Mcaid 2021</u>	<u>Mcaid 2020</u>	<u>Mcaid 2019</u>	<u>Mcaid 2018</u>	<u>Mcaid 2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>
109	Statin Therapy for Patients with Cardiovascular Disease – Statin Adherence 80% (SPC)	1	2022	77.60	69.90	7.70	69.90						77.6					
110			2021	78.20	70.20	8.00		70.20						78.2				
111			2020	78.90	71.60	7.30			71.60						78.9			
112			2019	76.60	67.80	8.80				67.80						76.6		
113			2018	75.90	64.60	11.30					64.60						75.9	
114			2017	73.50	63.00	10.50						63.00						73.5
115																		
116	Comprehensive Diabetes Care - Blood Pressure Controlled (<140/90 mm Hg) (BPD)	3	2022	64.40	63.60	0.80	190.8						193.2					
117			2021	62.90	60.30	2.60		180.9						188.7				
118			2020	54.50	58.20	-3.70			175						163.5			
119			2019	65.00	62.10	2.90				186.3						195		
120			2018	64.20	62.10	2.10					186.3						192.6	
121			2017	62.20	62.70	-0.50						188.1						186.6

National HeIDI HEDIS Measures (Comparing Commercial to Medicaid National Averages) w/o HeIDI

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>Mcaid 2022</u>	<u>Mcaid 2021</u>	<u>Mcaid 2020</u>	<u>Mcaid 2019</u>	<u>Mcaid 2018</u>	<u>Mcaid 2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>
122																		
123	Comprehensive Diabetes Care – Poor HbA1c Control (Lower Rate is Better) (HBD)	3	2022	28.50	40.30	11.80	179.1						214.5					
124	(For calculation results inverted for commercial )		2021	30.70	42.30	11.60		173.1						207.9				
125			2020	37.50	45.40	7.90			134						187.5			
126			2019	29.80	40.40	10.60				178.8						210.6		
127			2018	30.30	41.20	10.90					176.4						209.1	
128			2017	31.70	40.50	8.80						178.5						204.9
129																		
130	Comprehensive Diabetes Care – HbA1c Control (< 8.0%) (HBD)	3	2022	61.80	50.90	10.90	152.7						185.4					
131			2021	59.20	48.30	10.90		144.9						177.6				











National HeIDI HEDIS Measures (Comparing Commercial to Medicaid National Averages) w/o HeIDI

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>Mcaid 2022</u>	<u>Mcaid 2021</u>	<u>Mcaid 2020</u>	<u>Mcaid 2019</u>	<u>Mcaid 2018</u>	<u>Mcaid 2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>
189	Follow-Up Care for Children Prescribed ADHD Medication – Follow-Up Care During Continuation of Treatment (ADD and ADD-E)	1	2022	48.50	53.10	-4.60	53.10						48.5					
190			2021	46.70	50.00	-3.30		50.00						46.7				
191			2020	48.80	53.50	-4.70			53.50						48.8			
192			2019	47.00	53.10	-6.10				53.10						47		
193			2018	49.70	54.60	-4.90					54.60						49.7	
194			2017	48.20	55.00	-6.80						55.00						48.2
195																		
196	Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics (AAP)	1	2022	62.30	57.30	5.00	57.30						62.3					



National HeIDI HEDIS Measures (Comparing Commercial to Medicaid National Averages) w/o HeIDI

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>Mcaid 2022</u>	<u>Mcaid 2021</u>	<u>Mcaid 2020</u>	<u>Mcaid 2019</u>	<u>Mcaid 2018</u>	<u>Mcaid 2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>
210	Adherence to Antipsychotic Medications for Individuals with Schizophrenia (SAA)	3	2022	66.90	59.80	7.10	179.4						200.7					
211			2021	67.00	59.70	7.30		179.1						201				
212			2020	69.50	61.60	7.90			185						208.5			
213			2019	67.10	60.80	6.30				182.4						201.3		
214			2018	71.40	59.80	11.60					179.4						214.2	
215			2017	67.10	59.10	8.00						177.3						201.3
216																		
217	Follow-Up After Emergency Department Visit for Mental Illness-7 Days (FUM)	1	2022	47.20	41.50	5.70	41.50						47.2					
218			2021	48.10	40.10	8.00		40.10						48.1				
219			2020	46.50	40.40	6.10			40.40						46.5			
220			2019	46.80	41.40	5.40				41.40						46.8		
221			2018	45.60	40.30	5.30					40.30						45.6	
222			2017	45.90	40.00	5.90						40.00						45.9



National HeIDI HEDIS Measures (Comparing Commercial to Medicaid National Averages) w/o HeIDI

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>Mcaid 2022</u>	<u>Mcaid 2021</u>	<u>Mcaid 2020</u>	<u>Mcaid 2019</u>	<u>Mcaid 2018</u>	<u>Mcaid 2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>
236			2017	10.90	12.20	-1.30						12.20						10.9
237																		
238	Follow-Up Within 30 Days After Emergency Department Visit for Substance Use - Total (FUA)	1	2022	32.00	36.40	-4.40	36.40						32					
239			2021	16.20	19.80	-3.60		19.80						16.2				
240			2020	17.20	20.20	-3.00			20.20						17.2			
241			2019	15.20	19.60	-4.40				19.60						15.2		
242			2018	15.50	19.20	-3.70					19.20						15.5	
243	Not Reported for Medicaid		2017															
244																		
245	Initiation of Substance Use Disorder Treatment - Total (IET)	1	2022	36.20	45.00	-8.50	45.00						36.2					
246			2021	34.10	44.20	-10.10		44.20						34.1				













National HeIDI Comparing Commercial to Medicaid National Averages

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>
30	Child and Adolescent Well-Care Visits- Total (WCV)	1	2022	57.6	48.6	9	9						57.6					
31			2021	58	49.5	8.5		8.5						58				
32			2020	53.7	46.1	7.6			7.6						53.7			
33			2019	50.6	55.5	-4.9				0						50.6		
34			2018	50.3	53.2	-2.9					0						50.3	
35			2017	48.4	53	-4.6						0						48.4
36																		
37	Childhood Immunization Status (Combo 10) (CIS and CIS-E)	3	2022	57.3	31.9	25	76.2						171.9					
38			2021	61.2	35.9	25		75.9						184				
39			2020	58	38.9	19			57.3						174			
40			2019	57.9	38.1	20				59.4						173.7		
41	(Combo 3)		2018	77.7	68.1	9.6					28.8						233.1	
42	(Combo 3)		2017	76.8	69.4	7.4						22.2						230.4
43																		
44	Immunizations for Adolescents (Combo 2) (IMA and IMA-E)	3	2022	35	35.6	-0.6	0						105					

National HeIDI Comparing Commercial to Medicaid National Averages

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>
45			2021	34.2	36.1	-1.9		0						103				
46			2020	31.9	37.8	-5.9			0						95.7			
47			2019	30.3	37.6	-7.3				0						90.9		
48			2018	28.1	35.3	-7.2					0						84.3	
49			2017	24	32.7	-8.7						0						72
50																		
51	Breast Cancer Screening (Previously BCS Retired. Now only BCS-E)	1	2022	73.8	52.4	21	21.4						73.8					
52			2021	71.1	51	20		20.1						71.1				
53			2020	71.2	53.7	18			17.5						71.2			
54			2019	73.7	58.4	15				15.3						73.7		
55			2018	73.5	58.4	15					15.1						73.5	
56			2017	72.7	58.3	14						14.4						72.7
57																		
58	Cervical Cancer Screening (CCS and CCS-E)	1	2022	74.2	55.9	18	18.3						74.2					
59			2021	74.2	56.3	18		17.9						74.2				
60			2020	73.8	56.8	17			17						73.8			
61			2019	76.2	60.1	16				16.1						76.2		
62			2018	75.2	59.3	16					15.9						75.2	
63			2017	74.3	59.4	15						14.9						74.3





National HeIDI Comparing Commercial to Medicaid National Averages

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>	
80	Avoidance of Antibiotic Treatment for Acute Bronchitis/ Bronchiolitis (AAB)	1	2022	50.6	62.2	-12	0						50.6						
81																			
82			2021	47.6	55.7	-8.1		0						47.6					
83			2020	44.3	55.3	-11			0						44.3				
84			2019	41.2	52.3	-11				0						41.2			
85			2018	35.1	36.4	-1.3					0						35.1		
86			2017	32	33.8	-1.8						0							32
87																			
88	Asthma Medication Ratio – Total (AMR)	1	2022	83	65.5	18	17.5						83						
89			2021	81	64.9	16		16.1						81					
90			2020	80.1	65.4	15			14.7						80.1				
91			2019	78.5	63	16				15.5						78.5			
92			2018	79.8	63	17					16.8						79.8		
93			2017	78.6	61.4	17						17.2							78.6
94																			
95	Controlling High Blood Pressure (CBP)	3	2022	63.8	60.9	2.9	8.7						191.4						
96			2021	60.3	58.6	1.7		5.1						181					



National HeIDI Comparing Commercial to Medicaid National Averages

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>
109	Statin Therapy for Patients with Cardiovascular Disease – Statin Adherence 80% (SPC)	1	2022	77.6	69.9	7.7	7.7						77.6					
110			2021	78.2	70.2	8		8						78.2				
111			2020	78.9	71.6	7.3			7.3						78.9			
112			2019	76.6	67.8	8.8				8.8						76.6		
113			2018	75.9	64.6	11					11.3						75.9	
114			2017	73.5	63	11						10.5						73.5
115																		
116	Comprehensive Diabetes Care - Blood Pressure Controlled (<140/90 mm Hg) (BPD)	3	2022	64.4	63.6	0.8	2.4						193.2					
117			2021	62.9	60.3	2.6		7.8						189				
118			2020	54.5	58.2	-3.7			0						164			
119			2019	65	62.1	2.9				8.7						195		
120			2018	64.2	62.1	2.1					6.3						192.6	
121			2017	62.2	62.7	-0.5						0						186.6

National HeIDI Comparing Commercial to Medicaid National Averages

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>
122																		
123	Comprehensive Diabetes Care – Poor HbA1c Control (Lower Rate is Better) (HBD) (For calculation results inverted for commercial)	3	2022	28.5	40.3	12	35.4						214.5					
124			2021	30.7	42.3	12		34.8						208				
125			2020	37.5	45.4	7.9			23.7						188			
126			2019	29.8	40.4	11				31.8						210.6		
127			2018	30.3	41.2	11					32.7						209.1	
128			2017	31.7	40.5	8.8						26.4						204.9
129																		
130	Comprehensive Diabetes Care – HbA1c Control (< 8.0%) (HBD)	3	2022	61.8	50.9	11	32.7						185.4					
131			2021	59.2	48.3	11		32.7						178				
132			2020	53.2	45	8.2			24.6						160			











National HeIDI Comparing Commercial to Medicaid National Averages

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>
189	Follow-Up Care for Children Prescribed ADHD Medication – Follow-Up Care During Continuation of Treatment (ADD and ADD-E)	1	2022	48.5	53.1	-4.6	0						48.5					
190			2021	46.7	50	-3.3		0						46.7				
191			2020	48.8	53.5	-4.7			0						48.8			
192			2019	47	53.1	-6.1				0						47		
193			2018	49.7	54.6	-4.9					0						49.7	
194			2017	48.2	55	-6.8						0						48.2
195																		
196	Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics (AAP)	1	2022	62.3	57.3	5	5						62.3					







National HeIDI Comparing Commercial to Medicaid National Averages

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>
236			2017	10.9	12.2	-1.3						0						10.9
237																		
238	Follow-Up Within 30 Days After Emergency Department Visit for Substance Use - Total (FUA)	1	2022	32	36.4	-4.4	0						32					
239			2021	16.2	19.8	-3.6		0						16.2				
240			2020	17.2	20.2	-3			0						17.2			
241			2019	15.2	19.6	-4.4				0						15.2		
242			2018	15.5	19.2	-3.7					0						15.5	
243	Not Reported for Medicaid		2017															
244																		
245	Initiation of Substance Use Disorder Treatment - Total (IET)	1	2022	36.2	45	-8.5	0						36.2					
246			2021	34.1	44.2	-10		0						34.1				



National HeIDI Comparing Commercial to Medicaid National Averages

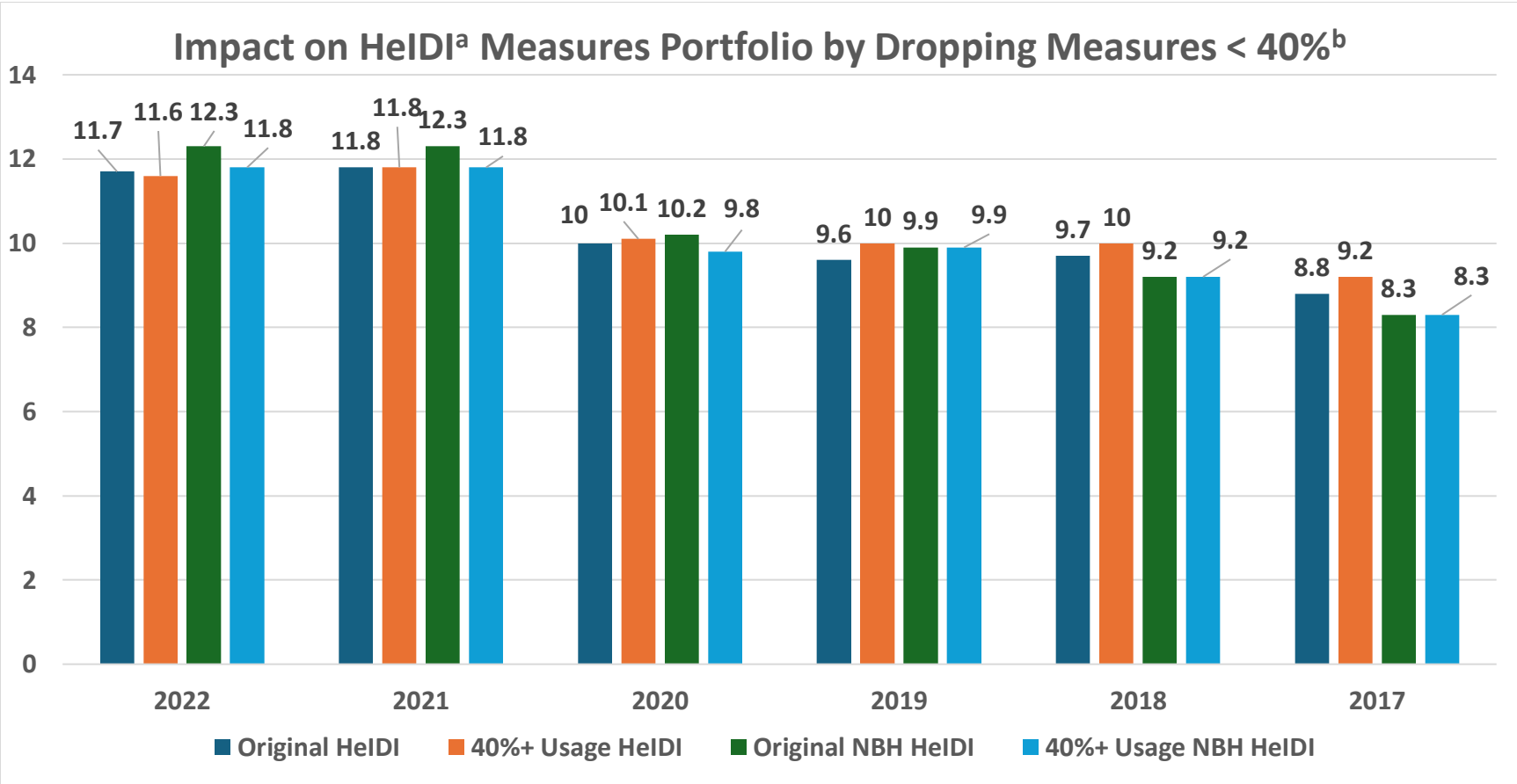
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>COM. 2022</u>	<u>COM. 2021</u>	<u>COM. 2020</u>	<u>COM. 2019</u>	<u>COM. 2018</u>	<u>COM. 2017</u>
263	Antidepressant Medication Management Effective Continuation Phase Treatment (AMM)	1	2022	58.7	43.9	15	14.8						58.7					
264			2021	58.1	44.1	14		14						58.1				
265			2020	56.3	41.6	15			14.7						56.3			
266			2019	53.1	39.3	14				13.8						53.1		
267			2018	52.9	37.9	15					15						52.9	
268			2017	51.8	38.6	13						13.2						51.8
269																		
270	Aggregated Measures Deficit to Commercial						368	363	295	277	283	252						
271	Aggregated Commercial Scores												3138	3074	2939	2885	2931	2856
272	<u>Year</u>						2022	2021	2020	2019	2018	2017	2022	2021	2020	2019	2018	2017

National HeIDI Comparing Commercial to Medicaid National Averages

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<u>Quality Measure</u>	<u>WT.</u>	<u>MY</u>	<u>COM.</u>	<u>Mcaid</u>	<u>DIF.</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>COM.</u> <u>2022</u>	<u>COM.</u> <u>2021</u>	<u>COM.</u> <u>2020</u>	<u>COM.</u> <u>2019</u>	<u>COM.</u> <u>2018</u>	<u>COM.</u> <u>2017</u>
273	Numerator of Aggregated Differences Divided by Aggregated Commercial Performance Rates = HeIDI Score																	
274																		
													2022	2021	2020	2019	2018	2017



### eAppendix 4



As indicated in the Methods section of the paper, if a measure is used for public performance reporting and/or in VBP quality programs impacting  $\geq 30\%$  of State Medicaid MCO program enrollees nationally, it is considered equivalent to one certified entity endorsement for purposes of qualifying as a measure to be included in the HeIDI index. Our decision to use a 30% cutoff is based on our belief that over time State Medicaid programs will converge to a more consistent set of measures for health plan public performance reporting and value-based payment quality programs. A 2018 paper by the Medicaid Innovation Accelerator Program<sup>c</sup> advised states that when identifying performance measures, “Don’t reinvent the wheel. If other states are conducting quality

measurement, draw on the experience of others involved with quality measurement work to inform your approach.” Thus, we believe that over time more states will adopt the measures currently being used by the vanguard states.

If we instead use a higher cutoff threshold of 40%, one physical medicine measure and the three behavioral health measures would not be included when deriving the HeIDI. When we omit these four measures that affect more than 30% of Medicaid MCO enrollees nationally but fewer than 40%, the HeIDI index is very similar to what is reported in the main text. Specifically, the HeIDI index does not change in 2020 and 2021 with the higher threshold, and changes by 0.4 and 0.1 percentage points in 2019 and 2022, respectively.

a. Health Insurance Disparities Index (HeIDI).

b. The removed measures (all with a weight of 1) were:

HeIDI Physical Medicine:

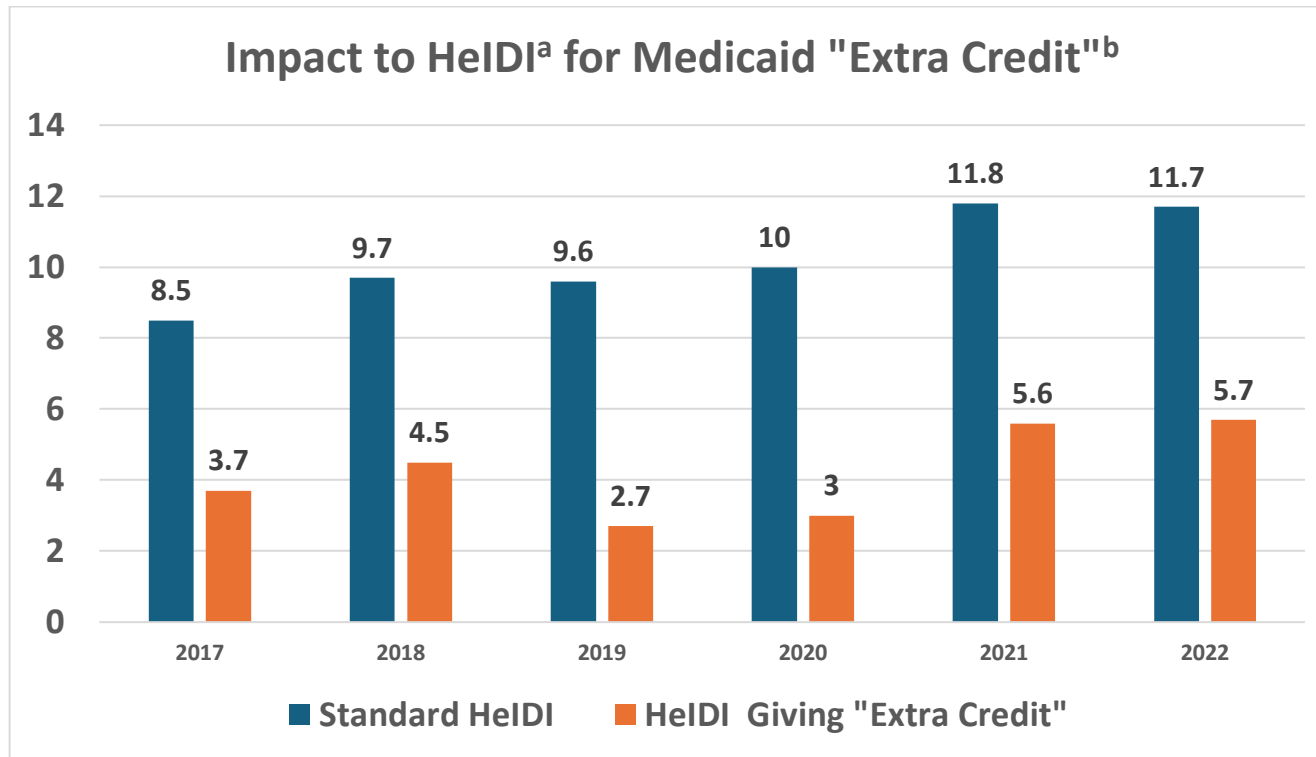
- Prenatal Immunization Status – Combination (PRS-E) at 30.4%

HeIDI Behavioral Health:

- Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics (APP) at 37.6%
- Initiation of Substance Use Disorder Treatment - Total (IET) at 36.2%
- Engagement of Substance Use Disorder Treatment- Total (IET) at 33.8%

c. Medicaid Innovation Accelerator Program (IAP). Strategies for identifying performance measures and assessing capacity for reporting. Centers for Medicare and Medicaid Services (CMS), Washington, DC., July 2018. <https://www.medicaid.gov/state-resource-center/innovation-accelerator-program/iap-downloads/functional-areas/performance-measures-state-capacity-for-reporting.pdf>

## eAppendix 5



- a. Health Insurance Disparities Index (HeIDI).
- b. The HeIDI index reported in the paper sets the performance difference between Commercial and Medicaid plans to be zero (rather than a negative number) for measures where Medicaid plans outperform Commercial plans in order to be consistent with the World Health Organization (WHO) recommendations: “the ultimate vision is to eliminate such inequities by raising health outcomes to the level of the most advantaged group<sup>c</sup>.” We interpret the most advantaged group to be enrollees of Commercial health plans, and thus base the index on measures where the Medicaid performance lags the performance of Commercial health plans.
- c. Whitehead, M., & Dahlgren, G. Concepts and Principles for Tackling Social Inequities in Health: Levelling Up Part I. Copenhagen, Denmark: World Health Organization; 2006.  
<https://apps.who.int/iris/bitstream/handle/10665/107790/E89383.pdf>.

The results qualitatively trend similarly if we instead allow the performance difference between Commercial and Medicaid plans to be negative for measures where Medicaid plans outperform Commercial plans. That is, if we give Medicaid “Extra Credit” where Medicaid plans outperform Commercial plans. A significant concern would be that by granting measures where Medicaid has outperformed Private/Commercial plans, one might mask the severity of disparities for some measures that have significant deficits for Medicaid (e.g., mammography, diabetes control, etc.).