Health Equity Measurement: Considerations for Selecting a Benchmark

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STATE Health & Value STRATEGIES | *Driving Innovation Across States*

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Introduction: A Starting Point to Quantify Health Equity

As states look to advance health equity, they need ways to measure whether or not their efforts result in improvements. Before embarking on any form of measurement, it is crucial to identify a benchmark—a standard or reference against which other estimates can be measured or compared. The selection of a benchmark has tangible implications for the results of any form of measurement. For instance, to use a broad example, Mount Everest is generally considered to be the tallest peak on earth at over 29,000 feet when using measurements from a recognized benchmark starting at sea level; however, if the benchmark were calculated from the base of a mountain, Hawaii's Mauna Kea volcano, located well below the surface of the ocean, edges out Mount Everest at over 33,000 feet.

Selecting a benchmark in health equity measurement can similarly affect how inequities are measured. There is no single ideal benchmark for health equity measurement. Rather, there are various options for benchmarking that each carry their own advantages and disadvantages, which may make certain approaches better suited in some scenarios versus others. For that reason, it is important to carefully consider which benchmarking approach is best suited to a particular situation when beginning health equity measurement work. Since the nature of benchmarking is, at its core, about quantifying differential performance in metrics, creating a feasible measurement of health equity hinges on identifying a reference point or group against which other groups can be compared—in essence, quantifying achievement for a concept without universally agreed-upon measurement approaches.

This brief describes four common approaches to health equity benchmarking which we organize under two overarching categories: 1) reference groups, which compares the performance of individual population subgroups against one another; and 2) reference points, which compares individual subgroups against a reference measure or benchmark that isn't tied directly to the performance of any other specific subgroup. In this brief, we use the term "performance" for clarity because it is widely used when discussing health measurement. However, it is important to acknowledge that the term is imperfect, especially when discussing health equity; it may encourage the perception that individual subgroups carry responsibility for the observed disparities, but health systems, other social inequities, and structural racism play a crucial role in driving disparities.

The brief also outlines the advantages and disadvantages that states should weigh when selecting a benchmark approach. Although we provide examples here focused on benchmarking by race and ethnicity, the same approaches could be used in other forms of health equity measurement, such as by income level or geography.

While the focus of this brief is on selecting benchmarks for quantifying health equity, it is important to note that any findings should also be accompanied by detailed context and interpretation provided through a narrative in order to minimize misunderstandings. For instance, presenting measures by race and ethnicity without any context could lead to incorrect assumptions about biological causes or behavioral differences that have either been proven not to exist or are consequences of systemic racism. States should also consider using other techniques that are not addressed in this brief when thinking about how to interpret and display data related to health disparities, such as conducting disparity analyses using both absolute and relative measures and using age adjustment to make fairer comparisons between groups with different age distributions.

Approaches to Benchmarking: Reference Groups

As previously noted, a health equity measurement benchmark is essentially a starting point against which performance of different subgroups are measured. One commonly used approach in measuring health equity, therefore, is to compare the performance of subgroups against each other, with the understanding that any gaps in performance between groups represent a disparity.[1] For instance, one might compare health insurance coverage rates among people with higher incomes (who typically have higher rates of coverage) against rates of people with moderate incomes and lower incomes—effectively treating the health insurance coverage rate for people with higher incomes as the measurement benchmark against which the other two groups' rates are compared.

Using a reference group to benchmark health equity is a legitimate measurement approach, but it is important to understand and consider the different options for selecting a reference group and the potential advantages and disadvantages of those approaches. For example, different racial and ethnic subgroups may have unique health needs that are culturally or geographically specific to each group. Using the quality of care provided to one prespecified group (e.g., White individuals) as the benchmark for other racial and ethnic groups does not necessarily ensure that all groups will be able to achieve optimal health. As the Office of the Assistant Secretary for Planning and Evaluation cautions in its recommended health equity measurement approach, "the practice of defining and comparing to a reference group may imply a standard for nonreference groups, suggest that those groups are nonnormative, and promote a need for assimilation and acculturation."[2]

Selecting any kind of reference group to be used as a benchmark for health equity measurement should be undertaken with a systematic process using objective decisionmaking criteria, and the process for making the selection should be documented and thoroughly explained. The details of the process and decision-criteria are critical and should be considered carefully and preferably with stakeholder engagement. Currently, transparency about the explicit discussions concerning *why* a specific group has been chosen as a reference population is rarely documented.[3] Transparency around those processes can encourage confidence among stakeholders that the benchmark—as well as health equity measurement and improvement efforts—are realistic and achievable.

This section discusses two widely used forms of health equity reference group benchmarking: the **best-performing group** and the **most socially advantaged group.**

Best-Performing Group

One way to measure health equity is to compare the performance of each population subgroup against the group with the "best" performance on a given metric (i.e., having the highest rate where higher is considered better or the lowest rate where lower is considered better). We use the term "best-performing" group for the sake of clarity and to maintain consistency with literature written on the topic of benchmarking for health equity measurement. However, it is important to note that subgroups' performance on health measures is typically heavily influenced by health systems and other social factors; in reality, stratifying measures by demographic categories provides data on which groups are being well-served by health systems and social structures, rather than which groups are performing well themselves.

The approach of using the best-performing group as a benchmark is relatively straightforward to operationalize and to interpret when working with a single measure that has consistent, stable performance. It is often simple to determine which subgroup has the best performance, both for the analysts selecting a benchmark and measuring health inequities, and for people interpreting the measurement results. However, in terms of assessing health equity, because the best-performing group could conceivably be any population subgroup, this approach carries the possibility that the best-performing subgroup could vary over time or from metric to metric—potentially causing operational complications for calculating and presenting health equity measurement data, as well as for interpretation of those results.

For example, New York used the best-performing approach in its report examining health disparities in the state (Figure 1).[4] For each individual measure, the state highlights the best-performing group in blue. The best-performing group varies by measure; in many cases—but not all—White non-Hispanic (NH) groups performed the best. For one measure—early stage cervical cancer—Hispanic individuals performed the best.

Figure 1. Example: Measures of Access to Quality Healthcare in New York Displayed Using a Best-Performing Benchmark

Indicators	NYS	White NH	Black NH	Asian NH	Hispanic	Index of Disparity
Percent of adults with health care coverage	88.0%	92.0%	86.5%	NA	75.1%	7%
Percent of adults with regular health care provider	86.5%	90.0%	89.0%	NA	76.1%	6%
Percent of adults who have seen a dentist in the past year	74.2%	76.4%	68.8%	NA	73.3%	4%
Early Stage Breast Cancer	63.5%	65.5%	55.6%	63.6%	58.0%	6%
Early Stage Cervical Cancer	46.1%	45.9%	39.2%	47.2%	54.7%	9%
Early Stage Colorectal Cancer	45.0%	45.8%	43.5%	42.6%	40.0%	5%

* Prevention Agenda:
www.health.state.ny.us/prevention/prevention_agenda/

Best group
Worst group

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Source: Tobias L. *New York State - Managing High Need Medicaid Patients*. NY: New York State Department of Health; 2011. https://www.health.ny.gov/statistics/community/minority/docs/2011-08-09_health_disparities_work_grp_present.pdf.

In addition to these core considerations, there are others to weigh when deciding whether to use the best-performing group as a benchmark for measuring health equity.

Best-Performing Approach Advantages

- Using the best-performing group as the benchmark implicitly establishes an expectation that the "best" level of performance is achievable. The assumption is that if a high level of performance can be achieved for one subgroup, then the performance of other subgroups could be raised to that level as well.
- By setting a relatively high level of performance as the benchmark, this approach sets an expectation of overall performance improvement for all but the best-performing group. Consequently, setting the benchmark to the best-performing group encourages improvement efforts focused on subgroups experiencing inequities, rather than encouraging further improvement on the best-performing group.

Best-Performing Approach Disadvantages

- As described earlier, in cases where a metric is tracked over time or where multiple metrics are being monitored, the best-performing group may differ over time or across measures. Both of those challenges could pose difficulties for producing the measures and for interpreting the measures, as the benchmarks themselves would be subject to change.
- Additionally, because any subgroup could potentially have the best performance on a given measure, there is the potential for volatility in the level of performance for the benchmark, as shown in Figure 1. The resulting volatility within the benchmark could cause confusion among people interpreting the data if it is not clearly displayed and explained, and it could, in turn, cause volatility in measures of health equity.

- While not necessarily unique to this benchmarking approach, the measurement of health inequities without context can result in misunderstandings about the causes of inequities. By using the best-performing group as the benchmark against which other subgroups are measured, this approach may reinforce the idea that groups experiencing inequities are somehow deficient rather than focusing on addressing underlying factors, such as systemic racism, that cause or contribute to the cause of the inequities themselves.
- This approach also has the potential to reinforce problematic narratives. For instance, when presenting data by race and ethnicity, measures showing Asian people as having the best performance could reinforce the "**model minority**" myth. For example, in 2021, population data showed that Asian Americans had a lower burden of COVID-19 mortality than the overall population.[5] However, more disaggregated data found that Chinese patients had the highest mortality rate of any racial or ethnic group. Researchers noted that "racism underlying the 'Model Minority' myth harms Asian Americans by perpetuating the perception that they do not have disparities and therefore are unworthy of resources, which leads to lack of data or inaccurate data for this population that then reinforces the misperception that Asian Americans do not have disparities."[6]
- Because the "best-performing" group approach is likely to result in White people being selected as a reference group, this approach reinforces the idea that the experience of White people is the norm and is an example of "White framing." [7,8] Using care received by White patients as the benchmark would not necessarily encourage the highest quality of care possible for people of color.

Most Socially Advantaged Group

Another approach to selecting a reference group benchmark for health equity measurement is to identify the subgroup experiencing the highest level of social advantage, which would be considered the group at the top of the social hierarchy with the most wealth, income, opportunities, and power—and which is least likely to experience racism and other forms of social oppression.[9] The rationale for this approach is that the most socially advantaged group would not be subject to the same disadvantages that cause health inequities for other groups, so it can serve as a benchmark for assessing health inequities rooted in discrimination and systemic biases.

For this approach, one would select a single subgroup considered the most socially advantaged and use the performance from that group as the benchmark across multiple measures and over time. This circumvents a key disadvantage of using the best-performing group as a benchmark, as it would most likely avoid the possibility of the benchmark group changing across different measures or over time.

Michigan, for example, uses the White population as its reference population in its annual Medicaid Health Equity Report (Figure 2). The state indicates that "the White population served as the reference population for all pairwise comparisons because, the White population is not exposed to racial/ethnic discrimination, any disparities from this population rate can be an indicator of the health effects of discrimination and racism."[10]

Figure 2. Example: Michigan Health Equity Measures Displayed Using a Socially Advantaged (White) Benchmark

Health Equity Summary

Michigan Medicaid Managed Care - All Plans

Please note that some of the tables in this report utilize color coding, in addition to labeling. The word "below" is in red and the word "above" is in green. Where applicable, a legend is provided below the table to provide further clarification.

Table 3a: *Summary Table - Difference from Reference (White)*

Race/Ethnicity	Breast Cancer Screening	Cervical Cancer Screening	Chlamydia Screening in Women - Total	Post-partum Care	Childhood Immunizations - Combination 3	Immunizations for Adolescents - Combination 1	Lead Screening in Children
Asian American/ Native Hawaiian/ Pacific Islander	NS	NS	Above	NS	Above	NS	NS
African American	Below	Above	Above	Below	Below	Below	Below
White	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Hispanic	Above	Above	Above	Below	Above	Above	Above
American Indian/ Alaska Native	Below	NS	Above	NS	NS	NS	NS
All Plans	NS	NS	Above	Below	Below	NS	NS

Rate is significantly higher than the Reference

Rate is significantly lower than the Reference

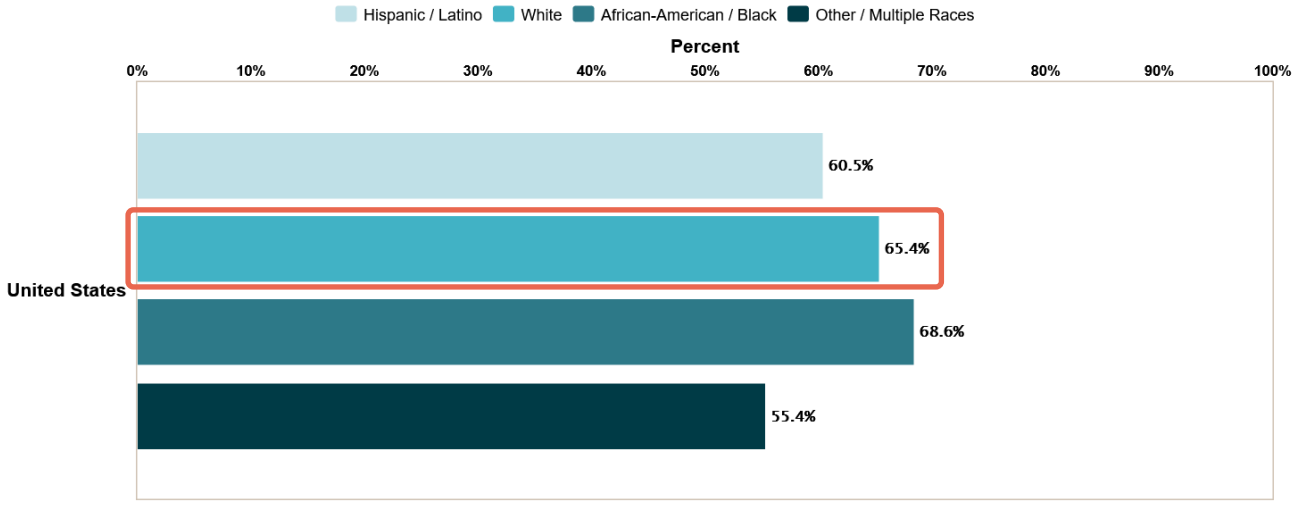
NS = *Not significantly different from the Reference*

Source: Michigan Department of Health & Human Services. *Medicaid Health Equity Project Year 9 Report (HEDIS 2019)*. MI: MDHHS; 2020. https://www.michigan.gov/-/media/Project/Websites/mdhhs/Folder50/Folder5/2019_Health_Equity_All-Plan_Report_Final_Digital_-_Accessible.pdf?rev=53548a8d823c42208ccfcd5d11e0d808

When comparing groups by race, White non-Hispanic groups are often selected as reference groups because they experience the greatest social privilege. However, some researchers note that the benchmarking approach of using White people as the reference group assumes that all White people experience the same level of social advantage. There are differences in social advantage driven by sexual orientation, geography, gender identity, disability status, and other aspects of identity such that not all White people experience the same level of social advantage.

Another operational challenge is that while the most socially advantaged group may *often* have the best performance on many health equity measures—largely as a function of not being subject to the disadvantages driving health inequities among other groups—the group may not have the best performance on all measures of interest which may pose challenges in interpreting measurement results. For example, SHADAC analysis of cancer screenings using the Behavioral Risk Factor Surveillance Survey (BRFSS) shows that nationally, African American/Black adults received higher rates of recommended cancer screenings compared to White adults.[11] If White adults were used as the benchmark (as shown in Figure 3), it may create confusion as to why a group without the highest rate is being used as a goal for other subgroups.

Figure 3. Example: Percent of U.S. Adults Who Have Received Recommended Cancer Screenings Displayed Using a White Benchmark (circled in orange)



Source: SHADAC. SHADAC analysis of the Behavioral Risk Factor Surveillance System public use files, State Health Compare. University of Minnesota. https://statehealthcompare.shadac.org/table/284/percent-of-adults-who-have-received-recommended-cancer-screenings-by-race-ethnicity#1/39,40,41,43/32/333,moe.

Socially Advantaged Approach Advantages

- In contrast with the best-performing group approach to benchmarking, the most socially advantaged group approach carries the benefit of typically employing a singular, consistent group across measures and over time. This can make the most socially advantaged group approach simpler to operationalize and interpret, because the benchmark group will be consistent when health equity is being measured across multiple metrics or over time.
- While not necessarily an inherent advantage or basis for using the most socially advantaged group approach, if White people are selected as the most socially advantaged group, it could limit volatility in benchmark estimates. That is because White people comprise a majority or plurality of the population in most parts of the United States, limiting the potential for small sample sizes to result in volatile benchmark estimates.

Socially Advantaged Approach Disadvantages

- Because the most socially advantaged group approach is likely to result in White people being selected as a reference group, this approach reinforces the idea that the experience of White people is the norm and is an example of "White framing."
- Although the White population will often be selected as the most socially advantaged group, the group is not a monolith, and White individuals with intersecting identities (such as poverty level, education, geography, or disability status) may experience different outcomes that might not be apparent. For example, MN Community Measurement's 2020 Health Care Disparities Report finds that even though White Minnesotans overall have the highest rate of colorectal cancer screening, White patients born outside the United States have significantly lower rates of colorectal cancer screening compared to White patients born inside the United States.[12]
- Although the most socially advantaged group may *often* have the best performance on health metrics, it may not *always* have the best performance. This may result in some situations in which people interpreting the data may be confused and wonder why sub-optimal performance is being used as the benchmark (see Figure 3).

Approaches to Benchmarking: Reference Points

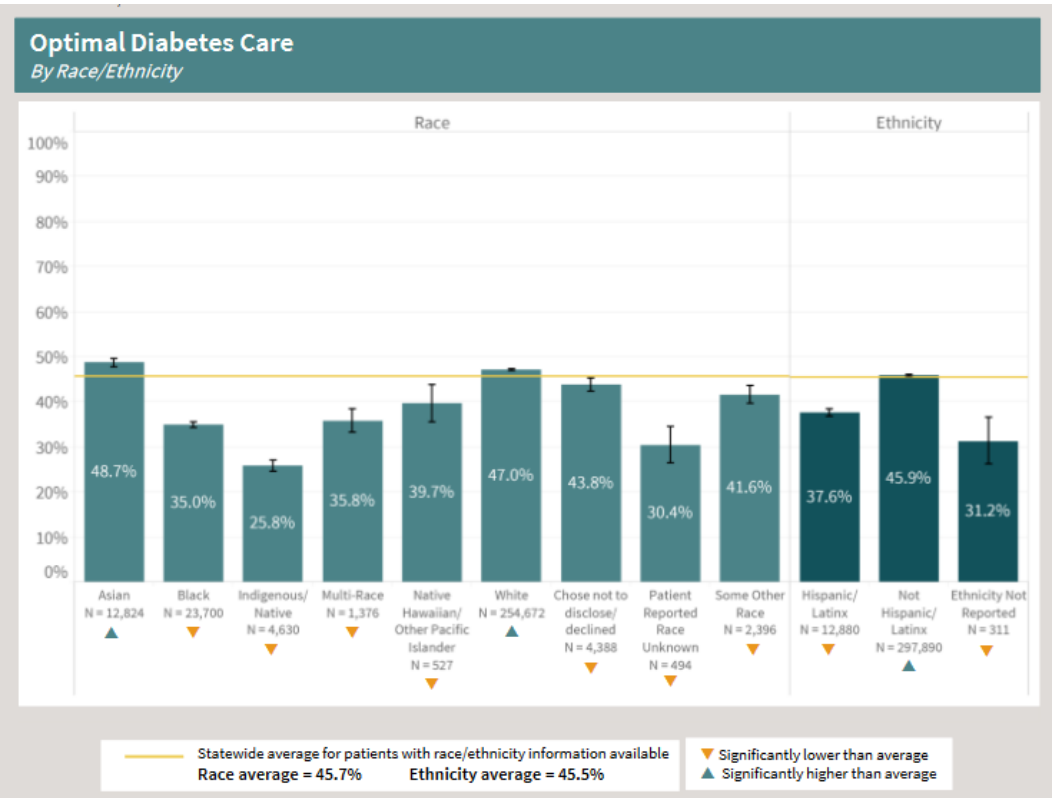
An alternative to using an existing reference group as the benchmark against which other groups are measured is to use a reference point that does not represent any particular group, but rather can be a point calculated on a broader scale, irrespective of any single group's measured performance. Two common options for this approach are to use either a **total population average**, such as the average for the entire U.S. or state population, or to use an entirely separate **target- or goal-setting approach** that may not depend on the existing performance of the overall population or any particular subgroups.

Population Average

Rather than using the measured performance of a particular population subgroup as a reference group, another approach is to use the average performance across the entire population as a benchmark. This straightforward approach entails calculating the population average for a given metric and level of analysis (e.g., state), then using that estimate to measure how much population subgroups differ from the population average.

For example, MN Community Measurement, a non-profit that serves as a contractor to the state of Minnesota for collecting and reporting quality data, uses the statewide average as the benchmark for comparison (while also comparing demographic subgroups to one another) in publications such as the 2020 Minnesota Health Care Disparities report (Figure 4).[12]

Figure 4. Example: Optimal Diabetes Care Measures in Minnesota Displayed Using a Population (State) Average Benchmark



Source: Donovan J, Nelson G. *Minnesota Health Care Disparities by Race, Hispanic Ethnicity, Language, and Country of Origin*. MN: MN Community Measurement; 2020. https://mncmsecure.org/website/Reports/Community%20Reports/Disparities%20by%20RELC/2020%20Disparities%20by%20RELC%20Chartbook%20-%20FINAL.pdf.

Because this approach does not require selecting any specific population subgroups against which other subgroups would be measured, it avoids some of the main challenges of other approaches discussed. For instance, the benchmark group would not change across measures or over time, as could happen with the best-performing group approach, because this approach would always use the population average across measures and time. It also avoids the disadvantages associated with selecting the most socially advantaged group.

However, this approach also entails its own challenges. For instance, because the population average will fall somewhere between the top- and bottom-performing subgroups, using this approach will result in measures of both positive and negative disparities—a result that may not be as intuitive to interpret as with the best-performing group benchmarking approach, which always results in negative disparities (or in some cases, zero disparity).

Population Average Approach Advantages

- Average population performance is already commonly reported in many health measures, so its use in health equity measurement is likely to be familiar to people interpreting the measurement results.
- The population average rate for any health measure will be less volatile than any single subgroup due to its size, so this approach will limit swings in the size of disparities that occur simply due to changes within any subgroup that would be used as the benchmark reference group (as would happen when using either the best-performing or most socially advantaged group).
- Using the total population average avoids any confusion with the reference group changing across measures and over time, as could happen with the best-performing group approach. It also avoids the disadvantages associated with selecting the most socially advantaged group (e.g., White framing).

Population Average Approach Disadvantages

- Unlike with the best-performing group approach, using the population average as a reference point will always result in some groups performing better and some groups performing worse than the benchmark; consequently, this approach doesn't necessarily set expectations for raising overall performance.
- Interpreting results using the population average benchmark may not be as intuitive as using the best-performing group benchmarking approach, since some subgroups will have a better performance than average while others will be worse (i.e., positive and negative disparities). Additionally, because this approach compares each subgroup to the average, it does not explicitly report the full extent of disparities (i.e., the difference between the top-performing subgroup and bottom-performing subgroup).
- A potential concern in choosing any benchmarking approach, but particularly when selecting the population average, is that any approach displaying measures by average and by subgroup will result in comparison of subgroups, which without additional narrative context, could be interpreted as judgment on the worthiness of a group (e.g., groups with performance closer to or clustered around the reference point [the average] may be overlooked in favor of focusing on groups with the "highest" negative disparities) or can ignore the consequences of systemic racism on performance.
- Another consideration is the fact that since the population average performance would be influenced both by the demographic makeup of the population and the performance rates for those groups, the average performance is influenced by changes in population makeup as well as changes in performance. While this is unlikely to pose a serious risk when considering an entire state population, it could pose complications when considering smaller geographies within a state, which may see their demographics change more quickly.

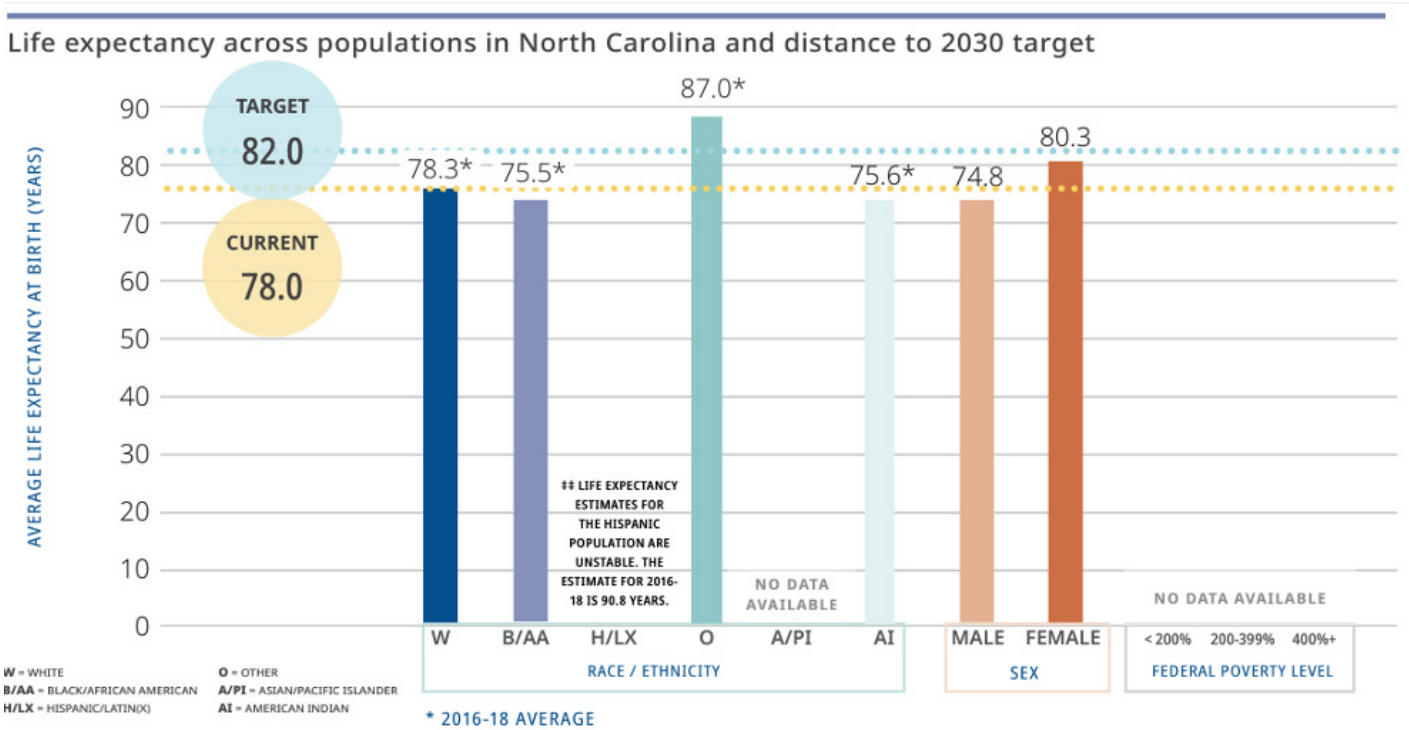
Target or Goal Setting

One way to circumvent many of the potential disadvantages of the previously described options is to identify a "target" or "goal" benchmark that is potentially independent of the current performance of the total population or any specific subgroups. Such a target could be identified through various means, such as a review of research that may identify an optimal level of performance, borrowing targets used by other consensus decisions, selecting the best performance from a peer entity (e.g., another state or country), or taking the population average performance and adding an amount of expected improvement on top of it.

The main challenge to the target- or goal-setting approach is the difficulty of identifying what a reasonable target or goal should be for a given measure. In some cases, there may be consensus targets, such as goals from public health or healthcare initiatives. For example, the target approach is used by the federal government to interpret progress achieving desired outcomes for a measure of drug overdose deaths for the Healthy People 2030 program.[13] In this particular case, the reason behind employing a target-setting methodology for identifying a benchmark is directly due to the subject matter of the data. As drug overdose deaths are not a "desirable" outcome, using a rate for either the total population group or any population subgroup to set as a benchmark to either attain or emulate would not be appropriate, as any actual rate would be higher than an ultimate goal of zero overdose deaths. Rather, the methodology employed here sets a target baseline to encourage, at least, a halt to the current trend of rapidly increasing overdose death rates and, at best, encourages reversing this trend.

North Carolina is another example of a state that uses a target goal to benchmark its Healthy North Carolina 2030 heath indicators (Figure 5).[14] Here the state used historical data to forecast a target value for life expectancy in 2030.

Figure 5. Example: Life Expectancy in North Carolina Displayed Using a Target Goal Benchmark



Source: North Carolina Institute of Medicine. *A Path Toward Health – Chapter 7 – Health Outcomes*. NC: NCIOM;2020. https://nciom.org/wp-content/uploads/2020/04/Ch-7_HNC-2030_Health-Outcomes2.pdf. Accessed September 8, 2023.

Some measures may not have an obvious, ready-to-use target or goal; in which case, it will be important to develop a systematic process to select a benchmark, as neglecting to carefully consider the selection of a health equity benchmark could invite criticism that the benchmark is arbitrary or unrealistic—and perhaps erode stakeholder confidence in the health equity measurement initiative.

Target or Goal Setting Approach Advantages

- By untying the measurement benchmark from performance for any population group (whether total population or by specific subgroup), the target-setting approach allows for simultaneous encouragement toward an overall improvement in performance as well as reduction in disparities.
- Using an approach that sets a fixed target or goal mitigates a commonly cited concern that measurement of health equity could be gamed, perversely, through a decline in performance of best-performing subgroups, rather than the preferred result of improving performance of under-performing subgroups.
- As with using population averages and the best-performing group, targets or goals are intuitive measurement concepts that are relatively straightforward to interpret. And, similar to the best-performing group approach to benchmarking, target or goal setting sets an aspirational performance goal while avoiding the pitfalls of changing reference groups between measures and over time.

Target or Goal Setting Approach Disadvantages

- Depending on the metric, it may take more work to identify and set a target than it would to simply select an alternative benchmark that already exists (e.g., the best-performing group or the most socially advantaged group) or is easy to calculate (e.g., the population average).
- Because the target approach might simultaneously set expectations for overall improved performance as well as improving health equity, it runs the risk of diluting the focus on health equity—both in the effort that is put into performance improvement and in how the intent of the benchmark is viewed.

Conclusion

For health equity measurement, there is no universal "best" approach to selecting a benchmark. The different approaches outlined in this issue brief each have particular characteristics that make them better suited to certain situations. When deciding on a benchmark, it is important to consider the potential advantages and disadvantages of the approach options and to explore any unintended consequences of an approach before implementing. However, the work of benchmarking should not stop with simply identifying a preferred approach.

Because the selection of a benchmarking approach can affect the results of health equity measurement, it is important to document and publicly report why and how benchmark decisions were made. For instance, any reports with measurement results should explain not only why the chosen benchmarking approach was selected, but also detail the process and criteria used for identifying either the reference group or reference point that was used to benchmark the findings.

Ultimately, careful and detailed documentation of benchmarking and other choices made in health equity measurement, along with providing narrative context discussing the root causes of inequities, can mitigate confusion and

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ABOUT SHADAC

This issue brief was prepared by Emily Zylla, Andrea Stewart and Elizabeth Lukanen. The State Health Access Data Assistance Center (SHADAC) is an independent, multi-disciplinary health policy research center housed in the School of Public Health at the University of Minnesota with a focus on state policy. SHADAC produces rigorous, policy-driven analyses and translates its complex research findings into actionable information for states.

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ENDNOTES

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