More Than Adequate: Paving the Road to Health Equity with Next-Gen Provider Networks

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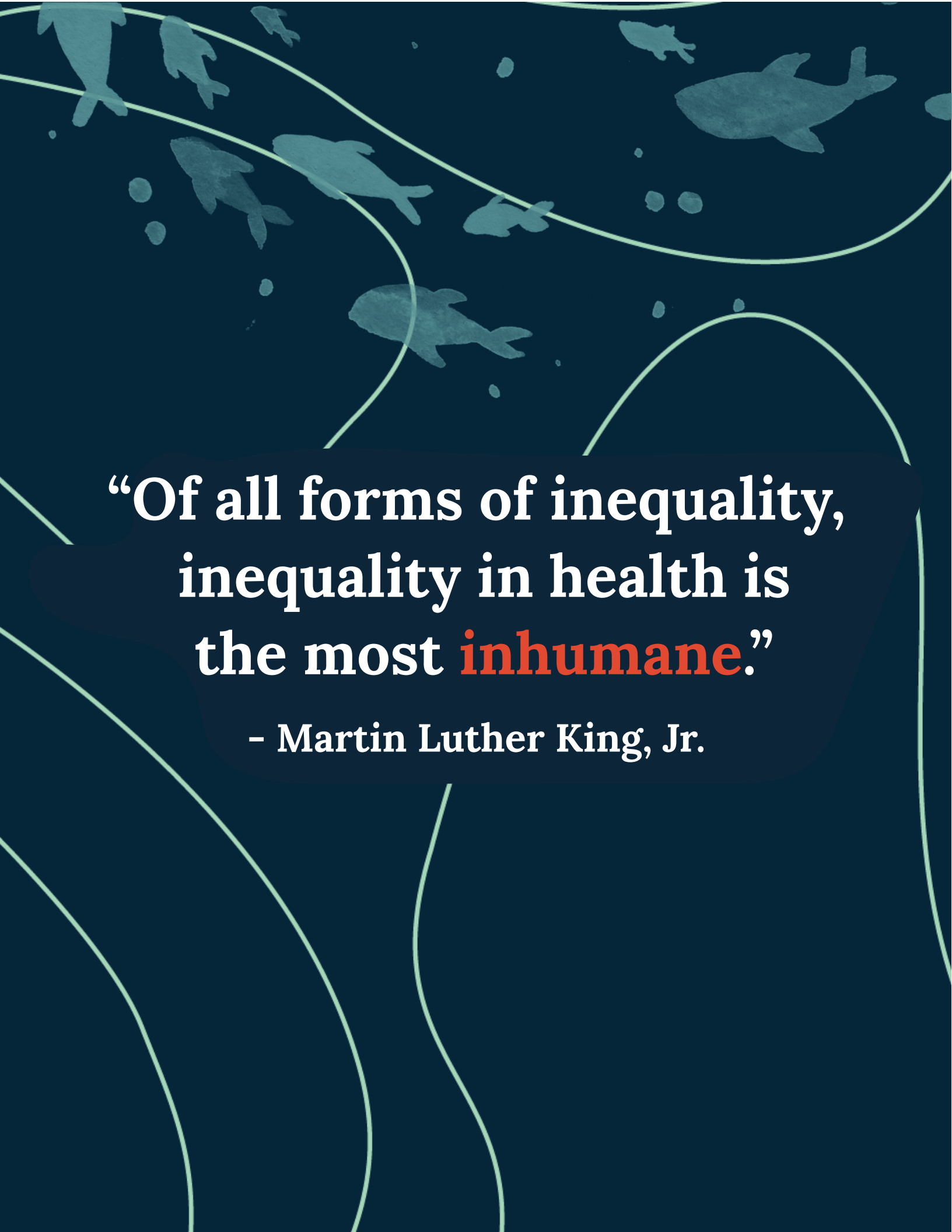

“Of all forms of inequality, inequality in health is the most inhumane.”
- Martin Luther King, Jr.

01. The Thin Line Between Location and Health Disparity

The necessity for network adequacy standards is easy to understand. People should have ready access to healthcare when and where they need it most. CMS has tried to step in with regulation because health disparities really do exist[3]. It's very challenging to measure these disparities. Historical artifacts, political environments, healthcare ecosystems, socioeconomic trends, racial barriers, unique ethnic differences, and an entire host of complexities come into play. The deeper you look, the more textured these inequalities become.

Only 5 percent of white adults report being "treated unfairly" while receiving healthcare[1]. That number jumps to around 20 percent for Hispanic and Black adults.

Interestingly, health disparity seems to occur in geographic pockets. Certain geographic locations exhibit trends surrounding socioeconomic conditions, historical racial and gender inequalities, and health status. For instance, though many geographic areas report that health outcomes are nearly identical for white and black women, in certain counties the disparity is significant[1].

At a larger geographic level, mortality rates are significantly higher in the Appalachian region and Southeast[4]. But if you zoom in, each state has its own unique health trends. And, even further, each zip code is a unique pocket of complex socioeconomic, racial, and physical conditions.

Essentially, your health outcome is significantly guided by where you live. Geographic location remains one of the best ways to practically understand these barriers. This makes it particularly valuable as a tool to help alleviate disparities, which is why time/distance was one of CMS's first adequacy standards[5] and now also extends to Qualified Health Plans (QHPs[6]).

When you dig a little deeper, things get complicated. The regulatory layers aside, distance and time aren't always equal for everyone. This is where we start to see the regulatory standards start to hurt those they are intended to help.

02. Provider Network Adequacy: The Gold Standard or Fool's Gold?

When discussing network adequacy standards, it's easy to get lost in the minutiae. On a larger scale, political and social belief systems can disrupt any meaningful discussion of this issue. At the payor level, we sometimes tiptoe around these issues due to competitive market conditions and regulatory headaches.

Health disparities have existed for decades under relaxed regulatory conditions, and attempting to mitigate these in increasingly complex, expensive, and competitive markets by enforcing access to quality care for people across the country is, by nature, a good thing. Health coverage should allow for access to affordable, timely, and quality care — regardless of race, socioeconomic status, or geographic location.

This starts at the network level. PPOs and HMOs should build networks that provide an adequate number of providers and provider types, and enrollees should ideally receive that care in a location that's reasonably accessible and from a provider who can communicate in the language they understand.

That's the goal of network adequacy standards. But the gap between goals and execution is less-than-ideal.

One thing we should acknowledge is that the current regulatory environment for network adequacy standards is convoluted and unevenly enforced. Regulatory requirements widely vary[7]: provider-to-enrollee ratios, time/distance standards, essential community provider (ECP) requirements, and a host of other regulatory needs change from state-to-state and health plan to health plan.

On top of this, regulatory oversight has shifted twice[8] (yes, twice[9]) in the past half-decade for ACA plans alone, and there is currently little-to-no enforcement. Obviously, this may swiftly change as enforcement goes back to the federal level in 2023. The truth is this: we know these are issues, and they're being worked on as we speak. You can find in-depth discussions[10] surrounding these regulatory and oversight problems elsewhere.

Instead, we want to discuss whether or not the standards themselves are good enough to begin with. Let's say that tomorrow, deeply-integrated regulatory layers suddenly appear and begin to enforce and administer adequacy standards across health plans.

03. A Simple Measure of Time / Distance Isn't So Simple

CMS uses an algorithm that roughly reflects an "as the crow flies" approximation for time and distance parameters for provider networks. In geo-spatial computing we call this the Haversine algorithm. The Haversine model uses longitude and latitude to determine distances — not geospatial data like lakes, rivers, roads, and speed limits.

It's the model CMS uses, and the model the vast majority of healthcare provider studies surrounding geographic location and physician density utilize[4] to determine network adequacy. Notably, it was also the least disruptive requirement, given that 90% of payors already met the standard when CMS first introduced the Haversine time/distance requirement at a federal level in 2016[11] (with some exceptions[12]).

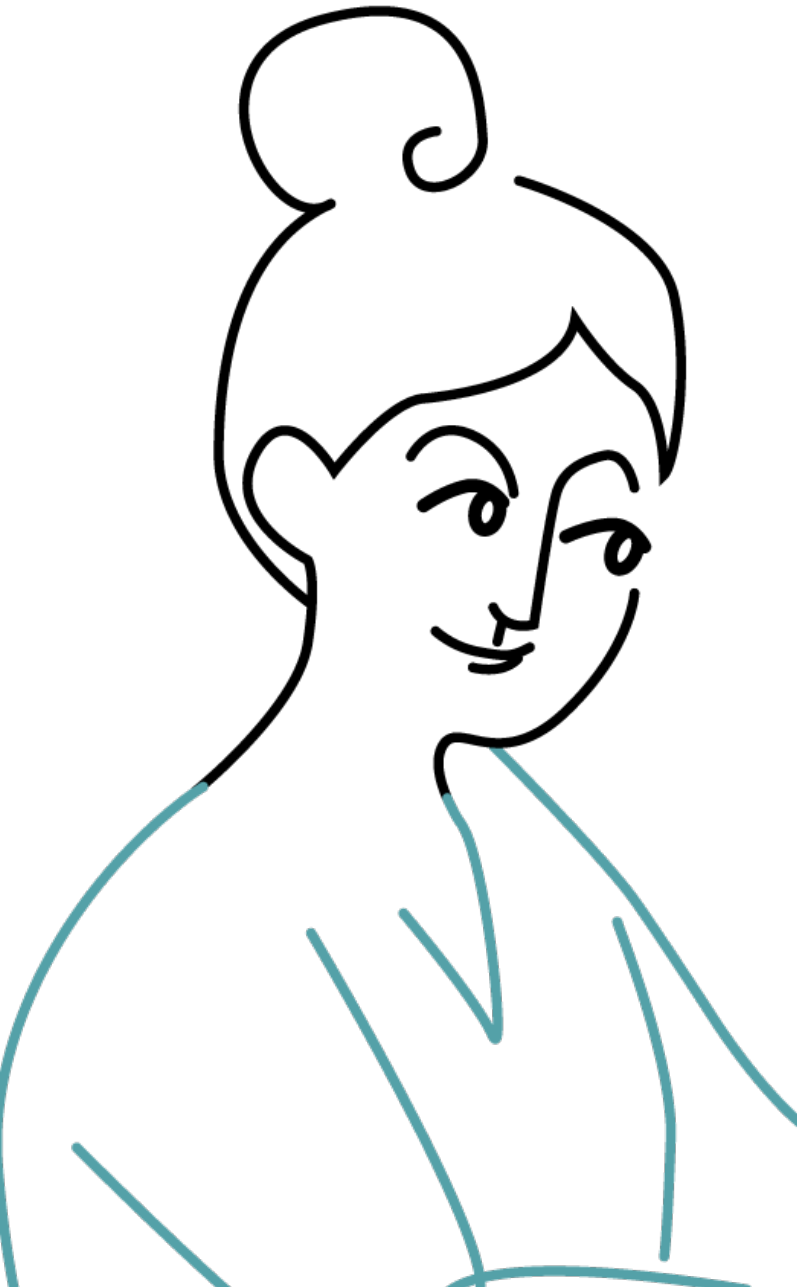
Unfortunately, the 200+-year-old Haversine[13] model is problematic for a number of reasons. For instance, the formula doesn't always mimic real life conditions. Because the Haversine model doesn't appropriately capture time and distance in the context of real-world routes, or the availability / routes for public transportation, this introduces some significant issues. As a result, many populations (especially at-risk and underserved populations) face a tangible threat of poorer health outcomes.

Probably not. At least, not to the level we should expect. In the era of rapidly evolving predictive technologies, the decades-old algorithms we use to measure adequacy are subpar, outdated, and deeply flawed.

On the following pages, we'll look at two different scenarios to demonstrate.

Scenario 1 - Medicaid Managed Care Plan Participant

Mary is a 30-year-old woman living in a large metro area. She can't afford a vehicle, so she relies on public transportation. She also cannot afford to take time off of work, since she can barely afford her rent.



One day, Mary catches the flu. According to CMS rules, she should have access to an in-network primary care physician within 10 miles (and 15 minutes) of her location. She looks online and find that although there are several PCPs closer to her, they are not participating with her health plan, so she chooses one that's further away in order to avoid paying out-of-network rates.

Despite falling within the adequacy standards for the plan, the bus route she has to take actually makes the doctor's office 14 miles away, and because there is always traffic on weekdays, it takes 45 minutes for her to reach the clinic. This means she will have to take more time off of work in order to get a prescription to take care of a common ailment.

Instead of taking care of herself, she decides she cannot afford to take that much time off of work to go to the doctor, which compromises her health.

Scenario 2 - Medicare Advantage Plan Participant

“Grace is a 70-year-old immunocompromised woman from a rural area, and though she has a car, she needs someone to drive her into town, so she relies on her son. Grace also comes down with the flu.

Unfortunately, because there is a river between Grace and the nearest town, and although there is a non-participating clinic closer to her, she has to travel a significant distance to get to a bridge in order to cross and get to an in-network provider for care.

The Haversine model doesn’t adequately measure the distance to her nearest primary care physician, due to the unique geography of her rural area. The actual travel distance to the nearest primary care physician with coverage is 45 miles, and not 30 miles “as the crow flies”.

Grace’s son only gets off of work 60 minutes before the doctor’s office closes, which is not enough time for her to arrive before the office closes. Her only alternative in-network option is an expensive ER visit. Grace goes untreated, leaving her at risk of suffering adverse side effects and an avoidable hospital admission from the flu.”

In both scenarios, the payor meets adequacy standards, but the member’s access to care is inadequate.

The obvious (and oversimplified) solution to both of those scenarios is to adjust the adequacy model and recruit additional providers. If we can make sure that Mary and Grace have equal access to care based on their location and access to transportation, other, more complicated socio economic issues could have a far less significant impact on Mary and Grace’s health outcomes.

04. Geospatial Data, Advanced Analytics, and Old-school Algorithms

The aforementioned examples illustrate the limitations of legacy algorithms and historical adequacy standards. Those standards were a necessary, and important first step toward health equity in the U.S.

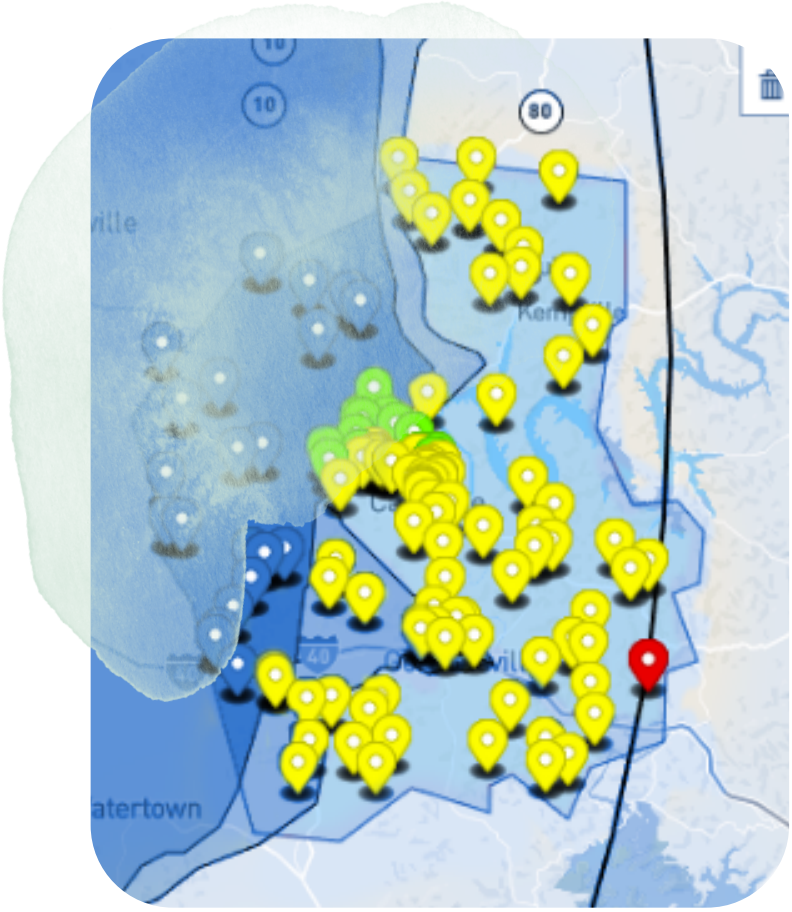
To achieve the desired outcome and the intent of our adequacy standards, meeting that time/distance requirement is a milestone along a path to building a great network. Not only do payors need to build more robust networks that deliver high quality, efficient care, they need to minimize the impacts of provider crowding and care deserts wherever possible.

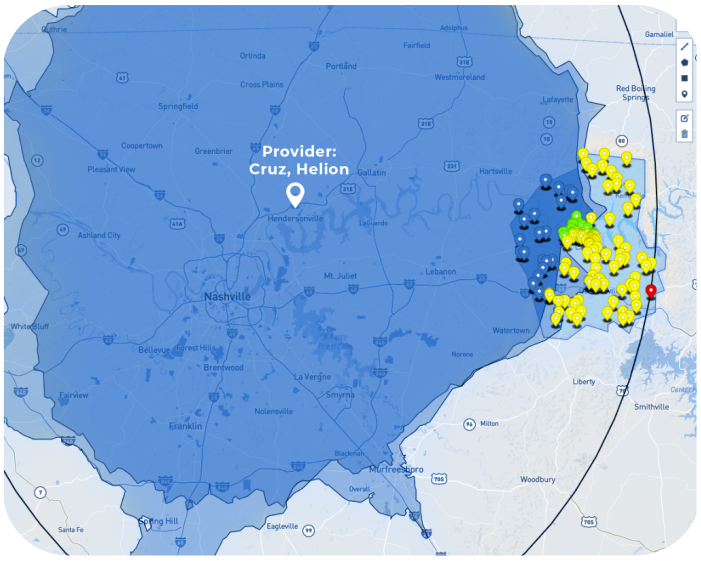
Therefore, as a next step, a modern provider network should leverage geospatial computational models and data analytics to build dynamic, true-to-life time / distance data to work toward better standards for care availability.

Payors that move to the more advanced adequacy model stand to gain a significant competitive advantage, including demonstrating qualifications for state Medicaid/Medicare contracts. The very same technology that enables health equity can be utilized by payors to reduce the cost of care, optimize expenses, improve network performance, and reduce redundancies. It's a winning strategy.

The following two maps illustrate the difference between a more modern, cutting-edge, geospatial network adequacy model (like the one we've built into the andros platform) and the traditional Haversine model.

An Adequacy Example From Smith County, TN





In this example where andros results are significantly different (80%) from HPMS results, we conducted an analysis comparing the results under different time and distance calculation models. This resulted in grouping the HPMS results into 3 categories:

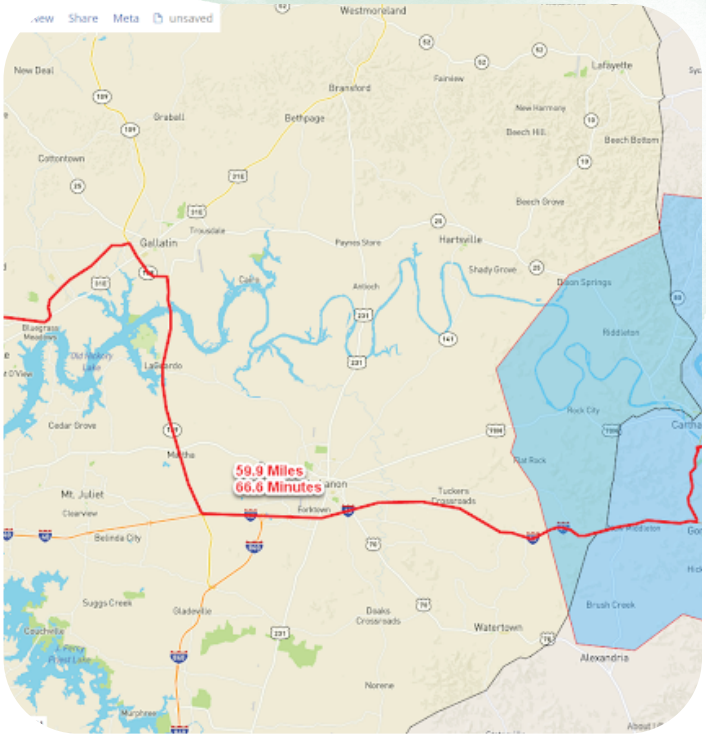
Green points are those beneficiaries andros would considered served utilizing the expected patient driving travel times and distances.

Yellow would be considered served under a Haversine (as the crow files) model. This would not accurately represent the patient experience in accessing care.

Red would not meet either model.

Patient Level Example

First Image: "As the crow flies" model



Second Image: Actual distance and path a patient will have to travel to reach the provider

- Yellow point is patient just outside of andros projected drive time for coverage
- Red line represents the actual distance and driving time from beneficiary to the provider.
- Drive crosses over the Cumberland River
- Beneficiary is just outside the required travel time of 60 minutes and 45 miles

05. Where Do We Go From Here?

Of course, health equity doesn't just benefit payors, it benefits everyone, everywhere. The goal of a provider network should be to provide quality care to the plan's members. What we see as meeting CMS standards may not translate to access to quality care to the most vulnerable members of the communities and populations we intend to serve.

How do we better serve people and communities? How do we diminish health inequities and build a happier, healthier, and more productive society? Can we really track disparities across geographies, build robust and deep understandings of communities, and leverage data to create powerful healthcare solutions that fluidly move throughout the dynamism of health inequality if we aren't even measuring geographic distances correctly?

Having access to quality care within a specific time and distance from you isn't a specific racial, socioeconomic, or cultural right. It's a human need. The shortcomings of our current standards for adequacy are threatening the effectiveness of health networks and the wellness of people across the United States. We can do better.

When adequacy standards lead to inadequate availability of care, it can be chal-lenging to build truly transformative provider networks. Targeted interventions — regulatory or not — should leverage the best technology available. Provider networks need to be built to serve the needs of the community, and we need to improve our regulatory requirements to address health equity.

About andros:

andros is the only end-to-end provider network management solution that connects payor and provider data under one roof.

From rapid credentialing to smarter, more powerful provider networks, andros helps payors eliminate network management frictions so they can focus on other value levers — like benefit design, care navigation, quote-to-card, issue resolution, and all of the other frictions payors deal with every day.

To learn more about how andros can solve your provider network management headaches, contact us.

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