FinThrive™

How Does Socioeconomic Data Support Health Inequities?

The Proof is in the Zip Code.

Contents

Background

The past three years have posed unprecedented challenges for many Americans, while also exposing deep seeded cracks in the foundation of health equity in the US. According to the U.S. Bureau of Labor Statistics (2021), 20 million Americans lost their jobs in 2020. Financial, emotional, and medical debt pressures overwhelmed everyone and in particular, the nation's most vulnerable. The American Hospital Association (AHA) estimated that from May to June 2020, hospitals and health systems experienced $202.6 billion in losses. The financial fallout from the pandemic also took a toll on food security, with 30 million Americans reporting in December 2020 that their household had not received enough to eat in the past seven days (Center on Budget and Policy Priorities, 2022).

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People of color and those living in generational poverty were negatively impacted the worst, and continue to experience multifaceted ramifications in the wake of a post-covid economy. According to the Pew Research Center, the COVID-19 pandemic hit Hispanic and Black Americans hardest with 61% of Hispanic Americans and 44% of Black Americans reporting being impacted by a job or wage loss as a result of the coronavirus outbreak. Additionally, individuals within these demographics did not have financial reserves to cover expenses which resulted in Black Americans and Hispanic Americans struggling to pay their bills (Budiman et al., 2020). These devastating realities of the COVID recession revealed what many in healthcare already knew: race is a determining factor driving health inequity in the U.S.

A 2015 review of hundreds of studies between 1983 and 2013 confirmed that **racism is consistently associated with increased mental health conditions such as depression, anxiety and psychological stress**. It also shows evidence that racism contributes to poor physical health outcomes.

But can we, as a nation, dig deeper into socioeconomic data and specific neighborhoods to pinpoint the exact families most vulnerable to health inequities—and at highest risk for costly health outcomes? Thanks to the Robert Wood Johnson Foundation's Health Data for Action (HD4A) program, we can.

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The data demonstrates that **Black, Hispanic and single-parent households** suffered the most during the 2020 pandemic. Furthermore, it illustrates that regardless of income change, **race** and **living in a specific community** are direct determinants of economic stability, which is the heaviest SDoH factor to change and has the most downstream health and household family impacts.

Why does this matter? This granular socioeconomic data at the neighborhood level can be used by providers and health plans across the ecosystem to provide formal recommendations to healthcare and community teams, thereby creating a more equitable healthcare experience. Unlike traditional census data, the spatial analysis outlines an exact playbook for building out interventions such as food, housing and medication assistance, with the end goal of helping families prioritize care.

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Pew Research Center

Where Can Application of this Socioeconomic Data Positively Impact Health?

Three Use Cases to Consider

When examining population health use cases for the Utica University study data, researchers identified multiple scenarios where data could be used to identify, target and address health inequities at the zip code plus 4 and zip code plus 11 level. With this level, researchers pinpoint exact streets, and even homes on these streets, that are at the highest levels of health inequity risk.

In terms of how study results will best benefit the community in New York State, there are several places to start.
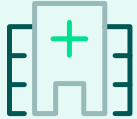
Health Systems

Target families in need of charity care (payment assistance for medical care) to ensure they cultivate trust with the healthcare systems and physicians. The goal is to shift healthcare use from Emergency Department/Ambulatory/ Urgent Care settings to more preventative settings such as Retail Pharmacies and Primary Care Providers.

SDoH Data into Screenings and Z-Codes

Z-codes will be the next Rosetta Stone in healthcare, merging social and physical health into one patient file. SDoH data can help doctors see what is happening outside the office so they can address the whole person and connect social health programs to the patients. Hospitals and health plans will need to (per CMS in the near term) collect SDoH related data to integrate into Z-Codes to better coordinate care.

Medicaid MCOs

Identify Medicaid members who need housing assistance, as well as help transitioning from rental to permanent housing in an effort shift health care spend. Another example is CMS issued guidance on ILOS (in lieu of services) programs, which opens up Medicaid Plans to propose new use of dollars and support for developing programs.

Race, Gender, Ethnicity

Data is enabling large retail pharmacies to help expand diversity, equity and inclusion efforts related to drug effectiveness.

Using Census vs. Socioeconomic Data

When examining the challenges and risk factors in a population, there are certain data sets that scientists and physicians will look at closely. One of the most common examples of this is census data. There are a number of pros for census data, but an even higher number of cons.

Census data is often too complex and highly manual to apply for use for communities to obtain.

Census data is untimely with data collected only done once every ten years.

Census data requires 18 months to 2 years to report back on the data.
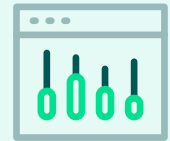
Advantages with the type of spatial analysis conducted by Utica University include granularity and timeliness. Timely socioeconomic data gives health plans and other stakeholders an exact playbook to apply prompt health interventions for many of the issues previously described at the neighborhood, street and even household level.

Furthermore, building measurable health improvement is directly attributed to these specific needs that only spatial analysis can provide: types of jobs the residents work, family deaths, criminal issues, generational poverty, and more.

Spotlight on Utica

The Robert Wood Johnson Foundation provided 130 economic variables for six states, of which New York is the first to be examined through spatial analysis. Remaining states to be examined in 2023 include **North Carolina, Virginia, Texas, Arizona and California**.

Preliminary findings

- 2019 Q2 income data for Utica shows cold spots in the center city and hot spots on the suburban fringe.

- 2021 Q2 income data for Utica reveals a similar pattern.

- Income changes from 2019 to 2021 suggest that the COVID Recession of the second quarter of 2020 had a potentially acute, yet mitigated effect on New York when assessed at the Zip+4 level.

Potential limitations

- ZIP+4 data is smooth due to aggregation of households.

- COVID Recession was so acute, the income variables are not sensitive enough.

- Federal Stimulus funding could have caused mitigated many negative aspects.

Next Steps

- Linear and non-linear model with demographic variables

- Rural versus urban assessment

Income 2019

Income 2021
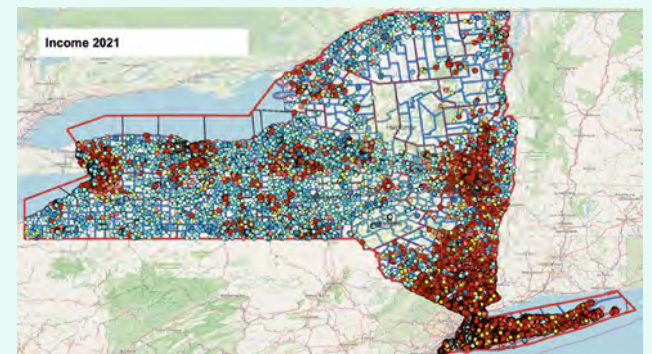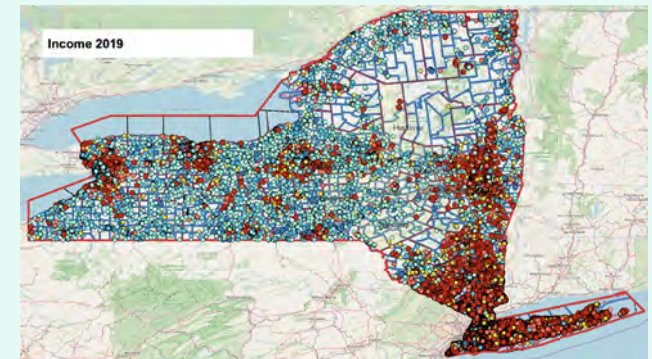
Application and Go-Forward Insights for Healthcare

The research conducted in the state of New York marks the beginning of what is possible when precise data is used to evaluate demographics and family structures of specific households. Beyond the three specific use cases mentioned earlier, there are many more potential applications for health plans, communities and health systems to explore. Not only individual patients and families, but also at-risk providers and community social programs, will be the long-term beneficiaries of Utica's work. Some examples include:

Clinical Trial Development

Health Plan Optimization

This requires a strong mix of race, ethnicity and preferred language. Any pharmaceutical manufacturer or pharmacy in the space is focused on building drug effectiveness and access needs. The data provided in this research will accelerate their efforts.

Health plans can adopt the socioeconomic data from this study to improve visibility into real-world struggles experienced by their members. Census data is insufficient in the long term. It is not real time like privatized credit bureau insights and claims data insights that shine a light on the socioeconomic environment. When health plans understand what is going on outside the four walls of the hospital, they are able to incorporate data-driven insights into their care coordination programs.

Care Development Plans

FQHC Visibility

Healthcare organizations can only do so much with limited, outdated data sets such as that shown by census data. These studies give precise views into where and what type of programs are needed, spurring organizations into community outreach, development and execution. Hospitals and telehealth must reach the most vulnerable populations effectively, and this data is the catalyst.

Federally Qualified Health Centers will have a bird's-eye view of where critical access hospitals or mobile units need to be deployed. Upstate Family Health Center in Utica, NY is an example of a provider that is benefiting from such data.

"During the pandemic, we evolved as a community health center," said John Milligan, Chief Executive Officer of UFHC. "We saw a lot of behavioral issues and substance abuse issues, and it became clear that we needed specialized teams to address those areas." Using the data as a guide, Milligan and his staff were able to implement patient-centric programs such as food drives to ensure that socioeconomic factors correlated to care delivery were addressed. "You can do all you want on the clinical side, but until you find the root of the problem you aren't going to get anywhere."

"Spearheading this research was a true honor," said **Michael McCarthy, PhD, Assistant Professor of Data Science at Utica University**. "I am so proud of the amazing team whose dedication, focus and unwavering humanistic approach allowed us to gain insight into the significant role generational poverty plays in health equity and the need to prioritize a patient's economic status in a meaningful way within healthcare."

"Census and claims data can be helpful in certain instances but the value is undermined by out-of-date, incomplete or biased perspectives of a person's life," said Brian Urban, Head of Payer Marketing at FinThrive. "The FinThrive data shows all the activity happening outside of the healthcare setting. Layer that into a clinical workflow or apply to a housing/food distribution program for a diabetic Medicaid population, for example, and you can create opportunities to improve overall experience and reduce total medical costs. Our goal is to uncover insights that have a positive impact on US Healthcare, helping to support and drive health equity"

Brian Urban, Head of Payer Marketing, FinThrive

About FinThrive

FinThrive provides one of healthcare's most comprehensive revenue cycle management SaaS platforms, offering patient access, charge integrity, claims management, contract management, machine learning & robotic process automation, data & analytics, and education software solutions to 3,200+ healthcare providers. FinThrive's end-to-end software platform helps healthcare organizations increase revenue, reduce costs, expand cash collections, and ensure regulatory compliance across the entire revenue cycle continuum. For more information on the FinThrive story, visit finthrive.com.

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