Health Opportunity Index Measures Causes and Effects of Health Disparities

On April 26, 2016, the FIHET Equity in All Policies Webinar Series, along with the Association of State and Territorial Health Officials (ASTHO), offered a webinar titled *In Health Matters, Place Matters - The Health Opportunity Index (HOI)*, which featured the Virginia Department of Health's (VDOH) Health Opportunity Index (HOI). First developed in 2012 as part of the Virginia Health Equity Report, the HOI is a composite measure of the social determinants of health, and provides a baseline for a community to determine what factors lead to positive health outcomes and healthy communities. The VDOH developed the HOI because they were aware of the health inequities that existed among people of varying socioeconomic, racial/ethnic and rural/urban backgrounds.

The HOI addresses disparities by helping to detect high-priority target areas within a community – areas and populations that are more likely to be negatively impacted by social determinants of health and inequities in health. The webinar highlighted how the VDOH correlated health data from the HOI with broader conditions, and used data as a lever to examine and develop public policies that promote health and health equity.

The presenters included Justin Crow, Health Professional Shortage Designations and Geographic Information Systems Manager, Office of Minority Health and Health Equity (OMHHE), Virginia Department of Health; Rexford Anson-Dwamena, Social Epidemiologist, Office of Minority Health and Health Equity (OMHHE), VDOH; and Adrienne McFadden, Director, Office of Minority Health and Health Equity (OMHHE), VDOH.

The webinar:

- Provided a contextual overview of health inequities in Virginia;
- Discussed the HOI and its methodologies;
- Provided examples of practical applications of the HOI; and
- Reviewed how the HOI can be used to inform policies, allocate resources, support the work of community coalitions and spur place-based initiatives.

To understand why health inequities exist in Virginia, it was important to understand the context in which they occur. The VDOH reviewed metrics and rankings, such as the America's Health Rankings index to determine the current state of health in Virginia. According to the America's Health Rankings index, Virginia ranked 21st in the nation when it comes to health. In several areas, Virginia ranked toward the bottom; for example, it was 33rd in the nation in health status disparities.

The VDOH looked at these health disparities, social determinants of health and resulting inequities in terms of inputs and outputs, and found that differences in inputs at the beginning signaled differences in outputs at the end. To begin with, the VDOH looked at the social determinants of health and the differences in outputs through a racial and ethnic lens, followed by a spatial lens and then examined the inequities as inputs.

When outputs are examined through a racial and ethnic lens in Virginia, we see that heart disease and diabetes are more likely to affect African-Americans. Viewed through the same lens, it becomes clear that in the distribution of social determinants of health – such as rates of unemployment, poverty and on-time graduation for 2015 – African-Americans and Hispanics are more likely to be adversely impacted.

The VDOH also examined these factors through a geographic lens by using GIS mapping, which provides a ground-level understanding of what is occurring within the different racial and ethnic groups. When looking at life expectancy as it appears on a map, the data shows that life expectancy is shorter in the southern and southwestern part of the state, predominantly rural areas where 40 percent of inhabitants live below the poverty level, compared to 25 percent of Virginia's urban populations. (The poverty level is the percentage of people who are below the poverty threshold). The differences in outcomes are not just limited to health. Among the residents in these areas, 75 percent have less than a high school diploma.

In developing the HOI, the VDOH examined data at the community and census-tract level, instead of using county- or city-level data, which has a tendency to mask areas that may need targeted resources. All in all, the VDOH looked at about 30 variables, and then, through a work group and conversations with epidemiologists and experts on health, they narrowed the list down to 13 indicators with four profiles:

- Community environmental profile: built environment;
- Economic opportunity profile: the resources available within a community;
- Consumer opportunity; and
- Wellness disparity profile that eventually became the HOI.

The profiles were developed using a statistical tool called principal component analysis, which finds variables that vary together, then divides them into principal components. The HOI includes indicators that are valuable to policy makers, and that the community felt were important in determining health. The indicators are actionable variables – conditions that local communities could act upon to improve or overcome existing challenges to health.

The HOI can be used to:

- Show that where we live is a determinant of health;
- Identify social determinants of health in local communities;
- Learn from communities that have good health, despite adverse HOI indicators; and
- Build collaboration across all sectors, to promote health equity.

The creation of the HOI led to the development of a health assessment, and eventually a state health improvement plan, called Virginia's Plan for Well-Being 2016-2020. The plan has aims to improve well-being in the state and address health disparities at the roots. The HOI can be replicated through multi-sector collaboration and cooperation to improve health outcomes for all community members.