Equitable Vaccine Administration (EVA): A vaccine equity dashboard addressing COVID-19 vaccine disparities across Illinois

CATEGORY: **Partnership and Innovation**

The Illinois Department of Public Health (IDPH) combined historical and real-time data sets to create the Equitable Vaccine Administration (EVA) Dashboard. This dashboard is a powerful visualization tool that has helped to bridge equity gaps in COVID-19 vaccine administration and uptake across the state. Users were able to identify communities with low vaccination rates and tailor their outreach and education strategies based on demographics and themed vulnerability scores.

The "What"

The Equitable Vaccine Administration (EVA) **Dashboard was developed to inform areas in need of additional education and outreach efforts** to increase COVID-19 vaccine confidence and uptake.

In May 2021, the EVA Dashboard, built using Tableau software, consisted of four main components: vaccine allocation; provider enrollment; vaccine administration, including geographic and demographic details; and Social Vulnerability Index (SVI) themes and sub-themes. Vaccine administration data consisted of dose-count data retrieved from the Illinois Comprehensive Automated Immunization Registry Exchange (I-CARE). Population estimates were generated from the American Community Survey (ACS) five-year estimate (2014-2018). The SVI data was downloaded from the Centers for Disease Control and Prevention 2018 public use data file, where a score closest to one is reflective of the highest social vulnerability and a score closest to zero is the lowest. SVI scores were broken into quartiles and categorized as high (0.75 - 1.0), medium-high (0.50 - 0.749), medium-low (0.25 - 0.495), and low (0 – 0.249).

Daily data updates were made available to IDPH staff, local health departments (LHDs), and IDPH grant-funded community-based organizations with a total user count of more than 250. Interactive data tables and maps were available at the county, census-tract, and ZIP-code level, and by select demographic and socioeconomic variables.

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> EVA User Kelsey Barnick

The "So What"

With access to near real-time geographic, demographic, and socioeconomic data, **EVA users were able to develop informed outreach strategies** for communities with the highest vulnerability and/or the greatest barriers to vaccine accessibility.

EVA user Kelsey Barnick, an impact analyst with the YMCA of Metropolitan Chicago, said, "The ability to view demographic breakdowns by race/ethnicity, age, and gender have allowed our team to begin thinking about the groups within our target communities that may need tailored strategies to increase vaccination rates. Overall, the EVA dashboard supports our approach that community-level intervention is necessary to effect change by providing a localized data source that provides the quantitative insight we would otherwise not have. We intend to utilize this data in conjunction with the experience and perspective of our community members to inform our COVID-19 vaccination uptake strategies."

In addition, data from the EVA dashboard was analyzed over a 12-month period to determine if there were differences in COVID-19 vaccination rates. The percent change by SVI score was utilized as a proxy to determine equitable vaccine administration in Illinois during the select period. The percent change in vaccination rates among fully vaccinated individuals between May 2021 and April 2022 was highest in counties that were the most vulnerable (had the highest SVI scores); high SVI (26.3% [95% CI, 0.26247-0.2635409), followed by low SVI (25.1% [95% CI, 0.2502199-0.2518926]), medium-low SVI (23.6% [95% CI, 0.2351699-0.2370276]), and medium-high SVI (21.5% [95% CI, 0.2136683-0.2161113]).

The "Now What"

The EVA Dashboard has served as a critical data visualization tool in helping bridge equity gaps in COVID-19 vaccine administration and uptake across Illinois. Some users have stated that EVA has allowed them to not only identify target communities but also tailor outreach strategies based on demographics and themed vulnerability scores that are available within the dashboard. The hope is that this tool can serve as a model beyond the COVID-19 response that might be used for improving coverage and uptake of other vaccine-preventable diseases across Illinois' most vulnerable communities.