A Framework for Generating Real-World Evidence with Existing Resources

Piloting the Health Equity through Analytics (HExA) Series as a Catalyst

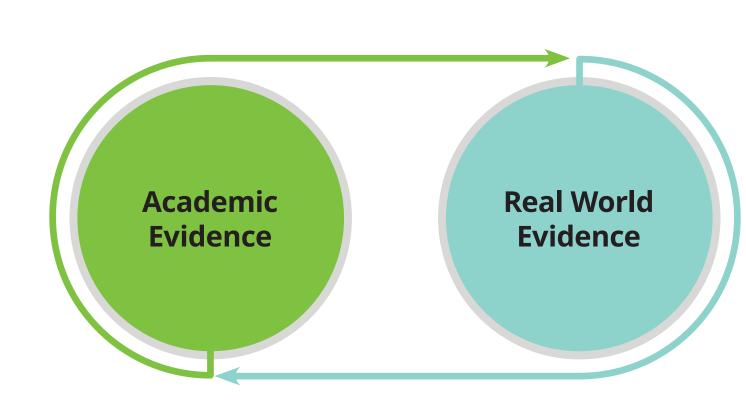
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The **Deloitte Health Equity Institute (DHEI)** has created a framework for generating empirical and insightful real-world evidence (RWE), particularly related to drivers of health (DOH), to support key decision makers with evidence-based programs and practices. DHEI has also launched a new analytics series called **Health Equity through Analytics** (HEXA) that pilots this framework.

Background

- Translational epidemiology aims to implement effective interventions identified in controlled, academic settings into real-world settings.
- RWE studies reciprocate with insights generated from the real-world setting to determine how effective interventions really are and to identify the nuances that modify the actual-to-expected impact.



Current State of RWE availability

- with alternative strategies and incentives to generate empirical evidence in practice without compromising quality.
- collected for other purposes (e.g., administrative claims for billing), or data that is not structured specifically for research (e.g., open notes within
- demographics, lifestyle, and community characteristics) are either left out or require the use of predictive algorithms that come with their own biases and drawbacks.
- Resources may be limited in traditional academic settings, both in terms of human and financial capital, and it may be more ideal to prioritize academic environments to produce the cutting-edge research. However, this leaves unanswered questions about application of academic evidence in



Phase 1

Quantify health inequities at a national level and prioritize communities to address root causes based on data

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Begin with a **literature review**, identifying DOH that are measurable and actionable, while also looking for **approachable gaps**. (Figure 1)

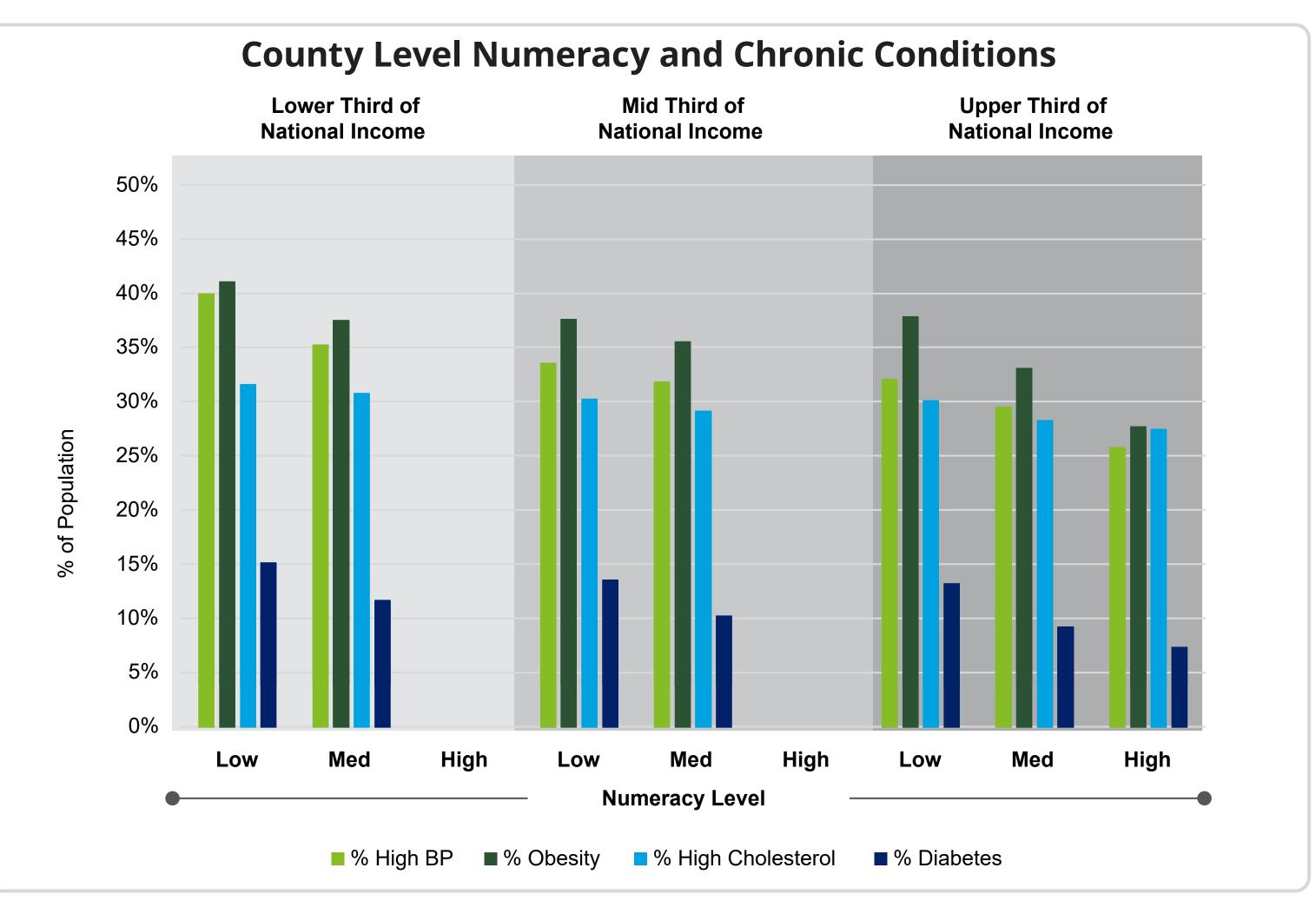
Figure 1: Detangling complexity between DOH can help identify the appropriate audience for Phase 2.

There are fewer RWE studies in this exchange, resulting in a research gap that could be filled

- Many RWE studies rely on individual-level data electronic health records).
- Research topics that seek to describe real world nuance or complexity (e.g., drivers of health,
- practice.

Compile various data sources to create a more comprehensive database that can be mined for associations between the DOH variables and the health outcome variables, also stratifying for potential confounders or modifiers. (Figure 2)

Figure 2: Sample Phase 1 Visualization from Health Equity through Analytics (HExA) Volume 1 on Literacy and Numeracy.



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Create **visualizations** of the data so that it can be understood by an audience outside of health

full report.

care, research and academia. See Phase 1 in action through DHEI's first volume of the HExA series focusing on Education as a DOH. Scan the QR code for the full report.

Challenges with population evidence

- A major limitation of data analysis at a population scale is the potential for ecologic fallacy. Therefore, in this phase the focus is not on exact interdependence of predictors, outcomes and co-variables, nor an attempt to make individual-level assertions and assumptions based on the results.
- In this stage we are simply observing and understanding the scale of the issue and apparent associations, with the goal of identifying the communities that could benefit from a closer analysis and potential directionality in Phase 2.

Identify and engage appropriate stakeholders and develop location relevant intervention strategies at individual and community levels

Phase 1 research can be used to target the appropriate stakeholders that work in a specific DOH industry and bring the local community, businesses, and health care stakeholders together to initiate place-based change.

For example, in our HExA volume on Literacy and Numeracy, we may amplify Phase 1 results among those that work in the Education sector.

Phase 2 requires an interdisciplinary approach, subject and community experts, and an investment of some resources to implement and/or evaluate programs aimed at reducing inequities. Below are strategies that leverage existing structures to operationalize the second phase.

Place-based interventions are often smaller scale, thus there is no need for extensive data collection programs or extremely rigorous methodologies. Most professionals will have access to basic no-cost/ low-cost data collection and analysis tools.

Some interventions are already taking place whether they are being measured or not, thus what remains most often is the need to set up a study design that can accommodate the existing structures.

A community is best understood by those who work and live in it, thus ADA local stakeholders can identify relevant interventions likely to work and appropriate variables for analysis becomes simpler and more custom.

Most health care systems employ data analysts and epidemiologists who have training in research methodology that frequently goes underutilized. These analyses can allow public health professionals to practice at the **top of their license**.



 Additionally, there are many graduate students looking to complete their practicums who could complete the analyses as part of capstone projects under the supervision of their academic faculty.



There may still be some costs associated with implementation and evaluation, however, there may also be direct impact on the local community, businesses, and health care systems that could offset any costs associated with the process, creating a positive ROI and building a strong business case.

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Conclusions & Implications



- The gap in empirical evidence from the RW setting, especially related to population characteristics not typically captured in health care settings, can be addressed by using a framework that helps leaders prioritize communities that could potentially benefit the most from interventions.
- This framework and DHEI's HEXA Series as a pilot establishes a strategic community-driven intervention and evaluation methodology that can be adapted to each community's needs.
- The implementation of empirical evidence within the real-world setting can not only add to the literature and knowledge base but can also help leaders in making evidence-based decisions on future interventions.
- An implication for practice is the ability to adapt and arm communities with established and rigorous empirical methods, and pair with invested stakeholders to make evidence-based decisions tailored for their communities, which could lead to a decrease in health disparities.

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