



The Changing Practice of Public Health Surveillance: Examples from King County, Washington

As the community health data unit that serves Public Health - Seattle and King County, there are two things that we keep in mind. First is the vision of attaining health equity, the highest possible standard of health for all people¹. Second is the understanding that achieving health equity will require communities to engage in new, innovative multi-sector efforts that address the social determinants of health. With this vision and understanding, our efforts to generate and produce community health data must also advance to meet the needs of our communities and sectors we serve.

In the movement toward health equity, there is an increasing need for data that represents small geographies and small populations. King County is a prime example of how aggregated data masks deep disparities within a large and populous region. In its aggregate, King County ranks high on numerous health indices. A deeper examination reveals large disparities at the neighborhood level and by sub-population.

Community data is the bedrock to understanding the nature and extent of health inequities. Furthermore, data drives policy, programs, and allocation of financial and non-financial resources. In this era of health transformation and reform, communities are increasingly being asked

to have data that demonstrate their need and to report on progress toward agreed upon measures in exchange for funding and support. Local health departments can modify large health surveys by adding a question asking for the respondent's nearest intersection to where they live.² This would add information to geocode data, but sampling sizes would still need to be sufficient to generate reportable sub-county estimates. In addition, to inform or evaluate impact of community actions, the utility of current analytic approaches such as pooling multiple years of data to generate estimates for small geographies or small populations is limited in part due to the lack of timeliness of the data. Routinely collected data about local community context is also important if we want to have meaningful information to shift community conditions in ways that support healthy living.

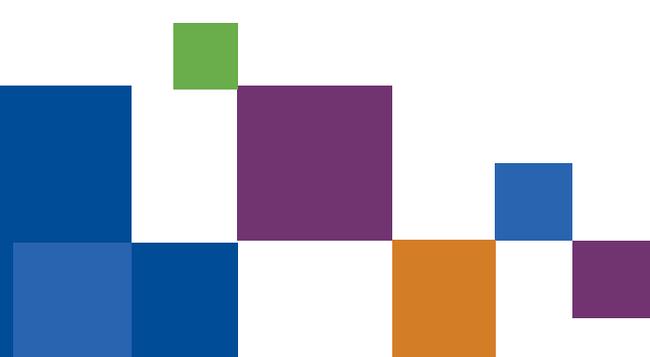
Opportunities to get to better community-level data include:

- Apply community-based participatory approaches to health surveys particularly for understanding the context of health for vulnerable populations.
- Explore the use of multi-sector data to inform health interventions.

- Collect community-level data about local policies.
- Harness technology to gather community health data.

Community-based Participatory Approaches to Community-level Data

At a recent Communities of Opportunity meeting, a community leader proudly shared findings from a community-led health survey of the neighborhood. This convenience sample of the neighborhood's residents is in fact the most comprehensive health survey conducted in this neighborhood and it captures the concerns, equity issues, and population diversity within this 2.25 m² region of approximately 13,000 residents. The community took the initiative to conduct its own survey, in part, because existing publicly-funded health surveys, such as the Behavioral Health Risk Surveillance Survey (BRFSS), are limited in their sampling, prohibiting the generation of timely estimates for such small geographies or populations. Moreover, there was inherent value in conducting their own community survey—perhaps the most important being the community ownership of the data—and in having data that describes their community's priorities and experience.



An opportunity to strengthen and improve upon the collection of community health data is to link survey researchers to communities by applying community-based participatory research (CBPR) approaches. An example is the Pacific Islander American Health Survey³ conducted by researchers at the University of Michigan Institute of Social Research. Led by Dr. Sela Panapasa, the research team worked closely with Samoan and Tongan faith-based organizations to develop the survey design and approach which resulted in a representative sampling frame of Pacific Islanders from which a random stratified sample was selected. The result of this effort was the first-ever source of robust baseline information on Samoans and Tongans, two communities which are underserved and experience various health disparities. Central to the success of this survey were several factors: the early commitment of researchers to focus on identified community priorities; agreement to produce deliverables that would ensure the community received clear benefits from their participation; the use of translated surveys and in-language interviewers who were recruited from the local community; and the continued support of community leaders throughout the survey process.

Multi-sector Data to Inform Health Interventions

Increasingly, communities are calling for and being asked to participate in multi-sector initiatives to improve health and well-being. For instance, here in King County, there's a growing recognition of the linkages and intersections between housing and health. At the highest level is the understanding that access to quality, affordable housing is fundamental to the health of individuals and families. At another level is the recognition that there is an opportunity for public health, healthcare providers, and subsidized housing providers to work together to improve both housing and health outcomes of residents in subsidized housing. Yet, working together requires linked housing and health data for the development, implementation, and tracking of evidence-based or promising interventions; this type of linked data is uncommon.

Optimizing the use of multi-sector data will require breaking new ground in terms of shared visions for multi-sector data such as planning, performance measurement, and evaluation. This includes establishing policies governing data collection, storage, use, and reporting; sharing analytic methods; and exploring new data technology. To that end, Mercy Housing, a subsidized housing provider in our region, has brought together housing, public health, healthcare, social and human services, philanthropy, and community-based organizations to develop a shared vision for housing and health. Critical to this effort is the data related work such as standardizing data collection across public and other subsidized housing providers; creating shared data agreements that will allow data to flow bi-directionally between housing and health while maintaining privacy standards; and having a defined need and use for the data (i.e., assessing a community health worker intervention in subsidized housing) that incents the collaborative work toward shared data^{4, 5}.

Collect Community-level Data on Local Policies

Fundamental to health equity work is the building and maintaining of healthy communities. Public policies as well as institutional policies shape the environment in which community residents live, work, and play. Notably, public health has seen major advancements such as reducing tobacco use and motor vehicle injuries through adoption of policies that promote healthier and safer environments. However, there are few efforts that provide systematic assessment and monitoring of policies. Policy surveillance (the systematic, scientific collection and analysis of policies) holds the potential for filling critical gaps in information that communities could use to promote health equity.⁶

We have piloted the use of policy surveillance to track and monitor local policies across our cities, school districts, and counties in King County and Washington state to assess our progress in tobacco prevention, distracted driving, and marijuana use.⁷ By using the LawAtlas Policy

Tracker tool, we are able to generate policy maps and data tables that capture policy developments over time. The information generated through policy surveillance has identified opportunities for additional policy development. For instance, the assessment of tobacco policies in King County schools revealed that 17 of 19 school districts followed state laws requiring tobacco bans on campus and in district vehicles. However, 75 percent of students are not covered by policies prohibiting tobacco use at off-campus school sponsored events. On emerging nicotine products, findings showed slightly more than 70 percent of King County students are covered by policies explicitly addressing electronic smoking devices. Policy analyses like these can thereby identify opportunities to improve tobacco prevention related policies.

Harness Technology for Community Health Data Collection

Harnessing technology is often viewed as a major opportunity for collecting community health data. Web-based platforms that provide individuals with the opportunity to respond to surveys as well as to gather and collect information on an on-going basis are being explored. For instance, as we launch the Best Starts for Kids survey (a child health survey) here in King County, our intent is to have individuals respond through a web-based instrument as the primary method for data collection, before seeking responses through a hardcopy survey. This will allow us to translate the survey instrument into various languages inexpensively and expand our reach to families where English is not the primary language. That said, we do recognize that there are also limitations in reaching individuals and families with no or limited access to the internet; this includes disparity populations such as low-income families and the homeless.

An opportunity that has yet to be fully maximized is the use of hand-held electronic devices (i.e., laptops, tablets, or cellular phones) to collect community level or environmental data. For example, MAPSCorp⁸ has developed a web-based app

that can be used on a cell phone to collect data on community assets and resources. In Chicago, high school and university students have been engaged in providing timely, up-to-date information on resources such as nutrition services, physical fitness services, and healthcare provider services in communities that serves as the basis of HealtheRx^{9,10}, a real-time automated system that has been adopted by medical clinics to assure that patients have the information about community-based resources that promote health.

In summary, achieving health equity requires us to expand the collection of community health data as well as the types of data that we need. Thirty years ago, few in the general populace could have foreseen today's incredible advances in technology and with that the opportunity to capture data like never before. To achieve health equity, it is critical that data advancements are also directed and materialized at the community level. After all, data is power.

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About AcademyHealth

AcademyHealth is the professional society for health services and policy research. Its Public Health Systems Research Interest Group (PHSR IG) is its largest, with close to 3,400 researchers, students, and decision makers who work at the federal, state, and local levels.

AcademyHealth has commissioned this discussion paper for the 15th Annual PHSR IG Meeting to invigorate the field of PHSR and spotlight promising ideas. One of four commentaries, this paper draws on the authors' experiences and perspectives on the changing public health system and offers their insights to the PHSR community.

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