IHME director Christopher Murray, left, with global health professor Ali Mokdad.

Healthy Measures

THE INSTITUTE FOR HEALTH METRICS AND EVALUATION, LAUNCHED TO HELP IMPROVE HEALTH CARE POLICY GLOBALLY, HOPES THAT BY FOCUSING ON KING COUNTY IT CAN BETTER DEMONSTRATE THE LINK BETWEEN HEALTH AND ECONOMICS. BY SARAH DEWEY

THE WORLD SPENDS TRILLIONS of dollars each year on health care. Yet there is little information available on how that money is spent and how effectively it is used, making it difficult for policy makers to determine how scarce resources might be better deployed. There simply has been a dearth of comprehensive, concrete data.

The University of Washington's Institute for Health Metrics and Evaluation (IHME) was launched four years ago to help fill that data vacuum. With long-term funding from the Bill & Melinda Gates Foundation, IHME strives to be an independent, objective statistician providing data that can be used to promote better global health policy. Unique in its capabilities for community-level data collection and analysis, it has emerged as an important contributor to Seattle's expertise in global health and has already shattered long-established beliefs about issues such as maternal mortality.

Now, IHME has the chance to show how its expertise can improve our understanding of health care here at home. Researchers have launched a new study of King County with the goal of shedding light on how to better manage chronic conditions and reduce the health care costs that have placed an increasingly heavy burden on taxpayers and employers.

The study, a collaboration among IHME, Public Health–Seattle & King County, Harvard University and Dartmouth College, will focus on King County residents who have chronic conditions such as diabetes and high blood pressure. Ideally, the results will provide the basis for policy initiatives that could improve health outcomes while substantially cutting health care spending. By looking across demographics, says David Fleming, director of Public Health–Seattle & King County and a principal investigator in the study, researchers hope to understand "where that next dollar in investment in prevention needs to go."

It's not just a question of where the money should be spent, but also how it can be spent most effectively. Health care providers must optimize the outcomes of everything from prevention to treatment

PHOTOGRAPH BY ADAM REITANO

at the lowest cost, says IHME professor Ali Mokdad, another principal investigator. Moreover, Mokdad adds, the goal is to determine "what works in certain communities, [and] what doesn't work."

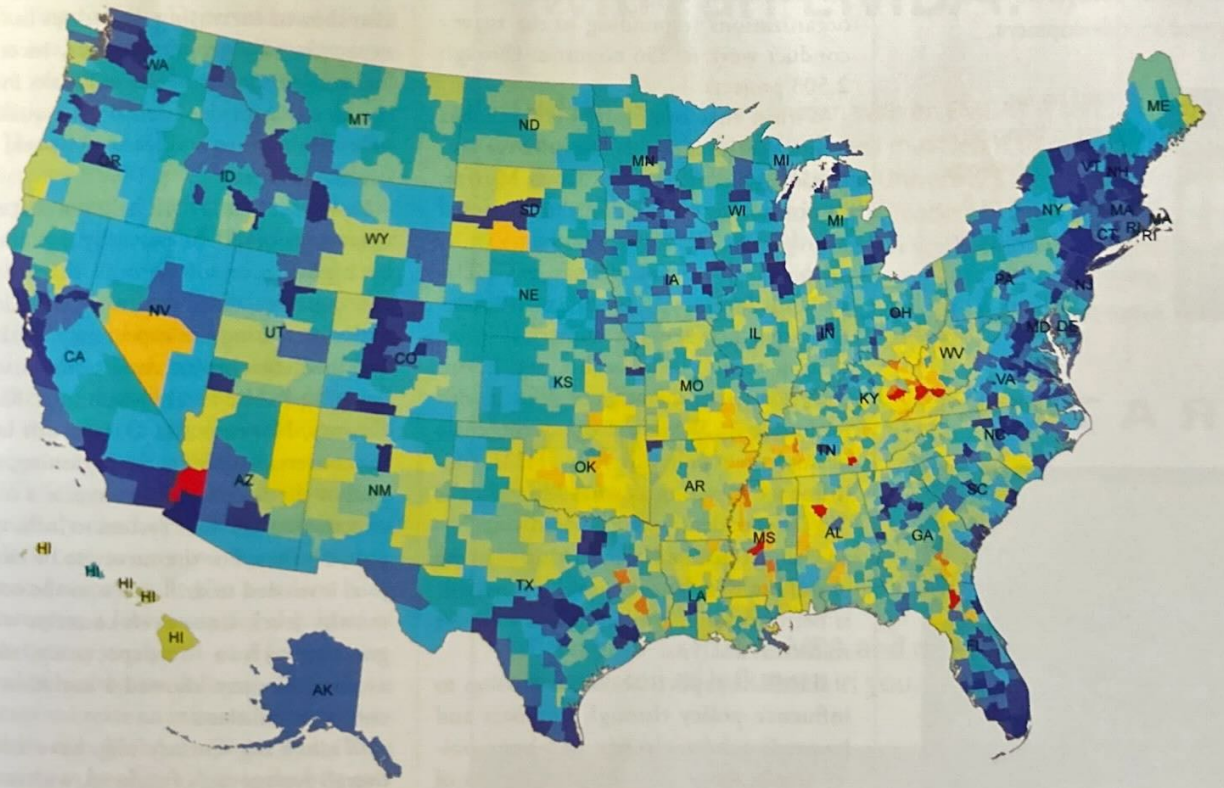
The issue is particularly important to the business sector because of the sharply rising cost of health care. The Centers for Disease Control and Prevention estimates that more than 75 percent of the nation's $2 trillion annual expenditures on health care goes to treat Americans with chronic conditions. Because individuals with such conditions aren't charged different insurance premiums, the costs of those illnesses are borne by their employers' insurance groups, explains Mary McWilliams of the Puget Sound Health Alliance. The cost of those patients' health care can drive up employers' premiums. Businesses can also end up shouldering the burden when sick people who are uninsured go to emergency rooms. Much of that cost ends up being subsidized by those with insurance, including corporations that cover their employees.

As recently as eight years ago, chronic disease resulted in $18.2 billion annually in lost productivity and direct costs to Washington employers and taxpayers, according to the Milken Institute. And those costs are rising. A Public Health–Seattle & King County report from 2006 shows that 50 percent of all avoidable hospitalizations are due to kidney problems, bacterial pneumonia or congestive heart failure.

In addition to racking up excessive and unnecessary costs from these hospitalizations, workers suffering from chronic diseases frequently lose days at work. A decade ago, diabetes cost the American workforce 14 million disability days a year. And, again, the numbers are rising: According to the American Diabetes Association of Washington State, diabetes will cost state taxpayers $9.6 billion by 2025.

This projected growth is worrisome, especially because diabetes represents an area of increasing disparity in prevalence across demographics such as race and income. Cholesterol, hypertension, access to care and lack of physical activity are all reported to be worsening and contributing to increased rates of diabetes.

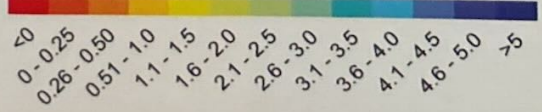
Better data on diabetes and other chronic conditions can improve health care delivery and make spending more efficient. Enter the Institute for Health Metrics and Evaluation and its chronic conditions study. Founded on the belief that an independent source of global



Increases in life expectancy in the U.S. vary greatly from low rates in the Southeast (yellow) to high rates (blue) in the Northwest.

Source: Institute for Health Metrics and Evaluation

Growth (in years) in male life expectancy from 1987 to 2007).



health data would lead to more effective policies and use of resources, IHME was launched in June 2007 with a 10-year, $105 million grant from the Gates Foundation and $20 million in support from the UW.

The institute is part of a much larger agglomeration of global health organizations. In September, the Washington Global Health Alliance partnered with Seattle's Office of Economic Development to report on the role of Washington businesses in global health. The 59 organizations responding to the survey conduct work in 156 countries through 2,503 projects.

Within this community, IHME has positioned itself as the "quantitative arm of global health," as Dr. Chris Murray, its director, terms it. Unique to the global health scene, IHME collects data in its Global Health Data Exchange, or GHDx, which it hopes will be the go-to source for researchers seeking numerical information about global health, and it also trains the next generation of global health professionals. While it does not construct or implement policy directly, IHME does influence it, acting as what Murray calls "an independent, science-based voice"—an element that had been lacking— in the global health debate. One part of that role is better data. The other part is superior statistical analysis.

IHME is explicit about its mission to influence policy through numbers and its studies have already had huge policy implications. For decades, deaths of mothers during childbirth were a critical global health issue. But a 2010 study by IHME found that maternal mortality rates were steadily falling. In addition to conducting individual studies, IHME annually publishes an influential report, Financing Global Health, which analyzes different trends in global health care spending. It also helped a White House task force shape the $63 billion Global Health Initiative.

While most of its efforts have been focused on global health, the institute also releases data about the United States that present potentially huge implications. In June 2011, it published a paper showing that life expectancy is increasing more slowly in eight of 10 American counties than in the rest of the world. The study also showed increasing disparities in life expectancy by geography, race, income and sex—a surprising set of results for a country that prides itself on the quality of its health care and leads the world in health spending.

WHILE IT DOES NOT CONSTRUCT OR IMPLEMENT POLICY DIRECTLY, THE INSTITUTE DOES INFLUENCE IT, ACTING AS WHAT DIRECTOR CHRIS MURRAY CALLS "AN INDEPENDENT, SCIENCE-BASED VOICE" IN THE GLOBAL HEALTH DEBATE.

Researchers at IHME believed that the disparities could be partially explained by higher rates of chronic disease in the counties with declining or minimally increasing life expectancy, so they designed the chronic conditions survey, bringing Public Health–Seattle & King County, Harvard and Dartmouth into the conversation. From the beginning, the goal of the research was to create a cost-effective surveillance system to influence public policy. For the survey to be effective, it needed to drill down to the community level, since even counties with good growth in life expectancy, such as King County, showed a variation in chronic conditions.

While King County may have a low overall average rate of diabetes, with some zip codes posting numbers around 4 or 5 percent, says Mokdad, "There are places in this county where the prevalence of diabetes is 20 percent. … There's a huge variation within our own community, and only a study like ours will start looking at

what's happening and why." By conducting in-depth research in King County, IHME hopes to provide the data required to overhaul public health spending at the local level.

"From a public health perspective, you need information at the level that you have an opportunity to intervene," says Fleming. In America, that's at the county level. Although there's general agreement that preventive health care is important, there is little data to suggest precisely where money should be spent. King County is exactly the place to understand this spending. "Having all of this global health expertise," Fleming says, "also helps us improve local health."

Begun in 2009, the study is the first of its kind in terms of scale and primary data collection, though the desire to quantify public health at the sub-county level is longstanding. Juliet VanEenwyk of the Washington State Department of Health says health care policy and implementation are local in the same way that "all politics is local."

The study is still in the data-collection phase, with 9,000 people in King County participating as subjects. Funded by the National Institutes of Health, the study will span three years and is being conducted in three phases: telephone surveys, examination of medical records and physical exams. All of these phases are meant to shed light on the prevention, diagnosis and treatment of chronic conditions and to quantify those endeavors.

While quantifying health outcomes, the study can help adjust spending on health care to save money for employers and taxpayers. It also positions King County as a laboratory for this kind of sub-county analysis—and for an overhaul of health care delivery. The study is meant to create an infrastructure for preventive care, Mokdad says. He wants King County to be able to deliver the best care at the lowest cost, to eliminate health disparities across demographics and to know what approaches work in specific communities. He wants his data to drive policy, he says, because "I'm not doing science for the sake of science." SB