Using statistics to change the world

One in five babies born in some Chicago neighborhoods weighs less than 5.5 pounds, the medical threshold for low birth weight.

It doesn't have to be that way.

"There's nothing natural about the health disparities that we see in Chicago," says Fernando De Maio, associate professor in the Department of Sociology and affiliated faculty member in the Master of Public Health program. He's been digging deep into public data, comparing Chicago's 77 neighborhoods with those in its Canadian twin, Toronto.

Toronto?

"We can gain a lot of knowledge by comparing apples and oranges," De Maio explains. Chicago and Toronto are somewhat alike: similar size, the presence of a substantial number of low-income residents, as well as problems with racial and ethnic segregation of communities. Yet health outcomes for residents are remarkably uniform across Toronto, even in impoverished, minority neighborhoods.

While Canada's universal health care system is certainly a factor, the real issues are what De Maio calls the root causes of disease: poverty, unemployment, housing and the experience of discrimination, which play out differently in a multicultural city versus a segregated city.

"The more segregated a community is in Chicago, the greater the risk for low birth weight," De Maio says. However, highly segregated African-American neighborhoods have the highest rates of low birth weight, while the rates in similarly segregated Latino communities are comparable to those in the rest of Chicago. In Toronto, the best-off communities had a low birth weight prevalence of about 3 percent, comparable to that of the best-off neighborhoods in Chicago. But in Toronto, the worst-off communities fared much better than in Chicago, with a low birth weight prevalence of only 11 percent.

"Toronto shows us what's possible," says De Maio, who grew up in that city and earned his undergraduate degree from the University of Toronto. "It is possible to have a far more equitable city of many, many millions of people—with a diverse population, problems with unemployment, poverty, just like we do—and break the link between social determinants and the health outcome."

His study, which was published in Critical Public Health earlier this year, is one of the first to come out of the Center for Community Health Equity. De Maio is co-director of the center, which is a collaboration between DePaul and Rush University Medical Center that investigates the root causes of health inequities. He's also served as a committee co-chair for Healthy Chicago 2.0, the city's plan to improve the health of residents over the next five years.

"I look at the patterns of inequality and social divisions and how those manifest in unfair health outcomes," he says. Chicago is a hotbed of disparities. There's a 15-year gap in life expectancy between residents of Lincoln Park and West Garfield Park. Infant mortality is three times greater in deeply segregated neighborhoods. There are similar differences in the rates of asthma, mental health issues and "all kinds of preventable suffering."

Preventing that suffering is what drives De Maio's work. It's also what makes his research classically Vincentian.

"When we use statistical methods not only to describe the world, but to change it, statistical analysis becomes a radical research methodology," he says. "I'm interested in social justice. I don't want to do this same study 10 years from now and get the same results."

To learn more about the study, visit ***www.healthequitychicago.org.***