

Population health program decreases heart disease risk factors across an entire community

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Michael Miedema, M.D., M.P.H. is a Research Cardiologist at the Minneapolis Heart Institute Foundation. Credit: Minneapolis Heart Institute Foundation, Gerry Yumul

In 2009, Minneapolis Heart Institute Foundation (MHIF), along with Allina Health, New Ulm Medical Center (NUMC) and the community of New Ulm, Minnesota, began a 10-year population health research project to learn if heart attacks and heart disease risk factors within a community could be decreased through community efforts. Results for the first five years have been released, and the initial findings are positive.

Hearts Beat Back: The Heart of New Ulm Project (HONU) focuses on reducing factors known for increasing [heart attack risk](#), including high cholesterol, high blood pressure, uncontrolled glucose, obesity, tobacco use, physical inactivity, low fruit and vegetable intake, and medication underutilization/non-adherence. HONU deploys evidence-based initiatives through many venues in the community, including health care settings, worksites, restaurants, and community spaces and events including farmers markets and concession stands. HONU activities included programs for individuals to participate in as well as changing the environment to create healthier options. De-identified electronic health records data is used to monitor how community member's heart health is changing over the duration of the HONU Project.

The HONU research team includes researchers from Allina's Division of Applied Research, MHIF, the University of Minnesota and other partners.

The five-year study included data for approximately 6,000 people aged 40-79, the age group deemed at the highest risk of heart attacks. The New Ulm findings were compared to data from the National Health and Nutrition Examination (NHANES) national survey, using similar age and racial groups for comparison.

After five years, results indicate that HONU is having a positive impact. The percentage of people who had normal blood pressure increased from 79% to 86%, while the percentage of those with total cholesterol under 200 increased from 59% to 64%. Positive changes in fasting glucose and triglycerides were also found. During the same time period, the national survey found that these conditions either stayed the same or worsened across the country. Abbey Sidebottom, MPH, managing scientist at Allina Health and lead investigator, noted, "This study shows that the health of the population improved substantially during the first five years of HONU. These results were better than those seen at a national level, which provides some of the first evidence that the community-wide prevention efforts of HONU are responsible for improving the community's health." Mike Miedema, MD, MPH, MHIF researcher and cardiologist at Minneapolis Heart Institute at Abbott Northwestern Hospital, focuses on cardiovascular disease prevention. Dr. Miedema notes, "Recent research has clearly demonstrated that a community's health is impacted by many factors beyond what happens when they see their primary care provider. The HONU project is trying to approach cardiovascular prevention by intervening in multiple different areas that impact cardiovascular health, and the initial results are quite promising."

This study's finding contributes needed research about best practices for community-wide prevention and provides scientific evidence that community-wide efforts, like HONU, can effectively lower [heart disease risk](#) factors at a population level. Small decreases at the community level can have a large effect on heart disease development, so MHIF, NUMC and Allina believe that these five-year results have the potential to

continue to reduce [heart](#) attacks in the New Ulm community. "Our community has embraced this effort since the beginning. They now see this as 'their' project and are stepping up to drive even greater changes that increase physical activity and make healthy eating the easy choice for the community," said Toby Freier, president of New Ulm Medical.

The HONU project is currently beginning year eight and will continue for two more years. Thanks to an AcademyHealth grant awarded to MHIF in early 2016, the study's findings and methods will be shared with other communities and health care organizations around the U.S. that are also interested in pursuing population health programs. Hearts Beat Back: the Heart of New Ulm and the New Ulm Medical Center were recipients of a 2014 NOVA Award from the American Hospital Association, which recognizes organizations that use collaborative approaches toward improving community health. Rebecca Lindberg, MPH, RD, director of population health at MHIF, commented, "To see the collaboration and buy-in at all levels throughout New Ulm will ensure continued support for better [health](#) and project sustainability into the future. This is rewarding for all involved. The entire community of New Ulm will reap rewards from their efforts to actively transform the city within which they live."

More information: Abbey C. Sidebottom et al. Changes in cardiovascular risk factors after 5 years of implementation of a population-based program to reduce cardiovascular disease: The Heart of New Ulm Project, *American Heart Journal* (2016). [DOI: 10.1016/j.ahj.2016.02.006](https://doi.org/10.1016/j.ahj.2016.02.006)

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