The TEAMcare study has been a lifesaver. My nurse has handed me a lifeline and brought me back into the world of the living.

- TEAMcare intervention recipient


teamcare improves depression, diabetes, heart disease outcomes

University of Washington/Group Health trial in New England Journal

January, 2011, SEATTLE - Many people have multiple common chronic diseases which complicate receiving adequate care. When depression co-occurs with diabetes, heart disease, or both, outcomes are often less favorable. In a randomized controlled trial testing an intervention called TEAMcare, nurses worked with patients and their patient's doctors and health teams to manage care for both depression and physical disease, using evidence-based guidelines. The result: less depression, and better control of blood sugar, blood pressure, and cholesterol.

Researchers at the University of Washington (UW) and Group Health Research Institute published their findings in the December 30, 2010 New England Journal of Medicine.

"Depressed patients with multiple uncontrolled chronic diseases are at high risk of heart attack, stroke and other complications," said first author Wayne J. Katon, MD, Vice-Chair of Psychiatry and Behavioral Sciences at the UW School of Medicine and an affiliate investigator at Group Health Research Institute.. "That's why we're excited about finding this new way to help them control their chronic diseases, including depression," he added. "Then they can get back to enjoying what makes their lives worth living."

The trial enrolled 214 Group Health Cooperative patients and assigned them randomly to either usual care or the TEAMcare intervention. In this intervention, a nurse care manager coached each patient, monitoring disease control and depression, and working to make changes in their medications and lifestyle when treatment goals were not being reached. The nurse helped boost the patients’ motivation to take charge of their own health. Together, the nurse and the patient set realistic step-by-step goals: reductions in depression and blood sugar, pressure, and cholesterol levels.

To reach those goals, the nurse monitored the patient's mental and physical health often: first every two to three weeks in person and then, once the disease measures were controlled, monthly over the phone. Based on stepped-care guidelines, the care team offered guidance to the patient's primary care doctor to consider changes to the dose or type of medication used for managing blood pressure, blood sugar, lipids or depression. This process is called "treatment to target."

"As patients set goals and make initial progress,' it builds their confidence," Dr. Katon said. "It reverses what happens when they set overly ambitious goals they don't reach, which discourages them, their families, and health care providers."

At one year—compared with the usual care control group—patients with the TEAMcare intervention were significantly less depressed and also had improved levels of glycosylated hemoglobin, low-density lipoprotein (LDL) cholesterol, and systolic blood pressure: 0.58%, 6.9 mg/dl, and 5.1 mm Hg lower, respectively. These differences are clinically significant, particularly if achieved in large numbers of patients, Dr. Katon said.

"Each of these four disease control measures have been linked to higher risks of complications and deaths from diabetes and heart disease," he added.
Intervention patients reported enhanced quality of life and satisfaction with their care for depression and either diabetes, heart disease, or both. They were more also more likely to have timely adjustment of glycemic control, antihypertensive, cholesterol lowering and antidepressant medications.

TEAMcare used one integrated and streamlined approach across all three chronic diseases (depression, diabetes, and heart disease) and all four disease-control measures (depression and blood sugar, pressure, and cholesterol levels). The nurse care manager coordinated treatment with each patient's primary care doctor and other health care team members. Weekly, the nurse also received guidance from three of the researchers: a psychiatrist, a psychologist, and a primary care doctor.

"Before TEAMcare, I had worked with some of the very same patients, but I couldn't find any way to help them change their behavior," said Group Health nurse Susan Ruedebusch, RN. "The intervention gave me—and the patients—the tools to break the vicious cycle and help them achieve improvements."

Like the other two TEAMcare nurse care managers, Ms. Ruedebusch is a trained diabetes care educator. "Education is empowering if you aren't depressed," she said. "But depressed people need much more than just information. They need coaching and coordination."

"Most previous interventions have focused on only one chronic disease at a time," Dr. Katon said. "Mental health care tends to happen in a different 'world' from medical care, and doctors often lack the time to connect them." But in TEAMcare, the nurse served as a communication hub between various professionals, helped the patient navigate care, and centered care on the individual patient—not on their different diseases.

Most U.S. health care costs go to caring for Americans with chronic conditions: 133 million Americans have a significant chronic disease, and this number is rising as our population ages. Nearly half have two or more chronic conditions, often including depression. More than 40% of people on Medicare have three or more chronic conditions, and these patients account for more than 80% of Medicare costs.

"We think this collaborative care approach could cost-effectively revolutionize care for patients with multiple chronic conditions," said Dr. Katon. The TEAMcare intervention cost $1224 per patient, on average in patients whose medical costs are approximately $10,000 per year.

Depression is common in patients with diabetes and heart disease, and it has been linked to worse self-management and more complications and deaths. Depression can make people feel helpless and hopeless about managing other chronic diseases. In turn, coping with chronic disease can worsen depression. This tangle of health problems can feel overwhelming: for patients, their families, and their health care providers.

"The body and mind are deeply connected," said co-author Elizabeth H.B. Lin, MD, MPH. "As with the chicken and the egg, it's not worth asking whether depression, diabetes, or heart disease comes first. They go together, magnifying each other's effects on the body, mind, and behaviors."

Dr. Lin is a Group Health family physician and an affiliate investigator at Group Health Research Institute. She is leading a pilot program, funded by the Group Health Foundation, to develop practical approaches to translating TEAMcare into routine practice for patients who depression and diabetes or heart disease.

"The TEAMcare intervention was based on the Chronic Care Model," said co-author Michael Von Korff, ScD, a senior investigator at Group Health Research Institute. "We think this intervention could be an integral part of the patient-centered medical home, which is a team-based approach to strengthening primary care."

This trial is the culmination of more than 25 years of collaboration between the UW and Group Health to improve care for patients with chronic diseases including depression getting care in everyday primary care settings.

Other co-authors were: Paul Ciechanowski, MD, MPH, of the UW School of Medicine's Department of Psychiatry and Behavioral Sciences and an affiliate investigator at Group Health Research Institute; Bessie Young, MD, MPH, of the UW School of Medicine's Department of Medicine and Veterans Affairs Puget Sound Health Care; Evette J. Ludman, PhD, Do Peterson, MS, and Mary McGregor, MSN, of Group Health Research Institute; Carolyn M. Rutter, PhD, of Group Health Research Institute and the Department of Biostatistics of the UW School of Public Health; and David
McCulloch, MD, of Group Health.

The National Institute of Mental Health funded the TEAMcare trial, with institutional support from Group Health Cooperative.

You can watch a video about the trial here at YouTube.

In mid-January, you can visit this Web site for more information about the TEAMcare trial: www.teamcarehealth.com

Other information, including photographs and information diagrams, is available on request.

**UW Medicine**

The [UW Medicine](http://www.uwmedicine.org/) health system includes UW Medical Center, Harborview Medical Center, Northwest Hospital, the UW School of Medicine, UW Medicine Neighborhood Clinics, UW Physicians, Airlift Northwest, and the UW's partnership in the Seattle Cancer Care Alliance with Seattle Children's and Fred Hutchinson Cancer Research Center. UW Medicine has major academic and service affiliations with Seattle Children's Hospital, Fred Hutchinson Cancer Research Center, and the Veteran's Affairs Puget Sound Health Care System in Seattle and the VA Hospital in Boise. The UW School of Medicine is the top public institution for biomedical research in funding received from the National Institutes of Health. For more information about UW Medicine, visit [http://www.uwmedicine.org/](http://www.uwmedicine.org/)

**Group Health Research Institute**

Founded in 1947, [Group Health Cooperative](http://www.teamcarehealth.com) is a Seattle-based, consumer-governed, nonprofit health care system. [Group Health Research Institute](http://www.teamcarehealth.com) changed its name from Group Health Center for Health Studies on September 8, 2009. Since 1983, the Institute has conducted nonproprietary public-interest research on preventing, diagnosing, and treating major health problems. Government and private research grants provide its main funding.

**Wayne Katon:** OR: UW/Group Health randomized trial in *New England Journal of Medicine*