

# Technology allows patients, caregivers to manage care with less stress

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There's no substitute for good communication when it comes to managing chronic health problems like heart failure, diabetes or asthma.

For people who play a key role in the care of chronically ill friends or family members, targeted information provided on a systemized basis can help relieve the stress and burden of caregiving and improve outcomes for patients, research from the University of Michigan shows.

An increasing number of older adults who live with serious chronic health problems are unmarried and live alone. Even when spouses are present, husbands or wives often struggle with their own health challenges and competing demands on their time. As a result, people with chronic diseases such as [heart failure](#) often need support from family or friends who are not living under the same roof.

The U-M School of Public Health and Medical School, and the Ann Arbor Department of Veterans Affairs, collaborated on a trial to offer mobile health support for patients with heart failure and their informal [caregivers](#). Their goal was twofold: to see if structured support from the program and informal caregivers could improve patients' self-care and health status, and to determine if systematized feedback to caregivers could alleviate their burden and help them avoid burnout and mental health concerns.

The current study, reported in the journal *Medical Care*, specifically looked at caregiver burden.

"Patients need help to take their medications as prescribed, adhere to dietary changes and get to follow up appointments. Yet many patients fail to meet these self-care goals," said John Piette, professor in the U-M schools of Public Health and Medicine, director of the Center for Managing Chronic Disease and senior research scientist in the VA Ann Arbor Healthcare System.

Caregivers—whether a spouse, family member or friend—can help patients follow their self-management plans. Yet, often the burden of

taking care of another person impacts the health and well-being of the one providing this support. As a consequence, many caregivers report emotional strain, depression and increased rates of chronic disease themselves.

Investigators recruited 369 heart failure patients from the Veterans Health Care System and helped them identify an informal caregiver. Patients were placed in two groups. In one, patients received self-care monitoring and education via weekly automated calls with feedback about urgent health problems reported to their clinical team. In the other group, patients received identical services but with email feedback about their status and suggestions for how to help sent automatically to their family caregiver.

"This program is unusual in that it is designed to give updates and advice to adult daughters, sons and other caregivers outside of the home," Piette said. "Family caregivers play a critical role but often have no access to the types of informational supports that health professionals typically have. We would never tell a nurse or a doctor, 'Guess what, we're not going to give you any training or access to any resources, records or guides for consultation,' but that's exactly what we do for caregivers."

At six and 12 months into the trial, family caregivers in both groups were asked to complete assessments of caregiving strain, depressive symptoms and participation in self-care support. In the group where caregivers received feedback about their loved one, the caregivers reported less caregiver strain and depression than those in the comparison version of the program.

For caregivers with scores indicating clinically significant depressive symptoms at the time of enrollment, average scores remained below that threshold at both six and 12 months. Caregivers receiving feedback also reported more time spent with their patients including attendance at

doctors' appointments (50 percent versus 40 percent), more involvement in patient medication adherence (43 percent versus 32 percent) and more time spent in supportive care (86 minutes per week versus 70 minutes).

"We're working to create solutions that don't depend on doctors and nurses doing more," Piette said. "A lot of [family caregivers](#) are worried that they don't have the expertise to be more effective in helping their loved one. We want to help them, while decreasing their stress and depression. In modern America where social networks are increasingly spread out geographically, we need to find new ways to bridge these gaps."

Results on the intervention's impact on patient self-care behaviors and outcomes were reported separately earlier this year in the *Journal of Medical Internet Research*. In that article, the researchers found:

- Patients reported better medication adherence: 9 percent more at six months and nearly 14 percent more at 12 months for those in the mHealth+CP program.
- The also experienced fewer breathing problems: a 4 percent reduction at six months, 11 percent at 12 months.
- Patients experienced more stable weight: a 44 percent relative improvement when considering the expected rate of weight gain and when compared with the group that didn't have informal caregivers.
- Fewer patients in the trial group reported negative emotions during interactions with their caregivers.

**More information:** "A Randomized Trial of Mobile Health Support for Heart Failure Patients and Their Informal Caregivers: Impacts on Caregiver-reported Outcomes." [DOI: 10.1097/MLR.0000000000000378](https://doi.org/10.1097/MLR.0000000000000378)

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