

Predictive sensors help prevent heart failure



With more than one in five patients being readmitted to hospital within a month of their initial heart failure, preventative measures could greatly benefit both patients and healthcare providers. Scientists led by [Penn State's College of Medicine](#) retrofitted defibrillators with a software and sensor system, called HeartLogic, that tracked heart activity including breathing, heart rate and electrical activity in the chest. The sensors were incredibly successful, predicting 70 percent of heart failures up to a month before they occurred, far more than the 40 percent prediction rate the scientists were hoping for.

Despite false positives occurring, the number was within acceptable parameters of scientific variation. Traditional methods of managing heart health, particularly monitoring cholesterol and weight, have not been particularly successful. HeartLogic, on the other hand, alerts patients when their condition starts to worsen, providing the opportunity to be seen by a physician before reaching the point of needing emergency hospitalization.

Using technology to monitor the body for minute changes is helping to drive prevention over cure. A [remote camera system](#) can detect microscopic skin flushes, providing early alerts to potential illness. A [connected wristband and skin patch](#) alerts wearers to potential asthma attacks, giving patients enough time to change their environment. How could such healthcare management innovations be expanded to provide alerts to family and friends?

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