

Why No Difference Can Still Make a Difference

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When patients hospitalized for heart failure are discharged, they're at high risk of having to return to the hospital (by one estimate, one-in-four return within 30 days) or even death. These patients and their clinicians must carefully monitor their weight and titrate their medications accordingly — a complicated endeavor that technology and financial incentives have the potential to support.

In a recent study published in *JAMA Internal Medicine*, David Asch from the University of Pennsylvania and colleagues tested a remote monitoring intervention to help these patients and their clinicians manage their care after hospital discharge. The researchers recruited 552 adults with heart failure who recently left one of three University of Pennsylvania hospitals and randomly assigned them to receive either usual care or the intervention: daily weight and medication adherence checks using digital scales and electronic pill bottles that alerted clinicians to important changes, and a small financial incentive to encourage patients to participate.

Asch and colleagues designed the intervention thoughtfully. Information about patient weights and medication adherence was automatically pulled into the electronic health record so clinicians could easily see and act on results. And, to tap into the human tendency to avoid regret, patients were eligible for a small cash reward only if they measured their weight and took their medication the day before.

Yet the intervention didn't work. When they tracked if patients returned to the hospital or died over the subsequent year, they found no notable difference between the groups: There were 423 readmissions and 26 deaths in the control group and 377 readmissions and 23 deaths in the intervention group.

The study is a good example of why we should talk about so-called null results, or when an intervention doesn't show the hoped-for effect. It's exciting when an intervention works, but it's also important to understand when it doesn't — and why.

In this case, the researchers confirmed that the intervention went as they had planned (for example, most patients in the intervention group took their medications regularly, and clinicians read all of the alerts), so instead, the failure may have been in reaching patients too late after hospitalization or in clinicians responding to only 1 out of 3 of these alerts.

These insights can inform the next go-around in solving the challenging problem of improving care for patients with heart failure.

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