

# Do interventions to decrease emergency care use among 'super-utilizers' work?

May 14 2019, by Mandira Banerjee

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Research shows that 50 percent of health care expenditures are attributable to 5 percent of the population—individuals commonly referred to as "super-utilizers" of care. They are often the sickest

patients, many of whom have three or more chronic conditions, and they visit the emergency department multiple times during a year.

In response, a trend in health care delivery organizations is the increasing use of special programs or interventions aimed at super-utilizers to reduce their health care use and costs.

A new University of Michigan study published in *Medical Care Research and Review* analyzes all 46 previously published research studies from 2000 to 2017 on interventions for super-utilizers of emergency department and prehospital care in the United States.

Samantha Iovan, Paula Lantz and Katie Allan of U-M's Ford School of Public Policy, along with Mahshid Abir of the Department of Emergency Medicine at the U-M Medical School, do a systematic analysis to see if the interventions to reduce the health care use and cost among super-utilizers have had an impact.

## **Why is it important to reduce emergency care among super-utilizers?**

Lantz: This is a really hot topic in health care policy right now. There are two major reasons behind the drive to reduce emergency care use. First, the [emergency department](#) is not the best place to receive primary care. Super-utilizers use the ED for a number of reasons other than having a medical emergency.

This includes barriers to primary care access, lack of insurance or because they have many social needs that are not being addressed. Finding ways to decrease expensive emergency service use by better aligning patients with the care and services they need should both improve health outcomes and reduce costs.

Second, health care systems, emergency departments and insurance companies are constantly looking for ways to improve care and decrease the use of the most expensive health care services. Again, super-utilizers are a small proportion of patients but they account for a large proportion of [health care expenditures](#).

## **What are some of the important findings from the study?**

Iovan: Many claims are being made about that interventions introduced to reduce utilization among super-utilizers, including that they significantly reduce health care utilization and costs, so we took a deep look into this topic.

A key finding of our systematic review is that there are serious methodological problems with the majority of the studies, including that most do not have a control group.

Many studies of super-utilizers find that health care use and costs go down the year after the intervention. However, a big problem is that we see this even without an intervention. This is in part because the people in the "super-utilizer" group change somewhat from year to year.

It is also because of what researchers call "regression to the mean." When a research study looks at people at the extreme end of a distribution of outcomes—like the highest users of health care—the next observation of the same people will look better just by chance, even without an intervention.

In other words, what looks to be a positive effect of an intervention is actually just normal variation in this population of patients who are extreme users of emergency health care services. So, only studies of

super-utilizers that have a comparison group can give us a good picture the effectiveness of a program or intervention.

Our second key finding is that, among the studies with strong research designs and comparisons groups, there is very little evidence that the interventions being used—primarily case management approaches—are having any significant impact on patient health care use or costs. The strongest studies show weak to no impact of the approaches being used.

You reviewed many different interventions used to the reduce prehospital and emergency care. Which ones worked and what are the limitations?

Iovan: It's difficult for us to say that any of these interventions worked because of the weak study designs used to evaluate them.

Case management was the most common [intervention](#) evaluated in our study, but only one-third (6 of 18) of the case management interventions used a strong study design. Of these, three showed a relatively small yet significant impact on reducing ED use.

## **What are your recommendations from the study?**

Abir: We really want to stress the importance of conducting more high-quality evaluation research in this area. These patients certainly have many medical and social needs that have to be addressed, but the current research literature does not provide the evidence to support claims that super-utilizer interventions that are spreading across health care systems are actual working.

It is always frustrating for policymakers and practitioners to hear that "more research is needed." However, in the case of interventions addressing super-utilizers of acute prehospital and [emergency](#) care, it is

indeed the case that additional high-quality evaluations of innovative interventions are needed to build a credible evidence base to improve health care delivery for this population.

**More information:** Samantha Iovan et al. Interventions to Decrease Use in Prehospital and Emergency Care Settings Among Super-Utilizers in the United States: A Systematic Review, *Medical Care Research and Review* (2019). [DOI: 10.1177/1077558719845722](https://doi.org/10.1177/1077558719845722)

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