

# Do wearable lifestyle activity monitors really work?

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Wearable electronic activity monitors hold great promise in helping people to reach their fitness and health goals. These increasingly sophisticated devices help the wearers improve their wellness by constantly monitoring their activities and bodily responses. This information is organized into companion computer programs and mobile apps.

Given the large and quickly growing market for these devices, researchers at the University of Texas Medical Branch at Galveston analyzed 13 of these activity monitors, such as those made by Fitbit, Jawbone or Nike, to compare how the devices and their companion apps work to motivate the wearer.

The researchers found that while many of these devices' apps were in line with recommendations from the [health](#) community, several are missing aspects that are important for reaching goals. In the end, device selection is dependent on the user's personal needs and preferences.

This research highlights similarities between the devices and the methods used by health care providers with their patients. This study was recently published in the *Journal of Medical Internet Research*.

"Despite their rising popularity, little is known about how these monitors differ from one another, what options they provide in their applications and how these options may impact their effectiveness," said Elizabeth Lyons, senior author and assistant professor at UTMB's Institute for

Translational Sciences. "The feedback provided by these devices can be as, if not more, comprehensive than that provided by [health care professionals](#)."

These devices improve on standard pedometers by measuring and providing feedback on several health/fitness dimensions including calories burned, type of exercise activity undertaken, sleep quality and measurements of heart rate, skin sweat and body temperature. Many, including Jawbone, Fitbit and Nike, have goal-setting and progress feedback, social support, and an array of easy-to-read charts and progress trackers based on the users' individual goals.

The research team investigated 13 commercially available activity monitors, including devices by Basis, BodyMedia, Misfit, Fitbug, Ibitz, Polar and Withings, to detail what tactics they use to promote healthy and fit behaviors, determine how closely they match successful interventions and compare the functionality of several devices and their apps to the recommendations of health care professionals.

The researchers found that most of the interactive tools in these devices' apps for goal setting, self monitoring and feedback were in line with what health care professionals recommend for their patients. The number of available app tools was similar to the amount of techniques used by health care professionals to increase their patients' physical activity. However, several tactics associated with successfully increasing physical activity were uncommon in or absent from the monitor systems, including action planning, instruction on how to do the behavior, commitment and problem solving.

In the end, the apps with the most features may not be as useful as those with fewer but more effective tools. Individual success is also likely influenced by individual preferences and needs, such as the need for a waterproof monitor for swimming or a device with energy balance

information including food logs, which may make them more suitable for weight loss attempts than systems that monitor activity and weight only.

Beyond the more typical uses for weight loss aids, electronic activity monitors may also be useful for patients when they are released from the hospital as a measure of recovery and quality of life. The consistent, objective measures used by these monitors could help [health care](#) professionals identify at-risk individuals for secondary prevention and rehabilitation purposes.

"This content analysis provides preliminary information as to what these devices are capable of, laying a foundation for clinical, public health and rehabilitation applications," said Lyons. "Future studies are needed to further investigate new types of electronic activity [monitors](#) and to test their feasibility, acceptability and ultimately their public health impact."

**More information:** [www.jmir.org/2014/8/e192/](http://www.jmir.org/2014/8/e192/)

Provided by University of Texas Medical Branch at Galveston

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