

MEDICAL DEVICES

A QUARTERLY EBULLETIN FROM THE PEOPLE WHO BRING YOU THE MEDICAL DEVICES EXECUTIVE MINDXCHANGE

APRIL 2010 | VOL. 3 | ISSUE 2



AUTHOR

Sean Duffy

Associate Editor, MedGadget.com

Student, Harvard Medical School

Trend Report: The Medical Consumer Likes Toys Too

A new medical technology market has hatched, and its infantile life is being coddled and shaped—not by incumbents in the world of healthcare technology—but largely by entrepreneurs. They're creating products to fill a void not possible with yesterday's technology, a space previously untapped, and the early results are in: consumers are ripping open their wallets to take advantage of the benefits these products provide. The big players in the medical technology world would be smart to take notice, both for their own benefit and the benefit of consumer health.

What forms this new landscape of healthcare technology? Products that are a hybrid of medical and consumer devices, designed to provide consumers ways to actively track and shape their health through data. Because most are passive technologies, and not "formally" considered medical products, they avoid the scrutiny of the FDA, and the requirement to find insurance reimbursement before product development.

Current Innovations

There are various examples of these hybrid products currently on the market. [Zeo](#) is a device that tracks your sleeping patterns (slow wave, REM, duration, etc.), and can even wake you up outside of REM sleep, when you're mostly likely to feel

refreshed. Until now, any accurate data on someone's sleep patterns involved a formalized, expensive sleep study. Zeo capitalized on the idea that sleep monitoring using Electroencephalography (EEG) technology can be done more



Zeo

simply and that consumers would value the information. The company initially entered the market by highlighting the smart alarm feature of the device but

quickly shifted under user demand to focus primarily on the device's ability to track sleep patterns through the night. Zeo users are treated to easy-to-understand graphs that allow them to take an active stance on tweaking their own sleep behavior.

Another product fitting into the nontraditional medical device category is [Fitbit](#), a super-pedometer that allows users to monitor their daily habits and activity, including calories burned and movement during sleep, all on a simple and attractive Web interface. The data collected from the Fitbit is automatically and wirelessly synched with your computer. In one swoop, the Fitbit rethought the pedometer, taking the device from a simple step, one readout-counter, to a detailed, accelerometer collected flood of data allowing a more precise glimpse into your daily activity.

Then there's the [Withings Wifi Scale](#) which automatically uploads weight and



Fitbit



Withings Wifi Scale

MEDICAL DEVICES

A QUARTERLY EBULLETIN FROM THE PEOPLE WHO BRING YOU THE MEDICAL DEVICES EXECUTIVE MINDXCHANGE

APRIL 2010 | VOL. 3 | ISSUE 2

fat composition to an online Web application or Withings' own iPhone application. This sort of precise tracking allows consumers to monitor their progress and set goals over time. It's a high-end scale, yet the demand is there and it's gotten significant attention, once again showing that consumers want an easy way to monitor their health and habits.

Future Device Challenges

This new category of consumer medical products is poised to grow quickly. So what's next? Where might entrepreneurs and forward-thinking incumbents do to develop these technologies go from here?

The first train that hasn't quite left the station is using the data productively for behavior modification. The coaching that Zeo has embraced is a start, but for the information given to consumers from these devices to be used as effectively as possible is another animal. Companies need to think about fundamental human motivation and take outside-industry tips from innovations like the recent surge in extremely addicting social games such as Zynga's [FarmVille](#).

Also, the health data that's placed online from these devices shouldn't be relegated only to the user. It should allow for anonymous sharing and aggregation, letting users see where they lie in comparison with others; for example,

where a user sits on the graph of weight distribution of people with similar demographics as their own. Consider Withings' Wifi scale for a moment; imagine how powerful it would be to set a weight goal and have the system anonymously find other users with the same base weight and goals, and let the user see progress in relation to others working toward the same goal. The system might also incorporate badges for a job well done and achieving certain milestones. It might unlock certain site features if you've completed certain milestones or provide other rewards, like a discount for a membership to eHarmony.com or a gift certificate to WholeFoods. The site could even integrate with something like [StickK](#), which allows users set a goal and bet real money (the final bet amount, if not achieved, goes directly to the charity or friend of your choice).

And those are only ideas for weight loss. Clearly, there's vast potential in using this data to benefit the health of the consumer. A small sticker that monitors and uploads your heart rate would be beneficial both to patients and doctors who want accurate trends of physiological measures. Blood pressure cuffs should share their data wirelessly as well, allowing users to see where they've trended over time. And why stop there? How about glucose monitors or a pin prick cholesterol panel?

These are exciting times in the new

world of consumer medical devices. But any company that's thinking of making a device in this class should also think about how it might someday interact with other devices in its class. Scales that track weight, for example, should store this data in a similar format and allow for its import or export. It would be a shame if users of multiple technologies suddenly found themselves needing to go to Zeo for their sleep data, Fitbit for their movement data, and Withings for their weight data.

The ecosystem of these technologies would be better served if the information was let free using data standards and APIs that allowed developers access to the information (with the consumer's explicit permission, of course). This would allow game developers, for example to suck in this data to encourage personal behavior changes. Companies could be formed to create personal health interfaces that would compete with each other and attract users by providing the most value with the data. Devices manufacturers should embrace the effect of open standards, focus on making money of the devices themselves, and allow consumers to pool their health data.

Accurate, simply tracked health data is powerful and is headed to the consumer. A wise corporate eye would be foolish to dismiss the potential of these innovations.