

## Promoting health? It's all in the game

Kate Kelland, Health and Science Correspondent, Reuters

Meet Roxxi - a feisty and fully-armed virtual nanobot. Billed as "medicine's mightiest warrior", she's fighting an epic battle deep inside the human body where she launches rapid-fire assaults on malignant cells.

Or, if it's not cancer but diabetes you're fighting, why not join Britney and Hunter, two digital kids whose adventures to other worlds are spurred on by regular and timely updates of your blood sugar levels.

They are a far cry from chemotherapy, diabetes medications, or aspirin, but Roxxi, Britney and Hunter are some of the buzz products from the brains of those who want to promote health and sell medicines.

Gamification - turning boring, unpleasant but necessary tasks into an online game - is a new way of thinking that is gaining momentum among drugmakers and health campaigners.

It's an idea that seeks to use natural human instincts - playing and learning - to help patients to get to know their illness better and adhere properly to treatment regimens or disease monitoring programs.

"We all grew up learning through play," said Christian Dawson, strategy director at Woolley Pau Gyro, a London-based healthcare advertising agency. "Gamification is a way pharma can use that basic human instinct to get the right information into peoples' heads."

### FINDING FUN FOR SICK CHILDREN

For 10-year-old Eleanor Howarth being able to play while trying to deal with the shock of being diagnosed with juvenile diabetes, was literally a game changer.

The British schoolgirl was seven and a half when she was told she had the lifelong condition and, as a result, would need to prick and squeeze blood out of her own finger four times a day to check and register her blood glucose levels.

Faced with blank refusals from a terrified child, Eleanor's parents got hold of the "Didget" monitor made by German drugmaker Bayer .

It comes with a game called "Knock 'Em Downs" and can be plugged into a Nintendo DS - the games console beloved of millions of children - and rewards the patient/player for regular blood updates by adding points and new features.

"It turned something she was really quite fearful about into something that could be a bit of fun," said Eleanor's father Richard Howarth. Her mother Donna said "it

changed her whole perspective on the diabetes."

Didget took its inspiration, in part, from Re-Mission, widely cited as one of the first successful health games.

Developed in 2006 by HopeLab, a non-profit U.S. organization focused on children's health, and featuring the tumor-fighting Roxxi, it is designed to give patients a sense of power and control over the disease and help them understand why they must have certain treatments and what those treatments will do.

But games are not just for kids.

### CAN DIGITAL GAMES BE HEALTHY?

A recent report by analysts at Ernst and Young on trends in the global life science sector noted the rise of gamification in health and hailed its great potential.

"We enjoy playing games - they motivate us and give us feelings of accomplishment, purpose and social connectivity," the report said.

In a chapter dedicated to gamification, J. Leighton Read, a U.S. expert on health games argued that "at a time when health care is focused on outcomes and seeking sustainability, the case for gamification has never been stronger."

But can Big Pharma, traditionally so conservative and hampered by stricter marketing regulations than many other sectors, really win from this game?

Bayer, one of the early enthusiasts, now has some doubts. A spokeswoman for the German firm said it was no longer promoting the Didget monitor because of concerns about whether encouraging children to stay indoors playing computer games was the right health message to send out.

Since gamification is relatively new in health care, and even newer in the pharma sector, follow-up studies on its effects are sparse.

But research published in the journal *Pediatrics* found that children who played Re-Mission showed improved behavioral and psychological factors linked with successful cancer treatment.

Kieran Walsh, clinical director of BMJ Learning, an education division of the British Medical Journal group, says he's "not an enormous fan" of the term gamification because he fears it can sometimes trivialize medical education.

He prefers the term simulation which, in his field, uses many of the same ideas as gamification.

### LEARNER CENTRED

Walsh sees the main use, and benefit, of games in this sector emerging from

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simulations that help doctors and other health professionals learn new skills, or keep up to date with the latest diagnostic guidelines or treatment protocols.

"Simulation is currently transforming medical education," he said. "It allows doctors to enhance and practice their skills as often as they like, unlike traditional learning which is often done via medical conferences where the learner is more passive and training is dependent on knowledge transfer."

"Modern medical education is becoming far more learner-centered, putting learners at the core and making them actively participate. One way of doing that is simulation."

Indeed major drugmakers, GlaxoSmithKline and Pfizer among them, have reported success with campaigns centered around gamification designed first to attract, and then teach, doctors and other health workers.

GSK won a marketing award for an online game called "Paper to Patient" designed to help doctors learn about important but rather tiresome policy changes on how to manage patients with an illness called chronic obstructive pulmonary disease.

And a Pfizer game called "Back in Play" - designed to help players spot early signs of a progressive form of arthritis called enclosing spondylitis - won an award for public education.

### RUN YOUR OWN DRUG COMPANY

John Pugh is director of digital communications at the privately-held German drugmaker Boehringer Ingelheim and one of the market leaders in this field with games like HealthSeeker, a game to help patients learn more about diabetes.

He says it's early days, but sees great health potential in playing games - even if they are the online sort.

Pugh says gamification works for Boehringer on several levels - first as a way to better engage with patients who take the firm's medicines, second as a way to awareness about particular diseases in a wider population, and thirdly as way of boosting the reputation of the pharma industry.

That third ambition has inspired his most recent adventure into the gaming world - a game on the social networking platform Facebook all about how to run a pharmaceutical firm.

Called Syrum, the game puts the player in the shoes of a drug company executive trying to negotiate the minefield of how to discover and developing new medicines, decide which ones to pursue and fund through expensive and time-consuming clinical trials, and what to do about securing patents to secure profits.

"This industry often struggles to have a dialogue or an emotional link with people," Pugh told Reuters.

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"So for us, it's natural to apply gamification, which taps into a fundamental of human nature - playing and making learning fun - to health care."

(Editing by Anna Willard)

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