The Gamification Of The Clinical Trials Process

By Will Buckley, DrugDev

With the Disruptive Innovations conference around the corner we thought it’d be fun to take a look at how games and the gaming culture are scoring points in the world of clinical trials. Oh no, I hear you groan, how can it be? Isn’t it enough that our kids already want to spend every waking moment on games? Well, there are several key elements of games – critical and creative thinking, strategy, memory, achievements, competition, hand-eye coordination and more – that can make a real difference in clinical trials. Here are three examples of how gaming is changing the playing field in a positive fashion for both patients and industry professionals.

The most obvious target for gaming in clinical trials would of course be young people. Boston-based startup Akili Interactive Labs aims to flip that script with Project: Evo, a gaming app aimed at identifying people with a high risk for developing Alzheimer’s disease. Earlier this year Pfizer partnered with Akili on a clinical trial, that began in March, to determine whether Project: Evo can do just this.
The game is played by navigating a cute little alien down a river course while keeping an eye out for fish or birds and tapping the screen when one appears. The app is high resolution, which means it can keep track of movements every 30 milliseconds, monitoring the user’s behavior and quickly adapting to each player. According to reviewer Eliza Strickland, “this multitasking is surprisingly challenging, and success is tied to a player’s abilities in what neuroscientists call interference processing”.

The Pfizer clinical trial will enroll people with high and low amyloid levels and compare results to see if success levels differ. According to Akili’s Eddie Martucci, “if we can match amyloid measurements to our game-play results, then you have a quick, easy way to find those patients.”

Cundari’s “Pain Squad” mobile app for The Hospital for Sick Children (SickKids) in Toronto does target younger people but in not in an obvious way. SickKids needed to find a way to encourage young cancer patients to fill out detailed reports daily, to help staff track and minimize pain. Bearing in mind kids’ love of gaming and technology, they came up with an app that gives the patients some control over their pain and doctors the tools they need to understand the experience of pain from a child’s perspective.
The app works by inviting the patient to join the ‘Pain Squad’ to report on and help neutralize pain. Twice a day an alert informs the patient that it’s “time to complete their pain reporting mission”. Touchscreen technology means children can easily fill out the reports themselves in a fun way, identifying where it hurts, how much and which medications are working best – thereby encouraging questionnaire completion compliance.

Each time the patient completes three pain reports they receive a message progressing them through the ranks of the Pain Squad, from rookie all the way up to chief and ending with retirement. Promotions and encouraging messages are delivered in videos recorded by stars of Canada’s two top TV police dramas to encourage the kids to fill out the reports.

Also based in Boston, TrialNetworks – part of DrugDev – is using also gamification concepts to improve the clinical trials process. While clinical trials are serious business and certainly not a game, common elements such as rewarding achievements and inspiring friendly competition can motivate global site performance for areas such as activation, patient enrollment and more.
TrialNetworks uses innovative methods such as Badges to reward sites and individuals as they pass certain pre-determined milestones (e.g. ten patients screened, all training completed) and a Leaderboard that shows how each site is performing relative to peers. Principal investigators are especially interested in seeing how their site ranks on key metrics (e.g. patient enrollment, data query resolution) and focused on climbing the Leaderboard.
If you would like to find out more about any of these technologies please follow the links below:

Akili Interactive Labs
TrialNetworks
Cundari

Sources: [http://spectrum.ieee.org](http://spectrum.ieee.org), and [http://www.cundari.com](http://www.cundari.com)