

NOTED

- **Myriad Genetics of Salt Lake City, UT, and other patent holders filed suit in July against Amry Genetics of Aliso Viejo, CA, and Gene by Gene of Houston, TX, in U.S. District Court for the District of Utah, alleging infringement of claims covering cDNA and methods of use related to BRCA1 and BRCA2.** The two firms added BRCA1 and BRCA2 testing to some test products following the U.S. Supreme Court ruling in June that struck down Myriad's claims related to isolated DNA. Amry Genetics filed an antitrust counterclaim against Myriad in August.
- **The NIH reached an agreement with the family of Henrietta Lacks for controlled access by biomedical researchers to whole-genome data on HeLa cells** originally created from Lacks's tumor.
- An interim analysis of a phase III clinical trial showed that **obinutuzumab (GA101; Genentech) plus chlorambucil offered significant improvement in progression-free survival over rituximab (Rituxan; Genentech and Biogen Idec) plus chlorambucil for people with previously untreated chronic lymphocytic leukemia.**
- **Cancer drugmakers Agios Pharmaceuticals of Cambridge, MA; bluebird bio, also of Cambridge; OncoMed Pharmaceuticals of Redwood City, CA; and Onconova Therapeutics of Newton, PA, all went public this summer.** Foundation Medicine of Cambridge, which offers genomic tests, filed for an initial public offering in July.
- **National Cancer Institute (NCI) researchers have carried out a comprehensive analysis of coding variants in the NCI-60 panel of cell lines identified by whole-exome sequencing,** creating the world's largest data set of cancer-related genetic variations (Cancer Res 2013;73:4372).
- **In U.S. women diagnosed with breast cancer between 1991 and 2005, the survival gap between blacks and whites persists** (JAMA 2013;310:389–97). Researchers suggested that patients' condition at diagnosis, not subsequent treatment, largely accounts for the differences.
- **Survival rates for patients with HIV-associated lymphoma have not improved in the United States since the adoption of antiretroviral therapies** (JNCI 2013 Jul 26. [Epub ahead of print]).

can harness even a little bit of that, just a small percentage of the time people spend gaming, that would be a huge resource for cancer research.”

Like all cancer research centers, Cancer Research UK is accumulating massive amounts of genetic data thanks to next-generation sequencing. “We believe that buried in our data there are breakthroughs that are going to be cures for cancer,” says Amy Carton, citizen science lead for Cancer Research UK, “but to date, there isn't a machine or algorithm that is as good as a human being at analyzing that data, which has led to severe bottlenecks in data analysis.”

To help unplug that bottleneck, in October 2012 Cancer Research UK premiered a crowdsourcing project called *Cell Slider*. The online game asks participants to classify images of breast tissue by matching them to cancer cells displayed with irregular, yellow-stained nuclei or to normal cells with healthy pink nuclei. Scientists can then combine that analysis with patient outcomes to assess the effectiveness of different treatments.

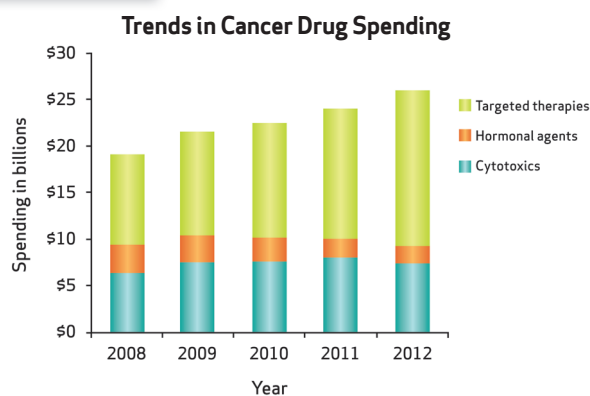
Three months after the game's debut, players had analyzed a dataset

of images that would have taken Cancer Research UK scientists 18 months, says Carton. By the end of July, more than 200,000 people had made more than 1.6 million classifications, which will be used in a research paper to be published later this year, she adds.

Cell Slider results have proven accurate thanks to multiple analyses of every image, says Carton. Each tumor sample is viewed by at least five people, so even if one person does not classify the sample correctly, other participants do.

Cancer Research UK is not the only cancer group taking advantage of crowdsourcing. In September 2012, Su's lab released a computer game called *The Cure*, which pits players against a computer opponent, “Barney,” to build the best five-card hand of genes, based on descriptions of the genes and the players' own knowledge of their function. The data gathered from the game—to date played 8,083 times by 920 players—have aided in predicting breast cancer survival based on gene information from tumor samples. *The Cure* is designed to be played by cancer biologists, but Su aspires to create more research-related games for the general public. ■

BY THE NUMBERS



Although spending on medicines in the United States declined by 3.5% from 2011 to 2012, spending on oncology drugs continued to rise, with more money spent on these drugs than any other type. According to a report from the IMS Institute for Healthcare Informatics in Parsippany, NJ, spending on oncology drugs increased from \$24 billion in 2011 to \$25.9 billion in 2012. The increase was driven by spending on targeted therapies, as sales of hormonal agents and cytotoxic chemotherapies both declined slightly. Data reflect the invoice prices paid to wholesalers and pharmaceutical companies.

For more news on cancer research, visit *Cancer Discovery* online at <http://CDnews.aacrjournals.org>.