of what we know now," as Pathway Genomics' Becker put it, or whether the data being sold are "shaky at best," as speaker Muin Khoury said, and possibly dangerous, so these DTC businesses require much more stringent oversight. Khoury is director, Office of Public Health Genomics, Centers for Disease Control and Prevention in Atlanta.

In touting their services, such companies often point to dramatic individual examples. Some speakers referred to a video by DeCodeMe that shows a man breaking into tears as he describes learning that he had prostate cancer. A digital exam at his doctor's office was deemed 'normal' but another physician recommended a genetic test. His results obtained through DeCodeMe suggested a high risk for prostate cancer and a biopsy confirmed he had the disease.

Such stories are great attention getters, but experts wonder how many are just the luck of the draw, and how many others will turn out to be red herrings that simply spur people to demand unwarranted tests. So far, few genetic predictors of complex disease are strong and well validated. "With most of these associations, we are not there yet," says Imperial College's Aitman. "And what does it mean to tell someone they have an 8% higher than average risk of something anyway?" he asked.

What is more, most doctors don't have sufficient training to interpret patients' sequence data, but that's not stopping them from trying, attendees acknowledged. Khoury pointed to a study (*Genet. Med.* **11**, 595, 2009) that found that 15% of physicians in the US reported their patients had brought genome screens in for consultation. In response to those screening results, doctors changed how they managed the patient 75% of the time.

As complete genome scans become the norm, the understanding about genes and disease risk could also shift. "People were only looking where they could look," says Complete Genomics CEO Cliff Reid. "Now that we are looking at the entire genome, we aren't guessing anymore and we will find the real genetic roots of disease." Whole genomes are piling up fast. Complete Genomics, located in Mountain View, California, has delivered 14 to customers since March 2009, and thousands of volunteers are lining up for some high-profile personal genome projects (*Nat. Biotechnol.* **27**, 777, 2009).

However it happens, Aitman is convinced the day is fast approaching when the information will lead to action. "This is a disruptive technology that could revolutionize medicine but also break the system," he says. "How many follow-up tests and how much earlier treatment will we justify based on genetic tests?" he asks.

Malorye Allison, ***Acton, Massachusetts***

Details
The companies agreed to use Santaris' locked nucleic acid drug platform to identify and select candidates against certain targets to develop RNA-based medicines for rare genetic disorders. Shire will be responsible for the selection of drug candidates, as well as for development and commercialization. Santaris receives $6.5 million for providing technology access, exclusivity for three predefined targets and initial discovery funding. It will earn another $13.5 million for completing certain initial studies. Also, Santaris will receive funding for all additional discovery activities and additional payments when Shire nominates up to two more targets. It will also be eligible for milestone payments of up to $72 million for each of the potential five drug candidates. Royalties also included. The research collaboration is for two years, but Shire has an option to extend it for two more.
The companies formed a worldwide development and commercialization deal around TRU-016, a CD37-directed Small Modular ImmunoPharmaceutical (SMIP) protein therapeutic in phase 1 for chronic lymphocytic leukemia (CLL). The agreement covers TRU-016 in all indications and all other CD37-directed protein therapeutics. Trubion receives $20 million up front and will strive for up to $176.5 million in milestone payments. The companies will share costs of development, commercialization and promotional activities and all profits.
The deal covers several Xoma antibody research and development technologies, including a new antibody phage display library, and a suite of integrated information and data management systems. Xoma receives $6 million up front and is entitled to undisclosed milestone payments and royalties. Xoma also will be reimbursed for all services it provides to Arana.
Monsanto gains access to Cellectis' meganuclease technology for use in plants. Cellectis receives an upfront payment of €3 million, and, subject to the approval of Cellectis shareholders, Monsanto will make an equity investment of €1 million in Cellectis. Cellectis is also eligible for additional payments, milestones and royalties.

IN brief

Golden Triangle taps Boston

The UK's 'Golden Triangle' of London, Oxford and Cambridge has enlisted Boston's biotech super cluster as it first international partner. The UK's three leading life sciences and healthcare hubs recently formed the Golden Triangle Partnership (GTP), an informal coalition between the Oxfordshire Bioscience Network, Cambridge's biotech trade association ERBI and the London Biotechnology Network, which represents around 80% of the UK's life science and healthcare business activity. The aim is to form a critical mass comparable to international bioclusters with which to attract global partnerships. "We decided to break down barriers and work together to create more business opportunities for our members," explains Harriet Fear, CEO of ERBI. The GTP will sign a memorandum of understanding with the Massachusetts Biotech Council (MBC) at the MassBio Investors Forum on October 6. The UK's GTP sees the alliance with Boston's MBC as a mutually beneficial deal, providing privileges to its own member companies and those in the US, including reduced rates for partnering events and enhanced access to investor slots. The reaction from other UK regions, like Scotland, has been positive. Fear says, "Common sense suggests there is likely to be a knock-on effect, raising the profile of the whole of the UK." *Susan Aldridge*

Fits and starts for Geron

The US Food and Drug Administration has halted Geron's stem cell trial, even before the first patient received treatment. In August, the Menlo Park, California–based company learned that its potentially first-in-class therapy for spinal cord injury, GRNOPC1, neural cells derived from human embryonic stem cells, was suspended following news that animals in a dose-escalation study developed microscopic cysts in regenerating tissue sites. This is not the first time the trial stalled: the agency had previously halted the spinal cord injury clinical study in May 2008 to consult experts for the best approach forward, and the company finally got the go-ahead in January this year (*Nat. Biotechnol.* **27**, 213–214, 2009). Geron claims that cysts are fairly common in humans with spinal cord injuries. In this case, it was unclear whether the cysts were endogenous or related to the therapy, and they did not develop into teratomas, the company stated in a press release. A set of cell markers "linked with cyst formation across all animal studies in which cysts were found" has been identified by Geron as part of their efforts to assess lot variability. This is something that the FDA is concerned about with all biologics, says Greg Bonfiglio, of Proteus Ventures in Palo Alto, California. Bonfiglio points out that the company reacted responsibly, having identified the problem in a mouse model, called it to the FDA's attention and addressed it. "It's all part of the process of developing a cutting-edge technology," he says. "The field will ultimately benefit as it gets a better read of the safety issues." *Laura DeFrancesco*