

## IN THIS ISSUE

## Exploring the duty to recontact patients

see page 668

When new genetic knowledge could change the course of surveillance or treatment for a patient, is there a duty to inform that patient in the absence of an ongoing professional relationship? It's a situation fraught with ethical, legal, and psychological issues that are far from clear-cut. A new systematic review examines what has been reported on the topic in the professional literature. Otten *et al.* found 61 articles that explore the duty to recontact patients in situations lacking an ongoing relationship between the patient and a health-care professional. Recontacting patients is currently not regarded as a "reasonable degree of care," according to the review. In the absence of legal precedent, the authors sought out published professional guidelines and identified only one: the 1999 policy statement by the American College of Medical Genetics and Genomics on the duty to recontact, which the College holds is the responsibility of the primary-care physician. A 2007 revision argued that testing laboratories should make an effort to contact physicians of previously tested patients if new information changes the initial clinical interpretation of a sequence variant. The authors conclude that moving toward professional consensus could begin by focusing on specific situations in which recontacting patients would be regarded as the "standard of care." The review could serve as a starting point for a new set of professional guidelines on recontacting in clinical genetic practice. —Karyn Hede, News Editor



DragonImages © iStock/Thinkstock

## Time to evaluate hidden harms in personal genomic testing

see page 621

As personal genomic testing becomes more affordable and enters the cultural mainstream, it becomes imperative, Janssens argues in a Commentary, to explore the potential psychological harms of learning about distressing genetic health risks. The rapid pace of genomic research is not equaled by psychological and behavioral studies examining its effect on individuals who participate in such studies. Janssens notes that a few studies have shown that "early adopters can handle uninformative test results, that relatives of patients who choose to receive the test results can handle highly predictive results as well, and that genetic testing might be confusing for people from underserved populations." These findings, she states, are not generalizable to situations in which genetic tests have higher predictive ability. In those situations, an absence of harm has not been demonstrated. Janssens further focuses on the often-ignored population of people who have the opportunity to participate in genetic testing but decline or drop out. This nonparticipation rate, which ranged from 39 to 76% in the studies she reviewed, suggests feelings of anxiety and distress that she terms "hidden harm." Low participation rates were not considered in study conclusions, which she says is cause for concern. "Well-designed studies that investigate both benefits and harms are desperately needed if we are to ultimately realize the promise of genomic medicine," she concludes. —Karyn Hede, News Editor



Kendall123 / Wikimedia Commons

## NEWS BRIEFS

## DNA of ancient wolf-dog pushes back domestication date

Over the past decade it has become increasingly clear that the fates of humans and dogs have been inextricably intertwined for millennia. Theories for where and when wolves began to associate with humans abound. Now DNA evidence extracted from the fossilized remains of a 35,000-year-old wolf-like animal indicates that the date of domestication was much earlier than



Richard Bartz / Wikimedia Commons

previously estimated. Recent genome-based studies had suggested that the ancestors of modern dogs diverged from wolves about 16,000 years ago. Pontus Skoglund of Stockholm University, Sweden, and colleagues collected the fossilized rib and jawbone in 2010 during an expedition to the Taimyr Peninsula in Siberia. After radiocarbon dating the specimen, they compared its DNA with that of present-day wolves and dogs and found that the individual belonged to a population that had genetic similarities to both wolves and dogs. Examining mutation rates, the investigators concluded

## NEWS BRIEFS *(continued)*

that the dog, wolf, and Taimyr genetic lineages all diverged at about the same time, far earlier than the previous best estimates for dog domestication. The study, published in the 1 June 2015 issue of *Current Biology*, suggests that genetic divergence occurred at least 27,000 years ago—perhaps as early as 40,000 years ago. The DNA evidence also showed that modern-day Siberian huskies and Greenland sled dogs share a large number of genes with the ancient wolf, which may have interbred with the ancestors of these modern-day dogs. The investigators suggest that these ancient ancestors of dogs maintained wolf-like behavior and may simply have tracked human populations for many thousands of years before humans began the selective breeding process that created companion animals. —*Karyn Hede, News Editor*

### Harnessing the power of “massively parallel” undergraduates

It looks like an authorship list gone wild, but a recent genomics research article published in the May issue of



Heather Eisler

*G3: Genes|Genomes|Genetics* listed 940 undergraduate students as authors on a peer-reviewed scientific paper. And this was no token authorship; each of the 940 students listed as coauthors performed original research and read and approved the manuscript before submission, according to a report on the research by the Genetics Society of America. Many of the students also provided important comments that were incorporated into the final version, the report stated. The research team, led by researchers at Washington University, St. Louis, included students at 63 institutions. The study revealed that the distinc-

tive properties of a tiny chromosome in the common laboratory strain of fruit fly, *Drosophila melanogaster*, are conserved across other *Drosophila* species. The work required enough genomics knowledge and bioinformatics skills to correct sequencing errors in the draft genomes of several fly species. The investigators distributed the work among groups of students coordinated by the Genomics Education Partnership (GEP) in a program aimed at exposing undergraduates to research. The GEP found that the students learned more than those who did not participate in a research-based genomics course, including the ability to analyze data and understand the research process. “By organizing the efforts of “massively parallel” undergrads, we can solve problems that would defeat other methods,” according to Sarah Elgin, GEP program leader. “At the same time, students learn how to handle the messiness of real data, to evaluate different kinds of evidence, and to justify their conclusions.” The immersive research experience is funded by educational grants from the Howard Hughes Medical Institute and the National Science Foundation. —*Karyn Hede, News Editor*