MedicalXpress

# The '$1,000 genome' may cost $100,000 to understand

May 11 2011

Advances in technology have almost lifted the curtain on the long-awaited era of the "$1,000 genome" — a time when all the genes that make up a person can be deciphered for about that amount – compared to nearly $1 million a few years ago. But an article in the current edition of Chemical & Engineering News (C&EN), ACS' weekly newsmagazine, raises the disconcerting prospect that a price tag of $100,000, by one conservative estimate, is necessary to analyze that genetic data so it can be used in personalized medicine – custom designing treatments that fit the patient's genetic endowment.

In the article, C&EN Senior Editor Rick Mullin explains that while the cost of sequencing genes has dropped dramatically, the cost of analyzing genomic data so that it can be put to practical use in medicine has hardly budged. Today, assessing the genetic predispositions to disease means costly data analysis by specialists from several research areas, including molecular and computational biology, genetics, pathology and clinical science.

Mullin, however, cites several trends in bioinformatics that are opening the door to collection and processing of genetic data more economically and efficiently. One trend is to incorporate genomic analysis in commercial drug discovery and development efforts from the beginning. Another way to ease the burden is to reduce the amount of data that is generated — one instrument company recently developed a brand-new sequencing technology that generates much smaller data files, for example. Pharma researchers also are collaborating and sharing data like

never before, and some of them are making use of public cloud computing and free, open-source software.

Provided by American Chemical Society