

# Looking back

It was a busy year—the genomes of some celebrities were sequenced, vaccine clinical trials were halted and, at long last, embryonic stem cells from primates were created.

Indonesia's decision in February to withhold bird flu samples from the World Health Organization hindered vaccine research and underscored inequalities in vaccine development and distribution between developing and developed countries. It emphasized that a global partnership is vital for confronting a pandemic threat.

**Azizul Haque**

*Centre National de la Recherche Scientifique, Paris  
Dartmouth Medical School, Hanover*

The discovery of genes that can initiate reprogramming in fibroblasts is a monumental contribution that may ultimately allow us to redirect an individual's own cells toward therapeutic ends. But direct reprogramming of somatic cells to create pluripotent cells will not obviate the value of creating embryonic stem cells by nuclear transfer, especially given the recent success of this process in primates.

**George Daley**

*Children's Hospital, Boston*



http://www.nature.com/naturemedicine



I view the sequencing of famous people more as hype than as a scientific milestone; other human genomes were also sequenced this year, but they were not from wealthy or well-known persons. What's exciting is that the recent work with new sequencing methods gives hope that the cost of genome analysis will soon be low enough for all people to benefit from the power of genome-guided individualized medicine.

**Richard Wilson**

*Genome Sequencing Center, Washington University, St. Louis*

The premature termination of the Merck's adenovirus-based HIV vaccine clinical trial was a shock that might signal the end of vaccines aimed at inducing T-cell responses without antibody production. The disappointing lack of efficacy is however an important milestone because it will shift the focus of the research community toward avenues with better chances of success.

**Rino Rappuoli**

*Novartis Vaccines, Siena*

Dendreon's Provenge (sipuleucel-T), a first generation dendritic cell vaccine, is the first active cancer immunotherapy ever to show early evidence of improved overall survival in a phase 3 trial. The results obtained so far are already promising, as they indicate that clinically effective cancer vaccines are on the horizon.

**Gerold Schuler**

*Universitaetsklinikum Erlangen, Erlangen*

Genome-wide association studies published over the past year identified over 50 genetic contributors to a wide variety of common diseases. Although we haven't yet had time to figure out what these new factors tell us about the biology of disease, 2007 will be remembered as the year in which the logjam preventing the discovery of genes associated with common diseases was finally broken.

**David Altshuler**

*Massachusetts General Hospital, Boston*



## Foregone foreskin

**2300 B.C.**

Year ancient Egyptians painted the earliest known depictions of male circumcisions



**60%**

Reduction in the risk of contracting HIV for men who are circumcised

**89.4%**

Proportion of men in Zimbabwe, aged 15–49, who are not circumcised

**20.1%**

Prevalence of HIV infection among adults in Zimbabwe

**53,560**

Number of new HIV infections that could be prevented each year in Zimbabwe if all the men there were to be circumcised



**45%**

Proportion of men in Zimbabwe willing to be circumcised if the procedure were affordable

**\$67**

Approximate cost, in US dollars, for a circumcision at Parirenyatwa Hospital, the largest hospital in Zimbabwe

**\$340**

Average annual income, in US dollars, in Zimbabwe

Sources: UNAIDS, WHO, MEASURE Demographic and Health Surveys, World Bank