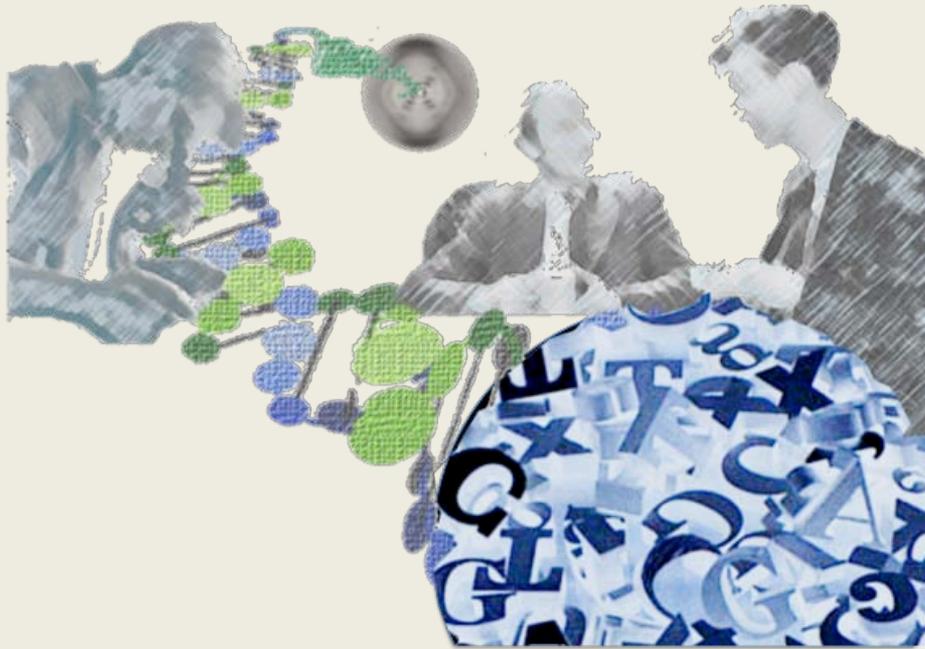


Genomics and predictive medicine



The road to genomic medicine is paved with challenges and uncertainty

MacArthur DG, Lek M.
(*Trends Genet.* 2012; **28**: 303-305)



GATTACA

DNA sequencing

2018: the same thing will be performed in few seconds for \approx \$ 100

2012: mapping/sequencing of a human genome in 2 hrs for some \$ 1000

2010: the sequence of a human genome can be obtained in a few weeks for a few tens of thousand dollars

2003: the sequencing of the first human genome has necessitated 13 years and 3 billions dollars



1977: DNA sequencing by Fred

DNA sequence: a challenge to our understanding

Mardis *Genome Medicine* 2010, 2:84
<http://genomemedicine.com/content/2/11/84>



MUSINGS

The \$1,000 genome, the \$100,000 analysis?

Elaine R Mardis*

2004



EUROPEAN
COMMISSION

Community research

25 Recommendations on the ethical, legal and social implications of genetic testing

2010



Medical profiling
and online medicine:
the ethics of 'personalised
healthcare' in a consumer age

NUFFIELD
COUNCIL ON
BIOETHICS

2011



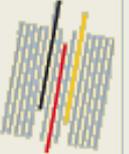
Human
Genetics
Commission

**Increasing options, informing
choice: A report on preconception
genetic testing and screening.**

by the Human Genetics Commission. April 2011

2012

Deutscher Ethikrat



Berlin, 7 May 2012

Is genetic testing helpful in combating common severe diseases?

On 3 May 2012 the German Ethics Council held a public hearing in which experts were consulted on the possibilities and limits of genetic testing for the prediction and diagnosis of widespread severe diseases. The results will be incorporated in the Opinion on the future of genetic diagnosis which the Ethics Council is currently compiling in response to a request from the Federal Government.

2013



**Ethical issues raised by high throughput
techniques of human genome analysis
in their medical and social uses**



Temporality of the ethical debate in the fast-moving field of knowledge of our genetic heritage: a major ethical issue in itself

Limits of the information obtained from global sequencing of the human genome

“Today” : uncertainty should not be overlooked, and it is a major determinant of ethical questioning.

Ethical issues linked to actual information provided by DNA sequencing

“Tomorrow” : a proven knowledge of our genome will confront us with considerable choices both for our personal lives and for our society.

The issue of "what kind of world we want to live in?" is a ground floor of ethics.



Thank you for your attention



DNA crystal ball: customers, beware!