

## Health, Ethics, and Policy

Eriene-Heidi Sidhom, News and Analysis Editor

### New Genomes Decoded Reveal Genetic Variations and Clues to Evolution

Eriene-Heidi Sidhom

The genomes of South Africa's Archbishop Desmond Tutu and an indigenous Bushman from Namibia have recently been decoded and the results were published in an issue of *Nature*. The goal of this study is to eventually enable researchers and drug companies to personalize medicine for people of all ethnicities and societies; until now, most of the genomes that were decoded were those of Europeans.

The publication of individual human genomes is controversial because of the risk of it being used against the individuals to deny them claims to property and leading to workplace and insurance discrimination. However, early analysis has revealed 1.3 million genetic variations not previously found and could lead to important insights. It also provided clues to human evolution. The researchers' interest is in this indigenous population in particular because they are believed to represent the oldest lineage of modern humans and are much more diverse than other populations. It is this genetic variation that might be used to explain their unique characteristics like their good sense of hearing, vision, smell and physical abilities.

**Reference:** Stein, Rob. (2010, February 18). Genomes of Archbishop Tutu, Bushman decoded in developing-world health push. *The Washington Post*.

### The 10:23 Campaign: Homeopathy Skeptics Protest with Mass 'Overdose'

Ron Zipkin

At 10:23 AM on January 30, 2010, skeptics lined up in front of Boots pharmacies across Britain to participate in a mass 'overdose' of homeopathic remedies, emptying their pill bottles with the catchphrase, "There's nothing in it!" No protesters were reported harmed. This is the work of the 10:23 Campaign, sponsored by the Merseyside Skeptics Society, a new protest movement decrying the acceptance of homeopathy as an efficacious alternative medicine. Homeopaths claim to treat illness using the principle of treating 'like with like'; e.g., those experiencing symptoms which might be induced by arsenic oxide poisoning are advised to consume dilute solutions of the toxin.

The Campaign's use of the number 10<sup>23</sup> alludes to Avogadro's constant, and is intended to rebuke the dosage system of homeopathic remedies, which are often times so diluted they are unlikely to contain even a single molecule of the active compound. In fact, in homeopathic dosing 'higher potencies' are more dilute. In England, the National Health Service spends a reported £4 million a year on homeopathy. Though not as popular in the US, homeopathy is widely accepted in Europe

and elsewhere, defended by the Society of Homeopaths and other groups representing supporters of complementary and alternative medicine ("CAM").

**Reference:** 10:23: Homeopathy - There's Nothing In It!, <http://www.1023.org.uk/>



Arsenicum Album: a therapeutic dose of arsenic or sugar pills?  
Image Richard\_Craig(Flickr.com)

### Possible Future Treatment for Chronic Fatigue Syndrome

Sangita Keshavan

In a college student's life, fatigue is a common complaint. But most college students would blame their exhaustion on a late night, or on having too much on their plate. Most, however, would not consider their case as extreme as that of Lynn Gilderdale, whose experience with chronic fatigue syndrome or myalgic encephalomyelitis (CFS/ME) left her in a paralyzed state.

Described as "progressive, paralyzing and commonly fatal," CFS/ME has devastating effects largely because of the depression associated with it. It is correlated with depression – the reason for the increased mortality in patients with CFS/ME is largely because of suicide. People with a history of depression are at increased risk for CFS/ME. The article cites the National Institute for Health and Clinical Excellence (NICE) as recommending cognitive behavioral therapy and graded exercise therapy for CFS/ME in adults and children. Children have been shown to have better outcomes. Patients with severe CFS/ME do not show considerable improvement despite such programs; however, if these programs are adapted, they can act as triggers for recovery.

There are dangers of a defeatist attitude amongst doctors. Doctors do not want to become entangled in such a sensitive and difficult issue. Because many are reluctant to accept CFS/ME as a real disease, some believe that we must stress the incurable aspects of the disease and the fatal possibility – something that could be damaging to patients. Alternative

treatments must be used, such as physiotherapy, community support and dietetic advice. Professionals should take into account the multitude of influences on people.

**Reference:** *BMJ*. 2010;340:c738

## Do the Hazards of Sunbed Use Merit Legislation?

**David Gennert**

Recently, the use of indoor tanning booths has come under intense scrutiny from researchers and governmental groups, including an FDA advisory committee in late March that recommended that minors be banned from using the devices. The committee cited a “growing body of literature” suggesting a link between indoor tanning and skin cancer risk. The situation is especially worrisome in the UK, where a recent survey puts the prevalence of tanning bed use among those under 18 higher than the prevalence in the United States and other European countries.

A major problem is the misuse of tanning devices through the lack of compliance with regulations regarding device operating specifications and information given to consumers. An article in the *BMJ* cites studies in Europe that show the UV intensity for many tanning facilities was over the recommended limit, and 71% of sunbed facilities in Ireland did not know the type of UV light used. The article cites findings in Britain that described that many users of tanning facilities were not given information about potential harms, and substantial numbers have used tanning beds at home or in unsupervised facilities.

One possibility to help decrease this misuse of tanning facilities is to instigate a voluntary code of practice for operators of tanning facilities, but the article cites a study in Australia that described the number of facilities that disregarded regulations regarding age restrictions (more than half of facilities), skin type of users allowed to tan (90% of facilities ignored the code), and eye protection (14% gave inadequate or no eye protection).

With France and Scotland banning those under the age of 18 from access to artificial tanning and the EU passing regulations limiting the access of the same age group, it seems important to also include the enforcement of any regulations as a priority as well.

**Reference:** *BMJ*. 2010;340:c990

## Massachusetts Leads the Nation in Flu Vaccines

**Karen Chen**

In a recently released state report, Massachusetts has been named the #1 state in the nation for vaccinating its residents against seasonal flu and H1N1. John Auerbach, commissioner of the Massachusetts Department of Public Health, says that the mobilization against swine flu in the state was a successful one. This success is evident by the fact that 36% of residents were vaccinated for swine flu, compared to the 21% nationally, about 2 million doses of the H1N1 vaccine were administered in Massachusetts. In addition, 57% of Massachusetts residents received seasonal flu vaccinations, as compared to the 37% national rate.

While H1N1 was declared a pandemic, it did not cause nearly the number of deaths that were feared. In Massachusetts, 32 deaths were confirmed due to swine flu, and all except 5 of the cases involved underlying medical conditions. The state was prepared with years of pandemic planning, and local health departments, school systems, and hospitals sent out public health messages through brochures, online forums, *Twitter* feeds, and 30-second videos in movie theaters. Auerbach says that “the chances of coming down with H1N1 are diminishing in Massachusetts.” A third of the population already had H1N1, and another third has been vaccinated. Public health specialists hope this will provide “herd immunity,” as there are not enough people sick with or susceptible to H1N1 for it to easily spread.

**Reference:** Cooney, Elizabeth. (2010, March 21). Mass. tops nation in flu shots, report says. Boston.com.

## Chronic Disease in Children

**Eriene-Heidi Sidhom**

Three groups of children, spanning from 1988 to 2006 included in the National Longitudinal Survey of Youth (NLSY), were analyzed. The study revealed that chronic conditions more than doubled. One explanation could be that better access to care might have resulted in the increased diagnosis of chronic conditions. For example, the survival rates for cancer, prematurity and congenital disorders have increased beyond which was imaginable a little while ago. Additionally, in 1998 the federal Maternal and Child Health Bureau expanded the definition of children with special health needs to incorporate physical, developmental, emotional and behavioral conditions.

Furthermore, there seemed to be evidence of dynamic changes in onset, duration and resolution of these chronic conditions. In order to determine whether these changes were real, NLSY identified chronic conditions through questioning the parents on the condition of the child. The findings of the surveys supported these dynamic changes and from a developmental perspective, these dynamic changes are to be expected in childhood. For example, asthma can be influenced by the onset of puberty, stressful transitions or changes in family environments.

The increase in chronic conditions seemed to be driven by an increase in obesity, a slight increase in asthma, but little change in learning and behavioral problems, despite increases in ADHD and mental disorders. These findings raise the question of whether there is a link between asthma, obesity and ADHD. In fact, there is evidence that high levels of early childhood stress may result in poor executive function and impulse control. As can be seen, obesity is not the only childhood condition that needs to be dealt with, and prevention of childhood diseases also prevents age related diseases as adults. Therefore, the need for change, as well as the results of inaction, is too big to be ignored.

**Reference:** *JAMA*. 2010;303(7):665-666