

TOP BIOETHICS NEWS STORIES, DECEMBER 2014 - FEBRUARY 2015

BY HEATHER ZEIGER, MS, MA
RESEARCH ANALYST

“TIME Person of the Year 2014: The Ebola Fighters” by David von Drehle with Aryn Baker, *Time*, December 10, 2014

Why, in short, was the battle against Ebola left for month after crucial month to a ragged army of volunteers and near volunteers: doctors who wouldn't quit even as their colleagues fell ill and died; nurses comforting patients while standing in slurries of mud, vomit and feces; ambulance drivers facing down hostile crowds to transport passengers teeming with the virus; investigators tracing chains of infection through slums hot with disease; workers stoically zipping contagious corpses into body bags in the sun; patients meeting death in lonely isolation to protect others from infection? (<http://tinyurl.com/mpa4ute>)

TIME magazine's person of the year for 2014 went to the Ebola fighters. In March 2014, news reports said that sixty-six people had died of Ebola in western Africa. A year later, the death toll is estimated at 9,800 people, but has slowed down considerably since the beginning of the year. A recent report from Liberia announced that the last Liberian with Ebola has recovered and is going home from the hospital. In the midst of this outbreak, many of the volunteer healthcare workers died, while others endured the ravages of the disease, survived, and went back to help others.

“CIA Used Brutal Methods, Misled Leaders, Report Finds” by Mark Mazzetti, *Boston Globe*, December 10, 2014

The Senate Intelligence Committee issued a sweeping indictment Tuesday of the Central Intelligence Agency's program to detain and interrogate terrorism suspects in the years after the Sept. 11, 2001, attacks, drawing on millions of internal CIA documents to illuminate practices that it said were more brutal — and far less effective — than the agency acknowledged either to Bush administration officials or to the public. (<http://tinyurl.com/mplwb34>)

The CIA report on the use of torture in the wake of the September 11, 2001 attacks created a significant controversy in its release. Questions remain as to the validity of the claims as well as whether it is a complete picture or a partisan politicization. From a bioethics standpoint, this is a case where questions of human dignity and the “greater good” are also of concern. Revelations of the close involvement of medical professionals in interrogation practices has raised questions of whether it is ethical for medical professionals to assist in any way in torture techniques.

“Rudimentary Egg and Sperm Cells Made from Stem Cells” by David Cyranoski, *Nature*, December 24, 2014

Israeli and UK researchers have created human sperm and egg precursor cells in a dish, starting from a person's skin cells. The achievement is a small step towards a treatment for infertility, although one that could face significant controversy and regulatory hurdles. The experiment, reported online in *Cell* on 24 December, recreates in humans parts of a

procedure first developed in mice, in which cells called induced pluripotent stem (iPS) cells—‘reprogrammed’ cells that can differentiate into almost any cell type—are used to create sperm or eggs that are subsequently manipulated to produce live births by *in vitro* fertilization. (<http://tinyurl.com/n6hwkpr>)

Researchers were able to produce precursor cells to sperm and eggs from human stem cells. Not only are there ethical issues if they are able to produce sperm and egg cells, but the experiments to make the progenitor cells had some ethical controversy. The researchers accomplished the experiments using both embryonic and induced pluripotent stem cells. They also compared the epigenetic factors in their precursor cells to those in aborted fetuses. If researchers are able to produce eggs and sperm from these cells, the only way to know if the synthesized gametes can produce a healthy child is to do the experiment, which would result in creating an embryo for experimental purposes. Finally, because stem cells can be genetically modified, this may open the door to genetic modifications of gametes. Researchers noted that there are many technical hurdles to overcome for two males to produce biological children, and even more for females, as they do not have the Y chromosome necessary for sperm production.

“California Measles Outbreak Grows to 73 Cases” by Ralph Ellis, *CNN*, January 28, 2015

California has reported more measles cases. The number of cases has

increased to 73, with 50 of those cases linked to an outbreak at Disneyland, the California Department of Public Health reported Monday. Last week, public health officials reported 59 cases since December; 42 with a Disney connection. In addition, 13 cases linked to the outbreak have been reported in six other U.S. states: five in Arizona, three in Utah, two in Washington, and one each in Nebraska, Oregon and Colorado. Also, one case linked to it has been reported in Mexico. (<http://tinyurl.com/oda97rs>)

“Doctors Turning Away Unvaccinated Children” by Brittny Mejia, *Los Angeles Times*, February 10, 2015

Amid the current measles outbreak, Goodman and a growing number of other pediatricians nationwide are turning away parents who refuse to vaccinate their children. Of the more than 100 people who have contracted the virus so far, the majority were unvaccinated, according to the Centers for Disease Control and Prevention. (<http://tinyurl.com/kl8begs>)

Dozens of children contracted measles while at Disneyland in California resulting in an explosion of opinions in the media on whether parents should be required to vaccinate their children or not. Mandatory vaccinations of children place personal (and parental) autonomy and public health concerns in direct conflict. In the wake of these developments, some pediatricians are electing to no longer treat unvaccinated children as a precautionary measure for their already vaccinated patients who may not have developed immunity. This practice of refusing patients raises questions on whether doctors should withhold medical treatment to those who are unvaccinated due to conscientious objection and/or to protect their other patients.

“Obama’s Precision Medicine Plan Seeks \$214m for Genetics-Based Treatments” by Lauren Gambino, *The Guardian*, January 30, 2015

Barack Obama on Friday unveiled details of a major research initiative that would invest \$215m in the development of medical treatments tailored to a person’s genetics, as part of a wider effort to fund science and research. The centerpiece of the president’s Precision Medicine Initiative is a research consortium containing the health data of a million volunteers, which researchers can use to develop new medicines and treat individuals. (<http://tinyurl.com/oz8nb9p>)

President Obama set forth in his State of the Union address plans for a biomedical research initiative that would involve collecting large amounts of genetic data so scientists can make tailor-made drugs. Among the bioethical concerns in this and other “Big Data” initiatives are issues of privacy and access, as well as who has control of the data. Given the increasing issues of data breaches in financial contexts, significant concerns are raised regarding the security of such personal medical information.

“Dying Dutch: Euthanasia Spreads Across Europe” by Winston Ross, *Newsweek*, February 12, 2015

In 2013, according to the latest data, 4,829 people across the country chose to have a doctor end their lives. That’s one in every 28 deaths in the Netherlands, and triple the number of people who died this way in 2002. The Dutch don’t require proof of a terminal illness to allow doctors to “help” patients die. Here, people can choose euthanasia if they can convince two physicians they endure “unbearable” suffering, a definition that expands each year. Residents here can now choose euthanasia if they’re tired of living with Lou

Gehrig’s disease, multiple sclerosis, depression or loneliness. The Dutch can now choose death if they’re tired of living. (<http://tinyurl.com/kcsrkhq>)

Physician-assisted suicide continues to appear in media headlines. After Brittany Maynard’s highly publicized death, several states have proposed bills that would allow for some form of physician assistance in death. Quebec recently voted to legalize physician-assisted suicide, and several countries in Europe, including France and Britain, have either legalized some form of physician-assisted suicide or have bills that they are going to vote in the coming months.

“Beyond the Genome” *Nature*, February 18, 2015

The Greek prefix *epi-* can signify upon, on, over, near, at, before, and after. Most of those could apply to its use in the term ‘epigenetics’ — particularly the last of them. It is some 14 years, almost to the day, that *Nature* published the draft sequence of the human genome. Now, in this issue, we publish results from a subsequent study on the non-genetic modifications to the genome — epigenetic modifications — that crucially determine which genes are expressed by which cell type, and when. (<http://tinyurl.com/ncbeyh8>)

An issue of *Nature* was dedicated to the results of the Roadmap Epigenetic Project, a multi-year NIH-directed project that looked at the parts of the genome that control how genes are expressed and regulated. Scientists now believe that many diseases, including certain cancers that do not have a direct gene-to-disease link, may be due to these epigenetic factors.