The Facts about Fetal Tissue Research

Over the course of Select Panel’s investigation, Panel Republicans have made a number of unsubstantiated claims about fetal tissue research that stand in stark contrast to statements by leading public health authorities, researchers, and scientists nationwide. To date, the Select Investigative Panel has received X letters from academic medical centers around the country attesting to the value of and continued need for fetal tissue in research.

Fetal tissue research remains uniquely and critically important.

- Harvard researchers wrote to the Panel, “[I]n many cases the use of fetal material is the only effective approach. Why, despite the availability of modern tools and methods, including the use of embryonic and ‘reprogrammed’ stem cells, does fetal tissue remain needed? The most obvious answer is rather straightforward: nature is far better at making tissues and organs than scientists are.”

- In outlining research that currently relies on fetal tissue, Yale Medical School imparted to the Panel why new technologies have yet to supersede fetal tissue in research: “[T]here are significant technical challenges that must be overcome before iPSCs are used for these purposes - or before we can be confident that they are a reliable alternative to fetal tissue. Although there have been successes in reprogramming some adult cells, the technique needs to be refined and the process made more efficient.”

- Harvard researchers also explained to the Panel why fetal tissue obtained through miscarriages is more often than not inadequate: “Almost all miscarriages happen at home or in locations in which fetal material is not recovered and, importantly, preserved in a usable state. . . . Obtaining fetal material from elective pregnancy termination is far superior to obtaining whatever material might be recoverable following spontaneous miscarriage, even assuming a mechanism existed for the collection of such material.”

- Dr. Larry Goldstein, a researcher at the University of California San Diego, testified, “fetal tissues and cells cannot be easily replaced by embryonic stem cells, reprogrammed stem cells, or adults stem cells,” he went on to say that cell lines “are simply not interchangeable,” and that “we need all different types of cells to do research because we don’t know what is best.”

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1 Letter from Harvard University to Select Panel Staff and Hon. Marsha Blackburn, Chair, Select Investigative Panel, attachment 1-5 (July 7, 2016).
2 Letter from Yale School of Medicine to Hon. Jan Schakowsky, Ranking Member, Select Investigative Panel (May 9, 2016).
3 Letter from Harvard University to Select Panel Staff and Hon. Marsha Blackburn, Chair, Select Investigative Panel, attachment 1-5 (July 7, 2016).
Fetal tissue has played an essential role in the creation of new vaccines and remains valuable in important efforts, such as pursuit a vaccine for Ebola.

- The University of Wisconsin told the Panel that “the development of the human polio vaccine would not have been possible without cells of fetal origin.” The Department of Health and Human Services (HHS) also explained to the Panel that “cell lines derived from fetal tissue have . . . played an essential role in the creation of new vaccines and remain valuable in important efforts such as the pursuit of a vaccine for Ebola.”

- According to the College of Physicians of Philadelphia, some vaccines still rely on fetal cells because certain virus pathogens don’t grown well in animal cells; such is the case with the chickenpox vaccine. Similarly, Dr. Paul Offit, the director of the vaccine education center at the Children’s Hospital of Philadelphia, has indicated that because of this, “removing human fetal cells entirely is out of the question.”

- Harvard researchers cite vaccines as one of the best-known contributions of fetal tissue research, telling the Panel that “[t]he field of vaccine R&D is probably the best known example of how fetal material provides an invaluable resource to scientific and medical progress; most recently in work seeking to better understand and combat the spread of Zika virus, just as it did chicken pox and polio, among others.”

Fetal tissue plays a critical role in better understanding the Zika virus.

- Key studies have relied heavily on fetal tissue to increase our understanding of this virus. In a study published in the New England Journal of Medicine, authored by the Centers for Disease Control and Prevention (CDC), the CDC concluded that “a causal relationship exists between prenatal Zika virus infection and microcephaly and other serious brain anomalies” based on a broad review of research into the virus, including research that used fetal tissue.

- “Basically the only insights we’ve had so far on Zika is with patients who have either lost a pregnancy or had miscarriages,” said Patrick Ramsey, an obstetrician at the University of Texas Health Science Center in San Antonio. “This is a situation where

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5 Letter from University of Wisconsin-Madison, School of Medicine and Public Health, to Select Investigative Panel Staff (Feb. 24, 2016).
9 Letter from Harvard University to Select Panel Staff and Hon. Marsha Blackburn, Chair, Select Investigative Panel, attachment 1-5 (July 7, 2016).
the vaccine is going to have to protect the mom and protect the baby. Fetal tissue is going to be needed to look at the effects.”\textsuperscript{11}

- Dr. Anthony Fauci, the Director of the National Institute of Allergy and Infectious Diseases, also confirmed the need for this research to learn more about Zika and a potential cure: “I think the argument of the need to have fetal tissue research in a disease in which the virus is affecting fetal tissue, is about as strong a justification as you can get for using fetal tissue in research in this case.”\textsuperscript{12}

**Fetal tissue research has resulted in significant improvements in maternal and infant health.**

- The Yale School of Medicine informed the Panel that “fetal tissue research has resulted in significant improvements in the care of the unborn threatened by premature delivery, death, or disease, as in the case of the development of amniocentesis as a tool to detect and, in some cases, to treat fetal abnormalities in utero.”\textsuperscript{13}

- HHS advised the Panel, “[h]uman fetal tissue is critical for understanding how typical fetal development occurs.”\textsuperscript{14} The Department went on to explain that “scientists are using fetal tissue to study the immune systems of the fetus and mother, and any incompatibilities arising due to infection or inflammation that may lead to rejection, miscarriage, or preterm birth.”\textsuperscript{15}

- The University of Minnesota emphasized in correspondence with the Panel that research using fetal tissue has been “critical” in order “to develop an intervention to prevent mother-to-child transmission of HIV. That research alone has saved over 1 million infants in the last 10 years, while also reducing elective abortion in HIV positive women by more than half in this country.”\textsuperscript{16}

**Fetal tissue remains critical to understanding and advancing treatment and cures for a broad range of conditions that impact millions.**

- As HHS told the Panel, “The use of fetal tissue in medical research has been an instrumental component of our attempts to understand, prevent, and treat a number of conditions and diseases that affect millions of Americans .... [F]etal tissue is an

\textsuperscript{11} Brett Norman. Slew of anti-abortion laws may thwart Zika research, Politico (Mar. 27, 2016).
\textsuperscript{12} The Zika Public Health Crisis: The Urgent Need for the President’s Emergency Funding Request, Hearing Before the H. Democratic Steering and Policy Comm., 114th Cong. 68-69 (May 12, 2016).
\textsuperscript{13} Letter from Yale School of Medicine to Hon. Jan Schakowsky, Ranking Member, Select Investigative Panel (May 9, 2016).
\textsuperscript{14} Letter from Jim Esquea, Asst. Sect. of Legislation, Dept. of Health and Human Services, to Hon. Jan Schakowsky, Ranking Member, Select Investigative Panel, 3 (Apr. 6, 2016).
\textsuperscript{15} Id.
\textsuperscript{16} Letter from University of Minnesota to Hon. Jan Schakowsky, Ranking Member, Select Investigative Panel (Mar. 22, 2016).
important resource for researchers studying retinal degeneration, pregnancy loss, human development disorders such as Down Syndrome, and early brain development. Fetal tissue has also served as a critical resource for the development of models of human disease, such as HIV/AIDS, which has devastating effects on the human immune system.”

• As R. Alta Charo, a bioethicist at the University of Wisconsin at Madison, explained in a September 2015 New England Journal of Medicine article, “Fetal tissue research has already led to investigational therapy for end-stage breast cancer and advances against cardiac causes, and transplantation research is actively being pursued for diabetes (using fetal pancreatic islet cells), amyotrophic lateral sclerosis (using neural fetal stem cells injected into the spine), and in a major European initiative, Parkinson’s disease (using fetal dopamine cells).”