

Department of Legislative Services
Maryland General Assembly
2003 Session

FISCAL AND POLICY NOTE

House Bill 482 (Delegate Rosenberg, *et al.*)
Health and Government Operations

Stem Cell Research -- Donation of Certain Tissue for Research Purposes

This bill provides that it is the policy of the State that research involving the derivation and use of human embryonic stem and germ cells and human adult stem cells from any source shall be allowed in Maryland. The bill specifies that full consideration must be given to the ethical and medical implications of the research and that an institutional review board must review the research. Additionally, a person may not knowingly, for valuable consideration, purchase or sell embryonic or cadaveric fetal tissue for research. This tissue may be donated for research. Violators are guilty of a misdemeanor and on conviction subject to a fine of up to \$500.

Fiscal Summary

State Effect: The criminal penalty provisions of this bill are not expected to significantly affect State finances or operations.

Local Effect: The criminal penalty provisions of this bill are not expected to significantly affect local finances or operations.

Small Business Effect: None.

Analysis

Current Law: There is no law in Maryland specifically authorizing, banning, or otherwise regulating human cloning or embryonic and fetal research. In the absence of State law, privately funded human cloning or embryonic and fetal research can be conducted in Maryland without regulation.

Background: There are two categories of stem cells: adult stem cells (e.g., those derived from specific human tissues such as skin cells) and embryonic stem cells. Embryonic stem cells currently hold the most promise for research but also are more controversial because of their source: fetal tissue; surplus embryos from in vitro fertility procedures; and embryos created by techniques utilized in human cloning technology – somatic cell nuclear transfer (SCNT).

SCNT is the process by which a somatic cell (any cell other than an egg or sperm cell) is fused with an egg cell from which the nucleus is removed. Once fusion has occurred, the cell eventually develops into an early-stage embryo, at which point the inner cell mass is isolated and a stem cell line can be established. The development of SCNT has served to inextricably link stem cell research with the debate over human cloning. Two types of human cloning can be distinguished:

- reproductive cloning, or the cloning of a human embryo through SCNT for the purpose of initiating a pregnancy; and
- therapeutic cloning, the creation of embryos through SCNT for research purposes. Therapeutic cloning provides the link to stem cell research as it provides access to large numbers of embryos for the purpose of stem cell research.

While there is little dispute presently as to the immorality of reproductive cloning, therapeutic cloning has sparked significant debate. The ethical controversy surrounding therapeutic cloning pits potential scientific benefits of the research using stem cells derived from this form of cloning against the perceived immorality of creating human life in order to destroy it. Proponents of therapeutic cloning argue that stem cell research utilizing embryonic stem cells offers the best potential to benefit individuals with disorders such as Alzheimer's disease, Parkinson's disease, diabetes, and spinal cord injuries. Proponents argue that tissues grown from embryonic stem cells eventually could be used to replace damaged heart muscle or brain cell tissue, grow tissue for human transplants, and introduce genes into the body to remedy inherited diseases.

The derivation of embryonic stem cells from fetal tissue is immediately controversial in that it puts this kind of research into the national debate on abortion. Further, individuals who believe that human life begins at fertilization will never support embryonic stem cell research. These opponents argue that despite the potential benefits of embryonic stem cells in treating disease, the creation and subsequent destruction of an embryo amounts to the destruction of a human life. In addition, opponents to embryonic stem cell research often cite the speculative nature of such research, citing the significant scientific barriers that must be overcome before the promise of stem cell research can be realized. Such opponents prefer stem cell research that uses adult stem cells or cells from umbilical cords, arguing that stem cells taken from these sources may prove just as beneficial as embryonic stem cells.

In August 2001 President Bush limited federal funding for stem cell research to existing stem cell lines. Such stem cells are derived from unused embryos from in vitro fertilization donated for research purposes. A Stem Cell Registry, maintained by the National Institutes of Health, lists the 78 stem cell lines that are eligible for federal funding. In addition, President Bush maintained the ban on federal funds for research involving the destruction or creation of embryos. However, such research can continue with the use of private funds, within the bounds of state law. The President's Council on Bioethics continues to study and advise the President on the issue of stem cell research.

Twenty-eight states have various laws that govern embryonic and fetal research, with certain exceptions. The statutes related to research on embryos and fetuses vary greatly from state to state, and many of these laws were passed decades ago. However, such laws have the potential to impact reproductive and therapeutic cloning. The most frequent state restriction is on the sale of embryos, fetuses, or fetal tissue, with 23 states prohibiting such commercialization in some or all cases. Twenty-two states, including Maryland, have no specific laws relating to embryonic and fetal research; embryonic and fetal stem cell research is therefore legal in those states.

The General Assembly has considered legislation related to stem cell research since the 1994 session, with bills introduced to both ban and prohibit funding for human cloning. The general issues associated with stem cell research and cloning re-emerged during the 2002 session with the introduction of HB 72 and HB 1171. HB 72 would have established a State Advisory Council on Bioscience Issues and Concerns to advise the General Assembly and the Governor on proposed legislation regarding stem cell research and cloning. HB 1171 would have established a Task Force to Study Stem Cell Research that would have, among other things, made recommendations for State policy regarding stem cells derived from embryos created solely for research purposes. Although the bill received an unfavorable report from the House Environmental Matters Committee, the committee directed the Department of Legislative Services (DLS) to conduct further research on the ethical dilemmas and scientific opportunities that are presented by the study of embryonic stem cell research. DLS report *Stem Cell Research* was published in December 2002.

Additional Information

Prior Introductions: None.

Cross File: None.

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