

Department of Legislative Services  
Maryland General Assembly  
2004 Session

FISCAL AND POLICY NOTE

Senate Bill 472 (Senator Harris, *et al.*)  
Education, Health, and Environmental Affairs

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Human Cloning Prohibition Act of 2004

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This bill prohibits: (1) performing or attempting to perform human cloning; (2) participating in an attempt to perform human cloning; (3) transferring or receiving a human cloning product; or (4) transferring or receiving, in whole or in part, any oocyte (female germ cell or egg), embryo, fetus, or human somatic cell for human cloning. Violators are subject to criminal and civil penalties. The bill specifies that it may not be construed to restrict a person from conducting or attempting to conduct scientific research not specifically prohibited by the bill.

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Fiscal Summary

**State Effect:** Potential significant increase in general fund revenues from the bill's monetary penalty provisions and potential minimal increase in expenditures due to the bill's incarceration penalty provision.

**Local Effect:** Potential significant increase in revenues and potential minimal increase in expenditures due to the bill's criminal penalty provisions.

**Small Business Effect:** Meaningful for any small business that performs now, or would perform, human cloning.

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Analysis

**Bill Summary:** Human cloning is defined as human asexual reproduction by introducing nuclear material of one or more human somatic cells into a fertilized or unfertilized oocyte whose nucleus has been or will be removed or inactivated to produce a living

organism at any stage of development with a human or predominantly human genetic constitution.

A human somatic cell is defined as a diploid cell obtained or derived from a living or deceased human body at any stage of development. Nuclear transplantation is defined as transferring the nucleus of a human somatic cell into an oocyte from which the nucleus of all chromosomes have been or will be removed or rendered inert.

A person may conduct or attempt to conduct scientific research that uses nuclear transfer or other cloning techniques to produce molecules, DNA, cells other than human embryos, tissues, organs, plants, or animals other than humans.

Violators are guilty of a felony and on conviction are subject to maximum penalties of 10 years imprisonment and/or a \$100,000 fine. The Secretary of Health and Mental Hygiene may assess a minimum \$1 million civil penalty against violators. If the violator derives pecuniary gain from the transaction, the civil penalty may not be more than two times the gross pecuniary gain resulting from the violation. Civil penalties will be paid into the general fund.

The State may bring a civil action for recovery for any violator who fails to pay a penalty under this bill. The bill may not be construed as giving a person a private right of action.

A violation of this bill is grounds for denying an application for, denial of renewal, or revocation of any license, permit, certification, or any other form of permission required to practice or engage in any trade, occupation, or profession regulated by the State.

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

**Background:** Embryonic research, including stem cell research, involves the destruction of a fertilized ovum. 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.

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 (the council) continues to study and advise the President on the issue of stem cell research.

In the council's 2002 report, the majority recommendation was to ban cloning to produce children and to establish a four-year moratorium on cloning for research. The majority also called for a federal review of human embryo research, pre-implantation genetic diagnosis, genetic modification of human embryos and gametes, and other related matters. The minority recommendation was to ban cloning to produce children and regulate the use of cloned embryos for 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.

Seven states – Arkansas, California, Iowa, Michigan, North Dakota, Rhode Island, and Virginia – have laws prohibiting cloning. Arkansas, Iowa, Michigan, and North Dakota prohibit both reproductive and therapeutic cloning. California and Rhode Island prohibit only reproductive cloning. While Virginia prohibits reproductive cloning, it is unclear whether the state also prohibits therapeutic cloning. Missouri prohibits the use of state funds for human cloning research which attempts to develop embryos into a child. Louisiana had enacted a law prohibiting reproductive cloning but that law expired July 1, 2003.

**State Revenues:** General fund revenues could potentially increase significantly as a result of the bill's monetary criminal and civil penalty provisions. General fund revenues also could increase minimally as a result of the civil penalties.

**State Expenditures:** General fund expenditures could increase minimally as a result of the bill's incarceration penalties due to more people being committed to Division of Correction (DOC) facilities and increased payments to counties for reimbursement of

inmate costs. The number of people convicted of this proposed crime is expected to be minimal.

Persons serving a sentence longer than 18 months are incarcerated in DOC facilities. Currently, the average total cost per inmate, including overhead, is estimated at \$1,850 per month. This bill alone, however, should not create the need for additional beds, personnel, or facilities. Excluding overhead, the average cost of housing a new DOC inmate (including medical care and variable costs) is \$350 per month. Excluding medical care, the average variable costs total \$120 per month.

**Local Revenues:** Revenues could increase as a result of the bill's monetary criminal penalty provisions from cases heard in the circuit courts.

**Local Expenditures:** Expenditures could increase minimally as a result of the bill's incarceration penalties. Counties pay the full cost of incarceration for people in their facilities for the first 90 days of the sentence, plus part of the per diem cost after 90 days. Per diem operating costs of local detention facilities are expected to range from \$29 to \$97 per inmate in fiscal 2005.

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### **Additional Information**

**Prior Introductions:** None.

**Cross File:** HB 481 (Delegate Owings, *et al.*) – Health and Government Operations.

**Information Source(s):** Department of Health and Mental Hygiene; Department of Public Safety and Correctional Services; "State Human Cloning Laws," National Conference of State Legislatures, October 7, 2003; "Human Cloning and Human Dignity: An Ethical Inquiry," The President's Council on Bioethics, July 2002; Department of Legislative Services

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Analysis by: Lisa A. Daigle

Direct Inquiries to:  
(410) 946-5510  
(301) 970-5510