

**Department of Legislative Services**  
Maryland General Assembly  
2004 Session

**FISCAL AND POLICY NOTE**

House Bill 1021 (Delegate Rosenberg, *et al.*)  
Health and Government Operations

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**Human Cloning Ban and Stem Cell Research Protection Act of 2004**

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This bill prohibits human cloning and prohibits areas of medical research, including stem cell research. Violators are subject to civil and/or criminal penalties.

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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:** A person may not: (1) conduct or attempt to conduct human cloning; (2) ship to or from the State a product of nuclear transplantation (the transfer of the nucleus of a human cell, other than an unfertilized egg or sperm cell, into a female germ cell or egg from which the nucleus or all chromosomes were or will be removed or made inert) for human cloning; or (3) export an unfertilized blastocyst (an intact cellular structure that is the product of nuclear transplantation) to a foreign country that does not prohibit human cloning. Violators are guilty of a felony and subject to maximum penalties of 10 years imprisonment and/or a \$200,000 fine.

The Secretary of Health and Mental Hygiene may assess a civil penalty against violators as follows: (1) if the violator is a corporation, firm, clinic, hospital, laboratory, or research facility, a maximum \$1 million penalty or three times the gross financial gain resulting from the violation, whichever is greater; (2) if the violator is an individual, the maximum \$250,000 penalty or three times the gross financial gain resulting from the violation, whichever is greater; or (3) if the violator derives financial gain from the transaction, not more than three times the gross financial gain resulting from the violation. Civil penalties must be paid into the general fund. A civil action for recovery of the penalty may be brought by the State against any person who fails to pay any penalty assessed. The bill may not be construed as giving a person a private right of action.

The bill includes other prohibitions for which the Secretary of Health and Mental Hygiene may assess a \$250,000 maximum civil penalty on violators. Those prohibitions are as follows.

- The nucleus of a human cell, other than an unfertilized egg or sperm cell, may not be transplanted into a female germ cell or egg that has undergone or will undergo fertilization.
- An unfertilized blastocyst may not be maintained intact for more than 14 days after its first cell division, not including any time it is stored at temperatures below zero degrees centigrade.
- A female germ cell or egg may not be used in nuclear transplantation research unless it was donated voluntarily by and with the informed consent of the woman donating the cell or egg. A female germ cell, egg, or unfertilized blastocyst may not be acquired, received, or transferred for financial gain other than for the reimbursement for storage or transportation costs.
- Nuclear transplantation may not be conducted in a laboratory in which human female germ cells or eggs are subject to assisted reproductive technology treatments or procedures.

The definition of an unfertilized blastocyst does not include stem cells, other cells, cellular structures, or biological products from an intact cellular structure that is the product of nuclear transplantation.

**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.

**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. Civil penalties also may be imposed. 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:** None.

**Information Source(s):** Department of Health and Mental Hygiene; *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; University System of Maryland; Department of Legislative Services

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Analysis by: Lisa A. Daigle

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