

California: The Leader in Stem Cell Research

En Español

With funding from CIRM, California has become a world-leader in stem cell research. Learn more about how CIRM changes the landscape of research in California and about laws in other states.

How will CIRM accelerate stem cell therapies?

What are the economic implications of stem cell research?

How does CIRM save the state money?

What were the federal restrictions on human embryonic stem cell research under President Bush?

How did federal regulations of human embryonic stem cell research change under President Obama?

What is happening with stem cell research in other states?

How is CIRM accelerating stem cell therapies?

As the largest source of funding for stem cell research outside the National Institutes of Health, CIRM supports innovative research programs focused on accelerating treatments to patients with unmet medical needs. This covers everything from Discovery, the most basic form of research, through Translational and into clinical trials.

In addition, CIRM has also supported the construction of state-of-the-art facilities that were needed in order to build the infrastructure and perform research without the restrictions that came with federal funding under President George W. Bush.

Our funding has also helped attract scientific talent to California. Scientists and companies have moved here to qualify for funding so they can carry out their work. This has resulted not just in scientific benefits to the field but also huge economic benefits to the state in terms of money generated through sales revenue, new taxes - at the state and federal levels - and new jobs.



CIRM Major Facilities Speed Stem Cell Science and Create Jobs [4:20]

CIRM has specifically targeted areas that will help push stem cell research toward the clinic. In our early years our SEED grants pulled more scientists into stem cell research than ever before, and the Comprehensive awards supported leading stem cell scientists already in California. CIRM encouraged young faculty to commit their labs to stem cell science through two rounds of New Faculty awards. Finally, training grants and the Bridges and SPARK Educational awards ensure a next generation of stem cell scientists and laboratory personnel to fill the needs of a growing stem cell research sector in California.

In January 2015, CIRM launched a new process for awarding funding. Called CIRM 2.0, the new system greatly accelerated the review of grant applications and the execution of contracts for successful applicants. The new system increases the involvement of patients and makes CIRM an active partner with funded project teams going forward.

What are the economic implications of stem cell research?

Stem cell research has the potential to treat diseases that are currently burdened with high health care costs—especially chronic conditions such as heart disease, Alzheimer's disease or diabetes, the costs of which threaten to cripple the healthcare system. Even if a stem cell-based therapy doesn't entirely cure a disease, reducing its impact would be an enormous economic benefit and could greatly improve the quality and length of life for millions of people.

In addition to reduced health care costs, new therapies would allow those people to go back to work, or allow their caregivers to work again. This increased productivity funnels tax dollars right back into the state. A 2019 independent report conducted by the Schaeffer Center for Health Policy & Economics at the University of Southern California says that developing stem cell treatments and cures for some of the most common and deadly diseases could produce multi-billion dollar benefits for California in reduced healthcare costs and improved quality and quantity of life.

Stem cell research is expected to be a boon to the biotech industry, bringing new companies to the state and creating high-paying jobs.

How does CIRM save the state money?

CIRM funding creates jobs, saves health care costs and creates tax revenue. A 2019 independent Economic Impact Report conducted by the Schaeffer Center for Health Policy and Economics at USC says that CIRM has had a major impact on California's economy, creating tens of thousands of new jobs, generating hundreds of millions of dollars in new taxes, and producing billions of dollars in additional revenue for the state. The report looked at the impacts of CIRM funding on both the state and national economy from the start of the Stem Cell Agency in 2004 to the end of 2018.

The estimated impacts from the report are:

- \$10.7 billion of additional gross output (sales revenue)
- \$641.3 million of additional state/local tax revenues
- \$726.6 million of additional federal tax revenues
- 56,549 additional full-time equivalent (FTE) jobs, half of which offer salaries considerably higher than the state average

New therapies developed from CIRM funding will be available to the state at a reduced cost, further lowering state spending on health care. Some new therapies will save money compared to current therapies. Over time, these savings should far exceed CIRM's costs to the state general fund. Furthermore, intellectual property developed through CIRM funding is expected to generate a continuous stream of income to the state.

What is happening with stem cell research in other states?

Individual states have passed legislation that either allow some forms of human embryonic stem cell research or specifically ban certain forms of research. A handful of states have passed laws to either fund stem cell research or at least encourage the research. Other states have laws that make the research extremely difficult and in some cases illegal.

What were the federal restrictions on human embryonic stem cell research under President Bush?

Federal institutions could only fund research with human embryonic stem cell lines that had been created *before* Aug. 9, 2001—when president Bush made his announcement regarding federal funding for stem cell research. At the time of the announcement there were only 19 lines available for federal funding; many of those showed signs of degradation from so many years of growing in a lab and they were also limited in genetic diversity leading many researchers to express fears that would limit their ability to use them in developing treatments for different diseases.

Because of these restrictions, the National Institutes of Health (NIH) mainly funded adult stem cell research. Federal funds could not be used to create new human embryonic stem cell lines, a strategy that is critical in order to fulfill the promise of new therapies based on embryonic stem cell research.

In addition to not funding basic research, scientists could not use any equipment or lab space that had been paid for by federal funds to do work with non-federally approved human embryonic stem cell lines. This is why CIRM invested more than \$271 million in grants that have funded the construction of 12 new world class stem cell research facilities where work on all types of stem cells takes place.

How did federal regulations of human embryonic stem cell research change under President Obama?

On March 9, 2009, President Barack Obama lifted the restrictions on federal funding for human embryonic stem cell lines created after August 9, 2001. New regulations to guide this funding were finalized by the NIH in July 2009. The first stem cell lines to be reviewed and approved under the new guidelines were announced five months later.

This decision put an end to the restrictions on working with new cell lines with federal equipment. Institutions that had previously maintained dual laboratory space and equipment for working with federal and non-federal stem cell lines could immediately start using federal equipment in research with all cell lines.

Find out More:



California Researchers Look Forward to Obama's Stem Cell Research Policies (4:22)

CIRM Statement: Obama's Policies will up the Value of California's Investment in Stem Cells

This NIH page contains information about the federal stem cell policy

Updated 2/16

Source URL: <https://www.cirm.ca.gov/patients/california-leader-stem-cell-research>