



Analysis of the Financial Impact on the California State Budget of the Proposed California Institute of Regenerative Medicine

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This report examines the financial effect the California Institute for Regenerative Medicine's (the "Institute") spending will have on the California State Budget, concentrating on the expected debt service costs of the state obligation bonds and the state revenue resulting from the Institute's funding of stem cell research and research facilities. This report analyzes spending and revenue effects during the first five years of the Institute's existence in detail and also provides a basic assessment of potential effects in subsequent years.

EXECUTIVE SUMMARY

Key Conclusions

Overall, our analysis indicates that during the first five years, the tax revenues generated by the Institute's spending should more than cover the interest expense, so that there is no net burden expected on the State budget. In fact, it appears that the Institute will provide positive net revenue to the state in the first five years that could support California's budget recovery. During the subsequent period between years 6 to 14, tax revenues should offset approximately 14 percent of the principal and interest expense.

Over the longer run, there are potential positive impacts on health and well-being, and on health care expenditures. The magnitude of such benefits is difficult to predict, but the potential for savings seems significant. As an illustrative calculation, if total personal health care spending in California is, on average, \$100 billion a year and even a 1 percent reduction in yearly California health care spending could be achieved, the result would be over \$1 billion in yearly savings for all Californians. Alternatively, a 1 percent savings in California's medical funding obligations would effectively amortize the full cost of the \$3 billion research program of the Institute.

First Five Years

- Spending during the first five years of the program is expected to total \$974 million, consisting of \$282 million in facilities funding, \$634 million in research funding, and up to \$58 million in administration funding. Administration funding consists of up to 3 percent of the initial bond proceeds to fund the Institute's overhead costs, and up to an additional 3 percent for grant administration.
- \$56 million in interest expense is expected over the first five years, with 100 percent of this amount funded by bond proceeds, not by the State's general fund.
- Tax revenues generated from the \$974 million in spending include income tax revenue from spending on salaries and wages, sales tax generated by employee spending, sales tax on supplies and equipment, and income and sales taxes generated by research facilities construction.
- The spending and tax revenue impact of the Institute is increased by three factors:
 - The impact of donor matching funds.
 - Research leverage as researchers attracted to the State obtain grants from other sources.

- The economic multiplier effects as the funding moves through various levels of the economy (estimated as 1.80 and 1.93 for facilities and research, respectively).
- Results in baseline tax revenue for the State over the first five years are expected to be approximately \$70 million. *This implies an overall ratio of tax revenue to interest expense of 1.25.* (While we believe the assumptions underlying this scenario are fairly conservative, we also generated scenarios using assumptions that are both lower and higher than our baseline analysis, *resulting in ratios of 1.03 for the low scenario and 1.51 for the high scenario*).

Potential Longer Term Impacts on California Health Care

California has the highest total health care spending of any state in the country. Based on the most recent data available, total personal health care spending in California topped *\$112 billion in 1998,¹ accounting for approximately 9.8 percent of California's total Gross State Product.²* The State is responsible for a significant share of this spending. For example, the costs of the California Medicaid program totaled \$14 billion in 1998.

Research findings funded by the Institute may have potential long-term implications for both reducing the State's health care spending costs and improving the quality of life for Californians through the discovery of new treatments or disease cures.

The magnitude of such benefits is difficult to predict, but the potential for savings is substantial. Even if a mere 1 percent reduction in total California health care spending could be achieved, the result would be over \$1 billion in annual savings. A 1 percent reduction in Medicaid spending would result in savings of \$140 million per year.

While the above calculation is merely illustrative, actual studies have been conducted by the National Institutes of Health ("NIH") that analyze the benefits of medical research spending and demonstrate that relatively small investments in medical technology and research have resulted in substantial, actual, yearly cost savings in the past, in the range of 25 to 40 percent on average.³ For example, past NIH funding efforts have achieved the following annual cost savings:

- The National Heart, Lung, and Blood Institute compared medical vs. surgical treatment for people with deferrable coronary artery bypass surgery. The research effort cost \$37 million and estimated savings are \$402 million to \$804 million a year (1974–1984).
- The National Institute for Allergy and Infectious Diseases formulated the hepatitis B vaccine. The research effort cost \$32 million and estimated savings are between \$74 million and \$148 million a year (1964–1981).

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¹ [http:// cms.hhs.gov/statistics/nhe/state-estimates-provider/ca.asp](http://cms.hhs.gov/statistics/nhe/state-estimates-provider/ca.asp), as accessed on 10/20/03.

² Trends in State Health Care Expenditures and Funding: 1980-1998; Health Care Financing Review, Summer 2001, Volume 22, Number 4.

³ "The Benefits of Medical Research and the Role of the NIH," May 2000, p. 24. Dollar amounts in 1992 dollars and dates of research effort are in parentheses.