

STATE OF CALIFORNIA
May Revise Letter - Cover Sheet
 DF-46 (REV 08/15)

Fiscal Year 2016-17	Business Unit 4265	Department California Department of Public Health	Priority No.
Budget Request Name 4265-421-BCP-DP-2016-MR		Program 4045- PUBLIC AND ENVIRONMENTAL HEALTH	Subprogram 4045010- CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION

Budget Request Description
 Childhood Lead Poisoning Prevention Mapping

The California Department of Public Health (CDPH), Division of Environmental and Occupational Disease Control, Childhood Lead Poisoning Prevention Branch (CLPPB) requests expenditure authority of \$180,000 in Fiscal Year (FY) 2016-17 and \$320,000 in FY 2017-18 from the Childhood Lead Poisoning Prevention Special Fund. This funding will allow the Geographic Information System (GIS) mapping of lead-poisoned children, which can assist in describing the locations of lead exposure

Requires Legislation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Code Section(s) to be Added/Amended/Repealed
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Does this BCP contain information technology (IT) components? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, departmental Chief Information Officer must</i>	Department CIO	Date
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For IT requests, specify the date a Special Project Report (SPR) or Feasibility Study Report (FSR) was approved by the Department of Technology, or previously by the Department of Finance.

<input type="checkbox"/> FSR <input type="checkbox"/> SPR	Project No.	Date:
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If proposal affects another department, does other department concur with proposal? Yes No

Prepared By <i>[Signature]</i>	Date 5-12-16	Reviewed By <i>[Signature]</i>	Date 5/12/16
Department Director <i>[Signature]</i>	Date 5-12-16	Agency Secretary <i>[Signature]</i>	Date 5/12/16

Department of Finance Use Only

Additional Review: Capital Outlay ITCU FSCU OSAE CALSTARS Dept. of Technology

BCP Type: Policy Workload Budget per Government Code 13308.05

PPBA <i>[Signature]</i>	Date submitted to the Legislature 5/13/16
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A. Budget Request Summary

The California Department of Public Health (CDPH), Division of Environmental and Occupational Disease Control, Childhood Lead Poisoning Prevention Branch (CLPPB) requests expenditure authority of \$180,000 in Fiscal Year (FY) 2016-17 and \$320,000 in FY 2017-18 from the Childhood Lead Poisoning Prevention Special Fund. This funding will allow the Geographic Information System (GIS) mapping of lead-poisoned children, which can assist in describing locations of lead exposure.

B. Background/History

Lead is a toxin that damages most body organs with lifelong effects. While higher blood lead levels have historically been thought to be of concern, it is now recognized that there is no known safe level of lead in the blood.

The Childhood Lead Poisoning Prevention (CLPP) Program in CLPPB works to prevent lead exposure and identifies lead-poisoned children. The CLPP Program provides interventions, including educational services, to children at increased risk of lead exposure, and full public health nursing and environmental services to children who are identified as cases of lead poisoning, including follow-up to assure that sources of lead exposure are removed. These activities are carried out by the CDPH CLPPB, in conjunction with state-supported CLPP Programs in local jurisdictions throughout California. This information is processed into the CLPPB database, the Response and Surveillance System for Childhood Lead Exposures (R2). R2 is the system which supports lead poisoning prevention and lead poisoning case management activities statewide. The information in R2 is used to identify individuals who have high blood lead levels and are considered cases of lead poisoning, as well as to identify individuals with lead exposure not meeting the definition of a case, for the purposes of delivering appropriate services.

For children with lead exposure, but not meeting the case definition, approximately 5,500 children a year are identified with blood lead levels at and above the Centers for Disease Control and Prevention (CDC) reference level indicating increased lead exposure, and nearly half of these children are currently receiving some services and additional tracking. The number of these children receiving services and tracked in the R2 system is expected to increase to over 12,500 a year in the next few years, as more attention is placed on identifying and following individuals with blood lead values lower than were previously considered concerning. The CDC reference level is currently 5 micrograms per deciliter of blood. Similarly, the number of children considered to be cases of lead poisoning is expected to increase from about 200 a year to 600 a year due to changing the definition of a case to lower blood lead values. These children will receive case management services and will also be tracked in the R2 system. For FY 2016-17, the Governor's Budget includes a Budget Change Proposal to provide CLPP services to children with lower blood lead levels than have previously been served. Given that CLPPB would expand services to more children, adding a mapping system to R2 will help better identify areas with high prevalence of childhood lead exposure and lead poisoning.

Currently, the R2 system does not have a GIS capability for CLPP to effectively analyze lead exposure based upon geography. The system operates on older technology which limits: availability of information; ability to identify areas and populations of increased risk for lead exposure; and overall CLPP functions.

Limited Mapping Capability

In the last 15 years, substantial advances have occurred in the ability to integrate geographic information with other data. In order to better target sources of lead exposure to children, the current R2 system requires enhanced capabilities. Because R2 was developed before more modern systems were in place, it is not currently connected to more advanced mapping systems that are now available, such as the CDPH Enterprise GIS. This proposal would enable CLPPB to document geographic areas where children are at increased risk for lead exposure (i.e., provide data for comparison of areas where children have high blood lead levels to known and suspected lead sources such as industries, freeways, old housing, and waste sites).

Resource History for Existing Information Technology (IT) CLPP Program Authorizations and Expenses
(Dollars in thousands)

Program Budget	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Authorized CLPP Program IT Expenditures ¹	\$1,358	\$1,306	\$1,472	\$1,675	\$1,174	\$1,010
Actual CLPP Program IT Expenditures ^{1,2}	\$1,091	\$1,043	\$1,094	\$1,292	\$1,052	\$1,010

¹ Information provided is for IT expenditures for the CLPP Program, which includes data processing, data receipt, maintenance, routine upgrades, and addressing system issues.

² Amount of expenditure for CY is projected.

Workload Associated with Current Data System

Workload Measure	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Blood Lead Tests Reported to and processed by the State CLPPB ¹	797,873	753,457	724,725	695,783	691,426	696,000
New Cases of Lead Poisoning ²	300	264	265	177	184	181
Children with Blood Lead Values at and Above Current CDC Reference Level, Receiving Services but not meeting case definition ³	4,701	5,735	6,411	4,322	4,232	5,489

¹ The data is based on the three year average of current blood lead level criteria.

² Current case definition criteria is a single blood lead value of ≥ 20 micrograms per deciliter of blood (mcg/dL) or persistent values ≥ 15 mcg/dL.

³ The current reference level for the CDC is 5 mcg/dL. CDPH considers rounding of blood lead values of ≥ 4.5 mcg/dL to be at or above the CDC reference level.

C. State Level Considerations

The damaging effects of lead exposure are disproportionately felt in low-income populations and in certain ethnic groups. Young children in publicly funded programs are considered most at risk. California children who have been identified as cases of lead poisoning are 80 percent Latino and 90 percent are Medi-Cal beneficiaries.

CLPP Program functions are of great social and economic benefit to California. The CDC calculated the loss of lifetime earnings based on the change in IQ associated with lead exposure (Grosse S et al. *Economic gains resulting from the reduction in children's exposure to lead in the United States*. Environ Health Perspect 110:563-569 (2002)). Preventing even a small increase in blood lead of 2-3 mcg/dL would yield over \$45 million to \$90 million in economic benefit statewide, for each annual cohort of children receiving intervention. Not factored in this analysis are considerable costs for special educational, social services, and chronic health conditions that would also be avoided.

J. Justification

This proposal would enable CLPPB to document geographic areas where children are at increased risk for lead exposure, find clusters of children with elevated blood lead levels, and potentially identify neighborhoods with increased vulnerability to lead exposure. CDPH is requesting to implement enhancements in the current R2 to allow such mapping analyses to be carried out. The R2 mapping capabilities will be connected to the CDPH's Enterprise GIS. An improved data system will allow children at highest risk of lead poisoning to be more efficiently identified and treated, and environmental sources of lead poisoning to be more easily located and mitigated. For example, with this mapping capability, it would be possible to determine whether children who live near certain highways or industrial locations are more likely to have increased blood lead levels and to use that information to help assess the contributions of these suspected lead hazards to blood lead levels.

Funding Request

Funding will be provided by the Childhood Lead Poisoning Prevention Special Fund. This fund is dedicated to the CLPP Program (Health and Safety Code Section 105310) and has a sufficient fund balance to support this proposal. No General Fund is being requested.

This request does not require documentation under the state Project Approval Lifecycle, since the upgrade is considered part of Maintenance and Operation for the R2 system.

In order to begin the development of the mapping functionality in R2, the CDPH CLPPB is requesting:

FY 2016-17: Funding of \$180,000 will be used to support IT services for the creation of a GIS mapping interface between the current R2 and the CDPH's Enterprise GIS.

FY 2017-18: Funding of \$320,000 will be used to support IT services for the GIS mapping interface between the current R2 and the CDPH's Enterprise GIS.

E. Outcomes and Accountability

Progress on GIS Mapping improvements will be measured by achievement of the following:

- Establishing an interface between the current R2 system and the CDPH Enterprise GIS system.
- Replacing the outdated R2 geocoder with an updated geocoder with current and accurate geospatial information.
- Producing the pilot for maps illustrating areas where children with high blood lead levels reside, in comparison to locations of known and suspected lead hazards.

PROJECTED OUTCOMES

Workload Measure	FY 2015-16	FY 2016-17	FY 2017-18
GIS Mapping Capacity Project Design	N/A	July 1, 2016 through December 31, 2016	N/A

Establish Interface with CDPH's GIS Enterprise	N/A	January 1, 2017 through June 30, 2017	N/A
Clean and Geocode Data	N/A	N/A	July 1, 2017 through December 31, 2017
Add Geospatial Data for Potential Sources (e.g. roads and suspected environmental sources)	N/A	N/A	January 1, 2018 through June 30, 2018
GIS pilot analyses begin as data made available	N/A	N/A	April 30, 2018 through June 30, 2018

F. Analysis of All Feasible Alternatives

Alternative 1: Increase expenditure authority of \$180,000 in FY 2016-17 and \$320,000 in FY 2017-18 to make improvements to R2 to support the mapping of children with increased blood lead levels.

Pros:

- Provides information to better identify and manage lead-poisoned children in California.
- Provides system design that will capture new information about sources of lead.
- Provides timely information about childhood lead poisoning in California through mapping analyses.

Cons:

- Additional budget authority is needed.

Alternative 2: Delay the GIS interface for the existing R2 database until FY 2017-18.

Pros:

- Allows the department more time to schedule and plan the GIS interface.

Cons:

- Identifying increased sources of lead-poisoning in children will be delayed.
- Improving data quality would be delayed.

Alternative 3: Do not approve the proposal.

Pros:

- No additional budget authority needed.

Cons:

- Valuable information to identify and manage lead-poisoned children in California will not be provided.
- GIS analyses of potential lead sources will not be available.

- Ability of CDPH to provide timely information through mapping analyses will not improve.
- Additional budget authority is needed.

G. Implementation Plan

GIS Mapping Improvements would be on the following timeline:

Project Design Phase:

- GIS Mapping - July 1, 2016 through December 31, 2016

Project Development Phase:

- Establishment of Interface – January 1, 2017 through June 30, 2017
- Cleaning and Geocode Data - July 1, 2017 through December 31, 2017
- Addition of Geospatial Source Data - January 1, 2018 through June 30, 2018
- GIS Pilot Analyses Begins – April 30, 2018 through June 30, 2018

H. Supplemental Information

IT services are needed to carry out the activities described for mapping functions for the current R2 system. This work will be carried out through CDPH's IT Services Division as part of Maintenance and Operation for the R2 system.

I. Recommendation

Approve Alternative 1. Increase expenditure authority of \$180,000 in FY 2016-17 and \$320,000 in FY 2017-18 to make GIS improvements to support mapping of children with increased blood lead levels.

BCP Fiscal Detail Sheet

BCP Title: Childhood Lead Poisoning Prevention Mapping

DP Name: 4265-421-BCP-DP-2016-MR

Budget Request Summary

	FY16					
	CY	BY	BY+1	BY+2	BY+3	BY+4
Operating Expenses and Equipment						
5346 - Information Technology	0	180	320	0	0	0
Total Operating Expenses and Equipment	\$0	\$180	\$320	\$0	\$0	\$0
Total Budget Request	\$0	\$180	\$320	\$0	\$0	\$0

Fund Summary

Fund Source - State Operations						
0080 - Childhood Lead Poisoning Prevention Fund	0	180	320	0	0	0
Total State Operations Expenditures	\$0	\$180	\$320	\$0	\$0	\$0
Total All Funds	\$0	\$180	\$320	\$0	\$0	\$0

Program Summary

Program Funding						
4045010 - Chronic Disease Prevention and Health	0	180	320	0	0	0
Total All Programs	\$0	\$180	\$320	\$0	\$0	\$0