CPR3 Request for Proposals: Infectious Disease Modeling & Analytics

This RFP is focused on supporting policy-relevant research questions related to infectious disease modeling to build upon lessons learned from the COVID-19 pandemic.

Background

The **California Collaborative for Pandemic Recovery and Readiness Research (CPR3),** launched in 2022 in partnership with the California Department of Public Health (CDPH) has the goal of building a robust, agile, and equitable infrastructure to support public health, community, and academic collaboration. Working with experts in public health, academic research, and community engagement, CPR3 has informed pandemic recovery and readiness for the state by funding high quality research across public health priority areas to improve the health and wellbeing of people throughout the state of California, especially our most minoritized and marginalized residents. Learn more here: https://cpr3.ucsf.edu/priority-research-areas.

One high-impact area of research to inform public health policy is modeling, including epidemiology, infectious diseases, economics, statistics, computer science, ecology, and data modeling. As such, the **UC-CDPH Modeling and Advanced Analytics Consortium,** a core component of CPR3, aims to provide real-time evidence generation to inform public health decision-making. UC faculty across an array of diverse disciplines (e.g.,) work in collaboration with CDPH modelers and public health experts to conduct innovative epidemiological nowcasting, forecasting, scenario modeling, and advanced analytics. Prior efforts have focused on high-priority topics such as COVID-19 variants, vaccination, health equity, economic impacts, and other pathogens such as influenza and RSV.

RFP priority area | Focus on infectious disease modeling & analytics

> This RFP will fund policy-relevant research related to infectious disease modeling to build on lessons learned from the COVID-19 pandemic.

This RFP is open to topics around infectious disease modeling to address public health priority areas, of concern to Californians, with particular emphasis on long COVID (i.e., PASC) and other infectious disease forecasting and scenario modeling topics that will improve California's preparedness and response to emerging infectious disease threats like COVID-19. Examples of additional disease areas where lessons learned from modeling of COVID-19 could also be applied include modeling of sexually transmitted diseases (e.g. mpox transmission dynamics etc.) and vector-borne diseases (e.g. West Nile virus scenario modeling etc.), given the potential synergistic impacts related to innovations in modeling methodology across these disease areas with long COVID and more general COVID-19 modeling.

With a lens toward equitable pandemic recovery and readiness, this RFP aims to:

- Support development of infectious disease scenario modeling and studies of transmission dynamics in California using open data already publicly available
- Estimate and optimize specific intervention, program, and/or policy effectiveness for prevention and control of infectious diseases in California
- Provide recommendations for improved use of infectious disease modeling for public health decision-making

Responsive applications to this RFP

CPR3 will prioritize applications that:

- Focus on COVID-19 or other infectious disease modeling and advanced analytics in California
- Have direct applicability to inform COVID-19 and other future infectious disease interventions, programs, and policies, with an emphasis on strengths, resilience and best practices
- Have the potential to inform or align with efforts of other ongoing state initiatives related to modeling and advanced analytics

A diverse array of methodologies and approaches will be considered including meta-analyses, statistical and mechanistic modeling, machine learning and artificial intelligence, epidemiological studies, and policy/economic evaluations.

Illustrative examples of research topics responsive to this RFP:

- County-level scenario modeling for an infectious disease of interest in California
- Estimation of long COVID and other post-viral burden in California based on open data for disease incidence
- Use of decision science approaches for incorporating infectious disease modeling results into public health practice and decision-making

By accelerating policy-relevant research specific to infectious disease modeling in California, CPR3 aims to generate evidence to enhance future interventions, investments, and policies to build a stronger, more informed path to recovery and to better prepare for future challenges.

Award

Number of anticipated awards	Total cost ceiling (direct costs)	Deadline for submission
2	$75,000 each	April 8, 2024, by 6pm PST

Across awards:

- Given CPR3's funding timeline, the project duration for all award types is one year from the notice of award. Funds should be spent by June 30, 2025. No-cost extensions may not be possible.
- New/early-stage investigators, existing PIs, or established PIs pursuing a new direction are welcome to apply. See individual and institutional eligibility section below.
- We welcome applications from all disciplines, including, but not limited to biostatistics, statistics, epidemiology, behavioral and social sciences, public health, health policy, economics, anthropology, data science, mathematics, computer science, etc.
- We encourage multidisciplinary and team science approaches, either within a single UC campus and/or between multiple UC campuses.
- We encourage collaborations between academia-community partners, as well as multi-sectoral approaches.

Timeline

Activity	Date
RFP released	February 8, 2024
Applications due	April 8, 2024, by 6:00 pm PST
Review window	April 8 to May 15, 2024
Funding decisions made/award notification	June 1, 2024
Awarded funds must be spent	June 30, 2025

Application process

Applications must be submitted electronically by April 8, 2024 using the Research Proposal Template sent out with this call. Please email the CPR3 team at cpr3@ucsf.edu as needed.

*Note: Successful applicants who propose human subjects-related research must obtain IRB review and approval from the State Institutional Review Board, the Committee for the Protection of Human Subjects (CPHS) in addition to their home institution's IRB. For more information, please refer to: https://www.cdii.ca.gov/committees-and-advisory-groups/committee-for-the-protection-of-human-subjects-cphs/

Individual and organizational eligibility

- Individuals with PI status at any UC campus are eligible to apply. PIs must have a departmental mechanism to receive funding.
- Early-stage investigators at a career level beyond postdoctoral training (or equivalent) and less than five years as an independent investigator (e.g., Assistant Professor or equivalent) are encouraged to apply.
- Applicants who do not yet hold PI status at their UC institution may apply for this funding mechanism as a PI if they include assurance from their institution that such status would be granted if the application were selected for funding. PI waivers will be accepted on a case-by-case basis.

Other eligibility requirements:

- Lead PI applicant may submit to only one award within this RFP but can be listed as a co-investigator for other submissions provided that the projects are distinctly different.
- While the lead/submitting PI must be from a UC institution, an additional co-investigator can be included in the application. These individuals do not need to be affiliated with a UC campus.
- Proposed research activities must take place at a California-based institution. If other settings or non-California based entities are included in the proposal, clear justification is required.

Community engagement and equity

CPR3 will focus on research of greatest importance and relevance to the many diverse groups that comprise California. Research to address the experiences and needs of individuals and communities who have been disproportionately impacted by the pandemic will be prioritized. Where applicable, applicants must clearly articulate how their research will consider social and structural determinants, such as racism, power, and privilege, to address inequities in public health.

We encourage projects that demonstrate:

- Relevance to the community it aims to serve
- Practical application of research findings
- Well thought-out opportunities for community involvement in the design, implementation, and dissemination of the work – with clear opportunities for co-learning and reciprocity

Dissemination and data requirements

CPR3 is committed to disseminating research findings as widely as possible to promote public benefit and impact. Open access publication is required by either posting on a pre-print server in alignment with UC Open Access policies, or by publishing open access. Funds can be included in the budget to cover publisher open access fees, and discounts may be available with several publishers. Awardees must also acknowledge the funding source when disseminating results publicly (i.e., conferences and publications). Acknowledgement language will be provided in the award letter.

After publication, CPR3 encourages awardees to share appropriate data sets with self-service online public data repositories, such as those recommended by the NIH. While most repositories are free, some charge deposit fees which can be included in the proposed budget. CPR3 may guide awardees to appropriate data repositories; further information will be provided in the award letter.

Project reporting

The project title, abstract and PI information will be posted on the CPR3 website upon award.

As appropriate, awardees may be asked to participate in works-in-progress presentations to the UC CDPH Modeling and Advanced Analytics Consortium, as well as additional ad hoc meetings with CPR3 program staff and/or CDPH. These meetings, for example, may serve to review research objectives, share interim or final analyses, and/or discuss potential for translation to policy.

In order to enhance coordination and collaboration, awardees will be expected to provide brief quarterly updates to CDPH and submit at least one or more manuscripts for peer-reviewed publication in collaboration with CDPH.

Awardees will be required to provide a final report within 60 days of project completion (template will be provided), as well as a 1-page summary brief targeted to a specific audience (e.g., lay community, policymakers, health providers). This product may be posted on the CPR3 website upon project completion.

Budget guidelines

The total amount of funding available for this RFP is up to $150,000 total direct costs, with up to 2 awards anticipated (e.g., direct costs of $75,000 each, on average).

Budget reflects total costs (both direct and indirect). Budgets should include the following categories:

- Personnel, salaries, and wages including fringe benefits
- Supplies and materials
- Services (includes consultant agreements)

- Travel/meeting expenses
- Equipment
- Subcontracts
- Other direct costs, such as communications, open access publication fees, campus-specific expenses (e.g., GAEL and IT Field Services charges), etc.
- Indirect costs, calculated at 35% of MTDC, added to the $75,000 direct cost ceiling

Budget requirements:

- Funds must be managed and spent in compliance with UC and State of California policies and regulations. Award recipients are responsible for working with their Controller's office to ensure fiscal compliance and proper reporting.
- These funds should be administered and managed in alignment with the California Model Agreement Contract from CDPH.
- F&A (indirect) costs of 35% of MTDC are required in the budget total cost.
- Funds can be used to support a pre- or postdoctoral trainee, including stipend, supplies, coursework, and conference attendance related to the proposed project.
- Existing, matching funds or in-kind contributions are encouraged and must be noted in applications. The PI must disclose any other funding for a project substantially similar to the proposed work.
- If IRB is required, awardees will be asked to provide approvals from their home institution and the State IRB before funds can be spent on human subject activities.
- If awarded, grants will need prior approval for budget reallocations in the event of:
  - Changes in purchase of capital equipment (>$5k)
  - Changes to intended subcontractors
  - >25% of total award budget reallocation
- Carry-forward of funds is not encouraged and will be permitted only with prior approval. Funds should be spent by June 30, 2025, after which time no-cost extensions may not be possible.
- Overdrafts are not permitted and are the responsibility of the award recipient and corresponding department/unit.
- Projects must be fully invoiced using the intercampus request for reimbursement (IRR) mechanism no later than 60 days after the end of the award period for each project. Invoices submitted after this date will not be paid.

Subcontracts/subawards: We encourage partnership/collaboration between the submitting UC institution and other entities (such as other UC campuses, local health jurisdictions, or community-based organizations). If awarded, only the submitting UC institution will be funded directly. All other collaborating institutions will be subawards on the primary award and should include indirect costs for the first $25,000 of each subaward, and documentation of current organizational rates in their budgets.

Application review process

Funding decisions will consider scientific and technical merit, public health and societal relevance, and programmatic responsiveness. The review process will be modelled on the NIH procedures for peer review. This process is designed to ensure that applications are evaluated fairly, equitably, timely, and free from bias.

The review process:

1. **Screening:** The CPR3 team will pre-screen applications to ensure completeness, eligibility, and compliance to proposal and budget requirements. The team will manage potential conflicts of interest (COI), oversee the administrative aspects of the peer review process, and assign reviewers.

2. **Peer review:** CPR3 will form a Technical Review Committee (TRC) comprising individuals who represent subject matter or methodologic expertise. Each TRC member will:
   - Declare COI with specific applications
   - Each application will have at least 2 reviewers
   - Assign a numerical score to each review criterion along with a brief summary statement

   The TRC chair will facilitate a virtual meeting, whereby discussion will focus on scientific/technical merit, feasibility, significance, and appropriateness of budget. Recommendations for funding will be made at this meeting.

Scoring: Below is an overview of the review criteria that TRC members will follow. Scores will be used to guide the review process. CPR3 will use the NIH scoring system, which utilizes a 9-point rating scale (1 = exceptional; 9 = poor).

Criterion	Description
Significance	• Does the project address an important problem or a critical barrier to progress in pandemic recovery or readiness in California? Does it have potential to enhance future interventions, investments, and policies related to pandemic recovery and readiness?
Approach	• Are the methods, study design and analysis appropriate? • Is the context appropriate for the award amount? • Does the application challenge and seek to shift current research, practice, or other relevant paradigms? Does it seek to address the refinement, improvement, or new application of existing approaches?
Investigative team	• Is the proposed team well-suited to the project and its implementation? If the PI is an early-stage investigator, do they have appropriate experience, training and/or mentorship plans? If an established PI, do they have a track record of success, for example, evidence of effective partnership or collaboration, publication record? • If collaborative, is there complementary and integrated expertise among the team members? Does the application demonstrate overall support from collaborators, reciprocity, and opportunities for co-learning?

Contact information

We encourage applicants to contact the CPR3 team at cpr3@ucsf.edu with any questions.