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1. BACKGROUND OF CRDP

1.1 California Reducing Disparities Project (CRDP)

The CRDP is funded by the Mental Health Services Act (MHSA, or Proposition 63) that was passed in November 2004. Under the California Department of Public Health's Office of Health Equity (CDPH-OHE), this Prevention and Early Intervention (PEI) effort is a statewide policy initiative to identify solutions for historically unserved, underserved, and inappropriately served communities in California. It focuses on five priority populations:

- African Americans
- Asians and Pacific Islanders (API)
- Latinx
- Lesbian, Gay, Bisexual, Transgender, Queer, and Questioning (LGBTQ)
- Native Americans

1.2 CRDP Phase 1

In Phase 1, Strategic Planning Workgroups (SPW) were established for each of the five priority populations. These planning groups engaged community members to identify promising Community-Defined Evidence Practices (CDEPs) and make recommendations for reducing mental health disparities in their communities. Each SPW's findings were compiled into population reports and processed into a single, comprehensive CRDP strategic plan to reduce mental health disparities. The Population Reports can be found on the CRDP Page of PARC's website¹. The CRDP Strategic Plan can be found on California Pan-Ethnic Health Network's website².

1.3 CRDP Phase 2

Phase 2 launched in 2016 and will run through 2022. It builds on and implements the strategies developed in Phase 1 and identified in the CRDP Strategic Plan.

The CDPH Solicitation (15-10603), explicitly delineates its goals:

- Demonstrate through a rigorous, community-participatory evaluation process that selected CDEPs are effective in preventing or reducing the severity of mental illness
- Upon completion of Phase 2, to increase funding of validated CDEPs by other, non-CRDP sources, including county mental health agencies.
- Support changes in statewide and local mental health delivery systems and policies that will reduce mental health disparities among unserved, underserved and inappropriately served populations.

(State of California, California Department of Public Health Office of Health Equity, August 24, 2015)

This \$60 million dollar investment' is focused on strengthening and demonstrating effectiveness of CDEPs among the five priority populations and developing and reinforcing organizational infrastructure to effectively deliver mental health services.

¹ <https://bellarmine.lmu.edu/psychology/parc/projects/crdpphaseii/>

² <https://cpehn.org/page/california-reducing-disparities-project>

Phase 2 Components. Phase 2 was characterized in the Statewide Evaluation (SWE) solicitation as having four primary “components” with distinct “strategies” and a set of respective Phase 2 grantees (N=35) and contractors (N=7)—i.e., collectively referred to as the Phase 2 “partners”—that are essential to CRDP’s overall success.

1. Thirty-five Implementation Pilot Projects (IPPs)—7 grantees per priority population—are the central component of Phase 2, who develop, implement, and evaluate their CDEPs using cultural, linguistic, and LGBTQ responsive approaches.
2. Five population-specific Technical Assistance Provider (TAPs) contractors who support each of the IPPs to improve administration and operations, identify and secure additional resources and build strategic partnerships to better serve communities.
3. One Statewide Education, Outreach and Awareness (EOA) contractor who helps inform key stakeholder groups (including the IPPs), policy decision makers, local mental health program administrators and the general public on the causes and consequences of ongoing and persistent mental health disparities and inequities, as well as effectuate systems change.
4. One Statewide Evaluation (SWE) contractor who supports the IPPs to develop and implement appropriate community participatory local evaluations, and by the end of the initiative, will demonstrate the extent to which Phase 2 as a whole, and the CDEPs, were effective in achieving the goals of the CRDP.

Each Phase 2 partner (plus CDPH-OHE) implements their component’s strategy utilizing their own approach. See Figure 1 for an overview of Phase 2 components, strategies, and partners.

Figure 1: CRDP Phase 2 Components, Strategies, and Partners



The IPPs, TAPs, EOA, and the SWE work closely with CDPH-OHE to coordinate efforts related to Phase 2 activities. The SWE will use this framing of CRDP Phase 2 in its discussion of the initiative’s evaluation. See [Section 3.2.1](#) (Table 3) for a full list of Phase 2 partner organizational names.

1.4 Phase 2 Accountability

MHSA established an accountability mandate that must be addressed by all recipients of this \$60 million dollar investment. Therefore, CDPH-OHE must demonstrate the extent to which CRDP Phase 2 contributed to:

- Reductions in the severity of mental illness for five priority populations,
- Systems changes in county PEI level operations,
- A return on investment (business case), and
- Changes in state and county mental health policies and practices.

1.5 CDPH-OHE SWE Purpose, Objectives, and Research Questions

1.5.1 Purpose of the SWE

The CDPH Solicitation (15-10603), explicitly delineated the purpose of the SWE.

Every component of the CRDP (including IPPs, TAPs, etc.) will be assessed by the Statewide Evaluation contractors to determine if each individual component and the CRDP taken in whole are effective in achieving the goals of CRDP, including developing a business case and evaluating the potential to reduce mental health disparities by expanding effective strategies to a statewide scale. (State of California, California Department of Public Health Office of Health Equity, August 24, 2015)

Although the parameters of the SWE were predefined, efforts to continue the community based participatory practice begun in Phase 1, were included in refinements to several aspects of the SWE. The CDPH SWE Solicitation are available from CDPH-OHE by request³.

1.5.2 SWE Objectives and Research Questions

The CDPH-OHE SWE solicitation (pages 18-19) outlines three objectives in the SWE's scope of work. Each objective is aligned with one or more responsibilities that are fulfilled by fifteen SWE deliverables. Seven research questions are aligned with Objectives 1 and 2, each with additional supporting research questions. These research questions were defined by CDPH in the SWE solicitation. These were later slightly refined by the Statewide Evaluation contractor, the Psychology Applied Research Center at Loyola Marymount University (PARC@LMU) in their accepted SWE bid submitted November 9, 2015. As the full complement of the five TAP organizations and the thirty-five IPPs began in March 2017, active engagement with the SWE began in summer 2017. In response to partner feedback and in consultation with OHE, PARC refined the research questions to ensure that they better aligned with the cultural and community priorities and realities of the IPPs and their respective CDEPs. For example, the original evaluation questions focused solely on the absence or reduction of mental illness. The SWE revisions now include questions regarding the presence of positive mental health (or protective factors), as well as mental health access, awareness, and mental health delivery systems and policies. Further, practical considerations also accounted for some revisions as the SWE determined what data was feasible to collect. The 2015 original version of the SWE Questions can be found in Appendix A.

Objective 1 has two high-level questions that are grouped by the following themes:

³ Requests to CDPH-OHE can be made by email to ohc@cdph.ca.gov.

- CRDP Phase 2 effectiveness,
- IPP evaluations, policy/systems changes,
- Fiscal operations,
- Stakeholder perspectives, and
- Initiative improvements.

Objective 2 has three high-level questions grouped by the following themes:

- CDEP effectiveness,
- Validated CDEPs, and
- Evaluation framework.

Tables 1 and 2 outline the five revised research questions, highlight a process or outcome evaluation focus, and include accompanying supporting questions. Objective 3 of the SWE (i.e., Support CDPH in developing evaluation systems and guidelines and communicating evaluation results) does not have a set of accompanying evaluation questions.

Table 1: Objective 1—Evaluate Overall CRDP Phase 2 Effectiveness in Identifying and Implementing Strategies to Reduce Mental Health Disparities

1.	<i>To what extent are CRDP strategies and operations effective at preventing and/or reducing the severity of mental illness in California’s historically unserved, underserved and/or inappropriately served communities?</i>	
CRDP Effectiveness	A.	To what extent did CRDP Phase 2 employ effective approaches, strategies and structures?
	a.	What approaches and strategies were used to fulfill the goals of CRDP Phase 2?
	b.	What conditions supported or hindered implementation of those strategies?
	c.	To what extent did IPPs receive the technical assistance and support (TAP, SWE, EOA, OHE) needed to improve mental health and decrease disparities for their specific populations?
	i.	What types of TA or support did Pilot Projects receive?
	ii.	What effect did this have on capacity & infrastructure?
	iii.	To what extent did IPPs secure additional funding?
	d.	To what extent was there fidelity and flexibility to approaches, strategies and deliverables by CRDP contractors and grantees and how were these related to outcomes?
	e.	What lessons were learned about addressing mental health disparities?
f.	Do CRDP strategies show an effective Return on Investment? What is the business case for reducing mental health disparities by expanding CRDP strategies to a statewide scale?	
	B.	To what extent do CRDP Phase 2 IPP evaluations effectively reflect the unique needs of each priority population, including subpopulations?
IPP Evaluations	a.	As reflected in their evaluation plans, to what extent did IPPs develop CDEPs that incorporated the unique culture and community context of their priority population?
	b.	What methodological strategies were used by IPPs to incorporate culture and context into their evaluation?
	c.	To what extent was there fidelity and flexibility to IPP proposed cultural and community evaluation strategies?
	d.	Considering their intended priority population and subpopulations, who did IPPs sample?
	C.	To what extent did CRDP Phase 2 strategies improve alignment between local government and providers to provide culturally responsive, accessible and effective strategies to reduce disparities and improve mental health?
Policy/Systems	a.	To what extent were policy makers, providers and other key stakeholders better informed about the unique needs of the priority communities and CDEPs?
	b.	What collaborative processes emerged as a result of CRDP Phase 2 and to what extent was the community engaged?
	c.	To what extent were strategic partnerships secured to improve access, availability and utilization of mental health services?
2.	<i>What are vulnerabilities or weaknesses in CRDP’s overarching strategies and fiscal operations?</i>	
	A.	To what extent were funding levels appropriate for each CRDP component?
Fiscal	a.	To what extent was there fidelity and flexibility to the costs by documenting spending?
	b.	What portion of funding was used to support organizational overhead?
	c.	To what extent did IPPs grow and scale CDEPs using available funding?

		d.	What aspects of the strategies and operations were not adequately funded or resourced?
Stakeholder Perceptions	B.	To what extent were Phase 2 partners satisfied with the effectiveness, appropriateness, and efficiency of Phase 2 in terms of: incorporation of Phase 1 into Phase 2; collaborative processes and partnerships between components; CBPR approach to implementation of strategies; population specific divisions, organization, and coordination of IPPs, TAPs, SWE, and EOA; attention to the cultural and contextual needs of the five priority populations; CDPH-OHE administrative guidance and support; and TAP, SWE and EOA assistance and support provided to IPPs?	
	a.	What aspects of the strategies and fiscal operations raised concerns from the community, policymakers or other stakeholders?	
Improvements	C.	How could CRDP strategies and fiscal operations be strengthened?	
	a.	What could additional funding have achieved?	

Table 2: Objective 2—Determine Effectiveness of Community-Defined Evidence Programs

1.	<i>To what extent did IPPs prevent and/or reduce severity of prioritized mental health conditions within and across priority populations, including specific sub-populations (e.g., gender, age)?</i>		
CDEP Effectiveness	A.	What positive (protective factors) and negative mental health conditions were prioritized by IPPs for their participants, within and across priority populations, including specific sub-populations (e.g., gender, age, etc.)?	
	B.	Which CDEP approaches suggest improvements and/or reductions in positive (protective factors) and negative mental health conditions within and across priority populations, including specific sub-populations (e.g., gender, age, etc.)?	
	C.	To what extent did IPPs affect access (including availability, utilization, stigma/barriers, and quality), systems/policy change, and awareness related to mental health issues for their priority population?	
	D.	How does diversity within and across each priority population affect positive and negative mental health conditions including access to mental health supports and services?	
	E.	How cost effective are Pilot Projects? What is the business case for increasing them to a larger scale?	
2.	<i>To what extent did CRDP Phase 2 Implementation Pilot Projects validate their Community-Defined Evidence Practices?</i>		
Validated CDEPs	A.	To what extent did IPPs establish credible evidence of the prevention or reduction of priority mental health conditions and/or the promotion of positive mental health conditions (protective factors)?	
	B.	Where applicable, how many and what types of IPPs meet criteria, apply for, and/or are accepted for identification as evidence-based practices?	
3.	<i>What evaluation frameworks were developed and used by the Pilot Projects?</i>		
Evaluation Framework	A.	What principles best inform the development of evaluation framework(s) best suited for future CDEPs?	
	B.	What similarities and differences exist in frameworks within and across priority populations?	

2. STATEWIDE EVALUATION FRAMEWORKS

2.1 SWE Overview

2.1.1 Multi-Year Evaluation

PARC's contract as the SWE covers almost a seven-year period from August 2016 through April 2023. The SWE data collection timeframe extends from OSHPD-CPHS IRB approval in March 2017 through October 2021. Figure 2 presents the SWE multi-year calendar beginning with the IPP kick off in March 2017 and ending shortly after the Regional Stakeholder Briefings in 2023. Appendix B provides a summary of the 15 SWE deliverables.

CRDP Phase 2 SWE Contract Extension. PARC's contract as the SWE was extended one-year from April 2022 to April 2023. This extension was made in order to accommodate requests made by Phase 2 Partners to extend the IPP time period for the collection of both SWE and CDEP local evaluation data. The extension off-sets several delays with data collection start-time due to: requirements that all CRDP evaluations (including SWE) obtain Institutional Review Board (IRB) exemption or approval by CA Health and Human Services Agency's Committee for the Protection of Human Subject (which was a lengthy and rigorous process for the SWE that delayed the collection of SWE core measure data by one year); and time needed for both the SWE and TAPs to provide technical assistance and support to the IPPs to refine their local evaluation plans before implementation.

With IPP data collection originally scheduled to end September 2020, the delayed start of the SWE and local evaluation data resulted in IPPs having a reduced time period to collect data—i.e., 2 to 2.5 years versus 3 to 3.5 years. The extended “time window” provides IPPs the option to end data collection at any point between September 2020 and June 2021. The data extension timeline consequently pushed back SWE deliverables that are contingent upon the completion of SWE and local evaluation data collection, by approximately 1 year. This “time window” (and the subsequent SWE contract extension) was first approved by CDPH leadership on September 18, 2019, followed by final approval from the California Health and Human Services Agency (CHHS) on January 23, 2020. See Figure 2 for more information on the data extension and “IPP End of Data Collection Time Window.” To date, 30 IPPs have requested and received approvals for an evaluation data extension. Some of these requests are as a result of the COVID-19 global pandemic and the challenges IPPs are facing to adapt their CDEP programming to meet “stay-at-home” requirements (e.g., deliver services virtual/remotely vs. in person).

2.1.2 Multi-Site Evaluation

The SWE is a multi-site, multi-component/strategy, and multi-stage evaluation. As a multi-site evaluation the SWE covers 35 IPPs, 5 TAPs, 1 EOA, OHE, and other relevant stakeholders—all part of the SWE's coordinated effort to address the core evaluation research questions outlined in [Section 1.5.2](#). Because of the layered complexity of this evaluation, the SWE addresses process, outcome, and cost benefits questions that extend across three overlapping stages:

- **Stage 1** - Develop the SWE plan, launch the PARC technical assistance (TA) system, and work collaboratively with TAPs and OHE to support IPPs with developing rigorous IPP local evaluation plans.

- **Stage 2** - Implement the SWE plan, provide ongoing evaluation TA and support to Phase 2 partners, including IPPs in the implementation of their respective local evaluations.
- **Stage 3** – Analyze and disseminate SWE findings and practical knowledge to Phase 2 partners and other stakeholders including those in public health, and work collaboratively with TAPs and OHE to support IPPs in finalizing their IPP local evaluation report.

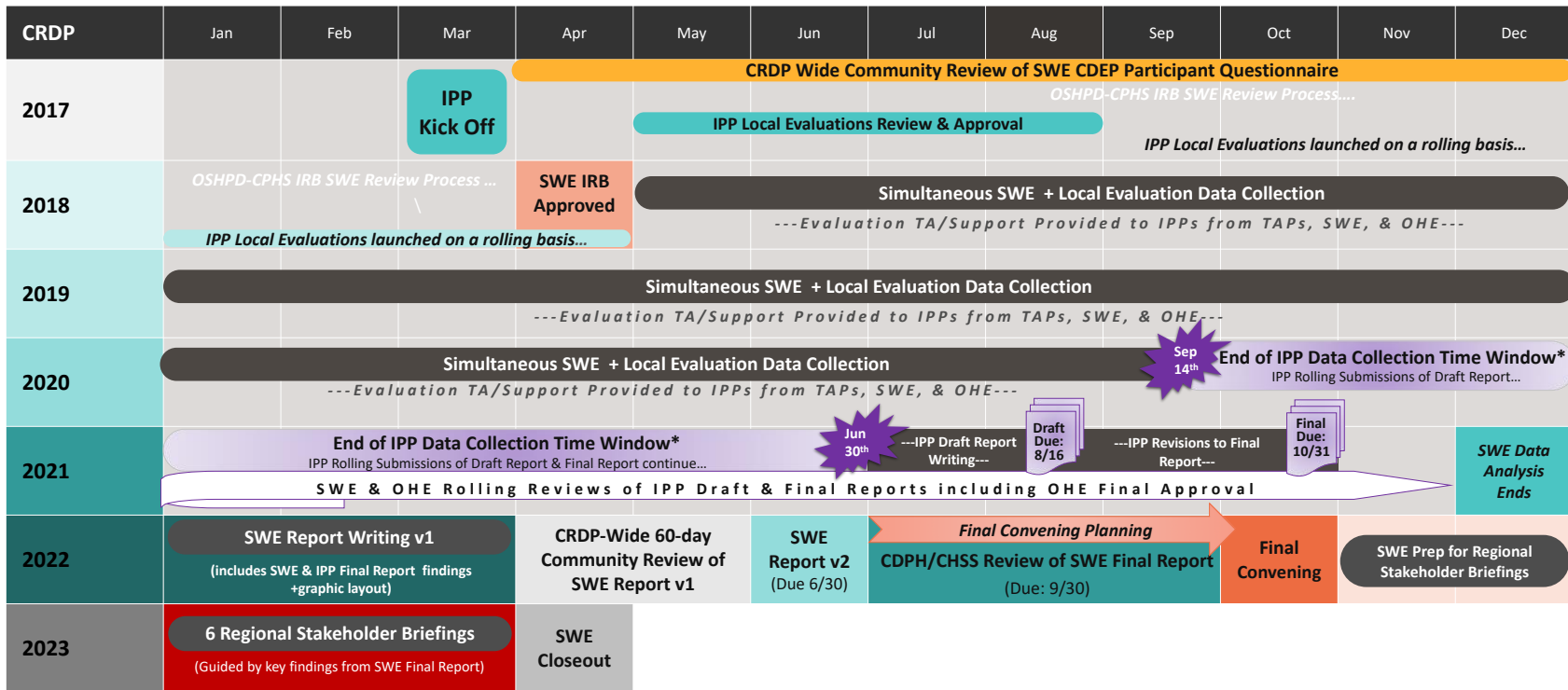
At each stage, PARC employs a collaborative or Community-Based Participatory Practice approach with Phase 2 partners. For more information on CBPP and PARC’s approach see [Section 2.3.1](#) as well as the PARC publication on Best Practices in CBPP which can be found on PARC’s website⁴. This update to the SWE evaluation plan is occurring during Stage 2.

2.2 Flexibility

To align with cultural, contextual, and linguistic realities across the 35 IPPs, the SWE is flexible and adaptive in its methods and approaches to address the three SWE objectives, answer the seven research questions, and complete its fifteen deliverables. As a result, the SWE is dynamic—it is implemented with the understanding that it must incorporate iterative processes and negotiated agreements with Phase 2 partners. Ongoing feedback from Phase 2 partners is essential to vetting the validity and reliability of SWE procedures and measures. For example, as IPPs tailor their CDEPs and local evaluation approaches to contextual and cultural realities in their respective communities, the SWE will also make corollary adjustments. Updates made to the plan annually, therefore, will account for changes in priorities, resources, feasibility issues, emergence of new opportunities, necessary improvements to cultural, contextual and linguistic appropriateness, etc. In fact, the current SWE 3.1 update incorporates changes in both the SWE methods and measures in response to feedback from Phase 2 partners.

⁴ <https://bellarmine.lmu.edu/psychology/parc/projects/crdpphaseii/>

Figure 2. CRDP Phase 2 SWE Working Multi-Year Calendar



*End of IPP Data Collection Time Window: Grantees can finish evaluation data collection at any time beginning September 14, 2020 and ending on June 30, 2021. Depending on the selected IPP data collection end date, IPPs will have 3-months to 6-weeks to complete their Final Evaluation Report Draft v1. All IPP Final Reports Version 1 must be submitted to OHE by August 16, 2021. SWE review of Version 1 will begin on a rolling basis fall 2020 and end by September 31, 2021. IPPs will have 1 month to re-submit their Final Report. SWE/OHE will conduct a joint review of the final draft by October 31, 2021. OHE provides final approval on all IPP Final Reports.

2.3 SWE Plan Approach

Considerations of culture, context, methodology, and equivalence undergird PARC’s evaluation philosophy, praxis, and approach. Accordingly, the SWE Plan is grounded: a) methodologically in the principles and procedures consistent with community-based participatory practice (CBPP), b) theoretically in a social-ecological framework that is culturally- and contextually-oriented, and incorporates an intersectional framework; and c) pragmatically in an orientation of efficiency in the completion of the Phase 2 objectives. The eight elements of this grounding described below include:

1. Community based participatory practice,
2. The social-ecological framework,
3. Culture,
4. Cultural competence,
5. The synthesis of culture and ecology,
6. The Culture Cube,
7. Intersectionality, and
8. The Phase 2 Evaluation Change Model.

2.3.1 Community-Based Participatory Practice (CBPP)

Involving community members and stakeholders in all aspects of health promotion and prevention from conceptualization to implementation is recognized as an effective strategy for sustainably addressing health disparities (Minkler & Wallerstein, 2003; Viswanathan et al., 2004), especially in low-income communities of color (Grills et al., 2014). There are many terms used to describe community-based participation. Most people are familiar with and adopt the phrase Community Based Participatory Research (CBPR). While CBPR is primarily anchored in a research process, the SWE is using the term—Community Based Participatory Practice (CBPP)—that reflects a more expansive array of efforts related to participatory activities that include and extend beyond research. In its broader application, CBPP, like CBPR, offers a set of principles for engagement and participation—typically between communities and entities external to the community (e.g., government agencies such as County Departments of Mental Health, policy makers such as elected officials, institutions, and researchers/program evaluators). It inspires attention to culture, context, trust building, shared meaning, consensus, and equity.

CBPP encompasses several types of activities that include the active engagement of community members in identifying, defining, addressing, solving and evaluating issues in their own community. As a broad umbrella term, CBPP can be employed in a cross-section of activities including program implementation, program evaluation, research, and systems and policy change. For more information on CBPP in CRDP Phase 2, refer to PARC’s document titled, “Best Practices in Community Based Participatory Practice, 2018.”

The operative values guiding PARC’s approach to CBPP include a commitment to:

- **Shared Vision.** Building on the CBPP efforts in CRDP Phase 1 and extending this into Phase 2 goals and objectives
- **Inclusiveness.** Engaging diverse internal and external stakeholders and those most affected by mental health disparities to create intended change at the local and state levels

- **Collaboration.** Employing joint efforts and willingness to share decision-making as Phase 2 partners pursue CDEPs and mental health delivery systems change
- **Flexibility.** Maintaining an ability to address the unique nature and evolving circumstances of each CDEP and community/population served
- **Empowerment.** Increasing capacity of IPPs and priority communities to foster improvement and self-determination in mental health access and service delivery, as well as evaluation through TA support to the TAPs, SWE, EOA, and CDPH-OHE
- **Cultural Responsiveness.** Viewing the strengths and needs of the five priority populations through a cultural, linguistic, organizational, community, historical, and intersectional lens.

2.3.2 The Social-Ecological Framework

The SWE will examine reductions in mental health disparities and improvements in mental health outcomes from a public health perspective supported by an ecological systems framework (Bronfenbrenner, 1979). This framework posits that individuals' experiences and outcomes must be understood in the context of their ecological systems. In other words, individuals are enmeshed in different ecosystems all at once, from the most intimate home ecological system, moving outward to the larger school or neighborhood/community system to the most expansive system of society and culture. These systems inevitably interact with and influence each other and every aspect of people's lives. This framework is especially critical given that the five priority populations represented in Phase 2 experience a disproportionate share of mental health challenges at every level of the ecosystem, including a high prevalence of untreated mental health problems and related inequities in the social determinants of health.

The social-ecological framework provides a lens for developing a more nuanced understanding of the relationship between mental health and multi-level social and environmental factors (Bronfenbrenner, 1979; Ungar, 2012; Umemoto et al., 2009). It encourages attention to risk and protective factors at several levels that influence mental health, including individual, family, peer, school, neighborhood, community, and systems.

SWE outcomes bridge four critical ecological levels:

- **Individual and Family** - Increased access to culturally, linguistically, and LGBTQ competent mental health services and improvements in mental health for community members of the priority populations (CDEPs as implemented by IPPs),
- **Organizational** - Improvements in administration and operations, securing additional resources and building strategic partnerships to better serve communities (IPPs with TA and support from the TAPs, EOA, SWE, and OHE),
- **Community Environment** - Strengthened community capacity that can influence local mental health delivery systems changes (IPPs with support from the TAPs, EOA, SWE, and OHE), and
- **Statewide Systems and Policies** – Improvements in California's public mental health system so it can better recognize and effectively address the different linguistic and cultural needs of the various unserved, underserved, and/or inappropriately served communities through systems change (EOA, SWE, and CDPH-OHE).

2.3.3 Culture

Closely aligned with the social-ecological framework is culture (Trickett, 2009). For CRDP, CDPH-OHE defines culture as:

An integrated pattern of human behavior which includes thought, communication, languages, beliefs, values, practices, customs, courtesies, rituals, manners of interacting, role, relationships and expected behaviors of a racial, ethnic, religious or social group and the ability to transmit this pattern to succeeding generations. (National Center for Cultural Competence, 2001)

The SWE must consider culture and how it influences the evaluation of the CDEPs and CRDP Phase 2 as a whole. Culture is relevant to psychological theory and practice because it provides the foundational frames for developing worldviews, interpreting reality, and acting in the world (Harrell, 2015). It emerges out of interpersonal realities and reflects a dynamic relational process of shared meanings that must be considered in historical, social, political, and economic contexts (Carpenter-Song et al., 2007, Garneau & Pepin, 2015; Gregory et al 2010). More specifically,

Culture influences the experience, expression, course and outcome of mental health problems, help-seeking and the response to health promotion, prevention or treatment interventions. The clinical [or prevention/early intervention] encounter is shaped by differences between patient and clinician in social position and power, which are associated with differences in cultural knowledge and identity, language, religion and other aspects of cultural identity. Specific ethnocultural or racialized groups may suffer health disparities and social disadvantage as a result of the meanings and material consequences of their socially constructed identities (Kirmayer, 2012, p. 149).

Greater attention to culture is essential in CRDP Phase 2 given the salience of culture highlighted in the Phase 1 priority population reports and the centrality of culture in the community defined evidence practice approaches.

2.3.4 Cultural Competence

Often discussed in the context of discussions of culture in mental health is the concept of cultural competence which highlights the critical need to include cultural considerations in the design and delivery of mental health services. In their widely used framework, Cross et al. (1989) define cultural competence as “a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals and enables that system, agency, or those professionals to work effectively in cross-cultural situations” (p. iv). Further, while cultural competence initially focused on providing culturally appropriate care to members of ethnically diverse populations (Cross et al., 1989), it has been expanded for use among other diverse groups (e.g., LGBT individuals, see Boroughs et al., 2015; Israel & Selvidge, 2003) and phenomenon (e.g., providing spiritually competent therapy).

While cultural competence has also been conceptualized on multiple levels, from therapist characteristics, to organizational structures and processes, and system-level issues and policies (Sue, 2001; Betancourt et al., 2003), the majority of empirical research has focused on program characteristics, with the main foci remaining on mental health provider factors (Wendt & Gone,

2011). The SWE is intentionally widening these foci since the goal of CRDP Phase 2 is to demonstrate whether culturally competent PEI programs (i.e., CDEPs), which are community-defined, culturally-based, and community-driven, are effective in reducing mental health disparities across five priority populations.

2.3.5 Synthesis of Culture and Ecology

The SWE integrates culture with the social-ecological framework to develop a conceptual model that is multi-level, community-based, and culturally-situated. Culture is not simply relational and psychological. It is also embedded and expressed in communities. “No one lives in the world in general” (Geertz, 1996, p. 262); that is, everyone lives in the world in a situated context. While the social-ecological framework gives prominence to the complex interplay between individual, relationship, community, and societal factors, it also allows for a deeper examination of culture that changes over time, and is situated and expressed in a particular context. Because culture represents a dynamic, social and ecologically interpretive reality for members of a community, it can also be defined as “shared meaning that develops over time in the common activities of people” (O’Donnell & Tharp, 2012, p. 23). By exploring and examining the multiple factors that influence individual behavior, a more complete picture of the cultural features of a CDEP and the socio-ecological context within which they operate can emerge (Gallimore, Goldenberg, & Weisner, 1993).

More specifically, in this integrated model, the SWE approach is:

- **Multi-level** - Data is collected across individual, organizational, community, and statewide levels.
- **Community-based** - Working in close partnership with TAPs, the EOA, and local evaluators the SWE will identify, describe, and understand the effects of the CDEPs offered by each IPP in their respective communities.
- **Culturally-situated** –Explicit placement of culture, as manifested and expressed in the CDEP, while also considering how cultural, environmental, and historical factors influence the organizational, community, and systems contexts of the CDEP.

Therefore, the social ecological framework, as used in the SWE, is the synthesis of culture and ecology that will be used to represent a nuanced, multidimensional understanding of culture and context in mental health delivery (see Figure 3).

Figure 3: SWE Social Ecological Model



The rings in this SWE social ecological model align with CRDP Phase 2’s components and respective strategies.

- At the heart of the ecological system, the CDEPs, which provide services directed towards individuals, families, and groups are situated within the innermost ring.
- The second inner ring of the ecological systems contains the IPPs, who are immersed in the culture and context of their priority population community and develop and implement the PEI programs (including their evaluations).
- In turn, these organizations are located in communities, that are embedded in specific geographic locations and settings (such as schools, workplaces, and neighborhoods, as well as climate, processes and local policies). Although they include the demographic priority populations of interest in CRDP, each community and priority population has its own unique history, social capital, and social identities (Yoshikawa et al 2005), which are examined and described through the lens of intersectionality (e.g., Cole, 2009; Collins, 1999; Crenshaw, 1999). See [Section 2.3.7](#) for more discussion on PARC’s intersectionality approach.
- The outermost ring consists of the Statewide Systems (e.g., state laws on data collection and public reporting of mental health utilization and outcomes; public coverage for mental health services; evidence based practices expectations for mental health service delivery) that incorporate the broad society and policy factors in California that contribute to mental health disparities for the five priority populations.
- Finally, CRDP Phase 2 partners (TAPs, EOA, SWE, CDPH-OHE) traverse the multiple levels of the ecosystem to support, evaluate, and disseminate. The upper half of each ring, depicted with lighter shading, captures the infusion of evaluation, technical assistance, and dissemination/messaging support by the partners across the different levels of the ecosystem.

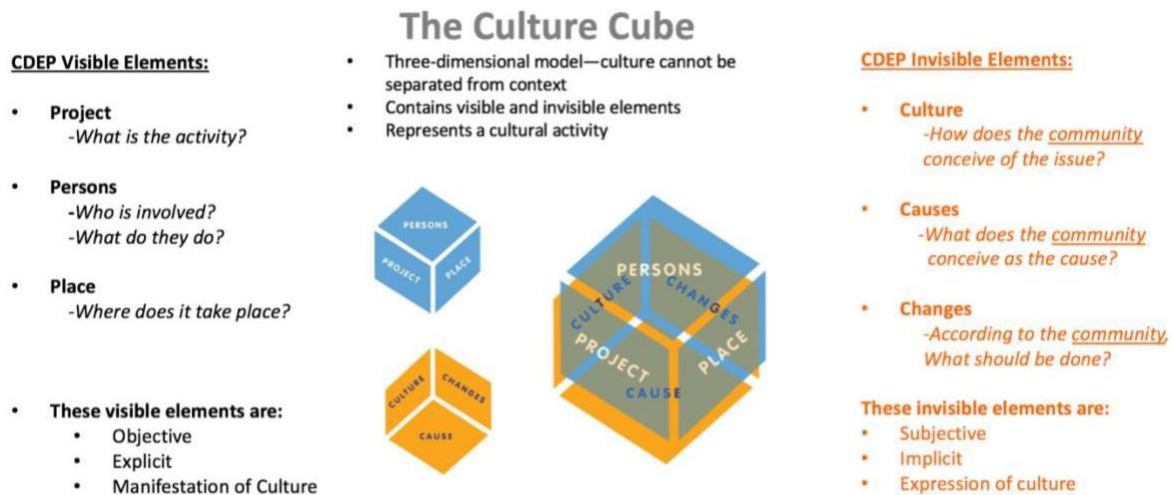
2.3.6 The Culture Cube

PARC developed a conceptual model and tool—The Culture Cube—to assist IPPs, local evaluations, and the SWE in articulating and documenting the cultural features and socio-ecological contexts of their CDEPs (see Figure 4).

The cube is a three-dimensional conceptualization that can:

- Guide descriptions of culture, as manifested and expressed in the CDEP—where culture is placed at the heart of the ecological system, and
- Account for historical factors that influence the organizational, community, and systems contexts of the CDEP. In fact, the cube encourages “thick” (ethnographic) description (Nastasi & Hitchcock, 2016) of an IPP’s worldview, cultural values and beliefs, practices, and cultural/community indices of health and wellness.

Figure 4: The Culture Cube Model and Tool



The CDEP’s unique values are captured through an understanding of the dynamic interaction of both visible and invisible aspects of the cube. In other words, communities have at least two levels of “culture”, one they share with outsiders (visible) and one that they live with (invisible)—with insiders. The cube is designed to explicate both. More specifically,

- The culture they share with outsiders, are the “visible” sides of the cube, or the **P**rojects—**P**ersons—and **P**lace (which are bold and prominent in the illustration of the model). These are the more commonly referred to elements of culture.
- The culture they live with—with insiders are the “invisible” parts of the cube, or the **C**ulture—**C**auses—and **C**hanges. These are less evident and are less commonly articulated

for those outside of the culture. They represent the culturally-based “explanatory models” that underlie the strategy.^{5,6}

The identification of these critical elements of the CDEPs can strengthen IPP local evaluations because they can help IPPs: 1) identify relevant process and outcome measures and methods that flow out of their explanatory models; 2) problem solve ways to capture relevant cultural variables in the evaluation; 3) examine assumptions about the change process required to achieve CDEP goals; 4) develop a clear evidence-based program description that can be included in their final local evaluation report and in the SWE’s analysis of IPP data; and 5) discern, cultural variables, outcomes, and measures that might be used across IPPs within a priority population.

2.3.7 Intersectionality

Intersectionality emerged out of a concern for the complex, cumulative ways the many forms of discrimination combine, overlap, and/or intersect. In other words, discrimination does not exist in a bubble; there is no universal person; and people are not one dimensional. Each person belongs to multiple social groups and has a gender, race, sexual orientation, gender identity, social position, experiences of discrimination and inequality, etc. The meaning of each social group membership is co-constructed through the lens of the other social groups. For example, a person’s understanding of their ethnic group membership is filtered through their gender identity, and their understanding of their gender identity is filtered through their ethnicity. Because social groups “encapsulate historical and continuing relations of political, material and social inequality” (Cole, 2009, p. 173), the meaning attached to a social category, and thus, the experiences of advantage and disadvantage based on that category, will depend on the domain being considered. These processes suggest that the same person could be disadvantaged in one context but not in others, based on their intersectional social group memberships. Thus, a person’s experiences must be conceptualized as dynamic, fluid, and internally diverse.

For example, a person’s understanding of their ethnic group membership is filtered through their gender in one context, which may shift in another context (e.g., at a family gathering, a female is more aware of the prominence of her traditional Mexican gender role, but in the work context, her womanist values characterize her behavior). The shifting and fluid nature of identities provide a more complex view of how social categories shape life outcomes (Warner & Shields, 2013). In keeping with this, the SWE integrated model allows for acknowledgement of and attention to:

- Diversity within cultures (based on multiple identities and intersectionality),
- Similarities across cultures (due to common historical and contemporary experiences of racism and oppression), and
- Differences between cultures (based on meanings attached to different social categories).

⁵ Kleinman and his colleagues (1978) first developed this approach to uncover differences between patients’ culturally-based understandings of their illnesses compared with their physicians’ medical culture-based views of their conditions, in order to facilitate the development of shared understandings in managing and negotiating health treatments.

⁶ For more information on the Culture Cube conceptual model and its illustration with 3 CDEPs see: Abe, J., Grills, C., & Ghavami, N., Xiong, G., Davis, C., & Johnson, C. (2018). Making the Invisible Visible: Identifying and articulating culture in practice-based evidence. *American Journal of Community Psychology*, 1-14. The article can be found on PARC’s website.

This offers a more textured understanding of the ways in which multiple social group memberships link privilege and disadvantage in people’s life experiences and how these may impact mental health and well-being at the organizational, community and systems level.

“Hyperdiversity” has been used to describe a “mosaic-like mix of national origin, ethnicity, race, immigration status, and nativity,” within which individuals increasingly claim a “growing multidimensionality of identity” (Good & Hannah, 2015, p. 201). It can also capture gender identity and sexual orientation. At the IPP CDEP and individual level, intersectionality can help us to nuance this within-group diversity, so groups are not stereotyped or essentialized in order to preserve an overly simplistic understanding of culture. At the community and organizational levels, recognizing the diversity among members of a priority population can include a consideration of complex, dynamic, fluid, and evolving community characteristics, compared with older social categories that are based on more static understandings of culture, ethnicity and race. At the local systems level, through the lens of intersectionality, county departments of mental health may discern the relevance of using different methods of service delivery, different assessment tools, and different metrics of effectiveness that better serves the needs of specific priority populations.

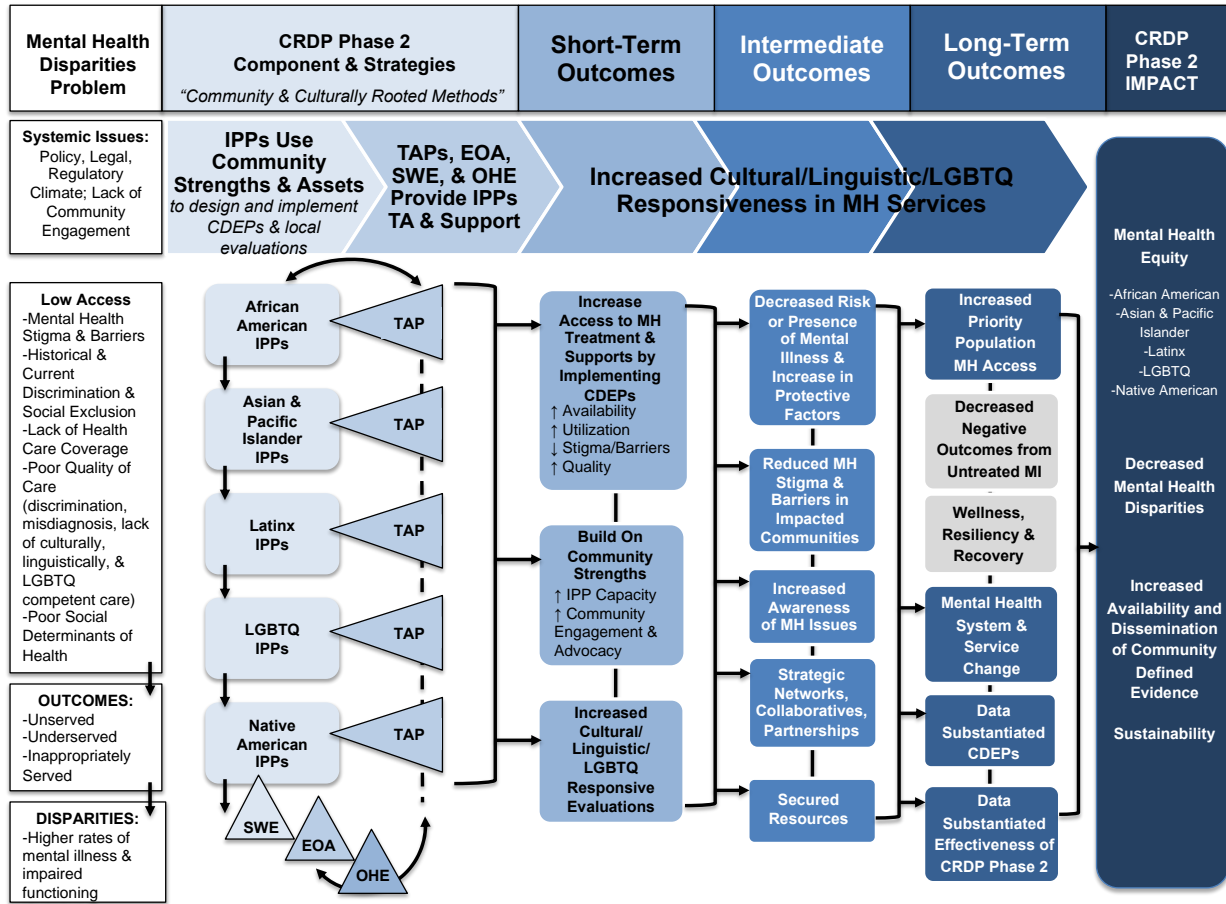
2.3.8 The CRDP Phase 2 SWE Change Model

Complementing the social-ecological framework, the SWE change model in Figure 5 delineates the pathways to change in CRDP Phase 2. The model is aligned with goals and strategies outlined in the CRDP Strategic Plan to Reduce Mental Health Disparities⁷, including the use of community and culturally-rooted methods to improve access, services, and outcomes for unserved, underserved, and inappropriately served populations.

The change model begins with a delineation of key factors contributing to the mental health disparities affecting the five priority populations. In response to these disparities, the IPPs implement a community-focused approach grounded in community strengths, culture and context. To augment their capacity and efforts, the IPPs are infused with technical assistance from the TAPs, SWE, EOA, and CDPH-OHE. Their community defined CDEPs contribute to short-term outcomes that include preliminary signs of increased access and utilization of PEI services, decreased stigma associated with mental illness, and improved service quality. At this stage IPPs have also designed and implemented culturally and linguistically attuned local evaluations. Continued implementation of the various CRDP components (the IPPs, TAPs, EOA, SWE, and CDPH-OHE) and their corollary strategies (CDEPs, organizational and advocacy capacity technical assistance, outreach and communication, evaluation technical support, and administrative oversight) lead to a set of intermediate outcomes at the individual (e.g., continued shifts in access, utilization, and stigma), organizational (e.g., acquisition of resources, strategic networks and collaborations), and community levels (e.g., increased awareness of mental health issues). Finally, while individual level change continues over time, additional long-term outcomes emerge at both the community and statewide/systems level for the five priority populations (e.g., mental health systems change) with continued infusions of support and technical assistance are provided by CDPH-OHE, TAPs, EOA, and SWE.

⁷ <https://cpehn.org/page/california-reducing-disparities-project>

Figure 5. CRDP Phase 2 SWE Change Model



2.3.9 Complexity Theory and the SWE Change Model

Although we recognize that Figure 5 presents a linear illustration, the model is grounded in the more nuanced modeling found in complexity theory (Byrne & Callaghan, 2014).

Complexity theory rejects the mechanistic and deterministic views of traditional science and simple linear models of psychological phenomena in favor of a view that complex phenomenon (such as health and wellness) are not static, do not exist in states of equilibrium, and can never be completely predicted because of the multiple interacting systems simultaneously at play and their self-organizing and emergent properties (Harrell, 2015).

Therefore, despite its linear illustration with isolated variables, the SWE change model and evaluation methodology is intended to capture the more textured story reflected within complexity theory. The requires sensitivity to the potential influence of organizational, community, cultural, historical, and contextual conditions on any observed changes, focusing attention on filling the gap between the stated importance of culture and the practice of incorporating culture into theory-building, intervention, and evaluation of outcomes. A complexity theory informed approach challenges the fundamental assumptions of experimental research such as the ability to truly isolate independent variables and viewing cultural variability as a problematic in presumed linear relationships. It concurrently encourages the use of mixed

methods and triangulation—i.e., verification of findings from two or more sources or types of data. The SWE methodology incorporates this perspective.

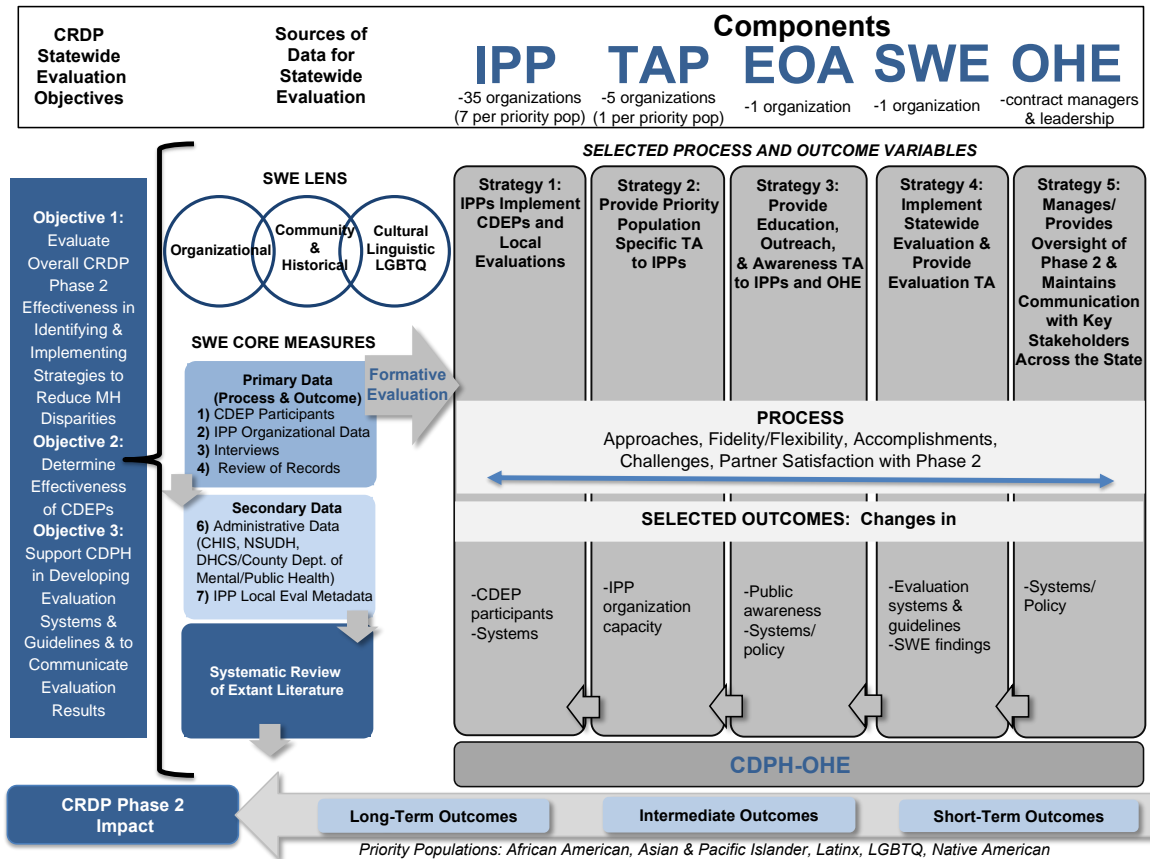
3. SWE METHODS

3.1 Design

The SWE uses a CBPP integrative, multi-year, multi-site, and mixed-methods approach to better understand the unique features of culturally defined evidence and practice while addressing the two SWE evaluation objectives. This begins with triangulation of data collected from methodologically diverse primary and secondary data sources to explain the mechanisms and outcomes of Phase 2 strategies. Beyond triangulation, the SWE design has both a summative component and a formative function (i.e., highlighting important success stories in real time, discerning what is and isn't working, and making course corrections). This formative process will yield annual updates to the SWE as Phase 2 unfolds. As a demonstration project, formative evaluation allows the SWE to better meet the objective of highlighting best practices and models in CRDP Phase 2.

The SWE design is illustrated in Figure 6. It visually represents the Phase 2 components and strategies (IPP, TAP, EOA, SWE, and CDPH-OHE), selected SWE process and outcome variables, and SWE data sources (both quantitative and qualitative) to meet its summative and formative functions. It further highlights how PARC will use three unique lenses —i.e., organizational, community (which also includes historical context), and cultural/linguistic/LGBTQ related factors—for each priority population to situate the findings. This nuanced perspective can yield a richer (and intersectional) understanding of how and when these lenses influence changes in mental health disparities among African American, API, Latinx, LGBTQ, and NA communities.

Figure 6. SWE Schematic of CRDP Phase 2 Components and Strategies



3.2 SWE Sampling

3.2.1 Total SWE Sample

Pre-determined by the CDPH solicitation, the SWE utilizes a non-probability sampling approach. The sample is drawn from the IPPs (N = 35), TAPs (N = 5), PARC (N =1), EOA (N = 1), CDPH- OHE (five priority population contract managers; one SWE contract manager; and OHE leadership including the Lead for CRDP, Chief of Community Development and Engagement, Deputy Director, and Assistant Deputy Director) and other CRDP key stakeholders (e.g., tribal and community leaders, administrators from county DMH’s, state policymakers, etc.). These sources provide data for overall statewide evaluation results, priority population results, and when possible, within and across populations.

Table 3: Total SWE Sample

Partners	Priority Populations				
	AfAm (n =7)	API (n =7)	Latinx (n =7)	LGBTQ (n =7)	NA (n =7)
IPP (N =35)	-California Black Women’s Health Project -Catholic Charities of the East Bay	-Hmong Cultural Center of Butte County -Muslim American Society: Social	-Humanidad Therapy and Education Services -Integral Community	-Center for Sexuality and Gender Diversity -Gender Health Center	-Friendship House Association of America

	-Healthy Heritage Movement -Safe Passages -The Village Project -West Fresno Health Care Coalition -Whole Systems Learning	Services Foundation -Cambodian Association of America -East Bay Asian Youth Center -The Fresno Center -HealthRIGHT 360 -Korean Community Services	Solutions Institute -Latino Service Providers -Health Education Council -La Clinica de La Raza -La Familia Community Counseling -Mixteco-Indigena Community Organizing Project	-San Joaquin County Pride Center, Inc. -San Francisco Community Health Center -Gender Spectrum -On The Move -Openhouse	-Indian Health Center of Santa Clara Valley -Indian Health Council, Inc. -Native American Health Center -United American Indian Involvement, Inc. -Sonoma County Indian Health Project -Two Feathers Native American Family Services
TAP (N =5)	ONTRACK	Special Service for Groups (SSG)	UC Davis Center for Reducing Health Disparities	Center for Applied Research Solutions (CARS)	Pacific Institute for Research and Evaluation (PIRE)
OHE (N =5)	Contract Manager	Contract Manager	Contract Manager	Contract Manager	Contract Manager
	OHE Leadership (n =4) SWE Contract Manager (n =1)				
SWE (N =1)	PARC@LMU				
EOA (N =1)	California Pan-Ethnic Health Network (CPHEN)				
Other (TBD)	State/County Decision Makers, Tribal/Community Leaders, etc.				

3.2.2 CDEP Participant Level Sample

IPPs are collecting CDEP participant level data for the SWE using a cross-site questionnaire. The CDEP participant sample size is not pre-determined by PARC but by the IPP and local evaluators so that sample size aligns with their local evaluation sampling strategy. Outreach methods for and involvement in the local evaluation, and therefore the SWE cross-site questionnaire will vary by IPP and community. Data collection locations will also differ across IPPs because implementation of CDEPs occur across multiple sites and locations, and levels (e.g., school, classroom, students, agencies, community events. etc.). In light of the above variability and the nature of the local IPP evaluation strategies, IPP sampling approaches will primarily be a combination of non-probability techniques—i.e., universal or convenience. [Section 5.1.1](#) addresses the analytical implications of this sampling design.

3.2.3 Inclusion/Exclusion Criteria and Recruitment

Inclusion criteria for the SWE will consist of: a) CRDP Phase 2 partners (IPPs, TAPs, EOA, SWE, and CDPH-OHE); and b) other key stakeholders who have some level of involvement with Phase 1 or 2—i.e., county and state, decision makers, community/tribal leaders, etc. Exclusion criteria for the statewide evaluation are non-CRDP Phase 2 PEI programs or services, or populations not specified within the Phase 2 contract. Recruitment of the SWE sample will

occur through regular contact and communication between PARC and the Phase 2 partners and other key CRDP stakeholders.

In collaboration with Phase 2 partners, members of the meso-level (e.g., community based organizations, churches, schools, etc.) and macro-levels (e.g., leaders, experts, policymakers) of the social ecology will be identified and recruited as key informants for the SWE. IPPs will recruit micro-level—that is, CDEP participants into the SWE using CBPP and other culturally, linguistically, and LGBTQ responsive outreach strategies.

3.3. SWE Core Variables

In order to determine effectiveness of Phase 2 as a whole, a set of SWE core process and outcome variables, as well as measures, were identified and developed to ensure consistency in data across Phase 2 components and strategies. The SWE variables and measures are aligned with the SWE's objectives, research questions, and change model, including the *CRDP Strategic Plan to Reduce Mental Health Disparities*. With feedback and approval obtained from CDPH-OHE, six primary and secondary (or administrative) core measures were identified by PARC that included a combination of qualitative and quantitative measures from internal and external data sources. They constitute only a subset of potential process and outcome measures to answer the research questions. The SWE outcome measures in particular are consistent with evaluation best practices and standard methods to examine changes in PEI programs and strategies (Rand, 2017). Embedded within a portion of the SWE core outcomes measures are a series of comparisons—i.e., comparing CDEP participant data to external populations (e.g. County PEI data and national/state population health survey data)⁸. Tables 4 and 5 present an overview of the SWE core process and outcome variables organized by their operational definition, corresponding measures, data sources, sample, and data collection time points. [Sections 3.4.1 to 3.4.6](#) describe the six cross-site SWE core measures.

⁸ Attempts will be made for the comparison populations to have a similar composition to the CDEP priority populations being evaluated to allow for meaningful analysis (i.e., comparability across socio-demographic factors and other relevant covariates).

Table 4. SWE Change Model Core Outcomes by Operational Definition, Measures, Sources, Sample and Data Collection Time Point

Change Stage	Change Model Outcomes	Operational Definition	Measures(M)/ Sources(S)	Sample	Data Collection Time Points
-Short-Term -Intermediate -Long-Term	Access	Availability -CDEP setting (e.g., community, faith-based, cultural centers, school-based) -Number of CDEPs implemented by community defined integrated models (integrated, co-location, collaboration) -Cultural, linguistic & LGBTQ approaches to CDEP service provision -Cultural, linguistic & LGBTQ approaches to CDEP outreach and recruitment (including materials) -Number and type of CDEP referrals/linkages provided -Number of CDEP resource guides developed	M: IPP SAR, IPP Local Evaluation Plan S: IPPs	-35 IPPs	-IPP SAR submitted semi- annually
		Utilization CDEP Participants: -Number of adult, adolescent, children served by select direct programs -Number of adult, adolescent, children served by socio-demographics -Number of adult, adolescent, children served by unmet need	M: IPP SAR; CDEP Participant Questionnaire; Administrative Comparison Data S: IPPs; County PEI Participation Data & CHIS Data	-35 IPPs -CDEP participant subsample	-IPP SAR submitted semi- annually -CDEP questionnaires collected at PRE -PEI data upon state/county approval
		Stigma/ Barriers CDEP Participants: -Number of adult, adolescent, child participants served by psychological distress & psychological functioning -Number of adult, adolescent, child participants served by stigma/barriers EOA TBD	M: CDEP Participant Questionnaire; Administrative Comparison Data S: CDEP Participants; CHIS/ NSUDH Data; EOA	-CDEP participant subsample	-CHIS data upon approval -CDEP Questionnaires collected at PRE -CHIS/NSUDH data upon approval
		Quality -Participant general satisfaction with CDEP, CDEP accessibility, CDEP quality, CDEP cultural/linguistic competency, perceived outcomes -CDEP language assistance provided -Number and type of CDEP workforce responders trained (existing, future) -Workforce development cultural, linguistic, and LGBTQ approaches used -Credible evidence of CDEP effectiveness established through local evaluation	M: CDEP Participant Questionnaire; IPP SAR; IPP Final Evaluation Report; Administrative Comparison Data S: CDEP Participants; IPPs; County PEI MHSIP Data	-CDEP participant subsample	-CDEP Questionnaires collected at POST -IPP SAR submitted semi- annually -IPP Final report submitted at end of SWE data collection -MHSIP data upon state/county approval

Change Stage	Change Model Outcomes	Operational Definition	Measures(M)/ Sources(S)	Sample	Data Collection Time Points
<i>-Short-Term -Intermediate</i>	Community Strengths	IPP Capacity	-IPP leadership, adaptive, management, operational, cultural competence, other -Number and type of MHSA PEI and other secured funding	M: IPP Org. Capacity Assessment; IPP SAR S: IPPs	-IPP Assessment collected at start/end of SWE data collection -IPP SAR submitted semi- annually
		Community Engagement	-Parents, families, youth involvement with CDEP & local evaluation -Spiritual leaders, healers, & faith-based & other stakeholder involvement with CDEP & Local Evaluation	M: IPP SAR S: IPPs	-35 IPPs -IPP SAR submitted semi- annually
<i>Short-Term Intermediate</i>	Cultural and Linguistically Based Evaluation (CDEP, SWE)	-Peer reviewed IPP Local Evaluation Plan & CDPH-OHE approval -Local evaluation outcome data (meta-analysis data)	M: IPP Evaluation Plan; CDPH-OHE approval; IPP Final Evaluation Report S: Records	-35 IPPs	-IPP Local Evaluation Plan review/approval collected at Y1 -IPP Final Evaluation Report collected at end of SWE data collection
<i>Intermediate</i>	Risk/Presence of Mental Health Issues & Protective Factors (CDEP)	-Changes in psychological distress, functioning, cultural connectedness, social exclusion	M: Participant Questionnaire; Administrative Comparison Data S: CDEP Participants; CHIS Data	-33 IPPs -CDEP Participant subsamples	-Questionnaires collected at PRE & POST -CHIS data upon approval
<i>Intermediate</i>	Awareness of MH Issues (Local, County, State)	-Number and type of audience reached by IPPs -IPP cultural, linguistic, and LGBTQ approaches used in messaging -EOA TBD	M: IPP SAR S: IPPs	-35 IPPs	-IPP SAR submitted semi- annually
<i>Intermediate</i>	Mental Health Services Networks/Collaboratives & Strategic Partnerships (Local, County, State)	-Number & level of IPP involvement with networks, collaboratives, and partnerships and related accomplishments -EOA TBD	M: IPP SAR S: IPPs	-35 IPPs	-IPP SAR submitted semi- annually
<i>Long-Term</i>	Mental Health System & Services Change (Local, County, State)	-Number and type of advocacy efforts aimed at policy, systems, or environmental change -Number and type of policy, systems, or environmental change -EOA TBD	M: IPP SAR; Key Informant Interviews; Records S: IPPs; Decision makers/Leaders; CRDP or other public sources	-35 IPPs -Interview sample (could include TAP, SWE, & OHE depending on the variables) TBD	-IPP SAR submitted semi- annually -Interviews TBD

Table 5. SWE Core Process Variables, Measures, Data Sources, & Data Collection Points

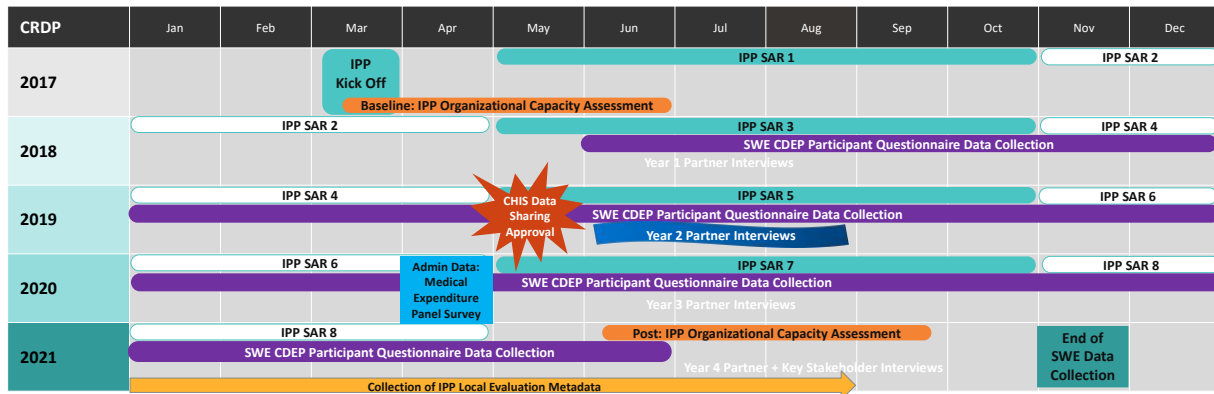
Process Measures	Operational Definition	Measures(M)/ Sources (S)	Sample	Data Collection Time Points
<i>IPP Context</i>	-IPP community context (populations of focus, intersectionality, socioeconomic, regional, community, organizational, cultural/historical) -Number & type of mental illnesses & protective factors targeted by CDEPs	M: IPP proposal, IPP Local Evaluation Plan & Final Evaluation Report S: IPPs; Records	-35 IPPs	-IPP start of grant through end of SWE data collection
<i>Phase 1 Strategies in Phase 2</i>	-Phase 1 Priority Population strategies used by IPP CDEPs -CDEP Component Overview	M: IPP proposal, Evaluation Plan, Evaluation Report, & Phase 1 Priority Population Reports S: IPPs; Public Records	-35 IPPs	-Start of SWE contract through end of SWE data collection
<i>Phase 2 IPP Implementation Strategies</i>	-CDEP relationship to MHSA PEI program/strategies -Outreach/recruitment strategies -Community engagement strategies with CDEP and Local Evaluation -Public communication strategies -Purpose of IPP involvement in networks, collaboratives, & partnerships	M: IPP Local Evaluation Plan; IPP SAR S: IPPs	-35 IPPs	-IPP Local Evaluation Plan and annually submitted updates -IPP SAR submitted semi-annually
<i>IPP CDEP Fidelity vs. Flexibility</i>	-Fidelity to & adaptation of original CDEP model -Reasons for adaptation (internal & external)	M: IPP Local Evaluation Plan; IPP SAR S: IPPs	-35 IPPs	- IPP Local Evaluation Plan and annually submitted updates -SAR submitted semi- annually
<i>IPP Local Evaluation Strategies</i>	-Cultural, linguistic, and LGBTQ methods, measures, and practice -Number & socio-demographics of local evaluation sample size proposed and achieved	M: IPP Local Evaluation Plan; IPP SAR; IPP Final Evaluation Report S: IPPs	-35 IPPs	-IPP Local Evaluation Plan submitted annually -IPP SAR submitted semi-annually -IPP Final Evaluation Report submitted at end of SWE data collection
<i>IPP Local Evaluation Fidelity vs. Flexibility</i>	-Fidelity to & adaptation of original CDEP local evaluation -Reasons for adaptation (internal & external)	M: IPP Local Evaluation Plan; IPP SAR S: IPPs	-35 IPPs	- IPP Local Evaluation Plan and annually submitted updates -IPP SAR submitted semi-annually
<i>IPP Implementation Barriers & Successes</i>	-Internal barriers & successes (IPP, Phase 2) -External barriers & successes (community, political, public system)	M: IPP SAR S: IPPs	-35 IPPs	-IPP SAR submitted semi-annually

<i>Phase 2 Partner Implementation Strategies</i>	-TAP TA strategies -EOA mental health awareness strategies -SWE strategies -OHE leadership & management strategies	M: Interviews S: TAPs, EOA, SWE, CDP-OHE	-5 TAPs, 1 SWE, 1 EOA, 8 OHE staff	-Contractor/grantee/OHE interviews conducted annually
<i>Phase 2 Technical Assistance Provided to IPPs</i>	-TA provided to IPPs by Phase 2 partners (TAPs, SWE, EOA, OHE)	M: TA Reports; Interviews S: TAPs, EOA, SWE	-5 TAPs, 1 SWE, 1 EOA	-IPP start to end of SWE data collection -Interviews conducted annually
<i>Phase 2 Statewide or County Public Awareness</i>	-EOA TBD	M: TBD S: EOA	1 EOA	-Start of EOA contract to end of SWE data collection
<i>Phase 2 Partner Fidelity vs. Flexibility</i>	-Fidelity to and adaptation of original proposed partner strategy -Reasons for adaptation (internal & external)	M: Interviews S: TAPs, EOA, SWE, CDP-OHE	-5 TAPs, 1 SWE, 1 EOA, 8 OHE staff	-Interviews conducted annually
<i>Phase 2 Lessons Learned</i>	-Phase 2 strengths and weaknesses -Recommendations & practical implications for future initiatives	M: Interviews S: IPPs, TAPs, EOA, SWE, CDP- OHE	-5 TAPs, 1 SWE, 1 EOA, 8 OHE staff	-Interviews conducted Y2, Y3, Y4 with TAPs, SWE, OHE, and EOA -IPP SAR
<i>IPP and Partner Satisfaction with CRDP Phase 2</i>	Satisfaction with: -CRDP Phase 2 strategies and operations -Level of support received -Partner collaboration	M: IPP SAR; interviews; Other TBD S: CRDP Phase 2 contractors and grantees	-35 IPPs, 5 TAPs, 1 SWE, 1 EOA, 8 OHE staff	-IPP SAR submitted semi-annually -Interviews conducted annually

3.4. Cross-Site SWE Core Measures

For more detailed information on the six primary and secondary (or administrative) core measures see [Section 3.4.1](#) to [3.4.6](#). Using a CBPR process, continuous feedback from Phase 2 partners (IPP, TAP, CDPH-OHE) is solicited and consistently integrated into various SWE core measure instruments and data collection procedures. Improvements to the SWE core measures are often made to account for the unique cultural, linguistic, historical, and contextual factors of each community and priority population. This iterative feedback process facilitates meaningful cross-site measures of progress capable of informing, providing critical feedback, and reinforcing positive change among all Phase 2 partners and their respective strategies and distinct approaches. See Figure 7 for a timeline of primary SWE Core Measures data collection efforts.

Figure 7: SWE Core Measures Data Collection Timeline



3.4.1 CDEP Participant Level Data

CDEP Participant Questionnaire consist of items selected and/or modified from national/state population health or other standardized surveys⁹, and new items generated by PARC or in collaboration with Phase 2 partners. Questionnaires are collected from either all or a sub-sample of CDEP participants, and are administered at the beginning (pre-test) and/or end (post-test) of the natural CDEP program cycles. There are three age versions of the questionnaire: Adult (18+ years), Adolescent (12-17 years), and Child by Proxy (5-11 years). The Child by Proxy questionnaires are completed on behalf of the child by a parent, guardian, or caregiver. These questionnaires address multiple factors related to individual-level mental health disparities including demographic information. These are:

- Access/utilization to mental health supports and services in the year prior to CDEP involvement (Pre-only),
- Mental health stigma and other barriers to help seeking in the year prior to CDEP involvement (Pre-only),
- Psychological distress, psychological functioning and protective factors (Pre- and Post),
- CDEP satisfaction and quality of service (Post-only), and
- Demographic information (Pre-only).

⁹ California Health Interview Survey (CHIS); The National Survey on Drug Use and Health (NSDUH); The Mental Health Statistics Improvement Program (MHSIP) consumer survey; The Consumer-Based Cultural Competency Inventory (CBCI)

See Appendix C for paper-pencil copies of the adult, adolescent, and child by proxy questionnaires.

The Application of Intersectionality. While the CDEPs are designed to serve one priority population, it is critical that the SWE not overlook the intersectional identities of the adults, adolescents, and children the CDEPs are serving. For example, the Latinx priority population are not homogenous. They are very diverse on the basis of multiple overlapping factors (e.g., age, ethnicity, gender, sexual orientation, experiences of discrimination and inequality, etc.). The SWE recognizes that people's identities and social positions are shaped by multiple factors, which all contribute towards their unique experiences and perspectives, including a variation of risk and resilience factors in outcomes. To ensure that the experience and needs of all segments of each priority population are adequately addressed in the SWE, the following demographic items were included in the questionnaire: age, race, ethnic identity, sex assigned at birth, gender identity, sexual orientation, English fluency, experiences with temporary refugee settlement or ICE facilities, and number of years living in the United States. Recognizing the current political climate and immigration policies, some individuals may experience discomfort or fear disclosing some or all of this information and a response option of "refuse to answer" is provided. Optional items for use by IPPs also include: perceived health status, experiences of racism and discrimination, and sexual orientation and gender identity discrimination. See [Section 2.3.7](#) for more information on the intersectional data analytic approaches the SWE will be utilizing.

3.4.2 Organizational Level Data

The *IPP Organizational Capacity Assessment* tool assesses organizational capacity strengths and unique or priority capacity building needs at the start of the IPP grant (pre-assessment) and at the end of SWE data collection (post-assessment). It is an adapted version of the Organizational Capacity Assessment Tool developed by the Marguerite Casey Foundation that uses a "grading framework" with standardized rating scales. The data will be used to track growth in IPP organizational capacity in the following areas:

- Leadership: to inspire, prioritize, make decisions, provide direction, and innovate;
- Adaptive: to monitor, assess, and respond to internal and external changes;
- Management: to effectively and efficiently use organizational resources;
- Operational: to implement key organizational and programmatic functions; and
- Cultural Competence: to understand/respond to cultural influences, values, needs, and attitudes of their community constituency. (This sub-scale was newly created in collaboration with the TAPs to help explore and assess organizational level cultural responsiveness).

With the assistance of the TAPs, IPPs completed the pre-assessment at the start of their grant. IPPs were encouraged to invite multiple individuals within their organization (e.g., leadership, board of directors, managers, and staff) and other community stakeholders to collectively complete the assessment, discuss their ratings, and reach consensus on one set of ratings that best represents the IPP. The same process will be used at the post-test assessment at the end of the SWE data collection time period. See Appendix D for a paper-pencil copy of the assessment tool.

The IPP Semi-Annual Report (IPP-SAR) summarizes major or significant activities by the IPPs during a six-month time period related to: 1) developing and implementing their CDEPs and local evaluations, including fidelity and appropriate adaption to their original approaches; 2) accomplishments in IPP organizational capacity; 3) community engagement and public communications strategies; 4) advocacy efforts for systems, environmental, and policy change; 5) IPP satisfaction with Phase 2 partner TA and support; and 6) CDEP program participation (e.g., unduplicated or estimated counts of individuals served). This primarily qualitative measure of IPP progress and overall Phase 2 effectiveness, will be collected from the start of the grant to the end of SWE data collection time period. See Appendix E for more information about the SAR, a reporting schedule, and a paper-pencil copy of the most recent IPP SAR.

OHE Progress Reports summarizes TA and support activities provided by the TAPs, EOA, and SWE to IPPs, which is submitted to OHE on a regular basis, and shared with PARC. A template was developed in Year 2 in order to standardize TA reporting across all of the partners. Its development was derived from PARC's internal TA tracking system with input provided by the TAPs and OHE. It documents content of the TA provided to IPPs, mode of delivery (e.g., in person, video conference call), TA type (e.g., consultation, information/resources), and number of TA contacts by IPP. See Appendix F for the TAP's standardized TA reporting template.

3.4.3 Interviews

Phase 2 Partner Interviews and its accompanying survey are conducted annually with TAPs, EOA, SWE, and CDPH-OHE¹⁰ to examine: a) implementation approaches and strategies used by the partners to support the work of the IPPs; b) fidelity and appropriate adaption to their original partner approaches; c) collaboration among the partners to support the work of the IPPs, including how it evolved over time; and d) success, challenges, and lessons learned (IPP specific and priority population and/or CRDP-wide). The interview and survey data will serve as a qualitative measure of progress regarding overall effectiveness of Phase 2. See Appendix G for the interview protocol and the Partners' Brief Survey on TA and Support¹¹.

Key Informant Interviews will be conducted in the final six months of SWE data collection with county/state decision makers, tribal or community leaders, and other key stakeholders to assess and confirm changes in mental health delivery systems/policies and anticipated effects of these interventions. PARC will work closely with CRDP Phase 2 partners to identify relevant key informants, develop interview protocols, and obtain access to key informants.

3.4.4 Review of Records

CDPH-OHE Phase 1 and 2 Records/Documents include regular and systematic collection, review and extraction of information from pertinent records and documents. These include, but are not limited to:

- Accepted grant proposals and bids,

¹⁰ Phase 2 Partner Interviews began annually in summer of 2018, and will continue annually until the end of the SWE data collection time period. As EOA's contract started in 2019, they were interviewed for 2019 only.

¹¹ The Partner's Brief Survey on TA and Support was added in the second year as a qualitative data collection strategy to build on the quantitative information collected in the OHE Progress Reports by the TAPs, EOA, and SWE. It also documents critical TA and support provided by OHE leadership and contract managers to IPPs, including their perceptions of IPP organizational capacity growth.

- Contractor or grantee monthly reports to CDPH-OHE,
- *CRDP Strategic Plan to Reduce Mental Health Disparities* and the Phase 1 Priority Population Reports,
- Approved IPP final evaluation plans* and their annual updates,
- Approved IPP final evaluation reports, and
- Grantee and contractor invoices/budgets.

**The IPP Final Evaluation Plan Template.* Although the IPP grant proposals were an important source document for the SWE, what was originally proposed did not fully capture the detail—i.e., heart, soul, or rational—of the proposed CDEPs and their respective evaluations. In conjunction with SWE Objective 3, PARC developed an IPP local evaluation plan template and evaluation guidelines to assist IPPs with revisiting and refining their CDEP descriptions and local evaluation plans. Elements from the Culture Cube (see [Section 2.3.6](#) for more information) were intentionally built into sections and questions in the local evaluation template to encourage IPPs to explicitly address the visible (project, persons, place) and invisible (e.g., cultural worldviews) elements of their CDEPs in a standardized, narrative format. Formal review and feedback that included external reviewers with research expertise aligned to each specific priority population was provided to each IPP. Where needed, TA was provided by PARC about the technical aspects of their local evaluation plans as well as their application of the culture cube. Their refined local evaluation plans were then subsequently approved by CDPH-OHE. The plans have an added value in that they can be used by both IPPs and the SWE in their respective final evaluation reports to summarize the CDEP’s explanatory frameworks. This includes the cultural assumptions that usually remain implicit and unstated in PEI interventions (e.g., articulating the ways in which community context, cultural influences and values, including spirituality, define a CDEP intervention and expected outcomes). This information will be used by the SWE to 1) conceptually understand the CDEPs; 2) understand assumptions in CDEP approaches and strategies; and 3) make necessary course corrections in the SWE and local evaluations. See Appendix H for the Local Evaluation Plan Template and Review Guidelines.

Other Public Records include review of public records to confirm CRDP Phase 2 systems, environmental and policy changes. PARC will seek help from CDPH-OHE and other key stakeholders to obtain records that are not easily accessible.

3.4.5. Secondary or Administrative Data (for comparison purposes)

PARC applied and received approval in 2019 to gain access to sensitive mental health data and/or geo-coded data from the California Health Interview Survey (CHIS). Attempts will be made to secure access to County PEI Mental Health Statistics Improvement Program (MHSIP) consumer survey data and demographic groups served data collected by county PEI programs in the same counties in which CDEPs are located. CDPH will be consulted to both facilitate obtaining relevant data sharing agreements with the California Department of Health Care Services (DHCS) and/or county departments’ of behavioral/mental/public health. This secondary data will be used to understand the magnitude of change or trends related to CRDP Phase 2 strategies, conduct comparisons with IPP participant data, and to make the business case for the effectiveness of CDEPs and CRDP Phase 2.

3.4.6 Local Evaluation Study Metadata

Along with the SWE’s CDEP Participant Questionnaire, PARC will be requesting that IPP submit aggregate meta-data from their local evaluation studies to expand the SWE’s capability to

demonstrate evidence of CDEP effectiveness on positive (e.g., hope, cultural connectedness) or negative mental health (depression, anxiety) outcomes for participants. Meta-analysis, an analytical technique, will be used to summarize the results of multiple IPP local evaluation studies to assist with determining the effects (or magnitude of change) of the CDEP interventions on participants. The total number of IPP local evaluation studies to be included will vary based on the specific participant outcomes being evaluated by each of the IPPs (and their associated standardized measures), and their ability to be grouped into various categories within and across the five priority populations—e.g., age (adolescent vs. adult CDEPs), PEI focus (e.g., school-based vs. community-based CDEPs), positive (e.g., hope, wellbeing, social support) and negative mental health (e.g., depression, anxiety) constructs, etc. As the changes will be assessed with effect sizes, IPPs will be asked to report aggregate findings on specific outcome measure data in the local evaluation final reports. Table 6 identifies what meta-data IPPs will be asked to report in their local evaluation final reports. More detailed information on the Meta-Analysis technique that will be used by PARC with this data will be contained in the final annual update of the SWE Evaluation Plan Update in early 2020 ([Section 5](#) Data Analysis Plan).

Table 6: IPP Sample Metadata Entry Table

Measure Name	Modified Yes/No	Pre Mean score	Pre score SD	Pre N	Post Mean score	Post score SD	Post N	Correlation between Pre and Post Mean scores (r)	Cohort (if applicable)	Age Group (child/adolescent/adult)
Example										
The Center for Epidemiologic Studies - Depression (CES-D)	N	20.55	2.00	30	18.11	2.00	28	.78	1	Adult

3.5 Translation and Cultural Adaptation of SWE Materials

To date, various SWE materials were translated from English into seven additional languages for use by 16 IPPs:

- SWE Participant Questionnaire,
- IRB-Approved Recruitment Scripts;
- IRB-Approved Consent and Assent Forms, and
- California Participant Bill of Rights for Non-Medical Research.

Table 7 provides a general overview of the languages the SWE materials were translated into by the number of IPPs who will be using these translated and culturally adapted versions of SWE materials.

Table 7: SWE Translation Languages

Languages	# of IPPs	Priority Population
Spanish	10	Latino (n =7); LGBTQ (n =3)

Hmong	3	Asian Pacific Islander
Tongan & Samoan	1	
Korean & Vietnamese	1	
Khmer	1	

See Appendix I for a detailed breakdown of IPP translated and culturally adapted versions of SWE materials.

3.5.1 Translation Procedures

To produce English equivalent translations of the various SWE materials, the following procedures were used that are consistent with best practices employed by California Health Interview Survey: 1) initial translation, 2) review by language experts skilled at the level of ATA/CA Court Certified translators/interpreters, 3) translation moderator review, and 4) translation reconciliation. PARC worked collaboratively with IPPs and TAPs to identify certified language translation experts in their respective communities to take the lead on the translation and cultural adaptation of the materials.

PARC aimed for translation equivalence at three levels: construct (do the underlying constructs—stigma, depression, etc.—have the same meaning in different cultural contexts?); method (do the SWE procedures for data collection work for a given population?), and; item (do the SWE items or information provided make sense, not just in terms of grammar structure, but meaning?). Materials were translated and either a) back-translated or b) culturally reviewed by bilingual/bicultural representatives of the IPP or TAP. For many IPPs, the cultural review included a pilot of the materials with CDEP community members, as well as integration of recommendations and final adjustments with the certified language translation expert.

3.6 Institutional Review Board Approval

The Office of Statewide Health Planning and Development’s Committee for the Protection of Human Subjects (OSHPD-CPHS) serves as the institutional review board (IRB) for the California Health and Human Services Agency (CHHSA). On 04/17/2018, a twelve-month approval was granted to PARC@LMU for the SWE (IRB protocol #: 2017-013). Annual re-approval was received on 04/8/2019. Apart from the CDEP Participant Level Data, which is considered research with human subjects, the SWE is considered to be an evaluation. Per requirements outlined in the SWE contract, PARC is adhering to CDPH Information Security Office (ISO) standards for data privacy and protection for all SWE core measure data. For more information on the approved IRB full proposal, contact SWE.SWE@lmu.edu.

CPHS IRB Approved Human Subject Protection Protocol. This research protocol includes standardized procedures and forms for: a) participant recruitment, b) participant consent/assent, c) questionnaire administration, d) data de-identification, d) data warehousing (i.e., use of CDPH ISO standards), and e) data submission to PARC. IPPs are responsible for recruiting participants, obtaining consent/assent, collecting data, de-identifying data¹², securing data at

¹² CDEP participant data will be de-identified data by IPPs prior to its submission to PARC, which includes any of the 18 HIPAA identifiers (e.g., participants’ name, address, phone number, photographic images, etc. or any other characteristic that could uniquely identify the individual).

their site, and submitting data to PARC using the CPHS approved protocol. See Appendix J for the full protocol.

From 2017 through 2020, a continuous CBPP community review process (which included a pilot of the CDEP Participant Questionnaire) was conducted with Phase 2 partners to strengthen the validity of the participant questionnaire data. To date, PARC has successfully submitted thirteen CPHS amendments on behalf of 31 IPPs. CPHS approved modifications included changes to item terminology, response scales, administration or data submission process to reduce the burden of data collection. Although IPPs consulted with TAPs, PARC, and/or CDPH-OHE on these modifications, they primarily reflect IPP and community wisdom about the particular evaluation strategies and methods that work best for their community.

Changes Made to SWE Data Collection in Response to COVID-19: In April 2020, PARC proposed appropriate changes to the collection and storage of the SWE CDEP Participant Questionnaire on behalf of 28 IPPs in response to the COVID-19 pandemic. In an effort to be responsive to CDEP participants' immediate needs during this period and to comply with state shelter-in-place orders, many IPPs shifted from in-person to virtual and/or remote service delivery. Three separate amendments were submitted beginning in May 2020 and were all approved by CPHS. The approved modifications are consistent with adjustments Institutional Review Boards across the country have made in light of the COVID-19 pandemic (e.g., electronic or verbal consent procedures, remote survey administration, etc.).

See Appendix K for an overview of the age-related questionnaire versions in use by each IPP, including general information on administration procedures, data collection settings, and CPHS approved modifications.

4. SWE DATA DOCUMENTATION, VALIDATION, AND VERIFICATION

4.1 Data Dictionary

The SWE includes a Data Dictionary prepared in Microsoft Word that is readily usable as a public use file by Phase 2 Partners, particularly the IPPs, other researchers or key stakeholders. The SWE data dictionary is a “living document” and is regularly updated to ensure that any revisions to the SWE Core Measures are included in the Data Dictionary. To date, Version 3.1 (September 2020) contains detailed data information about the CDEP Participant Questionnaires, IPP-SAR, and technical assistance/support and subject matter expertise provided to IPPs by TAPs, EOA, SWE, and OHE. Future versions of the Data Dictionary will include additional SWE Core Measures. Feedback and final SWE Data Dictionary approval will be obtained from CDPH-OHE.

The SWE Data Dictionary Version 3.1 contains the following sections:

- Introduction,
- SWE Plan Overview
- About the SWE Data Dictionary

- Data Dictionary
 - CDEP Participant Questionnaire by age version
 - IPP Semi-Annual Report (IPP-SAR)
 - TAP and SWE Progress Report (data on TA and support provided to IPPs)

For more information on the SWE Data Dictionary Version 3.1, contact SWE.SWE@lmu.edu.

4.2 Data Files

The SWE includes comprehensive data files that meet CDPH ISO standards. All SWE process and outcome data are stored in a variety of data files specific to each CRDP Phase 2 SWE data source and/or Partner (IPP, TAP, EOA, SWE, CDPH-OHE, and other). The data files are created in SPSS Statistics software files, but are available in a variety of data formats, including SAS, STATA, or Excel.

CDPH maintains ownership and all rights to all data collected within the scope of the SWE contract. At the conclusion of the SWE contract, all collected de-identified data, data files, and the data dictionary will be turned over to CDPH. All process and outcome data will be routinely entered and cleaned. At the end of the SWE contract, the database will be transmitted in SPSS and Excel format to CDPH on an external hard drive, including the accompanying Data Dictionary files.

4.3 Data Validation and Verification

Two types of quality control measures are used with SWE core measure data. All data submitted to PARC by IPPs and TAPs undergoes both a validation and verification check to ensure the data is correct, credible, in the correct format, accurate, and error free. Validation procedures include: a) downloading of data submissions from Qualtrics, b) recording data submissions in a master log; c) reviewing data and documenting any errors, inaccuracies or inconsistencies with the submissions, including communication with IPPs or TAPs to discuss and resolve flagged data issues in the master log; and d) processing decisions with the corresponding data and preparing for data entry. A double entry verification method is used to reduce data entry error. Using this method, data is first entered into a data file by one research assistant. The data is then re-entered by a different research assistant and the two data sets are compared for consistency. Discrepancies are brought to the attention of the data management team and they are resolved in real time during data entry. All PARC research assistant staff involved in SWE data validation or verification are supervised by PARC senior researchers, and undergo a 2 to 5-hour training depending on their level of involvement with the quality control measures.

5. SWE DATA ANALYSIS

5.1 Overview

The PARC@LMU SWE quantitative data analysis plan (DAP) applies the CRDP Phase 2 guiding principles of:

- “Doing business differently” by obtaining and considering community and CRDP Phase 2 partner input in order to be responsive to community needs,
- Building and supporting community capacity to sustain efforts to reduce mental health

disparities beyond Phase 2,

- Ensuring fairness (so as not to perpetuate disparities), and
- Contributing to local and state-level policy/systems change of the larger mental health care delivery system.

Understanding not only the promise but also the challenges these principles embody, the SWE data analysis plans includes multiple frameworks spanning a spectrum from traditional to highly innovative.

The SWE data analysis plan is a roadmap for how PARC will organize and analyze the complex and large SWE core measures dataset. The plan places particular emphasis on the SWE CDEP Participant Questionnaire collected by a majority of IPPs. Its purpose is to both help achieve SWE Objectives 1 and 2 and to answer the accompanying research questions. The plan lists the most appropriate (or effective) statistical techniques that will be used to examine the mixed-methods data. Although it includes data visualization processes, it is focused on analysis, not presentation or dissemination.

To assist the SWE in obtaining usable and useful qualitative and quantitative information, the data analysis plan includes a number of statistical best-practices, such as

- visualizing and summarizing data,
- identifying relationships between variables,
- comparing variables,
- examining difference between variables, and
- modeling outcomes in the present of explanatory variables.

Generating descriptive statistics and graphs is crucial because the statistician must be able to assess whether or not assumptions that a method relies on are met by the data collected and to select more appropriate methods based on those results. Therefore, the plan contains a number of statistical details that are necessary for the conduct of analysis and are not intended for presentation and/or dissemination.

The SWE DAP does *not* discuss CRDP Phase 2 processes that will be used to make meaning of the data (i.e., interpretation) nor outline how the findings will be presented (including graphic or other visual displays of the data) in the SWE Final Evaluation Report. All data can be interpreted in different ways. The blind person and the elephant fable—i.e., six blind men touch different parts of an elephant and come to completely different conclusions about what an elephant is—teaches us that no single method measures everything and that multiple perspectives will be needed in order to understand the findings from this complex demonstration project—i.e., CRDP Phase 2. Interpretation and attaching meaning to the SWE results, including using the findings to identify lessons learned, will require fair and careful judgements, including considerations made about the limitations of the data. When feasible and appropriate, SWE results, especially those pertaining to the CDEP Participant Questionnaire, will involve CRDP Phase 2 partners using Community Based Participatory Research (CBPR) approach. As we are still in the data collection and preliminary analysis phase, interpretation of results is not possible. Presentation of the data in the SWE Final Report will include an Executive Summary for multiple audiences (general public, decision makers, CRDP partners, community and tribal leaders), accompanied by a Full Report, with the findings

organized by the SWE research questions. There will be a 60-day “community review” of the SWE Final Report process in April-May 2022.

5.1.1 SWE Objectives, Questions, Data Sources

The SWE must meet two Objectives. Objective 1 has two high-level questions that are grouped by the following themes: CRDP Phase 2 effectiveness, IPP evaluations, policy/systems changes, fiscal operations, stakeholder perspectives, and initiative improvements. Objective 2 has three high-level questions grouped by the following themes: CDEP effectiveness, validated CDEPs, and evaluation framework. See [Section 1.5.2](#) for a detailed overview of the SWE Objectives and Questions.

Determining the effectiveness of the overall CRDP, as well as the Community Defined Evidence Practices (CDEP) approaches implemented under Phase 2 will involve both qualitative and quantitative analyses. The data needed to make these assessments will come from multiple sources. Primary data will be collected directly from CDPH Phase 2 partners and stakeholders and will be combined with secondary (or administrative) data. Primary data will be obtained from the following partners/stakeholders: 1) IPPs and individuals served by them; 2) five priority population Technical Assistance Providers, 3) SWE (PARC), and 4) other CDPH stakeholders (OHE contract managers, EOA, tribal and/or community leaders, policymakers, etc. through mechanisms such as key informant interviews). See [Section 3.2](#) for more detailed information on the SWE Sample.

There are six primary and secondary (or administrative) SWE core measures. See [Section 3.4.1 to 3.4.6](#) for more detailed information about each measure. Two primary IPP sources of data are the semiannual reports (SARs) collected from 35 IPPs and the SWE CDEP Participant Questionnaires collected from individuals (adults, adolescents, child by proxy) served by 33 of the 35 IPPs¹³. Over the course of Phase 2, eight SARs will be collected from each IPP, while CDEP Participant Questionnaire data submitted to the SWE, will be collected by the IPPs at different frequencies (and with varying evaluation sample sizes) in accordance with their CDEP design and implementation. See Figure x for a timeline of primary SWE Core Measures data collection efforts.

Administrative data from the California Health Interview Survey (CHIS—which includes the Kessler 6-the K6, Sheehan Disability Scale-the SDS, and a number of mental health access and utilization items) and the Medical Expenditure Panel Survey, is currently being processed. Efforts will be made to access additional secondary and administrative data from the National Survey on Drug Use and Health (NSDUH), County Mental Health Statistics Improvement Program (MHSIP) Surveys, and County PEI demographic and participant statistics. These data sources provide an opportunity to demonstrate that CDEPs are serving unserved, underserved, and inappropriately served priority populations in the state.

5.2 Objective 1 Plan Overview

The analytic approach for Objective 1 includes a mixed-methods “parallel combination” approach of the six SWE core measures. If data from two or more core measures answer the

¹³ Two IPPs are using a workforce development strategy which does not involve serving individuals. Therefore, for these two IPPs the SWE CDEP Participant Questionnaires are not applicable.

same question, the findings will be triangulated to verify findings, as well as to generate a more nuanced and complete explanation of the findings. When the SWE core measures answer different questions, data will be analyzed separately, and the results will be combined, or synthesized in the final evaluation report. All raw qualitative data will undergo an in-depth content analysis and organized to generate key themes and codes. Qualitative data will be converted into either narrative data or into numerical data for statistical analysis. Exploratory quantitative data analysis will involve the use of frequency counts and the estimation of possible relationships among outcome measures and covariates.

Objective 1 aims to evaluate overall CRDP Phase 2 effectiveness in identifying and implementing strategies to reduce mental health disparities. This objective has two high-level questions (refer to [Section 1.5.2](#) for a full breakdown of the associated sub-questions):

1. To what extent are CRDP strategies and operations effective at preventing and/or reducing the severity of mental illness in California’s historically unserved, underserved and/or inappropriately served communities?
2. What are vulnerabilities or weaknesses in CRDP’s overarching strategies and fiscal operations?

5.3 Objective 2 Plan Overview

In this section, the focus is on data analysis of the SWE core measures for Objective 2 which investigates the effectiveness of Community-Defined Evidence Programs (CDEPs) of the Implementation Pilot Projects (IPPs) within the CRDP. The SWE core measure quantitative analysis will address the two primary research questions and sub-questions associated with Objective 2. See [Section 1.5.2](#).

5.3.1 CRDP Structure and Data Analysis Issues

At its core, CRDP Phase 2 comprises 35 IPPs representing innovative approaches to reducing mental health disparities across five unserved, underserved, and inappropriately served populations. These 35 IPPs were purposely selected from a grantee applicant pool based on a rigorous review of proposals submitted to CDPH: these groups do not represent a random sample of CDEPs in California. All 35 IPPs have designed and are delivering community-defined interventions. It is important to note that the CRDP Phase 2 statewide evaluation does not involve a randomized control trial experiment assigning CDEPs or their participants to “treatment” or “control” groups. It also does not include a cohort study structure with “non-treatment” (i.e., non-CDEP PEI) service providers who collect and deliver SWE core measure data (i.e., CDEP Participant Questionnaire) on individuals with similar characteristics to CRDP participants.

While the majority of these IPPs focus on direct interventions with vulnerable communities, many also undertake efforts to strengthen the workforce, improve access and utilization of “standard” services, and even spur systemic change. The IPPs are implementing three types of PEI strategies: programs and services, direct referrals, and workforce development, defined as follows.

- **Programs and Services** are community-based programs that provide a broad range of services, treatment, or supports to individuals or families to improve their mental health

or increase their resiliency. These include individual and family counseling, therapy, support groups, case management, psychoeducation, screenings/assessments, and other culturally and linguistically specific approaches.

- **Direct Referrals/Linkages or Service Navigation** includes 1) directing an individual/family to an outside provider/agency for appropriate services or treatment. 2) connecting a client to another provider/agency for appropriate services—i.e., this may be in the form of a “warm hand-off” or accompaniment to a service appointment, and 3) providing follow-up services to help clients navigate complex systems and/or barriers to accessing services.
- **Workforce Development** includes any training, education, and/or technical assistance to strengthen and/or develop the skills, knowledge base, and capacity of individuals, agencies, organizations, institutions, mental/behavioral health workers, community guardians, and first responders.

In CRDP Phase 2, all three types of PEI strategies (i.e., programs and services; direct referrals/linkages or service navigations; workforce development) are being offered singularly or in combination by various IPPs.

- 16 CDEPs are using 1 PEI strategy only;
- 12 CDEPs are using 2 PEI strategies; and
- 7 CDEPs are using all 3 PEI strategies.

Quantitative data analysis also requires knowledge of the IPPs’ local evaluation data collection strategies. Like the CRDP itself, the IPPs are not conducting randomized control trial experiments or case-control observational studies. Most are using non-experimental data collection designs.

In terms of sampling, 14 IPPs are using 1 strategy, while 21 are using multiple strategies.

Of the 14 IPPs using 1 strategy:

- 5 are purposive,
- 7 are convenience,
- 1 is random and
- 1 uses an “other” method of sampling

Of the 21 IPPs using multiple:

- 17 are convenience
- 13 are purposive
- 9 are snowball
- 3 are self-selection
- 3 are quota
- 2 are stratified
- 1 is random

Local evaluation designs and sampling strategies directly impact the statewide evaluation, which is dependent on the IPP’s local evaluation strategies. The quantitative analysis of these programs within the context of the CRDP objectives depends not only on the commonalities but also the

unique features of the IPPs. Although there are similarities across IPPs (and their CDEPs) within and across priority populations, there are striking differences related to (a) interventions (e.g., intervention settings, intervention types, length of intervention cycles and size of cohorts), (b) community demographics and contexts (e.g., cultural, linguistic, historical, and subcultural perspectives and contexts, including intersectional identities), and (c) prevailing economic and political conditions, (e.g., ICE immigrant deportations, anti-LGBTQ discrimination, anti-Black racism, etc.). With such great diversity in populations served, strategies employed, and specific program designs utilized, a wide array of possibilities exist for quantitative (and qualitative) data collection approaches.

5.3.2 CRDP Structure and Data Analysis Strategies

Balancing competing desires of efficiency, standard research practice, and attention to crucial cultural nuance is a major challenge. This matter will be addressed in two ways. First, basic frequencies and/or associations will be conducted on process and outcome quantitative data and coded qualitative data. Second, the empirical data analysis of outcomes will include two strategies: a) a meta-analysis to summarize the results of multiple IPP local evaluation studies to assist with determining the effects (or magnitude of change) of the CDEP interventions on participants and b) use of Bayesian data analysis guided by the qualitative structure of the $3 \times 3^{\text{CDEP}}$ cube to integrate cultural and contextual information.

Even through the lens of diversity of populations, intervention strategies, and IPP programmatic approaches, specific questions that are common to all can be seen and will help to determine the extent to which CRDP is meeting its objectives. The challenge is to define and measure CDEP effectiveness or success in ways that honor communities' cultural perspectives, values, and priorities. The two-pronged data analysis' strategies are expected to expose and add nuance to these questions within the context of demographic and qualitative data collected through the SWE CDEP Participant Questionnaire, SWE IPP Semi-Annual Report and CDEP local evaluations.

5.3.3 SWE Data Analysis Philosophy

Before turning to the specifics of the analysis plan, some relevant higher-level issues will be presented. PARC is cognizant of and shares the concerns of priority population communities regarding the potential problems associated with the collection and analysis of cross-site data that could be misunderstood, misconstrued, and/or misused. These include, but are not limited to, the use of measures that lack cultural or population validity, apprehension about inappropriate comparisons within and between priority populations, concerns that findings will be incorrectly interpreted, and that findings could advertently pathologize priority populations and communities. The DAP reflects PARC's efforts to acknowledge and address these concerns and to demonstrate the validity of the culturally situated approaches in methods, constructs, and measures that have emerged out of the knowledge base, worldview, and wisdom of the IPPs and their communities.

Many, if not most, local evaluations involve the use of classical inferential statistics, methods that form the traditional tools of quantitative program evaluation. However, PARC must recognize that "quantitative is qualitative" within the CRDP context. With purposive and convenience sampling approaches used by most IPPs, the appropriate analysis of Phase 2 cross-site evaluation data is not classical inferential statistics. Hypothesis testing comparisons of pre-

and post-intervention data, program and administrative data, or between IPP data will not provide quantitative insights into CRDP effectiveness as a whole. From the SWE point of view and its dedication to the principle of doing business differently, the research questions for CRDP are framed not as binary “did this work?” but as “to what extent did this work?” questions. PARC is not planning to deliver p-values and pronouncements of statistical significance for CRDP programs compared to each other or to administrative data. Rather, using a Bayesian analysis paradigm, the SWE will be assessing the extent to which CRDP units (i.e., priority populations and the IPPs embedded within them) are delivering results via credible intervals on effect sizes of relevant variables.

A truly collaborative community-based approach to the SWE must work with and for the IPPs to provide evaluation methods and results that can reflect outcomes beyond “significant” changes in feelings such as nervousness, hopelessness, etc. Moreover, the state of California needs practical assessments of the CRDP. The “doing business as usual” approach using classical inferential methods is unlikely to deliver the necessary evaluation. As Tukey (1962) famously said, “Far better an approximate answer to the right question, which is often vague, than an exact answer to the wrong question, which can always be made precise.”

The SWE quantitative data analysis (indeed the whole mixed-methods evaluation) builds practice-based evidence (Ammerman, Smith, and Calancie, 2014); that is, data analysis of CRDP (IPP, TAP, SWE, and EOA strategies and approaches) are based on interventions operating in a real-world environment as opposed to a highly structured scientific experiment. Rather than impose the constraints and methods of hypothesis testing designed for studies like clinical trials, we will apply analytic techniques more suited to nature of the CRDP operation.

The CRDP is not a multi-site randomized controlled trial, designed to address a binary efficacy question about a narrowly-focused intervention. Each IPP uses a unique community-defined intervention targeting a specific population, the commonality being broadly-defined prevention and early intervention for mental health. Some of the interventions are evidence-based practices with efficacy demonstrated in a controlled environment. The CRDP focuses on a real-world setting where the IPPs are delivering interventions to real clients, without control groups receiving a “placebo” or comparator groups receiving “current standard intervention practice.” By collecting data, both IPP-defined and SWE core measures, the IPPs are providing evidence about the effects of their interventions.

PARC’s Bayesian approach to analyzing the core measure data is one of evidence assessment, providing quantitative information about the extent of CRDP effectiveness. Bayesian methods make explicit use of prior knowledge and lay out the analytic assumptions for all stakeholders to see. Analysis products include ranges of effectiveness that reflect the uncertainties that arise not only from “sampling variation” that dominates traditional statistical thinking but also from prior information and modeling assumptions. Much more than a binary outcome of whether or not “it worked,” the evidence base encoded in the posterior information of this CRDP analysis will show to how well the different components worked.

5.4 Objective 2 SWE Data Analysis Plan Outline

5.4.1 Stage One: Exploration of Early Data for Population Understanding

To do business differently, PARC must approach the SWE data analysis with sensitivity to the priority populations. In order to get a basic handle on the current state of affairs, early data

from IPPs will be explored in a variety of ways.

Basic Frequencies and Associations. First and foremost, a picture is worth 1000 words. Appropriate data visualization leads to insights much more readily than do tables of numbers. All data analysis will begin with images of the data. Descriptive visuals will highlight aspects of CRDP-wide and aggregate priority population efforts, including similarities among CDEPs by things like age (adolescent vs. adult CDEPs), PEI focus (e.g., school-based vs. community-based CDEPs). Standard frequency charts will provide insights into the state of the IPPs and their priority populations. Much of the data collected, while coded quantitatively, is nominal or ordinal in nature, so frequencies, proportions, and frequency charts are the most appropriate statistical summary.

With so many variables, it is also of great interest to explore how the variety of SWE CDEP Participant Questionnaire items relate to each other. Correlations among the various items, especially among individual characteristics and mental health and well-being items, will be computed to investigate relationships. Heat map visualizations will show which items exhibit strong correlation, and dendrograms help us connect strongly related items into clusters based on response similarities. PARC is especially interested in how the different SWE CHIS-based responses in the CDEP participant questionnaire associate with responses about cultural connectedness and other sources of mental health support, and how such associations emerge for different priority populations and CDEP intervention types or demographic groups. The presence of important cultural differences offers an opportunity for the field to appreciate that culture and context matters. This step begins to address concerns about how commonly assessed items in mental health are used across diverse populations with an assumption of equivalence of meaning.

Identifying connections between widely used standard mental health measures and community/cultural strengths-based items co-created with Phase 2 partners may yield key “lessons learned” from the SWE results. For example, this data could be used to strengthen how the field uses science to measure outcomes in diverse communities, not just the responsiveness to their differing cultural realities. It could provide a unique opportunity to privilege community-defined wisdom over customary western-centric research and evaluation practice about how to collect mental health-related data, and what data to collect, in prevention and early intervention programs. It could help refine what “credible evidence” means for community-defined evidence practices. In this process, the SWE can collectively push for new possibilities at the intersections of culture, community, and measurement, not only with and for communities, but also with and for science.

Synthetic Controls and Administrative Data including COVID-19 Disruptions. Several of the SWE CDEP Participant Questionnaire items were selected to align with the California Health Interview Survey (CHIS, 2017). As a result, the CHIS data set offers the possibility of a synthetic control group¹⁴ (Abadie, Diamond, and Hainmueller, 2010; Abadie, Diamond, and Hainmueller, 2015; Kreif et al, 2016; McClelland and Gault, 2017). The goal of synthetic controls is to create a counterfactual sample—i.e. non-CRDP CDEP-served individuals with

¹⁴ Synthetic control data is obtained by matching outcome measures and explanatory variables from the CHIS sample with those of IPP participants.

similar demographics to CRDP CDEP-served individuals. Using pre-test and demographic data from the CDEP participant questionnaire, PARC can sample from the CHIS dataset to identify similar individuals in terms of select outcome variables (e.g., K6, Sheehan Disability Scale, etc.). For example, one way in which synthetic control groups may play a part as an actual control is in the comparison of access and utilization variables between CRDP and CHIS. In addition, the use of CHIS data for synthetic controls will help us understand the impact of current events, such as anti-Black violence and civil unrest, immigration policy and ICE raids, and COVID-19. The dynamics of CHIS data will inform expectations of CRDP data.

Disruptions associated with the COVID-19 pandemic will likely influence the mental well-being of CDEP participants. To understand COVID-19 related effects, PARC will estimate pre-post changes in outcomes of interest pre-COVID-19 and compare those differences to pre-post changes in outcomes post-COVID-19. To maximize the comparability of participants in the pre and post COVID-19 periods, IPPs that have participants in both periods will be included. If the sample size does not allow for this approach, PARC will explore other methods (e.g. reweight the sample based on priority population composition or use synthetic controls). By looking at these estimates over different periods, the net effect of CDEP participation and potential negative effect of the pandemic on mental health outcomes will be quantified.

While “synthetic control group” is the accepted phrase for this process in the literature, PARC is not proposing a “control/treatment” statistical test of IPP interventions versus extant mental health services. Rather, we will attempt to identify commonalities and distinctions among the populations served in CRDP with appropriately identified populations in California. This a crucial point for a number of reasons.

First, the SWE CDEP participant questionnaire data collected by most IPPs will have a pre-post structure providing insight into intervention effects on participants. In contrast, the CHIS sample does not follow individuals over time, so we have no direct way to compare mental health improvements from CRDP participants with CHIS respondents. Second, though the CHIS sample appears quite large, and CHIS researchers have endeavored to reach a diverse sample of CA residents, some IPPs focus on populations that are not represented in CHIS in numbers that would permit anything beyond basic descriptive comparison. For example, CHIS population samples for specific Asian and Pacific Islander ethnic groups (e.g., Hmong or Cambodian people) are either very small or not surveyed at all. We are exploring the extent to which the mental health responses of these populations correlate with groups better represented in CHIS samples.

5.4.2 Stage Two: Exploratory and Diagnostic Model Analyses of SCM Data

An important component of evaluation is inferential analysis. This evaluation will use a multilevel statistical model to examine the effectiveness of direct interventions. Within the CRDP family are five priority populations, representing the first level of hierarchy. Each priority population comprises seven IPPs for a second level of hierarchy, though not all IPPs are implementing direct interventions.

A number of relevant factors, such as age, gender, and ethnicity, will be included as independent variables.

The multivariate dependent variables arise from the SWE CDEP Participant Questionnaire, namely the SWE Cultural Connectedness items, the K-6 items, the SDS items, and mental health access & utilization items. The first three measures are obtained at both pre- and post-intervention time points, while the mental health access & utilization measures are pre-only.

A foundational assumption on which classical frequentist statistics rests is that of representative random sampling. Given that the majority of IPPs are not drawing samples from the priority populations in a random manner and that they were selected purposefully through a thorough and careful application process, the inferences drawn from statistical computations must be interpreted with appropriate caution. Beyond sampling plans, a number of challenges complicate the quantitative analysis and evaluation of the CRDP and CDEPs. [See Section 5.5](#) for a detailed discussion of these challenges.

Especially in view of the preceding paragraph, PARC takes as an analytic task the problem of causally estimating the effectiveness of CRDP as a whole as well as the CDEPs. Fundamentally this is not a traditional hypothesis testing problem delivering p -values which are then used for binary decisions about statistical significance; rather, the CRDP evaluation is a problem of illuminating how much impact interventions and processes are having for the priority populations. As such, the SWE analysis and reporting will focus on effect sizes and confidence intervals for the factors in our regression models.

The structure of the CRDP, with distinct priority populations and diverse IPPs within each priority population, requires a multi-level, multivariate analysis approach. The structure of such a model can have a big impact: adding, removing, and modifying model components can cause changes to the inferential results. Parametric inferences, especially concerning interactions among factors in a model, can be very sensitive to which factors are included (and which are omitted). Cross-validation and its modern bootstrap improvements (Efron and Tibshirani, 1997) can help “robustify” exploratory and inferential analyses. However, the relatively small sample sizes may limit their effectiveness. PARC will also employ recently-developed techniques in robustness analysis with many “competing” models including different combinations of factors (Young and Holsteen, 2017). These techniques systematically remove explanatory variables from the model and compare the results with the full model. For example, if we include interaction terms to model intersectionality (ethnicity, gender identity) at the priority population, do main effect terms change dramatically with the presence/absence of those model components? If the influence of independent variables changes in magnitude, or even in sign, inferences are suspect and the model may be improperly structured. When parameter estimates differ dramatically in two models, PARC will interpret the models to be sensitive to the variable under study. Here, PARC may look to qualitative data for insights into why this is happening.

The multilevel model envisioned by PARC has individual participants embedded in IPP CDEPs, which are in turn embedded within priority populations, all of which operate within the CRDP as a whole. In order to account properly for the variation across all these entities,

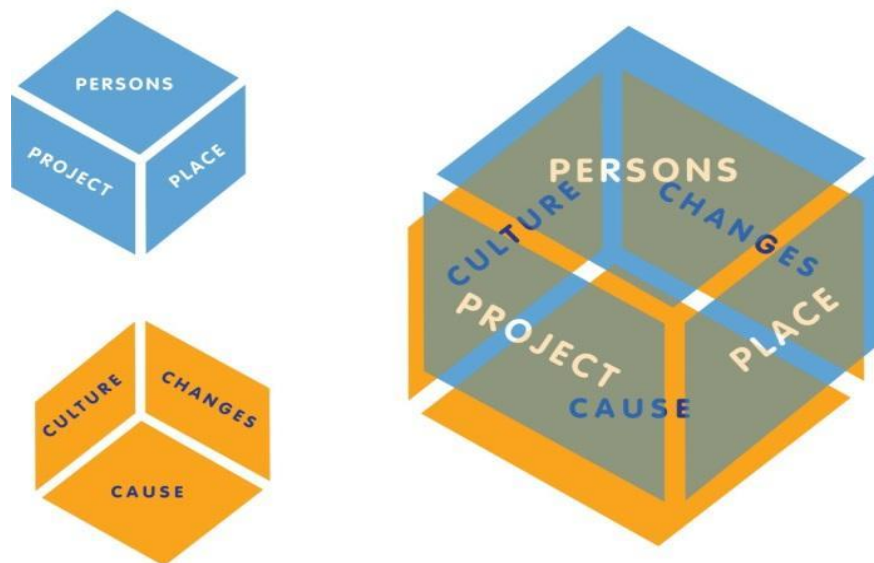
IPP and priority population effects will need to be estimated. While the output of this analysis will look in many ways like a meta-analysis, the analytic techniques are much more involved than a simple meta-analysis that treats each IPP as a unit, aggregating summary statistics up to the population level. The use of individual data and properly structured multilevel models will produce better model-data fit and stronger inference: the process is a holistic one that uses all the data simultaneously to infer IPP, priority population, and CRDP-wide effects.

5.4.3 Stage Three: Bayesian Inferential Analyses in a CBPR Context

To gain deeper, more nuanced insights into the outcomes of the CRDP activities, PARC will also build a family of Bayesian statistical models. In the Bayesian paradigm, PARC’s emphasis on a socio-ecological framework (e.g. culture and context) in the SWE’s qualitative evaluation has a close companion on the quantitative side. The $3 \times 3^{\text{CDEP}}$ cube model (see Figure 8) guides the quantitative modeling and analysis.

The $3 \times 3^{\text{CDEP}}$ cube highlights “observables” of the CDEP, namely the Persons, Places, and Projects, as well as “hidden states” related to the underlying Culture (conceptions, values, practices, and beliefs of the community that will affect the dynamics of the intervention), Causes (what brought about the problems the community needs to solve with the interventions), and Changes (the communities’ objectives for the interventions being evaluated).

Figure 8. The $3 \times 3^{\text{CDEP}}$ cube



While the hidden parameters of Culture, Cause, and Change are not observable, some of the SWE CDEP Participant Questionnaire observables are relevant. For example, the SWE Cultural Connectedness items relating to the hidden parameters of Culture are as follows.

- My culture gives me strength;
- My culture is important to me;
- My culture helps me feel good about who I am;
- I feel connected to the spiritual/religious traditions of my culture;
- I feel connected to my culture;

I feel balanced in mind, body, spirit, and soul;
I feel marginalized or excluded from society; and
I feel isolated and alienated from society.

Some of the above are also related to Cause, and there are other Cause-relevant SWE CDEP participant questionnaire variables.

Insurance coverage;
Discomfort with mental health service professionals such as therapists and social workers;
Language barriers;
Discrimination; and
Gender identity.

The outcome/response/dependent variables in this analysis are:

Cultural connectedness (pre-post),
Kessler K6 (pre-post),
Sheehan SDS (pre-post), and
Access/utilization.

The correlation (or lack thereof) of cultural connectedness with the other measures will help with assessing the applicability of the traditional research-based ways to track mental health and in that way reinforce the importance of culturally-aware analysis methods.

The pre-post nature of these measures highlights the Change face of the cube, both the side of interest through cultural connectedness and its dominant culture mirrored side through K6 and SDS. Also, the correlation of cultural connectedness with access/utilization items may expose additional aspects of the two sides of the Change face.

In a very real sense, Cause is at the heart of CRDP. It's why the CRDP has such a diverse group of IPPs and interventions. Distinct interventions that work with very similar subpopulations (e.g., African American adult women) lift up the Cause and Change faces of the cube, with different causes and modes of change being posited by those IPPs. The toolset needed to bring these components together in a quantitative model of the $3 \times 3^{\text{CDEP}}$ cube is that of Bayesian analysis (Humphreys and Jacob, 2015). Bayesian analysis relies on probability distributions on the hidden states and unobservable parameters in the model. The Bayesian approach begins with an *a priori* probability distribution, called the prior, which models uncertainty in the unobservable states and parametric weights that model the dependence of the mental health, culture, and causes on the observable characteristics of Person, Place, and Project. In this case, the marginal probability distribution of the state of mental health represents our best understanding of the current state of the community's vulnerable individuals, while the marginals of Culture and Cause denote our knowledge of the state of these communities.

Individual outcomes are modeled with likelihood models that we assess as appropriate in Stage 2 of the quantitative data analysis. PARC might expect that the K-6 and SDS items to be adequately modeled with a multivariate normal distribution. Creating an index from the SWE

Cultural Connectedness items may also add a normally distributed component to the overall distribution. The mental health access and utilization items are essentially binary, requiring a logistic structure to model properly.

In a traditional multivariate analysis, one would compute parameter estimates, confidence intervals, and p -values. In order to embrace fully the CBPR nature of CRDP, PARC takes this process a step further with Bayesian analysis. Bayesian analysis uses probabilities of parameter effect sizes to assess results. The starting point of Bayesian analysis is the prior distribution. The first step is to elicit a priori information about important factors, effect sizes, and parameter values in statistical models. Techniques such as those detailed in O'Hagan et al (2006) will be employed to get an *a priori* assessment of key model parameters. PARC will integrate accumulated community-based wisdom obtained through qualitative data and on-going collaborations with IPPs, TAPs, and other stakeholders, to develop prior distributions.

The result of a Bayesian analysis is a posterior probability distribution of the effect sizes in the multivariate model, given the data collected by the IPPs and the prior distribution. From the posterior distribution credible intervals on the effect sizes associated with the independent variables will be obtained, allowing us to quantify the extent to which each contributes to improved mental health outcomes. These credible intervals are interpreted as containing the likely effect sizes after conditioning on characteristics observed in the SWE CDEP Participant Questionnaire.

5.5 Facing the Challenges

At its core, CRDP Phase 2 comprises 35 IPPs representing innovative, community-defined approaches for reducing mental health disparities across 5 unserved, underserved, and inappropriately served priority populations. While the majority of these IPPs focus on direct interventions with members of vulnerable communities, many also undertake efforts to strengthen the mental health workforce, improve access and utilization of “standard” mental health services, and even spur mental health delivery systems change. The diverse nature of these 35 projects makes for a host of challenges in developing and implementing appropriate, meaningful, and truly valid cross-site evaluation methods.

Challenge 1: The diversity among and within priority populations themselves. It is well known that the communities prioritized by CRDP Phase 2 are currently poorly served by existing mental health services (Mishra et al, 2016; CDC, 2011), even though some traditional analyses (SAMSHA, 2015) suggest racial parity in the use of and the choice not to use mental health services. Members of these populations may be hesitant, mistrustful even, of evaluation research (Scharff et al, 2010, Simonds and Christopher, 2013; Ojeda et al, 2011). Moreover, eliciting responses to research questions involves a variety of issues from language and literacy to “ways of knowing” and shared understanding of meanings. PARC must be cautious in holding tightly to numerical summaries of the populations’ responses, understanding up-front the multiple levels of variability. While PARC may, for the purposes of analysis, categorize “between-subjects” and “within-subjects” variance terms, population responses may carry difficult-to-detect underlying uncertainty and research “bias” associated with the use of western empirical methods in diverse communities.

Challenge 2: Balancing unmet mental health needs and evaluation. Many IPP organizations are not adequately resourced to conduct ongoing systematic research and evaluation. Given the unmet mental health needs in their communities coupled with limited resources, the provision of culturally and linguistically relevant interventions takes primacy. While they may welcome the idea of enhanced funding to expand capacity and to create a broader impact with their innovations, IPP staff and management may find collecting additional data and collaborating with external evaluators burdensome. Moreover, the IPP staff may also be members of the populations they serve, and as such they have valid concerns and mistrust of the research enterprise. Participation in the CRDP Phase 2 requires them to balance the local and statewide evaluation needs of the initiative with the urgency of responding to the needs of the community they serve. Therefore, collaboration with IPP personnel is a must, not only to support the administration of the cross-site CDEP Participant Questionnaire, but also the on-going refinement of the evaluation process.

Challenge 3: Evaluation methods in the IPP context. Most of the IPP efforts use purposive, convenience, and/or snowball sampling methods to recruit participants into the local and statewide evaluation. The very nature of their business models requires these intentional outreach and engagement methods to ensure they reach the unserved, underserved, and inappropriately served in their community. Many evaluations (and for that matter randomized clinical trials) do rely on volunteer, non-random samples of subjects. In contrast, traditional statistical evaluation is built on a foundation of representative and random sampling, and they would view such sampling methods as threats to research validity. This viewpoint passes through a lens of generality of interpretation, but to what populations is the SWE to generalize? In addition, is it always appropriate to seek generalization when addressing issues of ethnic, SOGI, and cultural diversity?

The more difficult challenge arising for IPPs is the use of control and comparison groups. Collecting data on a control group, be it placebo or positive control, offers ethical and practical problems for the IPPs. A program, for example, may find it nearly impossible to have a parallel control group, and significant resources would be required to alternate treatment and control in time. Furthermore, the ethics of treating unserved and underserved populations with a placebo or culturally inappropriate control intervention are incongruent with the guiding principles of CRDP Phase 2. Indeed, the evaluation plans of the IPPs appropriately rely almost entirely on pre/post testing with convenience and/or purposive sampled subjects. Innovation in analysis methodology is needed to extract the most information from the CRDP statewide evaluation data.

Challenge 4: The diversity of the CDEPs. With such a diversity of CDEPs and their local evaluation questions, no one single CRDP statewide evaluation data analysis approach can encompass all the diverse elements. Even within a given priority population, few CDEP interventions are truly comparable. For example, some interventions are geared towards elders, others focus on children, teenagers, or young adults, and some are open to all ages. One IPP is conducting an entirely qualitative evaluation, while another has a randomized controlled trial (with a positive control). Most IPPs are delivering direct intervention services, while a few are focused on workforce development. Intervention durations range from days to weeks to 18

months. CDEP sample sizes range from 30 to 1,500 or more, while some interventions are cohort-based, designed with 18 to 400 total participants across CDEP cohorts.

Challenge 5: The nature of a demonstration project. Demonstration projects and studies answer questions about an issue (i.e., mental health disparities) or resource (CRDP Phase 2 initiative) by valuing the impact of intervention-related resources on the processes and outcomes connected to the issue (i.e., reductions in mental health disparities via CRDP as a whole and the CDEPs). They do not hypothesis test or determine efficacy because there is no to little existing knowledge or information about the issue or resource. The features described in the four challenges delineated above make the CRDP statewide evaluation truly unique. For the statewide evaluation, the SWE has little existing quantitative data on which to draw clinically relevant differences and conclusions in core outcomes from the CDEP Participant Questionnaire, IPP-selected measures from their local evaluations, or variation and distribution of outcome responses. And, as with many experiments and evaluations, practical considerations of personnel, facilities, and budgets, rather than those of statistical reliability, have driven sampling plans for both the statewide and local evaluations. Nonetheless, innovative data collection methods are being used to demonstrate best practices and set a precedent for future research. For the SWE, data from sources such as CHIS will help us prepare analyses (and may serve in the capacity of control populations), but they must be used with appropriate care.

Challenge 6: Standard quantitative evaluation methods do not lend themselves to CDEP designs and goals. Were a traditional statistical approach to be taken, PARC might attempt to look at each IPP as a cluster within the priority population, which is in turn a cluster within the CRDP study. At the design stage, PARC might prepare the experiment with a balanced design in which each cluster has a similar sample size. With a median total sample size at around 100 subjects from the submitted evaluation plans, a pre-post effect size of one-half point on the Likert-type instruments would be reliably detectable (with a power of 99% and significance of 5%) in a pure paired t-test of a single outcome measure of interest. The need to control for cohort and other demographic factors, as well as the need to consider multiple outcome measures of interest over multiple IPPs, makes null hypothesis testing statistical inference insufficiently powered for traditional quantitative analysis. While the SWE data analysis plan includes these methods, PARC views these analyses as helpful in an exploratory way rather than important for inferences concerning program effectiveness.

While the standard mixed-effects model is the conventional approach in evaluation research, CRDP requires additional analytic strategies to address the complexity inherent in the structure of this initiative. The Bayesian methods on which PARC plans to build the analysis address an important short-coming of traditional statistical methods that is of particular importance in CRDP. Null hypothesis testing seeks to answer a yes/no question: are the programs effective? CRDP research questions ask "to what extent are the programs effective?" By associating probabilities with effect sizes, Bayesian methods use the CRDP data to address exactly this question. Moreover, the explicit integration of prior knowledge allows us to use both qualitative and quantitative information from community-based experience to inform the analysis of CRDP quantitative data. For these reasons we view Bayesian evaluation as a promising approach well-suited to CRDP goals.

5.6 Business Case Considerations

As health care costs continue to rise, mental health programs place more emphasis on the economic valuation of outcomes and cost-effectiveness. The economic valuation of CRDP Phase 2 will help assess three different types of impacts:

1. Health impact,
2. Fiscal impact, and
3. Economic impact.

This valuation considers costs and benefits of health and non-health outcomes to determine the return on investment. The business case will explain how changes in health outcomes, such as reductions in psychological distress and functioning, or improvements in protective factors, such as cultural connectedness, can be valued in dollars. This analysis will answer several research questions for both SWE Objectives 1 and 2:

Objective 1: Effectiveness of the CRDP Phase 2

- Do CRDP strategies show an effective Return of Investment?
- What is the business case for reducing mental health disparities by expanding CRDP strategies to a statewide scale?

Objective 2: Effectiveness of the Community-Defined Evidence Programs (CDEP)

- How cost effective are Pilot Projects?
- What is the business case for increasing them to a larger scale?

To calculate CRDP effectiveness, CRDP Phase 2 as a whole will be compared to CA County Prevention and Early Intervention (PEI) programming as counterfactuals. To calculate CDEP effectiveness, CDEP participants will be compared to non-CDEP participants as counterfactuals. In cost-benefit analyses, the use of counterfactuals is necessary to calculate the net change that can be attributed to the intervention (i.e. net of the impact of what a comparable program would have achieved or the impact of a “business-as usual” scenario).

The economic valuation of the CRDP Phase 2 will consider medical costs averted, deaths prevented, increased productivity, life years saved, or disability averted, all linked to better mental health. In the specific case of cost-benefit analysis, costs are compared to benefits of health and non-health related outcomes and are expressed in monetary units. Through these analyses, we will compare net gains in relation to the incremental costs of a given intervention compared to an alternative.

To acknowledge the magnitude of outcomes in PEI efforts, gains in mental health outcomes will be considered in two ways:

1. Decreases in psychological distress or improvements in functioning for CDEP participants at more serious risk for a diagnosable mental health condition (i.e., early signs or symptoms of a mental health difficulty), and
2. CDEP participants who remained below the threshold for psychological distress or impaired functioning—i.e., in other words, mental health issues were averted or did not get worse.

5.6.1 Elements of Health Outcome Valuations

Analytic Horizon. The analytic horizon will consider both the period of CDEP implementation and the period during which mental health (and other) outcomes are projected to improve. The horizon will vary by age group. To accommodate for this, a weighted average will be used to consider the number of adults, youth and child participants which may lead to different scenarios for each age group.

Intervention Costs.

- For IPPs (program administrative costs)
- For Participants (travel costs, leisure lost)
- For CDPH (SWE, TAP, EOA, OHE)

Intervention Benefits.

- Changes in health and mental health outcomes: psychological distress, psychological functioning, cultural connectedness
- Changes in negative outcomes that can result from untreated mental illness (e.g., reductions in suicides, incarcerations, school failure or drop out, unemployment, prolonged suffering, homelessness, removal of children from their homes).
- Medical costs averted due to improvements in mental health or other outcomes

To calculate the potential medical expense associated with changes in mental health outcomes we will use a regression model that includes covariates such as age, gender, English language fluency, whether a person was born in the U.S., household income, and education. The SWE CDEP participant questionnaire does not include all of these variables, especially total health expenditures. For that reason, we will rely on nationally representative data from the Medical Expenditure Panel Survey (MEPS) to simulate the five priority populations. For example, to value the change in psychological distress measured through changes in the CHIS-K6 scores we will estimate the following regression:

$$\text{Medical Expenditures} = f(\text{psychological distress, age, education, household income, etc.})$$

The next step will involve the use of estimated values to calculate total medical expenditures (\widehat{ME}) associated with changes in psychological distress or other mental health-related issues (Finkelstein et al., 2012). To do this we will use predictive marginal probabilities by race/ethnicity and sexual orientation and gender identity (SOGI). These predictive margins are the weighted average of the expected difference in health expenditures associated with a 1-unit increase in the K6 score of a nationally representative sample of individuals, adjusted to the sample distributions of all the variables in the model. To incorporate the diverse circumstances of CDEP participants we will present health expenditure ranges associated to different levels of socio-economic characteristics.

This empirical methodology will provide the dollar value associated to changes in psychological distress by priority population. Through this approach we will be able to quantify health expenditures for individuals with low, moderate and severe psychological distress. In addition we will be able to observe how point changes in the K6 scale relate to health expenditures across and within the thresholds. This means that even if post intervention CDEP participants remain

above the thresholds of moderate or high distress we will still quantify monetary gains associated to point by point reductions in psychological distress.

At the moment we have access to nationally representative data but we are looking to obtain restricted-use state data representative across California to improve the accuracy of our estimates. One of the main limitations in this data source is that it lacks information on SOGI. We are exploring ways to incorporate SOGI diversity into our analysis by merging the MEPS data to other data sources.

5.6.2 Costs and Benefits for CRDP Effectiveness (Objective 1)

Additional discussion of this analytic strategy will be provided in the next update to the evaluation plan in winter of 2020. For example, our current thinking suggests that to evaluate the different hypothesized benefits related to other PEI program (that serve as counterfactuals) the SWE, may seek access to data from county reports, expenditure plans, and other program and evaluation reports.

Data Sources.

The SWE is currently accessing the following data sources:

- Medical Expenditure Panel Survey (MEPS)
- California Health Interview Survey (CHIS)

The SWE will also seek access to the following data sources:

- MHSA PEI county reports that include costs of mental health disorders
- Mental Health Statistics Improvement Program (MHSIP) consumer survey data (by county)
- Mental Health and Substance Use Report on Expenditures and Services (by county)
- Claims data (by county)

5.6.3 Costs and Benefits for CDEP Effectiveness (Objective 2)

Table 8 below shows the (proposed) costs and benefits considered in the analysis, and their hypothesized positive/negative impact on participants and non-participants. The “society” column indicates the net effect on society which adds/subtracts the total effect of participants and non-participants. One table will be generated per priority population, and one for the CRDP wide initiative that will aggregate the information across.

A second table with monetary values will show how the change in outcomes between the start and end of the CDEP is valued in monetary units. Some hypothesized benefits/costs might not be included if data is not available. See Table 8 for an example of proposed costs and benefits to measure CDEP effectiveness.

Table 8: Proposed Costs and Benefits to Measure CDEP Effectiveness

	Society	Participants			Non-Participants
		Adults	Youth	Children	
Costs					
<i>Monetary</i>					

IPPs program operating costs	-	0	0	0	-
CDPH operating costs	-	0	0	0	-
SWE	-	0	0	0	-
TAP	-	0	0	0	-
EOA					
OHE					
Participants' travel costs	-	-	0	0	0
<i>Non-monetary</i>					
Reduction in leisure time	-	-	-	-	0
Benefits					
<i>Monetary</i>					
<i>In-program output produced by participants</i>					
Increase in gross earnings*	+	+	0	0	0
Tax Payments*	0	-	0	0	+
Lower health expenditures	+	+	0	0	0
Lower welfare dependence	+	+	+	+	+
<i>Out-of-program output</i>					
Increase in gross earnings (adults)	+	+	0	0	0
Tax payments (adults)	0	-	0	0	+
<i>Non-monetary</i>					
Reduction in psychological distress (SWE Q)	+	+	+	+	+
Improvement in psychological functioning (SWE Q)	+	+	+	+	+
Improvement in cultural connectedness (SWE Q)	+	+	+	0	+
Decrease in dropout rates (adolescents)*	+	0	+	0	0
Improvement of socioemotional wellbeing (children)*	+	0	0	+	0
Reduced incarceration*	+	+	+	0	+
Reduction in suicides*	+	+	+	0	0
Decreased homelessness*	+	+	?	?	0

*Note: Dependent on data availability and the economic valuation may be variable by priority population.

Data Sources. To evaluate the possible non-monetary benefits of CDEPs (e.g., reductions in suicide rates, incarceration, and homelessness, etc. as well as improvements in drop-out rates or gains in productivity), a literature review will be conducted to gauge effect sizes. In addition, the MEPS will be used to calculate medical expenditures that are related to mental health disorders.

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