Engaging Communities For Health Equity and Environmental Justice

A Guide for Public Agencies

Table of Contents

Please also see the Toolkit that accompanies this guide

Introduction

The Environmental Health Investigations Branch (EHIB) of the California Department of Public Health (CDPH), developed this guide, Engaging Communities for Health Equity and Environmental Justice, to share how the Branch has worked with California's communities with environmental justice (EJ) concerns over the past 40 years.

Communities with Environmental Justice Concerns

Definition: For the purposes of this document, "communities with EJ concerns" are the people (and the community-based organizations that serve them) who live and work in places that are disproportionately affected by environmental pollutants and have unequal access to quality healthcare, education, and economic resources (EHIB, 2021).
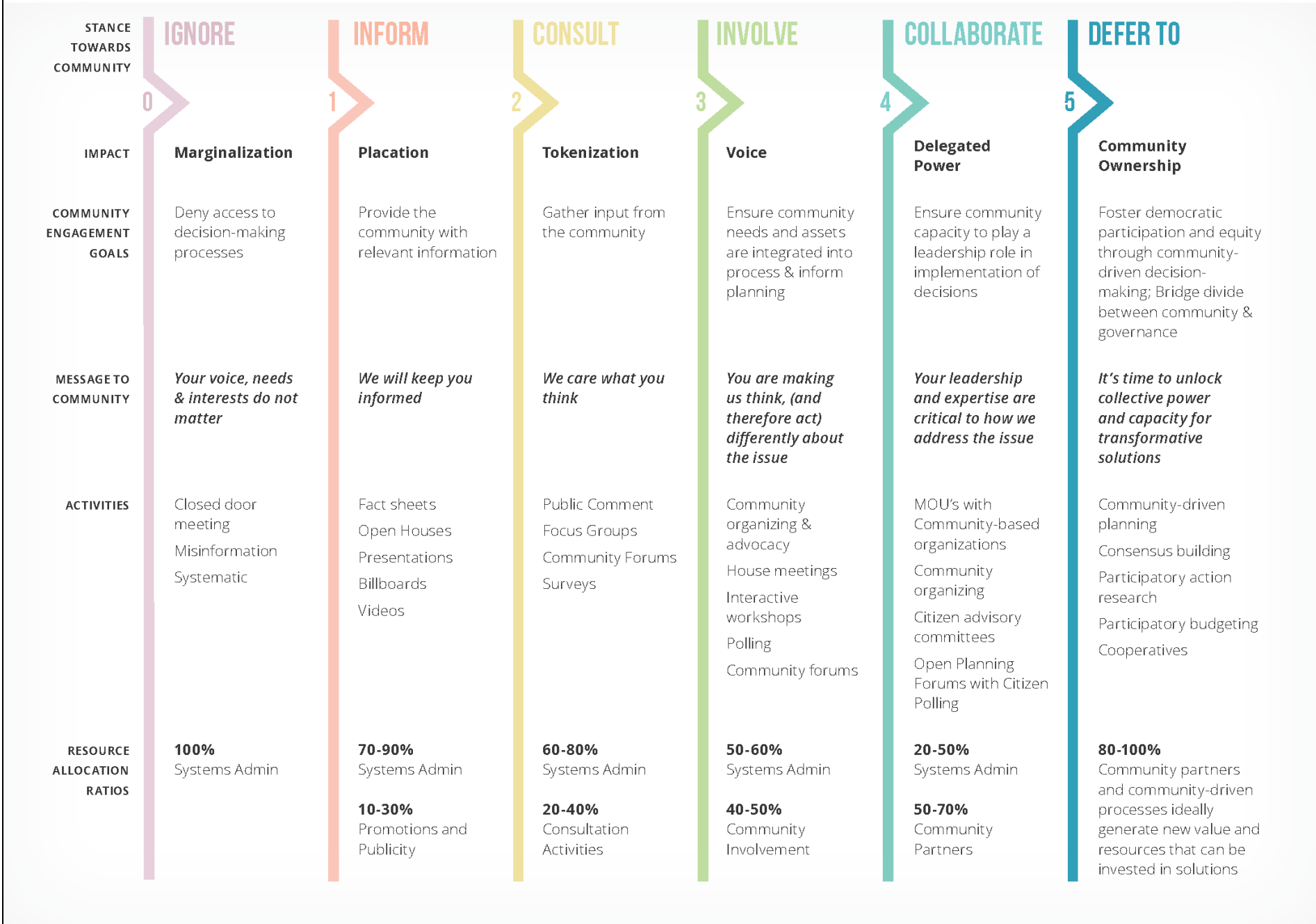

EHIB's mission is to protect the health of all Californians by identifying environmental hazards, partnering with communities for mutual benefit, and promoting healthy environments. As a public health agency, EHIB collaborates with underserved communities when developing health communications, research, and interventions or investigations that aim to reduce exposure to environmental pollutants and other toxic substances.

This document highlights EHIB's promising practices, supported in the literature, for effectively partnering with communities to achieve common goals. The primary audience for this document is CDPH staff and state and local public agencies, such as environmental health and public health departments.

Community Engagement

The Centers for Disease Control and Prevention (CDC) defines community engagement as the process of working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the well-being of the entire group. Many organizations use the Spectrum of Public Participation[1] to identify and share with their community partners the level of community participation or engagement they intend for a particular project. It helps clarify the role of the public or community in planning and decision-making. The original spectrum has been adapted to create a Spectrum of Community Engagement to Ownership.[2]

THE SPECTRUM OF COMMUNITY ENGAGEMENT TO OWNERSHIP

Facilitating Power

STANCE TOWARDS COMMUNITY	IGNORE	INFORM	CONSULT	INVOLVE	COLLABORATE	DEFER TO
	0	1	2	3	4	5
IMPACT	Marginalization	Placation	Tokenization	Voice	Delegated Power	Community Ownership
COMMUNITY ENGAGEMENT GOALS	Deny access to decision-making processes	Provide the community with relevant information	Gather input from the community	Ensure community needs and assets are integrated into process & inform planning	Ensure community capacity to play a leadership role in implementation of decisions	Foster democratic participation and equity through community-driven decision-making; Bridge divide between community & governance
MESSAGE TO COMMUNITY	*Your voice, needs & interests do not matter*	*We will keep you informed*	*We care what you think*	*You are making us think, (and therefore act) differently about the issue*	*Your leadership and expertise are critical to how we address the issue*	*It's time to unlock collective power and capacity for transformative solutions*
ACTIVITIES	Closed door meeting Misinformation Systematic	Fact sheets Open Houses Presentations Billboards Videos	Public Comment Focus Groups Community Forums Surveys	Community organizing & advocacy House meetings Interactive workshops Polling Community forums	MOU's with Community-based organizations Community organizing Citizen advisory committees Open Planning Forums with Citizen Polling	Community-driven planning Consensus building Participatory action research Participatory budgeting Cooperatives
RESOURCE ALLOCATION RATIOS	100% Systems Admin	70-90% Systems Admin 10-30% Promotions and Publicity	60-80% Systems Admin 20-40% Consultation Activities	50-60% Systems Admin 40-50% Community Involvement	20-50% Systems Admin 50-70% Community Partners	80-100% Community partners and community-driven processes ideally generate new value and resources that can be invested in solutions

Public agencies typically put many types of interactions with communities under the umbrella of "community engagement." On the spectrum, the type of community engagement becomes more community-led moving to the right-hand side, including involvement, collaborative partnerships, and community decision-making power.

In this guide, we use the terms "community engagement" and "participation" as broader terms that incorporate the types of community-public agency interactions that lead to meaningful collaborations and deeper, power-sharing partnerships with community groups. The goals and strategies in this guide are about the use of ethical, equitable, and inclusive best practices, whether the agency is sharing decision-making with community groups or not.

While equal partnership with community may be a goal, there are also ethical ways to work across the spectrum of engagement. And the goal of community-led partnerships can be achievable over time through the relationships that build from working on important projects together.

Advancing Health Equity for California's Communities with EJ Concerns

Structural racism has affected land use, housing, transportation, and other government decisions made over decades. These decisions have led to inequitable impacts and significant health disparities among lower-income, Black, Indigenous, and People of Color (BIPOC). These populations also live disproportionately in communities with EJ concerns, experiencing more risk and exposure to environmental pollution and toxic substances than other communities.

These communities have not always had opportunities to meaningfully participate in shaping policies, programs, and activities that affect them. They may distrust government due to unfair treatment or past neglect. They may also face greater cultural, linguistic, or literacy barriers in accessing health information and services.

> **Health Equity**
> **Definition:** Health Equity describes circumstances in which all people have the opportunities and resources necessary to lead healthy lives. Efforts to achieve health equity often require giving special attention to the needs of those at greatest risk of poor health, including historically oppressed or marginalized racial or ethnic groups (CDPH, Office of Health Equity, 2020).

Effectively advancing health equity and EJ requires addressing the underlying causes and factors in our social, economic, built, and natural environments that lead to poor health outcomes and health disparities (see "Social Determinants of Health" section below). This means improving living conditions for those living in communities with EJ concerns, which can include providing greater access to quality education, economic opportunities, health care services, affordable housing, safe and clean mobility options, and more.

Below is information about EJ and social determinants of health to provide context for using this guide. A section on government responsibility outlines why incorporating a health equity and social and EJ lens into government work is needed.

Environmental Justice

The term "Environmental Justice" is not universally defined and can have different meanings to different organizations or communities.[3] According to Dr. Robert Bullard, considered "the father of EJ," in his article, [Environmental Justice in the 21st Century,](#) it can be the principle that everyone has the right to a clean and healthy community, and to equal access to resources, decisions, and protection. In this way, EJ can be viewed as a necessary and key component for achieving health equity.

EJ includes a powerful social movement encompassing grassroots efforts to create healthy communities and hold polluters and enforcers accountable to low-income communities of color.[4] Delegates to the First National People of Color Environmental Leadership Summit in 1991 drafted and adopted [seventeen principles of Environmental Justice,](#) providing a defining document for the grassroots movement.[5]

The Environmental Justice movement, with its roots in the Civil Rights Act of 1964, has significantly shaped the policies and practices of public health and regulatory sectors throughout the United States (U.S.), most notably with the

issuance in 1994 of Executive Order 12898, "[Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations](#)."[6]

This landmark directive requires each Federal agency to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."[7]

From an environmental regulatory perspective, EJ is defined as the "fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."[8]

California was one of the first states in the nation to develop Environmental Justice legislation.[3] The first bill enacting an EJ policy into California's statutes was signed into law in October 1999.[9] Amended in 2019, California law further defines EJ to include, but not be limited to, all of the following:

- The availability of a healthy environment for all people.
- The deterrence, reduction, and elimination of pollution burdens for populations and communities experiencing the adverse effects of that pollution, so that the effects of the pollution are not disproportionately borne by those populations and communities.
- Governmental entities engaging and providing technical assistance to populations and communities most impacted by pollution to promote their meaningful participation in all phases of the environmental and land use decision making process.
- At a minimum, the meaningful consideration of recommendations from populations and communities most impacted by pollution into environmental and land use decisions.[10]

Social Determinants of Health

EJ and health equity both focus on addressing social, physical, and other factors that affect health, called "social determinants of health."

> **Social Determinants of Health**
>
> **Definition:** Social determinants of health are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks (Healthy People 2030).[11]

Healthy People 2030 recognizes five key areas of "place-based" social determinants of health: economic stability, education access and quality, health care access and quality, neighborhood and built environment, and social and community context. Examples of conditions or resources that improve quality of life and influence health include safe and affordable housing, public safety, and environments free of toxic and hazardous substances.
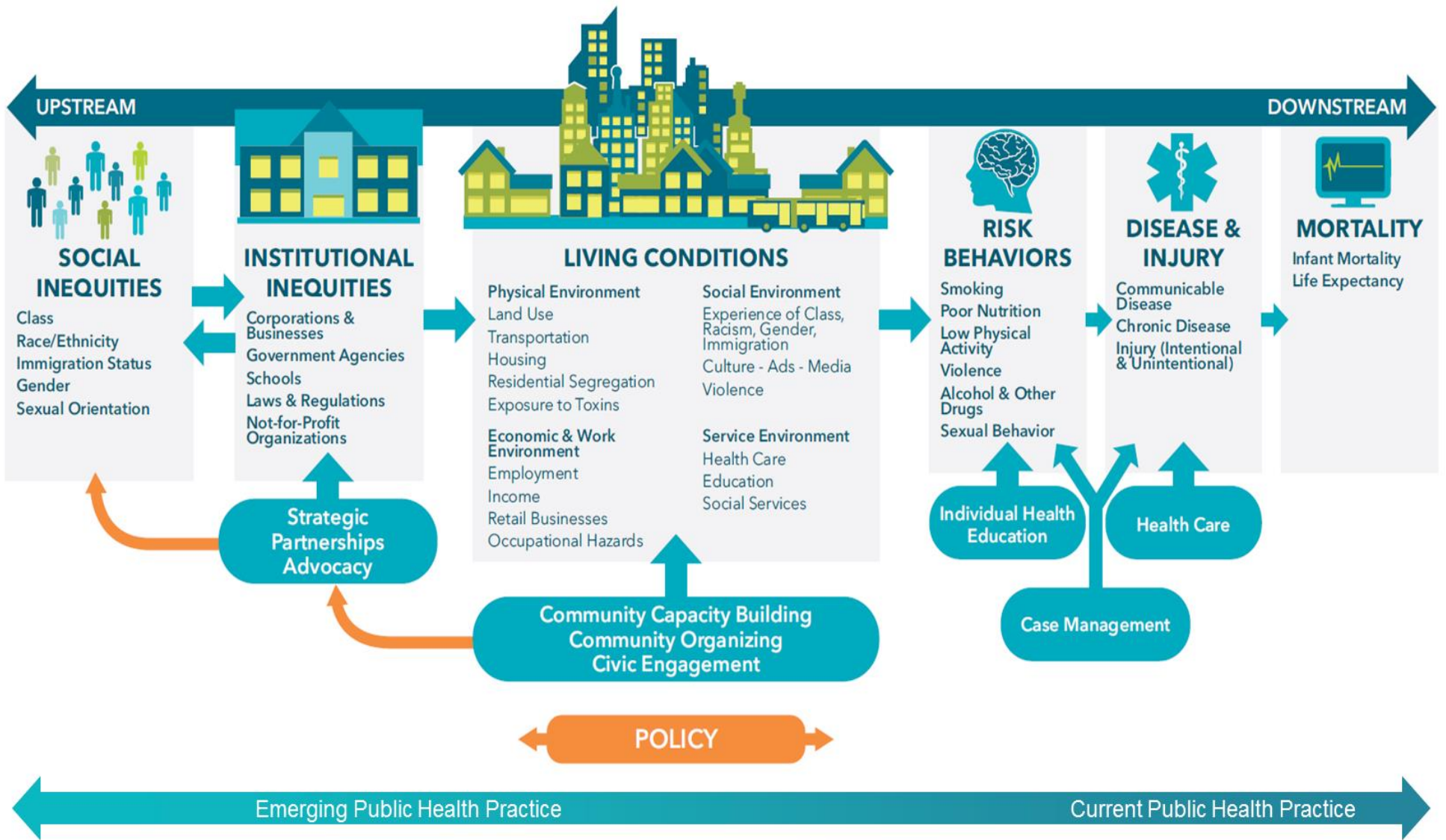
Low-income neighborhoods primarily made up of BIPOC tend to face more detrimental social determinants of health, including poverty, racism, discrimination, neglect, and higher pollution burdens. There is a connection between place-based social inequalities and health. Where someone lives can shape their capacity to live their healthiest life, including how long they live. For this reason, people in lower-resourced neighborhoods, as a group, can have shorter life expectancies than people in wealthier neighborhoods.

The Bay Area Regional Health Inequities Initiative (BARHII) developed a framework[12] that encourages health departments to focus more on the social determinants of health and prevention efforts linked to inequitable and poor health outcomes, rather than just focus on the prevention and treatment of diseases, illnesses, and injuries. BARHII includes the San Francisco Bay Area's eleven public health departments, and its framework has been formally adopted by CDPH (see next page for framework).

Government Agencies' Responsibility

There are many reasons for public agencies and staff to improve community engagement practices and to apply a health equity or EJ lens to their work. Evidence-based and mutually beneficial reasons for community engagement are addressed in this document, such as increases in program quality and sustainability. It is also important for government agencies to acknowledge that government itself has sometimes furthered racial and health inequities. Examples range from state-sanctioned slavery to the federal government's practice of "redlining," which denied home loans to people of color and prevented them from owning homes in predominantly White communities.

UPSTREAM ←→ **DOWNSTREAM**

SOCIAL INEQUITIES

Class
Race/Ethnicity
Immigration Status
Gender
Sexual Orientation

INSTITUTIONAL INEQUITIES

Corporations & Businesses
Government Agencies
Schools
Laws & Regulations
Not-for-Profit Organizations

LIVING CONDITIONS

Physical Environment
Land Use
Transportation
Housing
Residential Segregation
Exposure to Toxins

Economic & Work Environment
Employment
Income
Retail Businesses
Occupational Hazards

Social Environment
Experience of Class, Racism, Gender, Immigration
Culture - Ads - Media
Violence

Service Environment
Health Care
Education
Social Services

RISK BEHAVIORS

Smoking
Poor Nutrition
Low Physical Activity
Violence
Alcohol & Other Drugs
Sexual Behavior

DISEASE & INJURY

Communicable Disease
Chronic Disease
Injury (Intentional & Unintentional)

MORTALITY

Infant Mortality
Life Expectancy

Strategic Partnerships Advocacy

Community Capacity Building
Community Organizing
Civic Engagement

Individual Health Education

Health Care

Case Management

POLICY ←→

Emerging Public Health Practice ←———→ Current Public Health Practice

They also include police departments and other agencies implementing racially discriminatory policies such as "stop and frisk." Some of these unjust policies and systems have long-lasting impacts and continue to worsen inequities to this day, whether intentional or not.

Governments and all public agencies have an obligation to recognize and address these past and current unjust systems and actions across all sectors. Agencies can make commitments to allocate limited public resources to the people and communities that need them the most. One national effort to both assess and improve government impacts on racial equity is the Government Alliance on Race and Equity (GARE),[13] of which CDPH is an active member.

It is incumbent upon public agencies, and their workers to change the policies, systems, and environments in which they work. They should repair harm that may have occurred, and work to reduce and prevent disproportionate negative impacts and to avoid future harm.

One important area of focus is for governments to look at how racism is both intentionally and unintentionally embedded in our systems. It is then up to the people in power in these systems to make changes in leadership, procurement, policies, programs, and the lenses from which to view priorities.

One helpful resource for understanding racism as a public health issue is a report by the Justice Collaborative Institute and St. Louis University called, "Racism Is a Public Health Crisis: Here's How to Respond."[14] Another important, practical tool for how to analyze policies and programs with a racial equity lens, is the GARE Racial Equity Toolkit.[15] In addition, there are important connections between racism, police violence, and public health, which are described by the National Association of County and City Health Official (NACCHO) Policy Statement on Police Violence and Racism.[16]

> **What to Call Communities**
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> **Considerations:** Terms that refer to individual communities are very context specific. It is important to find out from members of communities themselves how they would prefer to be referenced. Sometimes it can be helpful to name the community more precisely (e.g., Black Puerto Ricans, Latinx youth, Black African immigrants, etc.). One broader term is BIPOC (Black, Indigenous, and People of Color). It recognizes a shared burden of oppression, as well as the difference in racial experience between the named groups. Terms constantly evolve, and community members know best what is appropriate.
>
> When working with communities with EJ concerns, **ask them** what they prefer. It may be important to reference the community in a positive light by acknowledging their strengths and opportunities. Describing individuals or communities as 'minorities' or 'disadvantaged' could be considered offensive (EHIB, 2021).

How to Use this Guide

This guide is organized into three domains, with 11 goals. It provides strategies to support community engagement best practices, with examples from EHIB's work. The practices described are meant to be aspirational, not prescriptive. Each agency's needs are different depending on its project and budget. Each user will prioritize strategies based on the cost, benefit, and feasibility of implementation.

Putting forth the value of these practices in an agency does not mean a large budget is necessary. It may mean a fundamental establishment of new community relationships to guide programs in ways that will be more meaningful to the agency and community in the long run.

Ethics and IRB

The Committee for the Protection of Human Subjects[17] serves as the institutional review board (IRB) for all departments under the California Health and Human Services Agency. IRBs assure that research involving human subjects is conducted ethically and with minimum risk to participants. Public health practice and surveillance are exempt from IRB review if they meet non-research exemption criteria. Public health practitioners should read about IRB to determine whether an IRB review or exemption is needed for a project.

Domain 1. Ensure Meaningful Community Participation and Capacity Building

Community participation is an essential element of environmental public health practice. As such, it is reflected in EHIB's mission and organizational structure. Community participation builds trust, promotes partnership and community capacity building, and enhances the quality and applicability of educational materials, survey instruments, assessments, and research.

Meaningful community participation helps to identify important issues, enhances mutual understanding, and leads to better decisions.[18] The CDC points out that "positive change is more likely to occur when community members are an integral part of a program's development and implementation. All partners must be actively respected from the start."[19]

Photo: EHIB workshop for community members in Tulare County on mercury in some imported and artisanal face creams

Community is a complex social construct that has several dimensions to consider for community participation. For example, a community may not only be defined by its geographical area, but also by the social ties or relationships, common perspectives, shared identity, language, culture, similar individual characteristics, or shared health impacts of its members.[8,20] Additionally, individuals are members of multiple types of communities at once that may differ in priorities, goals, and expectations.[10]

Capacity Building

Definition: Capacity building is intentionally helping community members develop the skills and resources to overcome personal, social, and organizational obstacles to achieving sustainable improvements in their health and environment (EHIB, 2021).

While engaging with a community, investigation cohort, affected population, or priority audience, it is important to ensure the community has a strong voice throughout the process, and for community members to influence the work and its outcomes.

Domain 1 starts with planning for community participation by drawing on evidence-based guidelines that inform the remaining goals. Goals 1.2 through 1.4 focus on key competencies and methods for implementing community participation and capacity building efforts.

Domain 1 Includes Four Goals:

Goal 1.1	Plan for Community Participation Based on a Carefully Defined Purpose
Goal 1.2	Gather Information to Inform Participation and Engagement
Goal 1.3	Ensure Meaningful Community Engagement
Goal 1.4	Conduct Effective Community Meetings and Trainings

Goal 1.1. Plan for Community Participation Based on a Carefully Defined Purpose

Purpose

Meaningful participation from diverse members of the community or priority population relies heavily on the development of a well-designed community participation plan. The plan should clearly define the purpose of the activity or project and outline evidence-based approaches to engage and build the capacity of community stakeholders to achieve desirable outcomes.

Potential conflicts that can be anticipated and considered in the planning process include when or if the following occur:

- The community is mistrustful of government;
- The scientific problem is complicated;
- It is unclear to stakeholders how the project will benefit the community;
- There are cultural or structural barriers to involvement, such as lack of childcare, transportation, or simultaneous interpretation; or
- Different stakeholders have different goals, opinions, or interests.

Strategies for Implementation

Possible implementation strategies for designing an effective community participation and capacity building plan are the following:

- **Identify and engage key community gatekeepers, leaders, and other stakeholders in the development of the community participation plan from the beginning.** Develop a team to establish goals, objectives, and outcome measures for the community participation and capacity building process. These participants can help assess the potential for unintended stress on community participants and take that into account in the design for community participation.[21]

> **Community Health Workers or *Promotores de Salud***
>
> **Definition:** Community health workers (CHWs) or *promotores de salud* are frontline public health workers who are trusted members of the community served. This trusting relationship enables CHWs to serve as liaison link or intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery. CHWs also build individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support, and advocacy. (American Public Health Association).

- **Determine the purpose of community participation.** Is it to gather data, to inform the public, or to produce plans or projects that require community input? Is it to gain support for a program or action, to provide participants the opportunity to enhance their own capacities to advocate for themselves, or is it for other purposes?

  In thinking through these questions, also consider the context of how and why the original project was initiated. Did it come directly from a community-identified need, an organizational mission, health outcomes in surveillance data, or a publicly funded charge of an agency?

- **Identify how and where in project timelines community input will be incorporated.** On the spectrum of community engagement, there are different roles, responsibilities, and levels of power-sharing regarding communities. It is important for public agencies to examine how much room there is in their own processes to engage with community in meaningful ways. These ways include both incorporating community-driven changes into existing plans, as well as having the initial planning priorities be developed by community members.

  Although engaging community throughout a planning process can be more time-consuming, the benefits gained outweigh the costs. Meaningful community engagement can improve outcomes including the creation of mutually beneficial partnerships, as well as the development of more appropriate, higher quality, and more sustainable programs and policies.

- **Be transparent with stakeholders about the amount of power community perspectives hold in decision-making.** In addition to identifying where, when, and how community input will be incorporated and used to make decisions, it is crucial that public agencies communicate about these input

opportunities and their limitations. Gaining and keeping community trust in this work is critical for success.

By being honest and transparent about what barriers exist in an agency's process and where people can and cannot influence change, community members will know how much their voice matters and where to focus their energy for the most impact.

Building off the community's trust and interest to engage, agencies need to then hold true to what is promised in the planning process that is laid out and also in the community-driven outcomes that can be controlled. As public agencies who are here to serve communities, finding more ways for community voices to affect actions makes for a stronger democracy and more vibrant and healthy communities.

- **Identify evidence-based steps, methods, and evaluation criteria.** The American Society for Public Administration's "Designing Public Participation Processes" has evidence-based guidelines for determining steps, methods, and evaluation criteria, based on the defined purpose of community participation.[22] Another resource is the U.S. Environmental Protection Agency (U.S. EPA) National Environmental Justice Advisory Council's "Model Guidelines for Public Participation."[23]

- **Identify steps to prevent and manage conflict in the plan.** These may include engaging facilitators who have skills in methods such as nonviolent communication,[24] appreciative inquiry,[25] and effective listening (see Goal 1.4, Conduct Effective Community Meetings and Trainings).

Photo: Trainers in an Asthma Management Academy (AsMA) training

Case Study: Partnering to build community health worker capacity

California Breathing, the CDPH state asthma program, focuses on improving asthma outcomes in communities with a high asthma burden. The program leverages a CHW model to deliver the AsMA.

The AsMA teaches evidence-based training and skill building on asthma self-management education for CHWs, *promotores de salud*, and other health educators who serve low-income and underserved clients with asthma. Evidence demonstrates CHWs deliver culturally and linguistically appropriate services, improve health outcomes, and reduce health care costs.

The AsMA is delivered in English and Spanish by Comité Cívico del Valle (https://www.ccvhealth.org/), a grassroots community-based organization and contract partner made up of *promotores de salud* who are from the communities they serve.

The AsMA program has trained over 450 CHWs and *promotores de salud* from 50 health care organizations that serve clients with uncontrolled asthma in high asthma burden communities. Among the clients served by CHWs and *promotores de salud*, evaluation data demonstrate improved asthma control, medication adherence, and reduced asthma-related emergency department visits and hospitalizations.

Goal 1.2. Gather Information to Inform Participation and Engagement

Purpose

Prior to actively engaging in a community, it is important to learn about the community's assets and potential challenges by becoming familiar with community demographics, culture, attitudes, EJ and political history, social determinants of health, and other factors.

A community profile can summarize data such as economic trends within the community; issues facing the community; and community members' attitudes,[26] especially attitudes about the health, social or EJ issue itself.[27] It can include resources within the community such as nonprofit organizations, schools, labor, and church groups, as well as any existing media opportunities or channels to help spread the word. **For more on developing a community profile, see Tool 1.2.1, Community Profile Template, of the Toolkit that accompanies this guide.**

The community profile can be developed in collaboration with the community in a two-way dialogue. The community's level of participation, interest, and understanding could be affected by literacy levels, numeracy levels,[28] or disabilities, which might not show up in aggregated census or health data. It could be discoverable through direct engagement with community groups, however, it is important to know when a community prefers oral as opposed to written communication as well.

It is also important to achieve a solid understanding of the community's perception of the benefits and costs of participating, as this will facilitate decision-making and consensus building and will translate into improved program planning, design, policy development, organization, and advocacy.[8]

Depending on where an agency's project falls in the "Spectrum of Community Engagement to Ownership,"[2] community members may be more or less interested or engaged in the process. Being clear and transparent about the amount of influence a community's voice will have in a project can help members analyze the pros and cons of their participation. By being open about public agencies' procedural boundaries and limitations, communities can have more information to work from to fill those gaps with community-led efforts that work in tandem with government systems.

Finally, it is helpful to identify sources of resistance and potential conflict up front. Minkler *et al.* issue a word of caution about resistance: "Stakeholders likely to resist or actively fight efforts to support health-promoting environmental policy need to be identified and carefully considered in charting policy and educational approaches."[29] Some resistance may be rooted in antagonisms between community groups, but even those stakeholders that are not getting along will have something to say about project activities, investigations, and social and EJ.

The duty of public servants is to hear the voices of the communities served and incorporate their priorities where possible. If people are upset because of social and environmental conditions where they live and work, and they share these feelings along with their ideas, this is an important part of practicing authentic community engagement. For example, in a public comment meeting, if people from the affected community show up and express anger, it means that people are engaged, care about the issue, are voicing their local expert opinions. It is important for public agencies to create and nurture opportunities for these voices to be heard and incorporated into planning and policies.

Strategies for Implementation

Possible implementation strategies for building a community profile are the following:

- **Collaborate with the community to build the profile.** Data will have greater relevance if interpreted in collaboration with the community; the open and on-going conversation with stakeholders can prevent the data from being viewed as another "piece of bad news."[30]

- **Collect census and health status data.** Census data may include demographics and some individual social vulnerability indicators; health status data may include hospital discharge data (e.g., for chronic diseases), pesticide use reporting, California Health Interview Survey (CHIS),[31] Department of Developmental Services reports,[32] and other sources.

- **Collect social determinants of health data.** Social determinants of health data include social and environmental factors that exist in neighborhoods and societal structures that affect individual and community health. Some sources for identifying social indicators that affect health, as well as how to get local data are:

- o [CDPH's Office of Health Equity's Healthy Communities Data and Indicators Project](#) (https://www.cdph.ca.gov/Programs/OHE/Pages/HCI-Search.aspx) provides a standardized set of statistical measures, data, and tools on the social determinants of health in California.

- o [Let's Get Healthy California](#) (https://letsgethealthy.ca.gov/category/social-determinants-of-health/) has data and program information on different categories of social determinants of health such as food security, early childhood wellbeing, community violence prevention, etc.

- o [The Open Data Portal](#) (https://data.ca.gov/) is a source for multiple California governmental data sets related to health, transportation, finances, housing, natural resources, and more.

- o [The Healthy Places Index](#) (http://healthyplacesindex.org) identifies cumulative health disadvantage in California in tables and interactive mapping by looking at health outcomes, as well as environmental and social determinants of health.[33]

- o [BARHII's Applying Social Determinants of Health Indicator Data for Advancing Health Equity](#): A Guide for Local Health Department Epidemiologists and Public Health Professionals (http://www.barhii.org/sdoh-indicator-guide) assists in the collection, analysis, and usage of priority living conditions data indicators for local community health assessments, program/policy development, and health equity advocacy.

- o [The National Association of City and County Health Officers (NACHHO)](#) (https://www.naccho.org/uploads/downloadable-resources/SDOH-resources.pdf) has assembled a list of various national and local social determinants of health data resources.

- **Understand the diversity characteristics of the community.** Consult with local service providers or organizations to understand cultural, literacy, linguistic, and ability diversity. Organizations such as English as a Second Language (ESL) and General Education Diploma (GED) programs, Independent Living Centers, vocational training programs, local schools, refugee organizations, labor, and faith-based organizations that serve the community can aid in developing an understanding of both individual- and community-level diversity.[34]

- **Compile data on the history of environmental contamination in the community.** Use online mapping resources such as the following:

  - [The California Department of Toxic Substances Control's EnviroStor](http://www.envirostor.dtsc.ca.gov/public/) (http://www.envirostor.dtsc.ca.gov/public/) maps all the cleanup sites in the area of concern.[35] The map dots, when clicked, provide the status of the cleanup, the regulatory profile (including past uses that caused contamination and potential contaminants of concern) and contact information for the site cleanup supervisor.

  - [The EPA's Toxic Release Inventory Program](http://www2.epa.gov/toxics-release-inventory-tri-program) (http://www2.epa.gov/toxics-release-inventory-tri-program) makes data available through a variety of reports, query tools, and downloadable files on their website.[36]

- **Use screening tools and methods that assess and describe the exposures of communities that are disproportionately burdened by sources of pollution.** Screening tools and methods include the following:

  - [The CalEnviroScreen](https://oehha.ca.gov/calenviroscreen) (https://oehha.ca.gov/calenviroscreen) is a screening tool that can be used to identify California communities that are disproportionately burdened by multiple sources of pollution.[37]

  - The Environmental Justice Screening Method, which does not have an accompanying online tool, helps determine communities with EJ concerns based on 1) hazard proximity and land use; 2) air pollution exposure and estimated health risk; and 3) social and health vulnerability.[38]

- **Map community assets.** Tools such as the Healthy Communities Data and Indicators Project,[39] and Community Tool Box,[40] can help determine why, who, when, and how to identify community assets and resources.

- **Assess the community's social, cultural, and economic history.** Use methods such as key informant interviews with community leaders and reviews of historical materials (media reports, minutes of public hearings, etc.) to become knowledgeable about the community's culture, economic conditions, social networks, political and power structures, attitudes, norms and values, demographic trends, history, and experience with efforts by outside groups to engage it in various programs.[8,17]

- **Conduct a situation assessment.** A situation assessment will describe aspects such as the following:

- o Who might be impacted by the efforts, who should be involved, what concerns do they bring to the process, and where is there resistance?

- o Interests that may be important to the community such as health, safety, pollution, property values, jobs, congestion, crime, or the local economy.[41]

- o Community perceptions of those initiating the engagement activities,[8] and their experiences with outside groups in the past.[10]

- o Individuals and groups whose support is necessary, including which individuals or groups must be approached and involved in the initial stages of engagement.[8]

Photo: Irenia Quitiquit helped EHIB test signs for the Clear Lake tribes and community about harmful algal blooms in the lake. Irenia then appeared in the EHIB video: Signs of the Times (https://youtu.be/xEL96GIaJhE)

Goal 1.3. Ensure Meaningful Community Engagement

Purpose

Building a strong foundation of trust and meaningful community participation in the initial stages of a project will lead to stronger outcomes, especially in a community with EJ concerns. Communities with these concerns have often had a history of negative experiences with public agencies leading to an understandable distrust of authorities.[42] Using a framework that acknowledges social inequities and emphasizes community assets and engagement can turn this distrust around, with a unique opportunity for full community participation in the investigation or capacity-building process.

Two primary realities make gaining meaningful community engagement critical: when prior efforts by public agencies failed to result in concrete gains, thereby generating disappointment or mistrust in that community; and when competing priorities fail to generate a strong enough felt need to participate. Carefully chosen strategies build trust, address immediate needs, and build community capacity. Building trust can also involve agencies attending community events to find out more about community partners and support their work.

It is critical for building trust that public agencies and staff honor their large and small promises to community members. Even one instance of "no call, no show" can affect community trust in the agency.

While disproportionate exposures to toxic substances in the environment or burdens of disease might be the focus of concern for public agencies, these may not be as much of a priority as community-defined priorities, such as jobs, education, or violence. Wherever possible, the principle of relevance or "starting where the people are" needs to be supported.[43]

In some cases, it will be possible to connect the public health issue at hand directly with community priorities, and in others, the issue may not be perceived by the community as a need.

Strategies that build trust (and sometimes repair negative history) are necessary to authentically partner with community residents and other gatekeepers.[44]

   o Meaningful community engagement also builds local capacity in order to enhance the skills and highlight the existing qualities of community experts while leveraging state and local resources. Partnering with community-based organizations (CBOs) brings

attention to local needs and assets, while increasing capacity at the community level. Building engagement and capacity is an effective strategy for having a more informed, active, and responsive public with increased participation in the larger democratic processes of government, as well as transforming government and public agencies to be more responsive to community needs and priorities.

Cultural Competency

Definition: Cultural Competency is the ability of individuals and systems to respond respectfully and effectively to people of all cultures, languages, social classes, races, ethnic backgrounds, disabilities, religions, genders, sexual orientation, and other diversity factors in a manner that recognizes, affirms, and values the worth of individuals, families, and communities and protects and preserves the dignity of each (Lamont, 2013).

Cultural Humility

Definition: Cultural Humility is the ability to maintain an interpersonal stance that is other-oriented (or open to the other) in relation to aspects of cultural identity that are most important to the [person] (Hook, 2013).

Strategies for Implementation

Possible implementation strategies for authentically involving the community and gaining meaningful engagement are the following:

Become proficient in cultural competency and cultural humility. Unlike cultural competence, which is more likely understood, cultural humility is a concept that requires a deep personal introspection of how each of us sees different people.[45,46] Training or working with a diverse array of people is important for learning cultural competence, but sometimes people fall short of developing the characteristics that allow them to fully relate and build trust with the other person. Cultural humility, however, is the ability to maintain a willingness to suspend what an individual knows, or what he or she thinks they know, about a person based on generalizations about their culture.[47] Tervalon and Murray-Garcia describe cultural humility as having the following three dimensions:[48]

- o **Lifelong learning and critical reflection.** Understand that culture is an expression of self and learning about each individual's culture is a lifelong endeavor. Be willing to reflect on internal biases and

assumptions; be humbled by the self-discovery that results from self-reflection.

o **Recognizing and challenging power imbalances for respectful partnerships.** An essential part of the trust-building process is the conscious process of naming and challenging the structural inequities and power imbalances that historically and currently exist throughout society. These have an impact on social and EJ and health equity. This process includes not only naming those imbalances on a macro level, but also those that might exist in public agencies or in direct relationship to participants and community stakeholders.

o These power imbalances may also include or be affected by implicit biases everyone holds without being conscious of them. The impact of societal inequities such as racism, classism, sexism, homophobia, transphobia, xenophobia can all play a role in organizational and interpersonal power-dynamics regardless of intent.

o **Institutional accountability.** Ensure that public agencies and their partners model these principles internally and externally.

Reach out to community gatekeepers to build trust. Refer to the gatekeepers identified in the Community Profile (see Goal 1.2, Gather Information to Inform Participation and Engagement) to open doors and begin the trust-building process. Particularly when working in multicultural communities, engage reputed individuals, such as community investigation partners, local CBO leaders, and other local gatekeepers to reach out to potential participants.[49]

- **Identify and engage community leaders as members of the team, especially when they are multilingual.** In many cases, communities with EJ concerns are suspicious of government and public agencies and may believe that whatever government tells them is not the whole story. It can help to partner with *promotores de salud*, CHWs, outreach programs, or trusted institutions such as labor or faith organizations to communicate the benefits of involvement.

In communities where the dominant language is not English, look to CBOs and other organizations to recruit and train bilingual/bicultural community stakeholders who have leadership experience within the relevant linguistic community. These leaders can serve as key liaisons to the community, contributing to planning, outreach and education, investigation design, data collection, data analysis, and dissemination of findings and reports.[42] They can

also serve as document translators and advisors on culturally sensitive topics. Plan to compensate these liaisons when budget planning.

- **Seek relevance where opportunities exist.** Connect EJ concerns to other community priorities, such as jobs, safety, and other health issues.

Hire community members and develop their resources and capacity. Develop new resources and capacities within the community. Although it is essential to begin by using existing resources, the literature on capacity building and coalitions stresses that engagement is more likely to be sustained when new resources and capacities are developed.[8]

These might include engaging community members to translate documents, facilitate meetings; training local leaders to test out survey instruments with community members; or contracting with local CBOs to conduct outreach, training, or data collection. It may also include increasing advocacy capacity to leverage local and state resources for the long-term.

Tribes and Tribal Communities

Considerations: Engaging tribes, as sovereign nations, or tribal communities, on changes that significantly affect tribal members may require a formal consultation process. There has been an increase in tribal consultation, as required by law, in various California state agencies in recent years.

Information about when and how to consult with tribal governments and leaders in California is outside the scope of this guide, but a good overview of the historical, legal, and cultural considerations involved with working with tribes can be found in the following tribal consultation resources (EHIB):

California Health & Human Services Agency (CHHS) Tribal Consultation Policy (https://www.chhs.ca.gov/home/tribal-affairs/)

California Environmental Protection Agency (CalEPA) and Department Tribal Policies (https://calepa.ca.gov/tribal/)

California Natural Resources Agency (CNRA) Tribal Policy (https://resources.ca.gov/Tribal-Policy)

- **Develop a communications plan.** As education and research or investigation activities are implemented and sustained, maintain communication with community members and stakeholders.[26] Clearly communicate to the community why the participation of its members is worthwhile. The NACCHO suggests the seven following essential plan elements:[50]

    1. Define the core concept;

2. Create an overarching strategy linked to a brand or market position;
3. Prepare messages or talking points;
4. Develop communications products;
5. Plan for crisis and emergency risk communications;
6. Evaluate the communications initiative; and
7. Improve the overall quality of the communications initiative.

- **Share experience with other public agencies serving the community.** Share any potential gaps or cultural misunderstandings that may be preventing full participation from the community and suggest potential accommodations that could increase participation.

Photo: Task force members ready to tour hazardous waste sites

Case Study: Listening to the people of the City of South Gate

EHIB began working in the city of South Gate, a densely populated, majority Spanish-speaking city in Los Angeles County, to assess the health risk from two hazardous waste sites. However, the residents were concerned about other hazards such as truck traffic, illegal trash dumping, and public safety.

In response, EHIB broadened the scope of its risk assessment to focus on the community's environmental concerns in addition to the hazardous waste sites. To accomplish this wider assessment, EHIB implemented a federal government protocol. The Protocol for Assessing Community Excellence in Environmental Health (PACE EH) is a community-based participatory program that engages the public to identify and prioritize environmental concerns and create plans to address them.

EHIB first collected census data and spoke with other state and county government agencies. EHIB also met with South Gate city officials, non-profit organizations, rotary club representatives, church leaders, teachers, and visited popular cafes and community events to learn from residents.

To ensure meaningful engagement, local leaders then created a task force made up of community members, business leaders, and government agency staff to monitor the environmental cleanup of the hazardous waste sites, as well as take on other issues such as air and water quality, traffic, dumping, public safety, and the linguistic isolation of its Spanish-speaking residents.

Goal 1.4. Conduct Effective Community Meetings and Trainings

Purpose

Community meetings and other in-person events help to inform, engage, and involve communities with EJ concerns,[51] while also helping to dispel rumors, fears, and misunderstanding.[52] To be effective, they must be well planned, communicated, and facilitated.

Public agencies may experience a tension between following protocols for regulatory-based meetings and the greater flexibility necessary for conducting community meetings with an EJ participatory approach. Transparency is important in all phases of planning and execution.

Disruptions are typical in any meeting and there are basic meeting planning and facilitation skills that can prevent and mitigate them. However, communities with EJ concerns justifiably are faced with many stressors, and staff can easily become the target of pent-up frustration, not even necessarily related to the environmental health issue at hand.

Bryson *et al.* identified managing uncertainty as a key purpose of public participation, "for example, to build trust, increase the quality of information informing decisions, stabilize relationships, and minimize risk from unanticipated changes in the external environment."[13] This is addressed in Goal 1.1, Plan for Community Participation Based on a Carefully Defined Purpose, and very specifically applies when conducting public meetings.

Strategies for Implementation

Possible implementation strategies for conducting effective public meetings are the following:

- **Ensure effective communications and outreach.** Inform the community in advance of any meetings that are open to the public with flyers, media releases, newsletters, and other notices "written in plain language, not legalese."[53] The use of smartphones for health communications is increasing dramatically.[54] Mobile communications can be an effective way to disseminate meeting information and reminders, as well as health

information. Partner with local organizations to tap into existing networks and listservs.

- **Assess the appropriate meeting format.** Take into account how the community shares information in order to determine if the best format to achieve objectives is through a large stakeholder meeting, smaller community meetings, workshops, or data collection methods such as key informant interviews, talk story sessions, one-on-one or small-group interviews, focus groups, or community surveys.[55] Consider whether it is more effective to attend meetings that have already been scheduled, for instance at senior citizen centers and community centers. Tap recognized leaders in the community to find out where and when such meetings are scheduled.[48]

- **Identify meeting purpose, outcomes, and process.** Before designing the meeting agenda or activities, clearly identify the meeting purpose (or expected outcomes). A clearly developed meeting purpose will inform design elements such as the effective group size and composition, the agenda and design of the process. Each agenda item should relate to the meeting purpose and have a stated outcome or objective.

- **Plan for evaluation.** Evaluations of community meetings should be primarily based on how well the objectives and outcomes identified in the meeting design were achieved. They should also assess participant satisfaction. The evaluation instrument should be literacy-appropriate and language-appropriate, as well as accessible, depending on the needs of participants.

- **Plan meeting content.** Use meeting planning checklists and tools such as those found in the Community Toolbox.[33] If possible, before the in-person meeting, "identify community questions and concerns; and prepare responses"[56] (see Goal 1.3. Ensure Meaningful Community Engagement, for more information on developing a communications plan). To maximize participation levels, arrange to provide transportation and childcare for the meetings or work with a local partner organization to provide these services.

- **Meet in neutral locations.** To put those who mistrust public agencies at ease, find gathering places that are not associated with governmental functions. Acknowledge that fear and distrust in a community can affect learning and participation. Actively develop learning environments that are considered collaborative spaces within the community. Consult with the community to identify safe and neutral locations.

- **Security.** Some specific events or locations may consider or even require uniformed security or police to be present at community events. It would be important to bring the idea of security up with community partners to get their input, maintain trust, and proactively inform participants.

- **Provide for the full access and comfort of meeting participants.** Whenever possible, provide food and childcare at meetings and events. If appropriate, plan for sign and other language interpreting, accessible written materials, mobility issues, and/or food restrictions. Meeting locations should be visited ahead of time to ensure factors such as the following:

  o Accessibility by public transportation;

  o Adequate seating;

  o Wheelchair access; and

  o Comfortable temperatures (heat in winter, air conditioning in summer)

Compensating Community

Consideration: It is important to value the time and wisdom of community-based organizations that serve their own populations. Recognizing this field of subject matter expertise and its consultative value to government services is an important organizational equity approach.

It is strongly recommended that public agencies provide compensation for these organizations and residents for participation in activities including outreach, meeting facilitation and presentations, input on data, technical documents, and messaging (CDPH, Office of Health Equity, 2021).

- **Use participatory meeting methods.** Meeting methods will depend on the expected outcomes and composition of the group, but wherever possible, engage the public through a call to empathy and discussion, which will likely be more effective than delivery of just facts.[57] To promote participation and engagement, incorporate group facilitation methods such as Group Jazz,[58] Liberating Structures,[59] World Café,[60] or Open Space Technology,[61] where appropriate. These methods work because they are founded in adult learning theory. This theory recognizes that adults learn through engagement and problem-solving, more than one-way content-oriented instruction.[62]

- **Use effective facilitation methods to prevent or manage difficult situations.** Some disruptions, such as side conversations, going off-topic, or individuals dominating can be prevented when setting up the meeting. These include

gaining agreement on the agenda, ground rules, and outcomes. Plan to suggest or establish "working agreements" for meetings to create a safe environment for full participation.[63] Methods such as Appreciative Inquiry,[16] and the Ladder of Inference,[64] generate mutual trust and create a positive climate that minimizes disruptions.

Engage a facilitator with basic skills such as careful listening, showing respect, and staying in the facilitator role, and consider integrating storytelling to honor participant contributions.[65] When a disruption does occur during the meeting, interventions such as having the group decide, going back to the agenda and ground rules, using humor and body language, and other strategies can be effective depending on the specific circumstance.[33] **For more on effective facilitation, see Tool 1.4.1, Facilitation Tools, in the Toolkit that accompanies this Guide.**

- **Manage crises and uncertainty when events do not go as planned.** In cases when a disruption occurs because of deep-seated conflict or mistrust, there are specific skills that staff need to use or bring in from the outside. These include Principled Negotiation,[66] and other forms of conflict resolution.[67] Common to most of these approaches are the aims of separating the people from the problem; focusing on interests or needs, not positions; and collaborating to create options that are mutually satisfying. Debra Jones of Utah State University Extension asserts that conflict, if handled positively, can be a constructive force in community groups. In her article, she outlines the types of group conflict and various approaches to responding to conflict.[68]

- **Determine whether compliance with the Brown Act is needed.** California's Ralph M. Brown Act was enacted in response to public concerns over informal, undisclosed meetings of local elected officials. If local elected officials attend community meetings, the Brown Act applies if a majority of the legislative body (i.e., Board of Supervisors, City Council, Planning Commission, etc.) is in attendance. In that case, refer to the California Attorney General's Office,[69] or the First Amendment Coalition,[70] for rules. There are guidelines for what constitutes a "meeting," and if they apply, meeting planners must give notice through the posting of an agenda at least 72 hours in advance.

Domain 2. Engage in Responsible Public Health Investigations

When public and environmental health research, investigations, or assessments involve environmental sampling, data sets, or human subjects, community members can be engaged to share ownership of the process and outcomes. Participatory processes form equitable partnerships between community members, stakeholders, and public agencies to contribute expertise and promote shared decision-making and action.[71,72]

While a participatory approach provides a well-established foundation for any type of investigation, there may be practical barriers to community engagement. Community members may not have the resources to be engaged in participatory work; at times, engagement may add stress to those already burdened by environmental and other factors in their lives; and there may not be clear consensus on a community perspective to be shared in the process when conflicts exist. The participatory principles presented here are a set of practices to choose from to overcome barriers and move towards active community participation.

Whether the project involves community participants directly or indirectly, participatory practices take into consideration the following:

- How relevant the project is to the study population;
- How it will benefit the health and well-being of the affected community;
- How the project promotes environmental or social justice; and
- How the project builds community capacity.

Balazs and Morello-Frosch found that participatory practices such as community-based participatory research can strengthen EJ science.

> "Communities engaged in environmental health have helped improve the rigor, relevance, and reach of science, or what we call the '3 R's. Rigor refers to the practice and promotion of good science—in the study design, data collection and interpretation phases of research. Relevance refers to whether science is asking the right questions. For environmental health, relevant research emphasizes appropriate causes of exposure and elucidates opportunities for action or change. Reach encapsulates the degree to which knowledge is disseminated to diverse audiences and translated into useful tools for the scientific, regulatory, policy and lay arenas."[73]

Furthermore, participation of communities of color and low-income communities in studies has historically lagged behind that of the "majority" population.[74] Potential suspicion and mistrust in the community with EJ concerns should be acknowledged by project staff and implementation strategies should be developed to ameliorate such concerns.

Finally, when a project is mainly based on secondary data (such as U.S. Census Data, national survey data, or vital statistics), the following considerations arise regarding how to approach data analysis in a way that incorporates participatory practices:

- How one will choose the data sets to look at;
- How choice of the data set is informed by an affected community; and
- Once there are findings, how investigators ensure that the science gets effectively and respectfully communicated to the affected community.

Domain 2 provides guidance on how to approach these questions in the project design and communication of findings.

Domain 2 Includes Four Goals:	
Goal 2.1	Define the Investigation Purposes and Processes with Participatory Practices
Goal 2.2	Identify Resources and Partners Within the Community with Environmental Justice Concerns
Goal 2.3	Design Data Collection Methods and Tools that Build Community Capacity
Goal 2.4	Communicate Findings Using Methods that Promote Respect, Understanding, and Action

Goal 2.1. Define Study and Investigation Purposes and Processes with Participatory Practices

Purpose

We can provide communities with EJ concerns opportunities to participate as partners when a project is first conceptualized, such as in the proposal-writing phase. A participatory approach ensures that community members are engaged from the outset in defining the purpose and processes in project design.

> **Primary Data**
>
> **Definition:** Primary Data is information that is collected directly from members of the community. This can be collected via interviews with community stakeholders or partners, as well as focus groups or surveys with community members.
>
> **Secondary Data**
>
> **Definition:** Secondary Data is information that is collected from sources such as the U.S. Census or national survey data (EHIB, 2021).

EHIB and other public agencies engage in multiple types of investigations collecting either primary data or utilizing secondary data, such as the following:

Primary Data Sources

- Disease screening (e.g., lead in children)
- Exposure studies (e.g., biomonitoring)
- Investigations (e.g., mercury poisoning, acute chemical exposures)

Secondary Data Sources

- Surveillance (e.g., asthma)
- Disease mapping (e.g., cancer clusters)

Photo: Comité Civico Del Valle and Tracking California at a project ribbon cutting

Case Study: Advisory group uses secondary data to address EJ

EHIB approaches secondary data in a way that draws upon participatory principals of involving EJ community members in decision-making. Tracking California (https://trackingcalifornia.org/) makes environmental health data and information publicly available through a web-based data query system, state-of-the-art data displays, and innovative web tools and services. The program aims to make these data and information accessible and useful to stakeholders, including communities, academia, and private partners.

It is important to have a deeply involved group of stakeholders to guide decisions. The Tracking Implementation Advisory Group provides this for the program. The group consists of about 30 representatives with diverse expertise, skills, and experiences from other government agencies, data stewardship realms, and community groups, and include a mix of people from underrepresented areas (i.e., the Central Valley).

The group uses Tracking California's web-based services to track secondary data sources on environmental exposures, hazards, and health data trends. They explore associations between the environment and health for the planning, implementation, and evaluation of environmental public health programs. These activities ensure that community stakeholders contribute to the expertise of the group, share decision-making power, and "own" the research findings and recommendations for communities with EJ concerns.

Strategies for Implementation

We have found that the participatory strategies below help define a project's purpose and process:[75,76]

- **Plan how the project will value and build community capacity.** Have community partners been equitably included from the very beginning of the project? Is their work and time as highly regarded as that of government staff and scientists? Have opportunities been built into the study design for community members to receive compensation for collecting data, conducting focus groups, or improving outreach and educational materials?

- **Define the limitations of the project.** Once it is clear what the community is seeking, clarify how the project can and cannot advance its intended goals. As stated by an EHIB staffer, "Our role should evolve with time as it becomes clear what the community is looking for. Maybe it's our job to recognize when we are not needed."

- **Determine whether partners agree to participatory values.** Make sure all project partners agree to apply participatory practices inherent in a participatory approach. Let them know that the project will use predetermined strategies for treating community members as equitable partners, including high levels of transparency.

  Be sure to assess all partners for conflicts of interest and values that might impede a participatory effort by asking if there are any conflicts of interest in relation to the source of funding (e.g., has a polluter funded past research of potential partners?). Are your partners on board with investigation methods that include high levels of community involvement? Do agreements include equity issues, such as adequately funding community-based partners and participants?

- **Articulate an EJ framework and values.** The design of the project should reflect a shared commitment to the values of health equity, EJ, and community self-determination, including the ability to have discussions among partners and participants about race, ethnicity, class, and income, as it relates to the project goals.

- **Articulate who defines the problem and how.** In the design of the investigation, start with communicating how the community is engaged in defining the problem, then how their perspective will guide the

development of related questions. Ensure that there is always a clear connection between investigation questions and the benefit to the community.

- **Create a co-learning environment.** Find opportunities to pool diverse skills and foster mutual respect for the expertise of all partners. While public agencies may bring essential investigation skills, community partners can often mobilize "people power," and contribute their knowledge of the local contamination legacy, the history of local community struggles, and other outside efforts in the past to address the issue.

- **Establish agreements about how investigation process decisions are made.** During the investigation process, there may be opportunities to collaborate with other investigators or expand the investigation scope. Decisions on whether, when, and how to collaborate or expand should be anticipated and considered throughout the process. Develop Memoranda of Understanding (MOUs) or other mechanisms to formalize agreements with community stakeholder groups and any new investigation partners who embrace social justice, EJ values, and participatory principles.

- **Identify potential communication barriers.** Communities with diverse literacy levels, large non-English speaking sectors, and/or other communication challenges, require additional protections and efforts throughout the implementation process to ensure equitable communication and information collection with full participation (see Domain 3, Use Accessible Communications Practices, for more details).

- **Discuss voluntary participation, privacy, anonymity protections, and other protections with participants.** Staff members and/or community partners should repeatedly emphasize participants' rights, voluntary participation, and that participants have the right to refuse to continue with the investigation processes at any time.[77]

- **Use the consent processes to engage the community.** Provide opportunities for participants to learn about the investigation, the processes, and the problem at hand before any consent process is initiated. Provide clear and comprehensive information about the benefits, harms, and risks of the study to ensure participants are giving informed consent.[78] Clarify any ambiguity about the consent form and process.

o Use the consent process to interact with people and invite them to be more involved in the investigation process.

o Instead of the typical process of reading a lengthy consent form, provide appropriate opportunities to communicate with participants. Take special care to create accessible processes for linguistically isolated and limited-English-proficient populations.

o Consent forms can be reviewed in a group, where the interaction builds comprehension and gives people the opportunity to ask questions and consider whether they want to participate.

o There should always be multiple invitations to ask questions or to consent to move on.

o Participants can also be asked whether they want their samples destroyed or used in the future (such as donated to science). The consent form should define clearly who owns the samples, who owns the data, and how the data will be shared with the community and the participants.

o Ensure participants understand their rights and that they can say "no" to any part of the study.[71]

Data Sharing Agreements

Definition: Collaborations often use formal data sharing agreements to set up the methods and rules for sharing data between two or more organizations. These agreements, along with broader partnership agreements, can help mitigate the power imbalance between community groups and institutions (EHIB, 2021).[79]

Goal 2.2. Engage Partners and Identify Resources Within the Community with Environmental Justice Concerns

Purpose

A potential unintended consequence of engaging a community in participatory investigations is requests for your organization to resolve other issues in their community. Community partners may not be aware of other available resources. For example, if there are questions or concerns about air pollution, they can also rely on local resources such as the Air Quality Management District to help explain the problems and develop strategies.

Partnering with health providers, local nonprofits, and local health departments will ensure that community members and stakeholders can access sustainable local resources over the long term.

Collaboration with relevant CBOs that are regarded as trusted leaders in the community can lend legitimacy to the investigation effort. CBOs can also bring needed capacities to the table, such as policymaking, media advocacy, and community mobilization.

Strategies for Implementation

Possible implementation strategies for partnering with local resources are the following:

- **Identify the local resources in the community.** Learning more about local resources is critical for sustainability. Drawing on the Community Profile described in Goal 1.2, Gather Information to Inform Participation and Engagement, consider potential investigation partners in the community, such as physicians, non-profits, the local health department, school districts, and other local institutions.

- **Assess the effectiveness of potential community-based partners.** Conduct key informant interviews or use other mechanisms to determine whether local resources have the following characteristics:[80]

    o They are willing and committed;

- o Their organizational mission is to serve and advocate for the community;

- o They have trust and a history of engagement in the community;

- o They have staff and/or volunteer capacity to participate;

- o They have staff who are from the community; and

- o They have support and involvement from leaders in their organizations.

- **Introduce community members to local resources.** Make sure study participants and community leaders are formally connected to all local partners, including entities such as the local health department and other nonprofits.

Goal 2.3. Design Data Collection Methods and Tools that Build Community Capacity

Purpose

By adhering to participatory principles in developing data collection methods and tools, not only will data be more accurate, but it will also be more relevant to the community. It will increase community capacity, and it will promote individual or collective action.[66]

Strategies for Implementation

Possible implementation strategies for designing data collection methods and tools that build community capacity are the following:

- **Use the data collection methods to promote personal action and community advocacy.** Data collection methods and tools can be designed to empower participants to use the data to improve their lives.

  - **Mapping data:** Help participants and community partners access legacy contamination data on interactive mapping websites so they can identify pollutants that are affecting their communities (see Goal 1.2, Gather Information to Inform Participation and Engagement, for links).

  - **Interviews and focus groups:** Partner with community members to design interview and focus group questions, recruit participants, conduct data collection, and assist in interpreting findings, such as identifying themes and coding data.[81]

  - **Supply the community with tools for data collection, sampling, and monitoring:** Gain data from the point of view of community members. For example, the methodology *Photovoice* allows participants to take pictures that provide evidence or tell a story. "It entrusts cameras to the hands of people to enable them to act as recorders, and potential catalysts for change, in their own communities."[82,83]

    Another example is the "bucket brigade" in which investigators supply participants with modified five-gallon paint buckets filled with a capture bag, lab test, and valve system, allowing them to

test and monitor emissions in pollution hotspots. "The real success of the buckets is not the plastic, the valves, the bags, or the tests. Rather, it is the growth in community capacity to build, restore, and protect the social and environmental assets of those communities where the buckets have been used."[84]

- **Engage participants throughout the entire study process and in each phase of data collection.** Invite participants to every meeting during the study process. Give clear descriptions of what will be happening in the meetings, so they can decide whether to attend. Avoid waiting until investigations are being conducted in the field. Include community members in the development of instruments such as questionnaires.[74]

- **Design surveys with key guidelines.** It is helpful when designing a new survey to first define the main public health issue and the primary audience for the survey. Then, consider the analytic objectives of the survey including the kind of data needed at the end of the process and what associations warrant investigating. Write a list of topics to ask participants about and that will also be used in data analyses. Lastly, identify existing survey questions or write new ones that consider the purpose and objectives laid out. Be aware of common pitfalls of surveys, such as double-barreled questions that ask about more than one thing in a singular question.

Pilot Testing

Definition: Pilot testing assures that a newly designed survey is clear, comprehensive, reliable, and valid. Getting feedback on a pilot survey helps determine the accuracy of the data that will be collected and can answer whether the survey questions are consistent, redundant, misleading, or appropriate.

Field Testing

Definition: Field testing is the process of seeking formative feedback on a survey instrument or educational material from community members similar to the intended audience to assure understanding and effectiveness before the product is finalized and implemented. When using an existing, validated survey, it is still important to field test the instrument with an audience similar to your audience (EHIB, 2021).

- **Pilot test and field test the data collection instruments.** Surveys and other tools need to accurately assess the breadth and depth of the data explored, while also being sensitive to the community's literacy level, culture, and understanding of the problem. First, pilot test the instruments

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via an expert review for clarity and missing data points with colleagues or other stakeholders who can evaluate the survey. Second, do a pilot test in the field (a field test) of data collection instruments with a small group of participants who are similar to, but not the same as, the intended audience, to further test the instruments while avoiding contamination of the primary audience's answers. **For more on testing surveys, see Tool 2.3.1, Pilot Testing Surveys and Questionnaires.**

- **Respect people's time.** Test how much time the questionnaires take to complete. Get feedback from participants to determine a realistic time allotment, as well as how often they are conducted.

Photo: Campesinas Unidas' Sandra Garcia at a Cesar Chavez community event, March 2019

Case Study: Community helps to prevent sales of creams containing mercury

EHIB responds to mercury poisonings. Some are caused by imported and handmade skin creams. EHIB has tested hundreds of these skin-lightening and blemish-remover creams, finding that approximately one in four contain mercury. EHIB sought a community partner to help document and prevent the illegal sales of these harmful, imported creams in the Central Valley.

EHIB partnered with Campesinas Unidas (CU), a grassroots organization of CHWs, to provide leadership, local expertise, and connections, both to identify where these creams are sold and to raise awareness with cream users about the harmful health effects.

CU educates its community about the harmful creams using plain language Spanish materials with photos of common creams. To stem the cream sales, CU visited local swap meets and stores selling Mexican products to identify and purchase creams likely to contain mercury.

CU volunteers took photos of creams on store shelves, collected store GPS location data, and sent purchased creams for testing to EHIB. EHIB contacted store owners requesting that they discontinue sales of the creams that contained mercury. CU continues as EHIB's partner to monitor for sales of these harmful mercury-containing creams (including on online marketplaces) and to provide community education.

Goal 2.4. Communicate Findings Using Methods that Promote Respect, Understanding, and Action

Purpose

Maximizing health equity and EJ includes emphasizing the importance of communicating project results to affected community participants. When communication about findings is participant-driven, transparent, and fully understood, it promotes respect, understanding, and action by community partners.

Strategies for Implementation

Possible implementation strategies that can be included in a communication plan to disseminate results are the following:

- **Involve community participants and stakeholders in determining how findings will be reported.** Decide what will be reported, how often, and through what mechanisms (e.g., telephone, mobile and social media communications, face-to-face, residential drop-off, mail, internet, or a combination). At the beginning of a project, public agencies can explain to participants what they will—and will not—be able to learn, so they can decide whether they want to receive their individual findings.[85] Agencies can learn in what format participants prefer to receive their findings, how much interaction they want, and whether they want to become involved in different aspects of the project.

- **Attend to multiple ethical considerations.** Participants have a right to any individual findings as a basis for self-determination in taking action, for example by making personal changes to reduce exposures or by supporting protective public health policies. The following ethical principles apply to responsible participatory communication:[79]

  o **Autonomy:** community members can decide freely whether they wish to become participants.

  o **Beneficence:** consider potential benefits to the community, such as increased motivation among residents to improve their health equity and environmental health and participate more fully in social justice and EJ activities and policy development.

- o **Non-malfeasance:** seek out and address any potential for the report-back to cause fear, worry, or stigma; complications such as effects on health insurance or property values; and/or the unintended promotion of unnecessary or counter-productive interventions.

- o **Equity:** Provide equitable access to the potential benefits of a project. Disseminate findings without any disparities in access across the community.

- **Ongoing communication.** Projects, especially research studies, can take years to move from recruitment and consent to results. Communicate with study participants throughout all phases of the process. Continually remind them that they are still part of the process. Build knowledge and pathways for action into every phase of the study.
  Use appropriate mechanisms to prevent losing contact with participants, including Facebook, text messaging, and other technological ways to keep people informed and interested. Ensure that oral cultures are kept informed through phone calls, text message recordings, or automated telephone blasts. Keep contact information current.

- **Determine content of communication materials.**[79]

  - o Get input from community participants and stakeholders about what to report. Anticipate what typical questions might be and what report-back information is most responsive.

  - o In the case of an environmental exposure, when there is not a clear health guideline for a "safe" level, use comparisons, such as the National Exposure Report, or aggregate findings from other participants, to help put findings in perspective.

  - o Be sure to include information about how people can reduce exposures when this is possible. If exposure reduction strategies require policy change, say so. Try to connect participants to opportunities to get involved.

  - o Report individual findings to participants using individual identification numbers instead of names. If participants have agreed ahead of time, aggregate-level findings can be shared with their communities to help give context to their individual results and generate dialogue about the study implications. This allows reaching far more people than just the participants. (The data shared may be more than just aggregate if

there is a formal data-sharing or data-ownership agreement in place with the community.)

- o If the affected community primarily uses oral communications, see Goal 3.2, Use Accessible Speaking and Writing Practices for Low Literacy Populations, for additional health strategies

Dumbing Down or Creating Opportunity?

Considerations: Often when information is written in plain language, some of the details of science may seem significantly reduced. One common plain language myth is that it "dumbs down" the science. That is not true. The first rule of plain language is to write for the audience. By using words and phrases the audience knows and feels comfortable with, community members have more opportunities to engage equitably with the science. For additional communication strategies, see the Federal Plain Language Guidelines (http://www.plainlanguage.gov) and Domain 3, Use Accessible Communications Practices (EHIB, 2021).

- **Design findings communication materials that are appropriate for the audience.** Find out what literacy and numeracy levels the group has by meeting with community members. Ensure that communication materials are written clearly and in plain language. Always pilot test findings to make sure the materials are clear to the participants (see Goal 3.2, Use Accessible Speaking and Writing Practices for Low Literacy Populations, for parallel strategies and additional specifics on accessibility).[79]

  - o Always include and offer additional resources for those seeking more depth into technical and/or scientific information.

  - o Include both text and simple bar graphs in personal reports. Different people prefer different approaches. Draw attention to what is important.

  - o Messages that appeal to fears must be carefully communicated. Research has shown that strong fear appeals are persuasive more in the short term and only if the behavior change being promoted has high self-efficacy among recipients.[86,87]

- **Field test the communication materials.** Pretest report-back materials on a few people who are similar to study participants or on the study participants when appropriate. Ask them to speak for themselves rather than speculating about how someone else would respond. Communication materials need to be understandable, sensitive to the

community's literacy level and culture, and be effective at achieving the desired outcome. **See Tool 3.2.2, Best Practices for Field Testing Educational Materials, in the Toolkit that accompanies this Guide.**

- **Report findings to participants in a timely manner.** Promptly reporting laboratory results and other important findings to participants is essential. Study findings should be shared in ways that are timely, understandable, and respectful, with an emphasis on complete disclosure.

- **Help the community share findings.** Once the findings have been communicated, create opportunities for the community to receive and interact with them. Host community meetings, provide brief fact sheets, and send mobile communications to community members, partners, and other key stakeholders. If they wish, the community can be proactive with media outlets, including social media. Partner with community stakeholders to offer recommendations for community-level and policy-level actions. Make sure to be realistic with the community about which actions are feasible.

- **Publish findings in a way that benefits the community.** The findings need to be shared with the community before they are published by investigators and researchers. Community partners can be included as co-authors, describing their role in collecting data (see Goal 2.3, Design Data Collection Tools and Methods that Build Community Capacity). Media outlets may take a community's actions more seriously when backed up by publications in peer-reviewed journals.

Domain 3. Use Accessible Communications Practices

Accessible and inclusive communications practices are inherent to a participatory approach, ensuring that community members can meaningfully and equitably participate. The ability of community members to meaningfully engage in a project depends on the ability of public agencies to communicate with them in an effective and inclusive way. Multiple factors can affect communication effectiveness, such as cognitive, sensory, and physical disabilities and literacy and numeracy levels in English and other native languages.

Proactively and authentically embedding a framework of cultural competency and cultural humility within projects[88] can help facilitate accessible and inclusive communications practices and broad participation. Respect, inclusivity, and cultural competency are critical to community engagement and collaboration.

Photo: CDPH's asthma program, California Breathing, could not find stock asthma photos featuring people of color. The program took its own photos to use in educational materials.

The goals described in Domain 3 can help guide work in any community where participation, communication, and/or equitable engagement might be affected by factors external to the goals of the project itself. The culturally competent approaches in Domain 3 expand on the strategies in Domain 1, Ensure Meaningful Community Participation and Capacity Building, and are specifically relevant to projects in which some portion of the community with EJ concerns is diverse in terms of race and/or culture, class, language, literacy

(including written language, spoken language, numeracy, and text accessibility), cognitive, sensory, or physical ability, or other significant characteristics. For example, care should be taken to not rely too much on written communication in communities that may prefer oral communication for either cultural or literacy level reasons.

It is important to assess literacy levels and learning styles within a community and develop communication strategies based on their needs, whether that be written translations or using folk media, storytelling, or simultaneous interpretation. Communicating with a wide variety of audiences with varying literacy levels and cognitive, sensory, and physical abilities can be challenging. These differences make it necessary to avoid the one-size-fits-all approach when communicating with the public, community partners, and other key stakeholders.

Domain 3 Includes Three Goals:	
Goal 3.1	Provide Non-English Language Accessibility Through Translation and Interpretation
Goal 3.2	Use Accessible Speaking and Writing Practices for Low Literacy and Numeracy Populations
Goal 3.3	Provide Communication that is Accessible to People of All Abilities

Photos: Left: Recording a live TV show about lead in surma (kohl) with host Haroon Ebrat, Dr. Zarin Noor, and Noor Nawabi; Right: Surma fact sheet in Pashto

Case Study: Using culturally and linguistically appropriate communications

Local health departments told EHIB about lead poisoning among immigrant children from imported make up called "surma" or "kohl." The Western States Pediatric Environmental Health Specialty Unit partnered with EHIB to publish fact sheets based on EHIB's work with community members.

Leaders in Northern California's Afghan communities played key roles in the development, field testing, and dissemination of the fact sheets. EHIB first interviewed community leaders on surma use among adults and children. EHIB determined that multiple surma fact sheets were needed because of important cultural nuances, including different names for surma, ways it is applied, and beliefs around its purpose and benefits. Community leaders recruited participants for focus groups and field testing of the fact sheets in mosques and other community spaces, which helped EHIB to address some cultural myths around surma in the educational messages.

Using professional translators and native-speaker reviewers, EHIB developed seven fact sheets, each targeted to different immigrant and refugee populations using appropriate languages, terms, and images. EHIB also provided lead-free eye pencils to community members who exchanged them for surma products containing lead, so that their cultural practices could continue. An Afghan community leader and a local doctor also recorded a satellite Afghan TV call-in show in Dari and Pashto to raise awareness about lead in surma with a global audience.

Goal 3.1. Provide Non-English Language Accessibility Through Translation and Interpretation

Purpose

If English is not the first language among participants in a project, meaningful participation will be limited if there is not effective communication. The first step is to assess literacy levels. If participants are literate in their native language, translation, and interpretation services, provided appropriately, can facilitate the engagement of limited English proficient (LEP) participants.[89] If participants are not literate, see Goal 3.2, Use Accessible Speaking and Writing Practices for Low Literacy Populations, for alternate communication strategies.

> **What Is the Difference Between Interpretation and Translation?**
>
> **Definition:** Interpretation is the transfer of meaning between spoken languages.
>
> **Definition:** Translation is the transfer of meaning between written languages (EHIB, 2021).

Strategies for Implementation

Potential implementation strategies for providing language accessibility include the following:

- **Address needs of literate non-English speakers in written communication.** For those who can read in their native language, ensure that the translator is qualified in the following ways when translating written communications for them:[90]

  - Has a knowledge of formal aspects of the target language at a native level, including grammar, spelling, punctuation, capitalization, and syntax;

  - Has knowledge of the cultural aspects of both English and translated language groups;

  - Is a native speaker or has native speaker knowledge of the language;

  - Knows the audience;

  - Conveys meaning rather than word-for-word translations;

  - Is trained or experienced in the colloquial lexicon; and

o   Is skilled in proofreading or secures a proofreader for all work.

For more on translation, see Tool 3.1.1., Best Practices for Translation, in the Toolkit that accompanies this Guide.

Some individuals who speak a language other than English may also have limited literacy in their native language. Communications and documents that have been translated to a language other than English should also adhere, whenever possible, to the Federal Plain Language Guidelines,[91] and should be field tested.[88]

- **Field test translated materials thoroughly.** The best way to judge whether material will be an effective communication tool is to field test by conducting individual interviews or focus groups with the intended audience.

  For a step-by-step guide on the overall translation process of developing health education materials, see the Massachusetts Department of Public Health's "Translation Toolkit."[91] The guide recommends that program staff carefully review the translated document to ensure the following:

  o   The reading level is appropriate for the priority population;

  o   The language is simple and clear;

  o   Messages and illustrations are culturally appropriate;

  o   The document is appropriately formatted for accessibility;

  o   The document prints clearly in black and white if it will be posted on the internet for public download;

  o   Program has the capacity to interface with people who are LEP if contact information is listed. In most cases, having Telephonic Interpreter Services solves the issue. The availability of such services should be listed on the materials;

  o   There is available space for the translated text (text may increase or decrease depending on the target language for translation); and

  o   The document to be translated has been finalized.

- **Call on professional interpreters when needed.** Among families who are linguistically isolated, or for whom there is no fluent adult English speaker in the home, children often serve as interpreters for parents. In those instances, use professional interpreters for communications in the family's

native language. Children as interpreters should be avoided if at all possible. Interpreters should have the following characteristics:[87]

- o Possess extensive vocabulary in both English and translated languages;
- o Interpret the message completely and accurately;
- o Allow parties to speak for themselves;
- o Refrain from interjecting personal opinions;
- o Not engage in "side conversations";
- o Be courteous and professional; and
- o Be experienced and able to document his or her qualifications.

- **Engage independent bilingual observers.** In communities with a significant number of members who speak a language other than English, provide independent bilingual observers at focus groups, educational venues, and during data-collection who can report back to the team with regard to overall quality of discussions and any unanticipated issues.[92]

- **Offer language-specific content when receiving feedback from communities.** For communities with a significant number of members who speak a language other than English and where they are giving input, do not rely on dual language meetings or gatherings via simultaneous interpretation, whenever possible. Instead, provide language-specific meeting content that is not dual-translated for the benefit of the project. The content of the meeting can be back-translated afterward by professional translators for analysis.[90]

- **When holding meetings, do not assume that the main language will be English, and the interpretation is in another language.** Several considerations should go into deciding the dominant meeting language, including the power dynamics in the room and the number of people who speak each language. A powerful way to have both an in-depth conversation in native languages and the benefits of sharing with the whole group is to divide into smaller language groups for discussion and then share back with interpretation.

Goal 3.2. Use Accessible Speaking and Writing Practices for Low Literacy Populations

Purpose

Literacy and numeracy levels in both English and other languages may vary dramatically in a community and need to be assessed. Careful consideration of written and spoken communication will promote greater participation and potential action by community members. Consider implementing the Federal Plain Language Guidelines for written communications, such as documents and writing for the web. In addition, avoid the use of acronyms in print or orally.[93]

Numeracy

Definition: Being numerate means having the confidence and skill to use numbers and mathematical approaches. It includes being able to do the following:

- Interpret data, charts, and diagrams;
- Process information;
- Solve quantitative problems; and
- Make decisions based on logical thinking and reasoning (National Numeracy, 2021).

Literacy

Definition: Literacy is understanding, evaluating, using, and engaging with written text to participate in the society, to achieve one's goals and to develop one's knowledge and potential (U.S. Institute for Educational Sciences, 2021).

Strategies for Implementation

Possible implementation strategies for using accessible grammar and format practices are the following.

Oral Communication

- **Balance written communication with oral communication.** In primarily speaking cultures, provide information orally,[94,95] or with pictures.[96]

- **Consider plain language and "folk media" in oral communication.** When communicating orally, plan ahead to ensure that speakers use language that is appropriate for the literacy of the audience. "Folk media" such as

storytelling, puppetry, art, or music have been successful in health communications in oral cultures.[92,93]

Writing for everyone

- **Messages that appeal to fears must be carefully communicated.** Research has shown that strong fear appeals are persuasive more in the short term and only if the behavior change being promoted has high self-efficacy among recipients. Fear appeals might produce mistrust or defensive responses when self-efficacy is low or when presented in certain contexts.[97,98]

- **Design written communication materials that are culturally, literacy-level, numeracy-level, and linguistically appropriate.**
  - o Keep reading levels in written material accessible to all literacy levels, including in translated materials. Keep sentences short and limit embedded clauses. Keep paragraphs to three to five sentences. Limit use of technical jargon, acronyms, and technical language. Use analogies when appropriate, particularly when making comparisons.
  - o Maintain a simple and straightforward formatting structure. Avoid columns, italics, narrow margins, using all capital letters, watermarks, etc.[99]
  - o Include both text and simple bar graphs in reports. Different people prefer different approaches. Draw attention to what is important. Graphics, such as pie charts, smart art graphics, and tables may not be meaningful to all members of the community. If charts and graphs are necessary, be sure to conduct usability testing with the community to assess comprehension and utility.
  - o Use descriptive language instead of numbers. Terms such as, "most," "more," and "few" can replace numbers whenever possible. Percentages and specific numbers can be included parenthetically.[100]
  - o Pictures and other images should be chosen carefully. Visual representations provoke more than just direct reflection; there is always "an act of construction which involves the interpreter as much as the maker of the representation."[101]

- Limit the use of symbols and/or culturally specific images. When well designed, images can decrease the amount of required text. But images must be straightforward and culturally neutral.[96]

- A disembodied organ or a crossed-out cigarette may not be meaningful or may be misinterpreted by the audience. Symbols and icons that appear universal or a-cultural may have different meanings for the community in question. Instead of using icons or abstract symbols, include photographs or line drawings to demonstrate salient points.[91]

- Use appropriate fonts in all printed documents and written communications. Use font styles and sizes that increase readability. Times Roman and other serif fonts with detailed characters are easier to distinguish in written documents for those with reading difficulties or a visual impairment. Use Arial, Calibri, Century Gothic, Tahoma, Verdana or other cleaner "sans serif" fonts for headings and titles only

- For information posted on the internet, use Arial, Calibri, Century Gothic, Tahoma, Verdana or other cleaner "sans serif" fonts.

- For all communications materials, never use script or handwriting-style fonts. Limit the number of different fonts used in a single document to a maximum of three.[102] Use a minimum font size of 12 points. Do not use all-caps for titles or headings. **For more on fonts, see Tool 3.2.1. Font Characteristics and Legibility, in the Toolkit that accompanies this Guide.**

- **Assess readability of written materials. Find out what literacy and numeracy levels the group has by meeting with community members.**

When creating document, readability formulas provide a general idea of how hard a document will be to read based on the complexity of the written material. These tests do not measure a person's level of comprehension, however, which is often two or more grades below reading or education level. This nuance underscores the importance of field-testing.[103]

Several good readability tests include the Flesch Reading Ease Scale, Flesch-Kincaid test, Fry Readability Graph, Gunning 'FOG' Readability Test (FOG), Dale-Chall Readability Formula, and McLaughlin's A Simple Measure of Gobbledygook (SMOG) Readability Formula.[87] The following resources can help assess document readability:

- Software programs, such as Microsoft Word® and Microsoft Office® have reading level testing capabilities using the Flesch Reading Ease Scale or the Flesch-Kincaid Grade Level test.[104]
- Free online readability calculators can assess the level of difficulty and grade level of a sample of the text.[105]

Always pilot test materials to make sure they are clear to the participants.[79]

- **Always field test communication materials.** The best way to judge whether material will be an effective communication tool is to field test by conducting individual interviews or focus groups with the intended or a similar audience.[87] Field-testing helps avoid miscommunicating important information by ensuring review and feedback from members of the intended audience prior to dissemination.

    Design a field-testing instrument considering the dimensions to assess, such as the following:

    - **Comprehension:** The extent to which the survey questions are understood.
    - **Clarity**: The extent to which the intent or meaning of the questions are clearly communicated.
    - **Cultural Sensitivity:** The extent to which the text, imagery, and tone in the survey is culturally appropriate.
    - **Relevance/Utility:** The extent to which the survey questions are perceived to be personally relevant or useful.
    - **Knowledge/Memory:** The extent to which the respondents can know or remember the information being asked in the survey questions.
    - **Response Categories:** The extent to which the range of responses provided are comprehensive.

    Build in time to allow an iterative process (where the instruments are tested, suggestions made, and revisions tested again), to ensure that any revisions increase comprehension of the issue. The UC Davis Center for Evaluation and Research has detailed instructions on how to pilot test data collection instruments.[106] **For more on field-testing, see Tools 3.2.2, Best Practices for Field Testing Educational Materials, and 3.2.3, Checklist for Field Testing Educational Materials, in the Toolkit that accompanies this Guide.**

    Pictures and other images should be chosen and tested carefully without accompanying text, bearing in mind how participants might view and

respond to the graphic material. Since there is always "an act of construction which involves the interpreter as much as the maker of the representation," it is important to test these images in a non-leading manner. For example, ask, "What is this picture representing?"

Translated versions of instruments should be tested with audiences that speak the same language and dialect as the primary population. For more on effective translation, see Domain 3.1, Provide Non-English Language Accessibility Through Translation and Interpretation, in this guide. **See Tool 3.1.1. Best Practices for Translation, in the Toolkit that accompanies this Guide.**

- **Make additional resources available that are communicated at a higher level.** While everyone benefits from easy-to-understand communication, opportunities to go more in depth for those who desire it is sound practice. Always include and offer additional resources for those seeking more depth into technical and/or scientific information.

Goal 3.3. Provide Communication that Is Accessible to People of All Abilities

Purpose

Building accessibility into documents and digital information makes for effective communication with people of diverse abilities, including people with disabilities who may be using assistive technology devices. Those with visual impairments may be using screen readers. Those with hearing impairments will need sign language interpreters or captioning. Those with mobility impairments can use assistive technology to review documents on their computers or other devices.

Creating accessible documents and digital information is inclusive, and it is also the law. In 2017, the California Legislature passed Assembly Bill 434,[107] requiring websites of state agencies and entities to be digitally accessible. California codes require that websites must meet the standards of the World Wide Web Consortium's Web Content Accessibility Guidelines (WCAG).[108]

California's state and local entities are subject to the accessibility requirements for electronic documents in Section 508 of the federal Rehabilitation Act.[109] In addition, California judges often rule that digital information that violates the federal Americans with Disabilities Act (ADA) regulations also violates California law.

Strategies for Implementation

Potential implementation strategies for providing communication that is accessible to people with all abilities include the following:

- **Keep written materials, spreadsheets, and presentations simple.** The more complex a document, workbook, spreadsheet, or presentation, the more things that could go wrong with accessibility. Sometimes a workbook cannot be made fully ADA-compliant, but the goal should be to make it as accessible as possible.

- **Use color contrasts appropriately.** Contrast between the font color and the background, both on screen and in print, can impact legibility for those with a visual impairment or color blindness. When possible, use color contrasts to increase legibility, such as black text on yellow backgrounds or paper.**Error! Bookmark not defined.** Contrast checkers and other free

online color contrast analyzers can be used to evaluate documents and web pages.[110]

- **Ensure and communicate that accommodations for individuals with disabilities will be available upon request.** Accommodations include accessible materials, assistive technology, and interpreters, among others. For example, the Disability Management Unit (DMU) within the CDPH Human Resources Division is responsible for handling internal reasonable accommodation requests for CDPH employees and can help identify contractors and equipment to lease.

  Numerous additional accommodations are available, such as sign language interpreters; materials in large print and other alternative formats, audio tape, braille, and computer disk; readers; and assistive listening devices.[95] Contracting for these accommodations can take time, so allow at least two weeks to find and secure resources.

  For an external need for a disability related service, such as translating community outreach documents or interpreting community meetings, the California Department of Rehabilitation maintains a web page on Assistive Technology (AT) that includes information on AT lending libraries and funding for AT devices and services.[111]

- **Use accessible design in all communications materials.** When creating any documents, including presentations and websites, apply accessible design principles from the beginning. Since public agencies must meet accessibility standards when making materials public, and many materials are posted on websites in PDF format, it is easier to create accessible PDFs when the original document was made accessible. Websites themselves should be designed for pages to be accessible.

  Guides to accessible design are available for Microsoft Word, Excel, and various other platforms, including Maine Cite's Accessible Digital Documents,[112] and the California Department of Rehabilitation's web page, "Resources for Creating Accessible Documents."[113] The website, "Section508.gov," has helpful videos on how to review and fix issues when making documents ADA-compliant.[114]

- **Follow WCAG for developing web content.** People with visual impairments who use screen readers often find it difficult to access web content that is not compatible with existing adaptive technology. If developing web content intended for community access, follow the latest WCAG.[115] There

are significant differences when formatting web-based content. Technology allows developing dynamic and interactive web pages, for example, and for using assistive technologies, such as screen readers, for users in different modalities.

Use Language that People with Disabilities Prefer

Considerations: Disabilities rights groups often promote "people-first language," in which the person is put before the disability or condition. It describes what a person has, not what a person is. An example is, "person with asthma," rather than "asthmatic."

Some people with disabilities prefer "identity-first language," however, such as using "deaf person," rather than "person who is deaf." Ask to find out an individual's language preferences, and always try to use language that is neutral, inoffensive, and non-condescending (National Aging and Disability Transportation Center, 2020)[116]

Other Resources

Our guide is not the first to advise government agencies and staff how to best to partner with communities. Many guides exist, all with different formats, intended audiences, and their own priorities. The resources below provide different perspectives on these issues.

Public Health

- COVID-19 Health Equity Playbook for Communities (2020) https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/Equity%20Playbook_V1_12.1.2020_final.pdf: CDPH Office of Health Equity
- Best Practices in Community-Based Participatory Practice (2018) (https://www.purposefulagingla.com/sites/default/files/Best%20Practices%20in%20Community%20Based%20Participatory%20Practice%202018.pdf): California Reducing Disparities Project (CRDP) Phase 2, CDPH
- Community Engagement Guide (https://www.doh.wa.gov/Portals/1/Documents/1000/CommEngageGuide.pdf): Washington State Department of Public Health
- Principles of Community Engagement, 2nd ed. (2011) (https://www.atsdr.cdc.gov/communityengagement/): Centers for Disease Control and Prevention and the Agency for Toxic Substances and Disease Registry
- We [heart] Health Literacy e-Newsletter. (sign up at https://communicatehealth.com/): Communicate Health

California

- SB 1000 Implementation Toolkit: Planning for Healthy Communities (2017) (https://caleja.org/2017/09/sb-1000-toolkit-release/#form): California Environmental Justice Alliance and PlaceWorks, Inc. (Form required)
- Health in All Policies: A Guide for State and Local Governments (http://www.phi.org/wp-content/uploads/migration/uploads/files/Health_in_All_Policies-A_Guide_for_State_and_Local_Governments.pdf): Public Health Institute
- Technical Assistance Guidelines for State Agencies (2020) (https://sgc.ca.gov/programs/cace/resources/): California Strategic Growth Council, State of California
- Best Practices for Community Engagement and Building Successful Project: A Summary from the 2018 Community Leadership Summit (https://ww2.arb.ca.gov/sites/default/files/classic//cc/capandtrade/auction

proceeds/cci-community-leadership-bestpractices.pdf): California Climate Investments, California Air Resources Board, State of California

Community

- [The Spectrum of Community Engagement to Ownership](#) (2020) (https://www.communitycommons.org/entities/3aec405c-6908-4bae-9230-f33bef9f40e1) Rosa González, Facilitating Power, in partnership with Movement Strategy Center
- [The Community Engagement Guide for Sustainable Communities](#) (https://www.policylink.org/resources-tools/community-engagement-guide-for-sustainable-communities): PolicyLink

Request for Input

We want you to be a part of this conversation! Please provide us with your feedback so we can improve this document to suit your needs by contacting AskEHIB@cdph.ca.gov. We hope to update and improve this guide at least once every three years and work with CDPH's Racial and Health Equity Initiative to maximize its usefulness.

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