Engaging Communities for Health Equity and Environmental Justice

Toolkit

California Department of Public Health (CDPH)

Environmental Health Investigations Branch (EHIB)
(www.cdph.ca.gov/EHIB)

What is in this Toolkit?

This compendium of tools, including protocols, checklists, templates, and other resources, is meant to support staff in effectively implementing the strategies in the Engaging Communities for Health Equity and Environmental Justice: A Guide for Public Agencies. Just as the guide contains goals that are aspirational and meant to be carefully applied based on the needs of the agency and community, these tools are also meant to be used when additional guidance is needed. Please feel free to adapt these tools based on your needs.

The Toolkit is organized into chapters by the three Domains. Each chapter has a table of contents with the numbered goals and the supplemental tools. This toolkit only lists the goals that have supplemental tools. For a full list and description of all the goals, refer to the guide.

Domain 1: Ensure Meaningful Community Participation and Capacity Building

Goal 1.2 Gather Information to Inform Participation and Engagement

Tool 1.2.1 Community Profile Template

Goal 1.4 Conduct Effective Community Meetings and Trainings

Tool 1.4.1 Facilitation Tools

Tool 1.4.2 Dealing with Disruptors: Prevention and Intervention

Domain 2: Engage in Responsible Public Health Investigations

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

Tool 2.3.1 Pilot Testing Surveys and Questionnaires

Domain 3: Accessible Communications Practices

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

Tool 3.1.1 Best Practices for Translation

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

Tool 3.2.1 Font Characteristics and Legibility

Tool 3.2.2 Best Practices for Field Testing Educational Materials

Tool 3.2.3 Checklist for Field Testing Educational Materials

Domain 1. Ensure Meaningful Community Participation and Capacity Building

Contents

Goal 1.2 Gather Information to Inform Participation and Engagement Activities

Tool 1.2.1 Community Profile

Source: California Department of Public Health (CDPH), Environmental Health Investigations Branch (EHIB) (www.cdph.ca.gov/EHIB).

Before beginning an environmental justice (EJ) project or another public health effort that relates to systemic social factors, building a community profile can inform participation and engagement activities. A community profile is "a summary of baseline conditions and trends in a community study area that establishes the context for assessing potential impacts and for project decision-making" (CUTR, 2000).

When engaging a community in public health programs and research, learn as much as possible about the community using a variety of methods and data. Demographic data and other secondary data can be a valuable way to start to understand the community with whom you are working.

Achieving full collaboration with a community involves more than getting numbers and figures, however, it is equally important to understand the points of

view of the community members and their perceptions regarding the assets and other characteristics of their community.

Examples of these characteristics that go beyond simple demographic data are the community's culture, social networks, political structures, norms and values, and experience with outside groups in efforts to engage in public health programs (Centers for Disease Control and Prevention [CDC]). This type of information can be gained through interviews, surveys, and focus groups with community members or stakeholders and other primary data collection methods.

Because both secondary and primary data provide valuable insight into understanding the community, consider what type of information is best collected from each data source. In the boxes below are brief descriptions and examples of data collection methods.

This document can be used as a guide for collecting and organizing data about a community or as a starting point for community engagement. Not all the questions provided in this template may be necessary for every community with EJ or social justice concerns or issues.

Primary data collection is Information that is collected directly from members of the community. Examples of methods for primary data collection include the following:

- Open and ongoing conversations with stakeholders
- Key informant interviews
- Focus Groups
- Public Forum
- Walking Tour
- Mapping Activity
- Sharing-Listening Session
- Online or door-to-door survey

Secondary data collection is Information that is collected from other sources, which can be used as a reference when collecting primary data through communication with the community. Examples of resources for secondary data collection include the following:

- California Office of Environmental Health Hazard Assessment's CalEnviroScreen
- California Department of Toxic Control's EnviroStor
- U.S. Environment Protection Agency (EPA)'s Toxic Release Inventory Program
- National Report on Human Exposure to Environmental Chemicals
- Behavioral Risk Factor Surveillance System
- U.S. EPA's EJSCREEN
- California Healthy Places Index
- California Health Interview Survey
- California Department of Developmental Services
- U.S. Census Report
- Health status data from hospital discharge reports
- National Health and Nutrition Examination Survey
- Newspaper and online search on the community group or environmental health issues.

Identify Community Characteristics

Prior to actively engaging in a community, it is important to become familiar with community demographics, attitudes, EJ history, and other factors that may relate to the EJ or social issue of concern.

Secondary data can be useful in these beginning stages to help identify assets and trends that may be significant in relation to the concern.

Questions to consider for identifying community characteristics include the following:

- What are some key characteristics of the community of interest?
- What are trends and activities in the community (e.g., health status, sociodemographic indicators, etc.)?
- What are some key environmental indicators (e.g., legacy contamination, pollution emitters, contamination exposures, built environment, etc.)?
- What is the history of EJ legacy contamination in the community?

Engage the Community in Discussion

The initial data gathered can be used to begin an informed discussion with the community. Data will have greater relevance if interpreted in collaboration with the community it is about.

Participating in discussion with community members will provide an opportunity to understand important characteristics of the community and how they can best be involved in the process.

Questions to consider for community discussion include the following:

- What are the key environmental concerns of the community, as identified by the community?
- How has the community been involved in environmental or social justice efforts in the past?
- What steps or resources are needed to engage the community in the study or program planning and development?
- What does the community consider are their strengths and/or assets?
- What is needed to better understand the specific community?
- Where else can provide additional support or assistance?
- Who else, if any, in the community should be consulted?

Conduct Situation and Context Assessment

Situation assessment involves understanding the people in the community and their perceptions about the study or project. It describes the individuals or groups involved, the main community interests, and benefits versus barriers.

Context assessment involves understanding external circumstances that influence community characteristics and perceptions, such as the community's social, cultural, and economic history (CDC, 2011, Florida DOT, 2000).

These assessments are important for understanding the community's culture and the community in relation to the concern. Some of these assessment questions may require additional primary research data to learn more about the community's interests, beliefs, trends, political climate, and capacity. Other assessment questions can be judged based on information that has been previously collected from both secondary and primary data sources. Overall, the assessments will provide insight into how the community wants to and can be involved in the study or project planning process.

Questions to consider for situation assessment include the following:

- Who is affected?
- Who will benefit?
- Who in this community are not represented?
- What are some important community interests (e.g., health status, pollution, congestion, Superfund sites, exposures related to behaviors, etc.)?
- Which individuals or groups are key for success?
- What are the community's perceived costs/benefits of participating?
- What or who will be sources of resistance?
- How can the community be involved short-term and long-term?

Questions to consider for context assessment include the following:

- What are the community perceptions or beliefs about the social justice or EJ concern or project?
- What are the economic conditions within the community?
- What are some social networks that exist within the community?
- What are the power structures that exist in the community?
- What are policies or trends (national/local governance)?
- What is the overall political climate in the community?
- What is the community capacity for involvement in the project?
- What is the community's history of collaboration and trust?

Goal 1.4 Conduct Effective Community Meetings and Trainings

Tool 1.4.1 Facilitation Tools

Source: Kiely Group (www.kielygroup.com). The Basics of Facilitating a "Discovery" Discussion Group (versus a problem solving, planning, or decision-making group)

What every small-group leader needs to know:

A facilitator's job is to be completely neutral and to help the participants think richly and thoroughly. The goal is to get the best information from people even when they disagree, to get all points of view yet not allow the discussion to become an argument.

An excellent facilitator does the following:

- Questions
- Listens
- Clarifies
- Gives everyone equal opportunity to participate
- Is patient and helpful
- Keeps things on track
- Is not a facilitator and a participant
- Strives for both/and rather than either/or
- Holds a tight rein without seeming too controlling
- Guides the conversation without driving the outcome or influencing the content of the discussion. You should only influence the direction of the conversation.
- Is looking for rich and varied information. Does not aim for the group to agree with each other. Avoids striving for consensus.
- Is good at explaining to people who have difficulty understanding and understands people who have difficulty explaining.

Here are several tips that will help you improve as a facilitator, including types of questions to use and keys to keep the discussion moving.

What is the BIG question seeking an answer?

All discussions must start with a question. Make it broad enough, open-ended enough, and strategic enough. Asking tactical questions will give us tactical answers—this is not the goal at this stage. Stay out of the weeds until the BIG question is answered to the group's satisfaction.

Types of Questions

The goal of the facilitator is to help group members engage in meaningful dialogue with one another, to get everyone involved, and to set the tone and direction for the discussion.

Use a variety of questions to spark discussion and help group members connect with the topic. As a rule of thumb, follow the order of these questions when leading discussion. They work from more general to very specific and help group members discover their own thoughts and opinions. In this order, end your discussion by answering the "how" question. A common mistake of small-group leaders is jumping into solving mode before the group has clearly decided what it wants to solve together. Use the following types of questions in this order.

Launching Questions

These questions are intended to get discussion started, focusing the group members' attention on a certain topic. They should be open-ended and engaging. The best icebreaker questions fall into this category; they allow all group members to share from personal experience, and they connect their answers to the topic being discussed.

Examples:

- What is the reason we as an organization exist?
- For whom do we exist?

Observation Questions

These are the only true closed questions you will use. They seek to clarify. These do not often generate a lot of discussion, so some leaders will want to skip over them.

Examples:

- How do we know this...?
- How will we know when...?

Interpretation Questions

These questions require group members to consider the meaning of the conversation using their own experiences and perspectives. These are often mixed up with application questions (which are covered on the next page). The key difference is that interpretation questions simply seek to make meaning of the conversation.

Examples:

- Why?
- How?
- What do you think?

Reflection Questions

These questions seek to make the transition between our understanding of what the issues are and their implications for our world—they transition from interpretation questions to application questions.

Examples:

- What are some first thoughts about what we have discussed today?
- How does all of this resonate with everyone?

Application Questions

These questions help group members take what they have learned and apply it on a personal level.

Examples:

- How will this affect my life?
- How will this affect my community?
- Where do I see myself and others like me applying this information?

Guiding Questions

Even though these questions are last, facilitators use these questions throughout the discussion to keep the discussion moving and to draw out the main ideas shared. These questions seek to summarize and clarify to keep the discussion focused. They also make sure that group members are validated in their sharing and are understood by other group members. These questions can also refocus the group when the discussion has gone off on a tangent.

Examples:

- Are we saying that…?
- What did you mean when you said…?
- Can you link this to...?

Leading Discussion

Good questions are the key to facilitating well, but they need to be successfully strung together into a lively, valuable discussion. Here are some important reminders for facilitating well.

1. Be a facilitator, not a teacher. Empower others to discover things for themselves by asking great questions. Do not turn discussion time into a lecture or a platform for sharing personal experiences, stories, or opinions.
2. Remember the group's goal is thoroughly thinking through things and making significant progress not simply talking for the sake of talking.
3. Create a safe environment for group members to share. Do not put down group members' comments or questions. Affirm people when they share.
4. Ask open-ended questions that cannot be answered with a simple "yes" or "no." If a "yes or no" question is necessary, be sure to follow it with, "Why?"

5. To encourage non-talkers to participate in the discussion, call on them by name. At the same time, never force participation, which would create an unsafe environment. This tactic also works to facilitate discussion when there are overly talkative group members by making it clear who should be speaking. If some are overly talkative, simply say, "Let me move on to some other people so we can get as much participation as possible from everyone."
6. Stimulate further discussion by responding to members' contributions. Simply acknowledge their response ("Thanks for sharing, Martha"), or you can ask guiding questions to clarify general or vague responses ("What do you mean ...? Can you flesh that out for us…?"). Be sure to respond to nonverbal communication (a groan, deep sigh, or laughter) as well—some say up to 90 percent of communication is non-verbal. Listen with eyes as well as ears.
7. When someone answers incorrectly, respond carefully. Instead of telling group members they are incorrect, turn it over to the group. Ask, "What do others think?" or "Does everyone agree?" Be gentle in the response. It may be better to confront the issue one-on-one outside of the meeting, especially if the group member is passionate about his or her answer.
8. When your discussion goes off on a tangent, acknowledge the new topic's importance, and suggest that you "table" that topic until later—either after the current discussion or after the meeting. Put the idea on a post-it note and have a "parking lot" in which to "park" these off-topic ideas so they will not be lost. Having people participate—even if their comments are off-topic—is a good thing. Just keep steering the conversation back to the main topic. On the other hand, sometimes tangents lead to excellent discussions. Use discretion to determine if this tangent is something that group members need.
9. Do not forget to apply what you have learned! Ask group members how they now think differently or will behave differently, or how they might now feel differently about the subject. Also ask group members to identify next steps they need to take.
10. If any next steps or action steps are mentioned, be sure to capture all of those and confirm who will do what and by when before ending the meeting.

The 30 Second Rule

One last very important point. Too often, leaders ask a question, wait three to five seconds, and then jump in to answer it themselves. This is not helpful—group members are not participating, and they will not be discovering the answers for themselves. Additionally, they will learn that the answers are forthcoming, which will discourage future participation. Instead, always wait 30 seconds after asking a question.

To practice, ask a question and then glance at your watch. Wait the full 30 seconds. Continue to practice by just sitting in silence for 30 seconds. At first it will feel like an eternity! But someone will most likely speak up with an answer before 30 seconds are up. And if no one has an answer, someone will speak up and ask, "What was the question?" This can be a clue that the question may not have been clear. Reword the question to make it clear and concise.

Why 30 seconds? It takes at least 20 seconds for many people to process questions, especially questions that synthesize information like reflection and application questions. Allow group members the time they need so everyone can participate in the conversation.

The role of small-group facilitator is crucial to the success of the process. When facilitating a group, these skills will become increasingly second nature. In the meantime, be intentional about facilitating meetings and allow for mistakes. Go ahead and admit them to the group; this process is forgiving, and they will develop more trust in a leader who shows himself or herself to be human.

Tool 1.4.2 Dealing with Disruptors: Prevention and Intervention

Source: Adapted from *Community Toolbox: Developing Facilitation Skills* (Chapter 16, Section 2), by Axner, M., University of Kansas, 2016, Retrieved from http://ctb.ku.edu/en/table-of-contents/leadership/group-facilitation/facilitation-skills/main

Prevention

Tips on facilitation should include how to both to prevent disruption before it occurs and to stop it when it is happening in a meeting. The most common kinds of disrupters are people who try to dominate, keep going off the agenda, have side conversations with the person sitting next to them, or folks who think they are right and ridicule and attack other's ideas.

Try using the following "prevention" tips when setting up a meeting to try to rule out disruption:

Get agreement on the agenda, ground rules and outcomes. These process agreements create a sense of shared accountability and ownership of the meeting, joint responsibility for how the meeting is run, and group investment in whether the outcomes and goals are achieved.

Listen carefully. Do not just pretend to listen to what someone in the meeting is saying. People can tell. Listen closely to understand a point someone is making. And check back if summarizing, always asking the person if their idea was understood correctly.

Show respect for experience. Encourage folks to share strategies, stories from the field, and lessons they have learned. Value the experience and wisdom in the room.

Find out the group's expectations. Make sure to uncover at the start what participants think they are meeting for. Then be clear about what will and will not be covered in the meeting. Make plans for how to cover issues that will not be addressed: Write them down on newsprint and agree to deal with them at the end of the meeting, or have the group agree on a follow-up meeting to cover unfinished issues.

There are lots of ways to find out what the group's expectations of the meeting are: Try asking everyone to finish this sentence: "I want to leave here today knowing...." You do not want people sitting through the meeting feeling angry that they are in the wrong place and no one bothered to ask them what they wanted to achieve. These folks may act out their frustration during the meeting and become disrupters.

Stay in your facilitator role. Leaders cannot be effective facilitators and a participant at the same time. When leaders cross the line, they risk alienating participants, causing resentment, and losing control of the meeting. Offer strategies, resources, and ideas for the group to work with, but not opinions.

Do not be defensive. If attacked or criticized, take a "mental step" backwards before responding. Once a leader becomes defensive, they risk losing the group's respect and trust, and might cause folks to feel they cannot be honest.

"Buy-in" power players. These folks can turn a meeting into a nightmare if they do not feel that their influence and role are acknowledged and respected. If possible, give them acknowledgment up front at the start of the meeting. Try giving them roles to play during the meeting such as a "sounding board" for the leader at breaks, to check in with about how the meeting is going.

Intervention

Try using these "interventions" when disruption is happening during the meeting:

Have the group decide. If someone is dominating the meeting, refuses to stick to the agenda, keeps bringing up the same point repeatedly, or challenges how the leader is handling the meeting, first try to remind them about the agreed-on agenda. If that does not work, throw it back to the group and ask them how they feel about that person's participation. Let the group support the leader.

Use the agenda and ground rules. If someone keeps going off the agenda, has side conversations, verbally attacks others, go back to that agenda and those ground rules and remind people of the agreements made at the beginning of the meeting.

Be Honest: Say what is going on. If someone is trying to intimidate others, if the leader feels upset or undermined, if there is a need to pull the group together, it is better to say what is going on than try to cover it up. Everyone will be aware of

the dynamic in the room. The group will get behind the leader if he or she is honest and up front about the situation.

Use humor. If there is a lot of tension in the room, if there are people at the meeting who did not want to be there, if folks are scared/shy about participating, if the leader is an outsider, try a humorous comment or a joke. If it is self-deprecating, so much the better. Humor almost always lightens the mood. It is one of the best tension-relievers known.

Accept or legitimize the point or deal. If there is someone who keeps expressing doubts about the group's ability to accomplish anything, is bitter and puts down others' suggestions, keeps bringing up the same point over and over, seems to have power issues, try one or more of these approaches: Show understanding of their issue by making it clear its importance to them is evident. Legitimize the issue by saying, "It is a very important point and one I am sure we all feel is critical." Make a bargain to deal with their issue for a short period of time ("O.K., let us deal with your issue for 5 minutes and then we ought to move on.") If that does not work, agree to defer the issue to the end of the meeting, or set up a committee to explore it further.

Use body language. If side conversations keep occurring, if quiet people need to participate, if attention needs to be re-focused, use body language. Move closer to conversers, or to the quiet ones. Make eye contact with them to get their attention and covey intent.

Take a break. If less confrontational tactics have not worked, someone keeps verbally attacking others, shuffling papers, cutting others off, it is time to take a break, invite the disruptive person outside the room and politely but firmly state how disruptive their behavior is to the group. Make it clear that the disruption needs to end. But also try to find out what is going on. See if there are other ways to address that person's concerns.

Confront in the room. If all else has failed, it will not create backlash, if the group will support it, and if everything else has failed, confront the disruptive person politely but very firmly in the room. Tell the person very explicitly that the disruption needs to stop now. Use body language to encourage other group members to support the action. This is absolutely the last resort when action is required, and no alternatives remain!

Domain 2. Engage in Responsible Public Health Investigations

Contents

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

Tool 2.3.1 Pilot Testing Surveys and Questionnaires

Expert Review of Data Collection Tool

Having chosen and developed a data collection method, conduct an expert review evaluation. The method selected should be suitable for a pilot test, available resources (time and staff), and the primary audience.

Before field testing the survey with a sample of participants from the primary audience, find other professionals and researchers to review and evaluate the survey. Often, this will allow for common mistakes and potential issues with the survey to be identified and addressed early in the process. Additionally, input from other professionals in the field is important as the researchers will be responsible for interpreting data from the surveys later in the research process.

Below are some tools for assisting in expert review. For social and EJ and environmental health research, consider the cultural sensitivity of the survey material during the expert review process. Differences in language and terminology not only exist among ethnic groups, but also among groups of people who share the same sociocultural characteristics or behaviors.

- **Question Understanding Aid (www.quaid.cohmetrix.com/):** A free online tool developed by the University of Memphis Department of Psychology used to identify common errors or problems with survey question wording, syntax, and semantics. This tool allows you to type in the survey question, response

options if they are provided in the question, and additional context that may also accompany the question. QUAID has been tested for validity and utility compared to expert judgments. It has been proven to accurately identify problems with unfamiliar technical terms, vague or imprecise terms, ambiguous phrases, complex syntax, working memory overload, and misleading presupposition.

- **Question Appraisal System (QAS-99) (www.cdc.gov/healthyyouth/evaluation/pdf/brief15.pdf):** A tool that assists questionnaire designers in evaluating survey questions before the survey is pretested in the field among the priority population. It assists experts in identifying potential problems in wording or structure of questions by considering specific characteristics of questions that are likely to cause problems for the respondent. This evaluation occurs in the following 8 steps:

QAS Stepwise Review Process
Step 1: Reading
Determine if it is difficult for the interviewers to read the question uniformly to all respondents.
Step 2: Instructions
Look for problems with any introductions, instructions, or explanations from the respondent's point of view.
Step 3: Clarity
Identify problems related to communicating the intent or meaning of the question to the respondent.
Step 4: Assumptions
Determine if there are problems with assumptions made or the underlying logic.
Step 5: Knowledge/Memory
Check whether respondents are likely to not know or have trouble remembering information.
Step 6: Sensitivity/Bias
Assess questions for sensitive nature or wording, and for bias.
Step 7: Response Categories
Assess the adequacy of the range of responses to be recorded.
Step 8: Other
Look for problems not identified in Steps 1 - 7.

Adapted from the Centers for Disease Control and Prevention (CDC). (2008). *Evaluation Research Brief, No. 15.* Retrieved from https://www.cdc.gov/healthyyouth/evaluation/pdf/brief15.pdf.

Previously Developed Surveys

Often, there is a survey available that has been previously used to measure the outcomes of interest within a study. Rather than developing a new survey, use one that someone else has prepared that has been demonstrated to be reliable and valid through testing.

While a previously developed and tested survey may be suitable for a study, there are still several things to consider before choosing to use the selected survey. It is important to remember that just because a survey has been used before does not mean it has been adequately tested.

Has the survey been tested for reliability? If so, how was it tested and what score did it receive (what is the strength of its reliability)? The following are three ways to test for reliability.

Reliability Testing

Test Retest

Administering the survey to the same group on two different occasions and determining a correlation coefficient to determine the reliability. This assesses the consistency of responses from one time to another.

Equivalence

When there are two different forms or versions of the questionnaire, with questions reworded or reordered in one version. In this case, reliability is measured by administering the two versions to the same group on different occasions and determining a correlation.

Internal Consistency

This tests how well the survey items that reflect the same construct yield similar results. This is tested by calculating Cronbach's alpha, which describes how well items in a questionnaire complement each other in their measurement of a specific outcome.

Has the survey been tested for validity? If so, how was it tested and what score did it receive (what is the strength of its validity)? The following are types of validity.

Validity Testing

Face Validity

Describes the degree that a survey instrument measures what it appears to measure. Refers to the transparency of an instrument.

Content Validity

How accurately an instrument or item represents the various aspects of the specific construct in question. Can be determined by referring to the literature or consulting with experts or respondents.

Construct Validity

The degree to which a survey instrument measures what it is supposed to and not something else. Can be determined by administering the survey to respondents that are known to exhibit the outcomes that are associated with the questions.

Predictive Validity

How well the questionnaire results can predict the relationship between the construct being measured and future behavior. Can be determined through correlation of questionnaire response and behavior performed.

Concurrent Validity

How well the instrument correlates with a known and accepted measure for the same construct or outcome. Can be determined by administering both the instrument and the known measure to the same group and comparing scores for correlation.

Has the survey been tested for reliability and validity with the same population to be surveyed? Participants may respond differently to survey questions based on characteristics, such as age, gender, ethnicity, culture, literacy, etc. Additionally, differences in culture may influence interpretation of words, phrases, and concepts within the survey. Because of this, it is important to ensure that the survey has been tested for reliability and validity with the same population with whom it will be used.

If the population consists of multiple language groups, it may be necessary to have the survey translated to the appropriate language. Check to see whether the instrument has a translated version available that has already been tested for reliability and validity. If not, it is important to have a fluent native speaker or

professional translator complete the initial translation and then test the translated version with a small group from the intended audience to determine reliability and validity.

Q-Bank (wwwn.cdc.gov/QBANK/): The National Center for Health Statistics, with other partnering organizations, developed an application consisting of scientific question evaluation reports of surveys from various health agencies. This resource is known as Q-Bank. The evaluations determine the question's ability to capture the intended concept, to be interpreted consistently across respondent groups, and whether it poses problems for respondents attempting to answer.

Domain 3. Use Accessible Communications Practices

Contents

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

Tool 3.1.1 Best Practices for Translation

When working with communities with EJ concerns, the community members may have a primary language other than English. These communities may not speak any English or speak very little. This calls for the translation of any survey instrument or educational materials into an appropriate language for the community.

Be aware that documents are often translated at a higher reading level and increased level of complexity. It is essential to work with a trained professional and insist that they apply best practices for optimal translation as outlined below. The translator should have extensive experience, strong references, and work samples. The best practices below are also relevant to the translation of educational materials. If your educational materials have not been translated properly, they are not ready for field-testing.

Translating educational materials

Best Practices for the Translation of Documents into Another Language

- Instrument undergoes "comprehensive translation" through a three-step process, whereby:
    1. A trained professional translates the instrument
    2. A second trained professional conducts quality assurance by reviewing the translation for accuracy.
    3. When the two translators have differing opinions, they work together to reach consensus on the final translation.
- The translation is adjusted for reading level, comprehension, consistency in terms and natural flow in the translated language. This process is referred to as "plain language adaptation."
- The translation undergoes "cultural adaptation" in which it is adjusted for cultural appropriateness, appeal, and motivators. This involves not only adjusting text but images and graphics as well.
- Finally, the translation should be "back-translated" to English with brief justifications for plain language and cultural adaptations.
- The translated document should be pilot/field tested with the target audience. The instrument should then be revised based on the feedback.

Translating data collection instruments

When data collection instruments designed for English speakers are not carefully translated, measurement error can occur. This error may result from inadequate translation procedures, insensitivity of items, and the failure of researchers to make themselves familiar with cultural norms and beliefs. To prevent these measurement errors, it is important to consider conceptual and cultural factors, especially in epidemiological studies where people report their own data.

Remember that the objective of translating a survey is not to complete a word-by-word translation, but rather to determine a functional equivalent of the original language document. Issues arise when a literal translation is performed.

Before beginning the survey translation process, review and consider some of the issues that are associated with translation to avoid some of the most common mistakes.

- Some languages do not have an equivalent word to substitute for the original language's word. This means that translation involves creating different phrases to state the same information.
- The word-for-word translation from one language to another language can take on a new meaning that is different from the original language version.
- Cultural differences may influence the community's ability to correctly interpret the meaning of a survey question, even if the words are translated appropriately.
- Some languages have multiple dialects that may differentiate people of the same cultural background. Translated surveys that do not consider differences between language dialects risk respondent error. The more assessing prior to translation the majority dialect spoken in the primary audience, the better.
- It is common for reading and comprehension levels to change after translation. Often, translated surveys end up being at a higher literacy level, which may be problematic for the target populations' interpretation of survey questions. This is another important reason to field test the translated documents with the primary audience.

Because there are several possible issues that occur during the translation process with identifying the appropriate terms or concepts, discussions about the goal or intent of the original language item are integral in creating a translated instrument of higher quality. However, these discussions do not take the place of any qualitative or quantitative research that assesses the cultural appropriateness of the survey's concepts or domains, or research that assesses the reliability and validity of the instrument with the community members of the primary audience.

The following are some methods of translating surveys, with a team-based, collaborative approach being a best practice and key aspect of each method. Team approaches not only produce more options for translations, but also provide a more rigorous review and evaluation.

Forward Backward: A process in which there is one, or several, forward translations from a source language into the translated language, which is followed by back-translation into the source language. Differences between the forward translated and back translated versions are reviewed and resolved after each step. Multiple translators should be involved in the forward and back translation for best results. This method is especially useful in cases where time

and/or resources are limited and a translated survey is needed immediately, such as in emergency response.

Dual Panel: A collaborative translation process that is conducted by a panel of bilingual people native to the translated language and a representative from the developers of the source language survey. The first translation is followed with a review from a second panel consisting of monolingual people from the translated language, usually at an average or lower than average educational level. This method is especially useful for research that heavily involves the community, such as community-based participatory research, since in these cases there are often contacts within the community of focus that can serve on the panels.

Team Translation: Translation, Review, Adjudication, Pretesting, Documentation (TRAPD): An iterative, team-based approach to survey translation that uses a group of people that have different skills and functions in the process to produce a translated survey that considers cultural context and language. The procedures in the TRAPD model are iterative and each step builds upon the former step(s).

TRAPD Model
Step 1: Translation
Translators produce a draft translation for the first discussion. There should be more than one translator. Each translator may either be given a section of the survey to translate or provide their own draft translation of the entire survey. If possible, there should be at least two full-translation drafts to ensure there are multiple translations to consider, which enriches the review discussion.
Step 2: Review
Reviewers and translators review and assess the draft translations. At a review meeting, have the translators and the reviewers evaluate the entire surveys. The purpose of the review meeting is for translators and reviewers to discuss alternatives and collaborate in refining the drafts. Literacy level of the survey questions and respondents should be considered during the review process.
Step 3: Adjudication
An adjudicator decides whether the translation is ready to be pretested and when it is finalized. The adjudicator's function is to make final decisions regarding the versions of the translations that will be used.
Step 4: Pretesting

Uses cognitive interviewing techniques to reveal respondent needs that were not addressed previously during the review process. Check for comprehension of questions and ensure literacy level is appropriate.
Step 5: Documentation
Documentation of each step is part of monitoring and quality assurance. The documentation of each former step is important to inform the next step. For example, documentation would include a translator's notes regarding the draft translations.

Lessons Learned

As researchers have navigated through the translation process, they have documented lessons learned from translating surveys and educational materials. Some of these lessons include the following:

- Involve all staff (translators, reviewers, adjudicators, and pretest staff) early in the translation process and while setting up goals for the translation. This ensures that all members involved in the process understand the big picture and that there is consistency throughout the remainder of the process.
- Give clear and detailed instructions to translators, including the purpose and the structure of the questionnaire or educational materials.
- In the case that only one translator can be hired due to resources available, one or more persons with bilingual skills should be involved in the review process to provide input.
- Communication between translators, reviewers, and research staff is important during translation to address questions regarding item intent, wording, and translation options.
- It is important to keep in mind that the draft translations are working documents that will be edited and improved. This should be clearly communicated to staff so that changes to the drafts are expected and welcomed.

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

Tool 3.2.1 Font Characteristics and Legibility

Source: California Department of Public Health (CDPH), Environmental Health Investigations Branch (EHIB) (www.cdph.ca.gov/EHIB).

Research Findings

Fonts and the Reading Process

As a person begins to read a text, they must first visually acquire the information, a process that is also referred to as data acquisition (Soleimani, 2012). This process involves the recognition of letters and words. People can recognize different typefaces because words can be identified based on their underlying visual structure, which stays the same regardless of the stylistic changes to the surface form (Walker, 2008).

Some fonts or typefaces are sans serif and adhere more directly to these underlying structures of letters (e.g., Arial), while other fonts are serif and may add decorative features (e.g., Harrington). Fonts that are more familiar to readers are more easily recognized during the reading process, and therefore are easier to read and can be read faster (Soleimani (2012).

Text Emphasis

Studies find that using all upper-case letters for emphasis is ineffective, and it may have the opposite effect by being disruptive and difficult to read. Bloodsworth (1993) found that text using all upper-case letters significantly slows down readers because the letters and words have no distinctive pattern. This differs from lower case printing, in which there is more variation in shape and a greater contrast between letters.

In general, experts recommend using bold font for emphasizing key points, especially when compared to other styles of emphasis, such as underline or italics. Underlining is considered distracting, and italics may interfere with the recognizable structure of letters (Gasser et. al., 2005).

The National Institutes of Health (NIH) Plain Language guidelines recommend using bold or italics to emphasize key points rather than using all upper-case letters, because upper-case letters are more difficult to read and are often translated as shouting in an electronic environment (NIH).

The Health Literacy Style Manual also recommends using bold print for emphasis rather than other techniques such as all capital letters, italics, or underlining. However, the Health Literacy Style Manual also warns against the overuse of bold font since its effectiveness relies on this contrast. Recommendations in the other professional guidelines cited are consistent with the NIH Plain Language and Health Literacy Style Manual.

Summary of Findings

Print: Serif vs Sans Serif

- Inconclusive.
- Original research supported the use of serif fonts.
- More recent studies have had mixed results, with some finding that the use of serifs has no effect on legibility.
- Font familiarity may play a more important role in legibility than serifs.

Online: Serif vs Sans Serif

- Limited research available.
- Research suggests sans serif is preferred due to the added characteristics of computer screens, such as resolution.
- Font familiarity may play a more important role in legibility than serifs.

Upper Case and Bold

- The use of all upper-case letters for emphasis is ineffective and distracting.
- For emphasis, bold font is preferred over upper case, italics, and underline.

Accessibility and Signage Material

Accent Signage Systems, Inc. has published a quick reference guide to the Americans With Disability Act (ADA) regulations for signs, addressing the issue of font style. For all sign types, characters and symbols must contrast with the

background. Both a high contrast foreground to background and the use of thicker lines in lettering make signage more accessible to more people.

Colors. It is also important to consider the visual interpretation of different font colors and color combinations, especially for people with colorblindness. One option is to use monochrome palettes, where you use various shades of one color instead of choosing multiple colors. For color combinations, in general, it is safer to avoid and use the following:

Avoid These Color Combinations

- Green and red
- Brown and green
- Blue and purple
- Green and blue
- Light green and yellow
- Blue and grey
- Green and grey
- Black and green

Use These Color Combinations

- Red and blue
- Brown and blue
- Orange and blue

Conclusion

CDPH uses sans serif fonts in printed and online material. Research supports the ineffectiveness of all capital letters for emphasis and suggests the use of bold font instead. For signage materials, ADA recommendations are more focused on sizing, spacing and contrast rather than the difference between serif and sans serif fonts. Color is also a consideration when choosing font palettes. Ultimately, professionals are advised to use familiar fonts in combination with other stylistic techniques to increase legibility.

Tool 3.2.2 Best Practices for Field Testing Educational Materials

Source: California Department of Public Health (CDPH), Environmental Health Investigations Branch (EHIB) (www.cdph.ca.gov/EHIB).

This tool explains the best practices behind effective field testing of educational materials. Read through this document before starting the field testing.

What Is Field Testing?

Field testing is the process of seeking preliminary or formative feedback on educational material from members of the intended audience before the material is finalized, produced, and disseminated. Field-testing evaluates how members of the intended audience understand and experience the material. Data from the field-test can improve the material to make it more effective for the intended audience.

Design the field test around goals that are specific and limited in scope. Field testing of educational materials is most effective with clearly identified specific goals. The overall goal of the materials and the goal of the evaluation should fit in two to three, low-literacy sentences. The field test should identify two to four subject areas or dimensions (such as comprehension, cultural appropriateness, utility, credibility, actionability, interpretation of images) and five to ten key questions for assessing (Dongre, 2009, UCLA 2005).

Field test only issues that can be changed. Questions should address only issues that have the ability to change based on feedback (Fink, 2012). Scientific findings or advice based on science are examples of items that cannot be changed; word choice, amount of information, and images are examples of issues that can be changed.

Choosing a Field-Testing Method

Qualitative Design

Use a qualitative research design. Most field tests of educational materials are qualitative by design (Team Lab, 2010). Qualitative evaluation is the most useful in evaluating educational materials because it provides in-depth information on what the audience understands and why. Qualitative design primarily uses open-ended questions. Open-ended questions cannot be answered with a yes or no and encourage participants to fully express their responses (Turner, 2010). If using a close-ended question, use a prompt, or follow-up questions to encourage participants to expand upon their answer. Asking "why" after a yes/no question can provide useful information to help guide revisions to the material, for example (Driscoll, 2007).

Data Collection Methodology

Choose the evaluation method best suited to the type of feedback sought. Key Informant Interviews, Focus Group, Individual Interviews, and Field Surveys (or

Intercept Interviews) are different field-testing techniques. The following is a discussion of the advantages and disadvantages of each for data collection.

Key Informant Interviews are qualitative, in-depth interviews with individuals that have extensive experience with the primary population. They can be conducted over the phone or in person, and typically last between 20 and 50 minutes. Key Informant interviews may use either a loose discussion guide (Kumar, 1989, Turner, 2010) or a formal interview questionnaire. They can provide valuable information about community behaviors and norms, best practices for education, cultural appropriateness, and sensitive topics (UCLA, 2005).

Key Informants, however, often have more knowledge of the educational topic than the primary population, stronger literacy skills, and may belong to a different social economic status than the primary audience. For this reason, they may not be the best choice for assessing comprehension.

Focus Groups are qualitative, in-depth interviews conducted in a group setting. Participants differ from Key Informants in that individuals are selected directly from the primary population, and their expertise comes from being members of the group. The optimal size of a focus group is six to ten individuals (ETR, 2013). The discussion is guided by a moderator using a set of questions. Additional probing questions are used to clarify and explore responses. Focus groups typically last between 60 and 90 minutes. They are valuable in assessing concepts, identifying nuances of opinion, gaining insight into community perceptions, and assessing basic comprehension.

Successful focus groups are heavily dependent on the skill of a trained facilitator and recruitment of participants who both accurately reflect the primary population and are willing to share their opinions. They are effective in generating alternative ideas and perspectives but focus groups can be less effective for assessing comprehension. This is because participants may be reluctant to say they do not understand something in a group setting.

Field or Intercept Interviews are individual interviews conducted with the primary population in the location where they are likely to interact with the materials. This might be on a pier (fishing sign) or in a clinic waiting room (brochure) or another location. Due to conditions, field/intercept interviews are typically shorter in duration and are more limited in scope (EPA, 1990). They provide high-quality feedback but can be time-consuming and inappropriate for sensitive issues.

Conduct individual Interviews with members of the primary population. Interviews provide valuable information about individual perceptions, knowledge, and behaviors. They are typically held in an office-based setting and can last up to 40 minutes. Interviews provide strong qualitative feedback on a full range of issues. They are the best method for discussing sensitive issues; they are also useful for soliciting feedback from people with limited reading skills (EPA, 1990).

However, the office-based setting may not replicate intervention conditions where time and attention to detail is limited. Also, because participants are recruited, there may be selection biases such as choosing people who are more acculturated than other members of the primary population. In addition, it is more time-consuming and resource intensive than other methods.

There is no" one-size-fits all" approach for choosing the best method to use for evaluating a specific educational tool. However, the following chart is a helpful starting place.

Evaluation Methods

Materials	Key Informant	Focus Group	Individual	Intercept
Sign/Poster	X	X		X
Brochure/Factsheet	X	X	X	X
Notification Letter	X	X		
Concept Development	X	X		X
Video	X	X		
Social Media Message	X	X		

Adapted from *Communicating Environmental Risks*, EPA, 1990, Retrieved from https://nepis.epa.gov/Exe/ZyPDF.cgi/40000FPS.PDF?Dockey=40000FPS.PDF

Other Methodology Considerations

Participants, location, and resources should replicate intervention conditions. Field tests will provide the most accurate and useful information when the evaluation participants match the primary population (NIH, 2014), the test conditions are similar to how the primary groups will encounter the materials, and test materials are in their final languages.

Field tests that accurately match these criteria are considered "real life conditions." For example, a real-life condition for a warning sign evaluation would be at the warning site with participants selected from site visitors.

Participants should be representatives from the primary community, as identified by age, gender, ethnicity, income, education, and behaviors.

Make efforts to create field test conditions similar to those in which primary population will encounter material to the extent possible. Approach may include:

- Field testing in a location where primary population will encounter the material.
- Invoking imagery of the "real life" location during the interview or focus group.

Do some formative evaluation in alternative conditions, such as a focus group. In these situations, the real-life condition should be factored into the questions; for example, asking, "if you saw this brochure in a waiting room, how likely would you be to pick it up?"

Key informant interviews should involve participants who closely resemble or have specific expertise in the primary population. Because they are not the primary population themselves, real world conditions of the location and language are not necessary during the interview but should be described to the participant.

Ensure number of participants is appropriate for decision-making. There are no set rules for determining the appropriate number of participants for your evaluation (Patton, 1990, Dongre, 2009, Baker, 2012). The sample size is determined based upon the number of responses necessary to inform decision-making (see Field Test Preparations: Determine the criteria for decision-making beforehand). In evaluating educational materials, look for sample sizes that elicit either a range of possible responses, a majority opinion (saturation point), a range of possible responses, or the existence of an alternate interpretation. Different key questions may have different requirements for decision-making.

Reassure respondents about their anonymity or confidentiality. Always reassure respondents about their anonymity or confidentiality in the introduction to the survey (Miller, 2011). Also, inform respondents of the confidentiality at the start of the evaluation. The interview conditions should provide sufficient privacy (Debus, 1986). Conduct interviews and focus groups in an environment where responses cannot be overheard by others.

Unless otherwise necessary, responses should be recorded in a manner that does not identify the personal information of the individuals (i.e., without names,

addresses, or unique identifying characteristics). When conducting a focus group, remind participants of their shared responsibility for confidentiality. In all cases, start audio recording of the session after introductions are done. Only audio tape sessions with explicit approval from all participants.

Developing a Field-Testing Instrument

Instrument Content

Develop a comprehensive introduction for participants. Participants may have varying levels of understanding regarding the purpose of the project, as well as their commitment and rights as a participant. The evaluation instrument should include a thorough introduction that explains the goals and uses of the evaluation. It should include the benefits and risks to participation (if there are any). It should also provide information on the duration of their commitment, compensation, request for audio taping the session, and the confidentiality of their responses (Turner, 2010).

Initial questions should establish trust. Make the first set of questions in your instrument simple, and easy to answer. Do not require the participant to reveal sensitive information. These should also elicit basic screening information to deepen your understanding of the participant.

Include one or two initial engagement questions to establish rapport, deepen understanding, and orient participants to (and make them feel comfortable with) the subject matter (ETR, 2013). For example, initial questions about a fish brochure may be about how often someone goes fishing.

Questions about comprehension should be both general and specific. The survey should explore the respondent's interpretation of both the main message of the material and their comprehension of sub-messages. Sub-messages include recommendations, background information, and difficult terms and concepts. Questions should include both general questions ("is there anything in the material that you feel we have not explained well?") and comprehension questions for specific messages and words (ETR, 2013). For example: "What does it mean to you when we say, 'eat only the fish filet'?" Use follow-up questions and prompts to understand the level of understanding of specific information. (Turner, 2010, USAID, 1996)

Effective questions should examine both strengths and weaknesses. Effective questions examine both the strengths and weaknesses of the material (USDHHS, 2014). These include whether the materials effectively address barriers to

adopting new behaviors. When participants identify weaknesses in the material, ask them for solutions to improve the problem. This includes issues of word choice, comprehension, graphic elements, and applicability of advice or recommendations in the material. Ask sub-questions to explore both positive and negative responses. For example, "Does the brochure provide clear advice on how to protect yourself from toxins?"

IF YES: "Is there any advice provided that you think other (parents, workers, etc.) would find difficult to understand?

IF NO: "What can we say to make this information clearer?

Collect only the relevant demographic information. When evaluating educational materials, participants typically only provide basic demographic information that identifies the participant as a member of the primary population. This includes age, sex, geographic location, ethnicity, language spoken/written, and behaviors associated with educational material. Ask demographic questions that are non-essential or that may be especially sensitive at the end of the evaluation (GAO, 1993) unless they are necessary for screening participants.

Conclude with a general, open-ended question. Participants' understanding of the materials often changes during the evaluation. It is important to end the evaluation with an opportunity to comment more broadly on the materials (Krueger, 2002). Examples of ending questions include: "now that we have talked about the brochure, what do you think is the most important message we should be communicating?" or "what do you think is the weakest part of the document?"

Evaluate images separately from text. (Shoemaker, 2013) Evaluate images and other graphic elements before an evaluation of the text. Evaluate graphics to determine whether they effectively represent the primary population (if the images are of people). Also evaluate whether they effectively communicate information about the activities or concepts (if images are "illustrative," showing an action or activity).

Instrument Style, Tone, and Appropriateness

Ask questions in plain language. Form questions using simple sentence structures and plain language (GAO, 1993). A reading level of 5th grade is suitable for questions (Fairfax, 2012, Team Lab, 2010). Avoid scientific jargon. The Flesch-Kincaid Reading Level tool within Microsoft Word is a useful tool. Following

health literacy best practices and field testing with a low literacy audience is the best way to make sure the tool will work with all people.

Effective questions are neutral and non-judgmental. Questions that are neutral (not suggesting an answer) and non-judgmental (not placing a moral value on the answer) are the most effective for getting responses that reflect the participants' experience and knowledge (Turner, 2010). For example, to know which recommendations are unlikely to be followed, it is better to ask, "are there activities that will be more difficult to do," rather than "which of these activities are you least likely to do," or "which of these would you not do?"

Frame sensitive questions with negative connotations with a third person in mind. Sensitive questions that may reflect negatively on the participant, such as "is there anything confusing in this document," are more likely to elicit false or biased responses (Tourangeau, 2000). Phrase these types of questions to examine the viewpoint of other people like them (i.e., parents, workers, etc.) (Wai-Ching, 2001). For example, "Is there anything in the brochure that you think might be confusing to other parents?"

Assess the cultural appropriateness of text and images. Cultural appropriateness has consistently proven to increase the usability of educational materials. As much as possible, tailor materials to their primary population (Kreuter, 2003). Numerous factors contribute to cultural specificity. Collaborating with an organization from the community in the conception and evaluation of materials is one of the most effective ways to ensure they are culturally appropriate. When showing people in images, they should be from the same racial, ethnic, and demographic group as your intended audience (CDC, 2009).

Examples, guidelines, and recommendations should address specific practices used by the population. They should use culturally familiar terminology. For instance, when providing examples of healthy snacks to reduce the impact of lead exposures, use foods that are commonly eaten within that community. Different racial groups may have specific names for objects (such as species of fish or cooking utensils) that should be used instead of English or scientific equivalents. Appropriate literacy levels are an essential component of cultural appropriateness.

Instrument Structure and Format

Sequence your questions appropriately. Sequence question order to minimize response bias. Response bias is a general term for factors that may influence a participant's responses. For example, the question order may influence the

responses given to particular questions. If a question asks participants whether they have heard about an advisory about contaminants in a local water body, and then a later question asks about the types of recreational activities they engage in, they may under report swimming and other water-based activities.

Use sub-questions. To get comprehensive qualitative feedback, key questions should have sub-questions or prompts. Prompts and sub-questions explore specific aspects of the main question that the respondent may not have addressed. They may provide additional information the respondent may not have considered when forming their initial response (Turner, 2010). Sub-questions can emphasize the importance of certain aspects of the material. They should be carefully evaluated for sequencing bias that may affect future responses. For example, asking several questions about a specific safety recommendation of a sign may influence what they considered to be the most important message they will remember.

Use skip patterns. Use skip patterns to enhance the flow of information and reduce confusion (GAO, 1993). Skip patterns allow interviewers to exclude questions that are not applicable based on previous responses. For example, if a respondent answers, "No" to the question, "Do you eat fish," they can skip the next question regarding how many times a week they eat fish.

Ensure the physical layout of instrument is appropriate. Make sure questions are not crowded, adequate space is provided for responses to open-ended questions, answering pattern is uniform throughout instrument, multiple response options are listed from top to bottom.

Preparing Instrument for Data Entry and Analysis

Design the data analysis process in advance of the field test. Develop an initial draft of the data analysis approach and database before the pilot and field tests (GAO, 1993). You may need to revise this draft approach based on the range of responses from the actual field test. Developing the process beforehand, however, is helpful in honing the questions to solicit responses that can be effectively interpreted. In most cases, the data entry process will include transcribing the full interview, dividing the text into segments, labeling, and coding these segments, and collapsing the codes into themes (Dongre, 2009, Crewswell, 2004). Two or more individuals carry out this process independently to reduce bias errors (Turner, 2010).

If needed, have a staff person who is knowledgeable about data entry and analysis review the instrument, anticipate how data will look, and provide

guidance on how to optimize the instrument for data entry and how best to approach the development of a spreadsheet or database.

Pilot Test of Instrument (Before Field Test)

Pilot-test your evaluation tool. Pilot testing involves formally testing the evaluation instrument with a small representative sample of respondents. You should pilot test surveys and questionnaires for appropriate flow, skip-patterns, total duration, comprehension of questions, and utility of responses (GAO, 1991, Turner, 2010, Team Lab, 2010).

Pilot testing your tools can include a review by colleagues and a pretest of the instrument with members from the primary population (Fairfax, 2012). In the best-case scenario, pilot test materials with people that resemble the primary population with regards to demographics, literacy, experience, and behavior in an environment similar to the actual field test (ETR, 2013, Turner, 2010).

Following each pilot, ask participants about their experience with the pilot, specifically what they thought was confusing, frustrating, and helpful. Prepare a summary of their reflections. Have the interviewer/facilitator document their own reflections on the administration of the instrument with regards to total duration, flow, skip patters, comprehension of questions and utility of responses. They should also prepare a summary of their reflections.

Enter responses from the instrument into a spreadsheet or database to identify any data entry issues that need to be addressed (such as alpha-numeric labeling on the instrument). Revise the field test instrument as needed based on feedback from the pilot test.

Field test the changes to educational materials. Developing and evaluating educational materials is an iterative process. When significant changes are made to a document based on field tests, also evaluate those changes (Team, Lab 2010, Robinson, 2011).

Evaluate the pilot test. After pilot testing the evaluation tool, do a separate evaluation of the pilot test with participants. This evaluation allows the respondents to provide feedback on the process itself. Questions should assess what it was like for them to participate in the survey, including what was confusing, helpful, and frustrating.

Field Test Preparations

Translate the instrument. If necessary, have the instrument undergo comprehensive translation through a three-step process:

- Translation by a trained professional
- Translation quality assurance by another trained professional
- If discrepancy, the two translators discuss and come to consensus on final translation.

Adjust translation for comprehension, low literacy reading level, consistency in terms, and natural flow in the translated language. This process is referred to as plain language adaptation. Adjust translation for cultural appropriateness, appeal, and motivators with regards to its text, images, and graphics.

Conduct back-translation to English with brief justifications of plain language and cultural adaptations. Pilot test translated instrument. Instrument is modified and finalized based on feedback from pilot.

Determine the criteria for decision-making beforehand. Decide criteria for making changes to educational materials before field testing begins. In some situations, a single alternate or incorrect response is enough to merit a change in materials. The interpretation of an icon on a sign would be an example where a single incorrect response might require changes. In other situations, such as the usefulness of a specific recommendation within a list of other recommendations, a majority opinion may dictate that the advice is unhelpful before enacting a change. Determine the criteria for each of your key questions before doing the field tests.

Develop a protocol to guide the use of the instrument. The protocol contains instructions for the interviewer/facilitator and note-taker to follow to ensure consistency across the interviews or focus groups. The protocol includes:

- How to select participants
- How many respondents to include (i.e., sample size)
- How to establish rapport with participants
- Steps to ensure participants are interviewed in a relatively private space with minimal distractions
- How to ask questions in an optimal manner
- How to encourage participant response
- How to record responses
- How to know when reaching a "saturation point" of enough varied responses
- What to do following the interview or focus group

Clearly indicate skip patterns and other notes in the facilitator's version of the evaluation tool. Make sure the evaluation tool contains clear notes on skip patterns, data input notes, and transitions. When beginning a new topic (in focus groups) or a new section (during an interview), it is important to begin with

an introductory phrase, such as "now I would like to ask you a few questions about this section of the brochure" to clearly indicate the shift (ETR, 2013). Transitions may also include describing the real-life conditions: "when you are in a grocery store shopping for your family…" etc. It is especially important to include clear notes in the facilitator's version of the tool in situations, such as a key informant interview, where the respondent may receive the questions ahead of time. When providing questions to the interviewee, generally do not include sub questions, prompts, or notes.

Use appropriate staffing for evaluation. Whenever possible, use trained interviewers or facilitators to ensure consistent, quality feedback. Ideally this person should be someone participants do not know; most people feel more comfortable sharing sensitive information with someone they will not see again (ETR, 2013). The interviewer/facilitator should be age and gender appropriate. A second staff member can take notes. Whenever possible the session should be audio-recorded (Kumar, 1989). Use trained interpreters when respondents have difficulty communicating in English.

If needed, train field testing staff on how to carry out the field test, such as giving them background information on the scientific/public health issue addressed in the educational material, and the purpose of educational material (main messages and sub-messages). Train them on the purpose of the field test and dimensions on which educational material will be assessed, the participant selection process, and the rationale for how instrument was developed.

Conduct a walkthrough of the instrument and a walk through of the protocol for instrument administration. Provide an explanation of interviewer bias and how it can inadvertently bias the data collected. Do a rehearsal (dry run-through) of the instrument administration.

Confirm evaluation staff and location ensure confidentiality and comfort. Gather responses in a way that ensures efficiency, quality, and consistency (UCLA, 2005). The location should ensure minimal distractions and offer confidentiality to the respondents (Turner, 2010, ETR, 2013).

Determine the resources needed to carry out your field test. Document the human and material resources needed to carry out your field test. How will you secure them? Make sure sufficient resources are available for the field test, including the staff to implement the test, note-takers or audio recorders, translators, community contacts, staff for data entry and analyses, and stipends or incentives for participants.

Making This Guide Work for You

Use Common Sense. Because qualitative evaluation of educational materials often use very small sample sizes (for example, an eight-member focus group), it is important to exercise common sense in identifying responses that are outliers and may result in unhelpful changes to the document. Not all the best practices and checklist items are equally applicable to all types of educational materials, and to all methodologies of evaluation (focus group, interview, etc.).

Exercise common sense when deciding whether a component of the evaluation, such as identifying barriers to behavior change, is appropriate for the goals. Ideally, however, using the best practices in this guide will result in better data collection, and less reliance on intuition. For this reason, individuals should resist the temptation to abbreviate the process or compromise their integrity.

Tool 3.2.3 Checklist for Field Testing Educational Materials

This tool provides a checklist, or a more "hands on" list of items to follow when field-testing educational materials.

Purpose of Educational Material

- ✓ Clearly describe main scientific/public health issue that is the focus of the educational material in a few short sentences.
- ✓ Adequately describe the primary audience for the educational material.
- ✓ Define primary communication objective of the educational material.
- ✓ Clearly define main message of the educational material in a few sentences.

Purpose and Scope of Field Test

- ✓ Define purpose of field test in a few sentences.
- ✓ Identify dimensions (variables) that will be assessed/evaluated through the field test (credibility, actionability, and comprehension of messages, etc.).

Choosing a Field-Testing Method

Data Collection Methods

Select a qualitative field test method well suited to the purpose of the field test by considering the following:

- ✓ Dimensions identified for assessment of the education material.
- ✓ Type of data needed to inform decision making on the education material.
- ✓ Time frame and resources available for the field test.

Other Methodology Considerations

- ✓ Adequately describe participants who will be recruited for the field test.
- ✓ Match the participant profile to the primary audience for the educational material (with regards to demographics, literacy, experience, and behavior to the extent possible).
- ✓ Use an appropriate participant recruitment strategy for the field test method selected.
- ✓ Use a sufficient sample size.
- ✓ Find a location appropriate for the field test.
- ✓ Plan the estimated duration of the field test to be appropriate for the evaluation method selected.
- ✓ Make plans to secure the resources needed for field test (human and material).

Data Analysis

- ✓ Ensure that the field test method selected will support the collection of data (specifically the type and quantity of data) needed to inform decision-making.

Developing a Field-Testing Instrument

Instrument Content: Introduction

The introduction should include the following:

- ✓ Staff introductions.
- ✓ Purpose of evaluation and how findings will be used.
- ✓ Benefits and risk to participants, including how project will improve/protect health.
- ✓ Duration of field test.
- ✓ Explanation of confidentiality/anonymity.
- ✓ Explanation of incentives/compensation.
- ✓ Explanation of ground rules (if conducting a focus group).
- ✓ Opportunity for participants to ask questions.
- ✓ Consent to audio record (if necessary).
- ✓ Consent to participate. Verbal consent question is appropriate for interviews. Written consent form is appropriate for focus groups.

Engagement Questions

- ✓ Ensure the instrument has one or two initial engagement questions (for example, initial questions about a fish brochure may be about how often someone goes fishing).

Exploration Questions (Core Questions)

- ✓ Ensure the instrument contains a set of core questions that solicit information needed to inform decision-making about the educational material.
- ✓ Ensure that the core questions adequately assess the variables or dimensions selected for the evaluation of the educational material.
- ✓ Ensure the instrument includes questions that ask participants for solutions to improve weaknesses they identify (for example, word choice, comprehension, graphics, and relevance of recommendations). These are often in the form of probes or sub-questions.
- ✓ Ensure questions address issues in the materials that can be changed.
- ✓ Ensure that questions appear likely to generate the data needed to inform decision-making.

Exit Question(s)

- ✓ Include a general, open-ended question towards the end of instrument to provide participants with an opportunity to comment more broadly on the material.
- ✓ Provide an opportunity for participants to ask questions about the field test and the topic addressed in material (as appropriate and feasible).

Instrument Content: Demographic Questions

- ✓ Ensure instrument collects demographic information that is relevant to the assessment (Age range, Primary language spoken at home, etc.).
- ✓ Place demographic questions that are non-essential or that may be especially sensitive at the end of the instrument unless they are necessary for screening participants.

Closing Statement

- ✓ End instrument with a closing statement in which participants are thanked for their participation, informed about any incentive/compensation, are given a contact card, as appropriate and feasible.

Instrument Structure and Format

- ✓ Ensure instrument uses open-ended questions and 1-2 probing questions for key issues.
- ✓ Ensure instrument follows-up closed questions (yes/no or Likert scale) with open-ended probes to enhance understanding.
- ✓ Ensure instrument uses logical skip patterns for possible responses.

- ✓ Sequence questions on instrument to minimize response bias in which participants are influenced by previous questions.
- ✓ Provide transition statements between major topics to re-orient participants, e.g., "We have been talking about (some topic) and now I would like to move on to (another topic)."
- ✓ Ensure instrument contains clear notes/prompts to advise the interviewer/facilitator on skip patterns, data input and transitions.

Instrument Writing Style and Tone

- ✓ Ensure questions are neutral (not suggesting an answer) and non-judgmental (not placing a moral value on the answer).
- ✓ Ensure sensitive questions are framed with a third person in mind when appropriate.
- ✓ Ensure questions are written at a low-literacy level (below 5th grade).
  - Write questions in plain and simple language (free of professional jargon).
  - Ensure questions are short, to the point, and focus on just one dimension each.
  - Ensure questions do not require unreasonable amount of time or work to answer.
- ✓ Ensure instrument contains prompts for the interviewer/facilitator to offer to read text aloud when participants are asked to comment on text in the education material (to accommodate low literacy skills).
- ✓ Ensure questions are written in a culturally appropriate manner regarding text and tone.

Preparing Instrument for Data Entry and Analysis

Instrument Labels and Layout

- ✓ Include in the top portion of the instrument the following information requests: (1) participant ID number, (2) date of interview, (3) interviewer initials, (4) note-taker initials, and (5) location of interview.
- ✓ Put alpha-numeric labels next to each question and response option and ensure they meet data entry requirements.
- ✓ Ensure the physical layout of instrument is appropriate and not crowded.

Spreadsheet or Database Development

- ✓ Develop spreadsheet or database in advance of the pilot and field test.
- ✓ If needed, have a staff person who is knowledgeable about data entry and analysis review the instrument.

Criteria for Decision-Making

- ✓ Determine criteria for decision-making in advance of field test.

- ✓ Establish criteria to guide decisions on what changes to make to educational material.

Procedure for Using Instrument

Protocol Development

- ✓ Develop a protocol to guide the use of the instrument.

Note: The field test instrument should reflect the best practices outlined in the sections above. If it does not, the field test instrument will need further revision. Once the instrument is in good form, check each section of the guide below moving through the field-testing process.

Pilot Test of Instrument (Before Doing Field Test)

Pilot Testing

- ✓ Pilot instrument internally with colleagues and individuals resembling the primary population.
- ✓ Following each pilot, document participants' experiences with the pilot.
- ✓ Following each pilot, have the interviewer/facilitator document their own reflections on the administration of the instrument.
- ✓ Enter responses from the instrument into a spreadsheet or database to identify any data entry issues.
- ✓ Revise the field test instrument as needed based on feedback from the pilot test.

Translating Instrument into Another Language

Instrument Translation

- ✓ Have the instrument undergo comprehensive translation through a three-step process:
- ✓ Translation by a trained professional.
- ✓ Translation quality assurance by another trained professional.
- ✓ If discrepancy, the two translators discuss and come to consensus on final translation.
- ✓ Pilot test translated instrument. Instrument is modified and finalized based on feedback from pilot.

Field Test Preparations

Resources and Conditions for Field Test

- ✓ Identify appropriate staffing for the field test.
- ✓ Interviewer or focus group facilitator is age and gender appropriate.
- ✓ Note taker has been secured.
- ✓ Audio recorder has been secured (if necessary).
- ✓ Train field testing staff on how to carry out the field test.
- ✓ Have appropriate incentives/compensation for participants. Ideally consult a key informant from the primary community to determine appropriate incentives.
- ✓ Identify measures to ensure field testing conditions will provide sufficient privacy and confidentiality and minimal distractions.
- ✓ Prepare contact cards or the like for participants in case they have future questions.
- ✓ Identify measures to ensure field testing conditions will provide sufficient privacy and confidentiality and minimal distractions.
- ✓ Prepare contact cards or the like for participants in case they have future questions.
- ✓ Prepare resource materials or a list of online resources with information on the health issue addressed in the educational material in case participants request the information.
- ✓ Fully prepare and adequately translate (as needed) all materials needed to carry out the field test.

Making This Guide Work for You

Not all best practices in this guide are equally applicable to all types of educational materials and to all methodologies of evaluation (focus group, interview, etc.). For this reason, exercise common sense in determining whether a particular item on this guide, such as identifying barriers to behavior change, is appropriate for your field test.

In addition, since small sample sizes are often used in qualitative evaluation (for example, an eight-member focus group), it is important to exercise common sense in identifying responses that are outliers and may result in changes to a document that are unhelpful. Applying items in this guide to a field test evaluation (as appropriate and feasible) will result in the collection of more useful and higher quality data, which will ultimately result in more effective educational material.

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Engaging Communities for Health Equity and Environmental Justice Toolkit

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