

# Navigating Unfamiliar Waters

Policy as a Tool to Improve Drinking Water Quality  
in Federally Unregulated Wells



## Acknowledgments

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This guide is a how-to resource on state and local policymaking to support safer drinking water in federally unregulated wells. This guide introduces the policymaking process as one way to improve drinking water quality in federally unregulated wells. It provides resources for environmental and public health professionals seeking new approaches to managing the water, infrastructure, and professionals associated with private well water systems.

## Who Should Use This Resource?

This resource is for environmental and public health professionals who are just starting to think about using policies that promote safer drinking water in federally unregulated wells through partnerships with decisionmakers, business leaders, local government agencies, and other stakeholders.



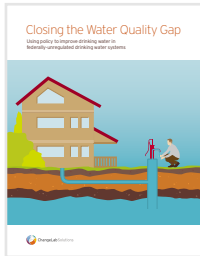
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# WELL WATER SUITE OF RESOURCES

ChangeLab Solutions has developed the following suite of resources to help environmental and public health practitioners use policy to improve the safety of drinking water from federally unregulated private wells. These resources are designed to support practitioners who are just learning about the issue, as well as those who are beginning to dive into policy development and implementation.



## 1. Get the lay of the land

### ***Closing the Water Quality Gap: Using Policy to Improve Drinking Water in Federally Unregulated Drinking Water Systems***

How is drinking water regulated in the United States, and how does that affect private wells? What does local policy mean in this context? How can a public health department improve drinking water quality through state or local policies? **Closing the Water Quality Gap** introduces a helpful terminology for policy work, as well as some examples of communities already making headway.



## 2. Learn from others

### ***Improving Well Water Quality and Well Stewardship: Case Studies on Promoting Policy Change in Private Well Systems***

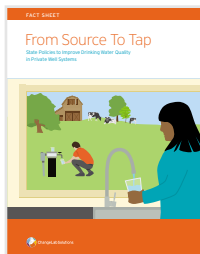
State and local agencies play a crucial role in promoting policy, system, and environment (PSE) changes that ensure safe, clean drinking water for all. ChangeLab Solutions developed these **four case studies** for staff in state and local health departments who want to learn how to enact changes that improve the quality of private well water and well stewardship in their jurisdictions. These case studies explore key steps that state and local public health agencies can take to effect PSE changes.



## 3. Dive into the policymaking process

### ***Navigating Unfamiliar Waters: Policy as a Tool to Improve Drinking Water Quality in Federally Unregulated Wells***

No matter where a community is starting, the policy strategies in this guide can inform and improve any local efforts to address drinking water quality in unregulated wells. Building on the next steps introduced in *Closing the Water Quality Gap*, **this guide** strengthens foundational knowledge and partnerships by providing tools that environmental and public health practitioners can use to start making policy change in their communities today.



## 4. Find your own way forward

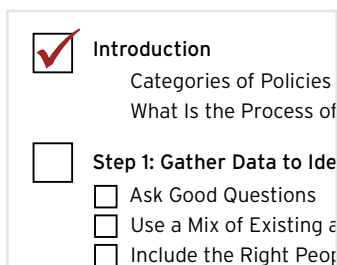
### ***From Source to Tap: State Policies to Improve Drinking Water Quality in Private Well Systems***

The quality of drinking water from private wells can be adversely impacted by a wide range of factors and at different points in a physical system – from industrial contaminants that leach into the groundwater supply to unsafe or ineffective water treatment equipment installed under a kitchen sink. This **fact sheet and the accompanying infographic** show environmental and public health professionals how state-level policy tools can be applied to each physical component of private well systems to improve drinking water quality and promote community health.

# HOW TO USE THIS GUIDE

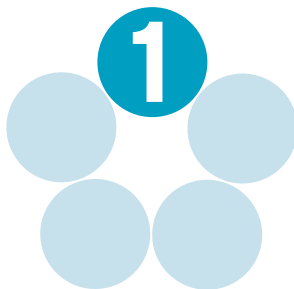
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Readers can follow the guide from start to finish, or select those parts most relevant to where they are in the policymaking process. The tools below are intended to help all users navigate the guide and track their progress.



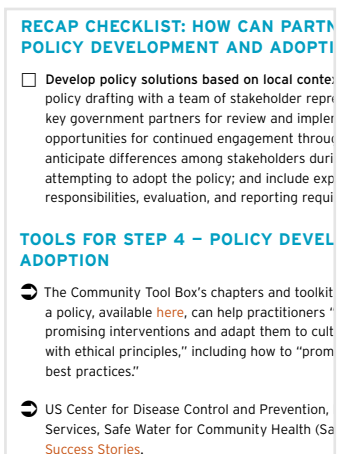
## Table of Contents

The table of contents serves two purposes: It helps readers navigate the guide and serves as a checklist to use during the policymaking process. It can be used to guide a project, plan a timeline, or evaluate previous work.



## Policy Process Icon

Discussing the policy process in a linear way is a function of the written format of this guide. In reality, the process can be cyclical and iterative. Each step informs the others, and readers can always revisit earlier steps or insert missed steps into later stages of the process. So that readers can clearly see where they are in relation to the other policy steps and tools in this guide, the policy process icon is included at each step.



## Recap Checklists & Tools

Each section of this guide includes sections called “Recap checklists” and “Tools.” They are meant to contextualize the key tasks for each step of the policymaking process by clarifying higher level goals for the work and providing resources to complete it.

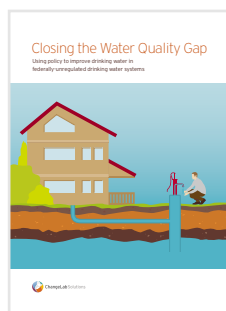
# INTRODUCTION

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## When some people lack access to safe, healthy water, everyone suffers.

From the spread of contagious illnesses and outbreaks<sup>1</sup> to longer-term chronic health issues,<sup>2,3,4</sup> communities with water issues face higher medical and lost-productivity costs that affect residents and businesses alike.<sup>5,6</sup> These harms can include:

- resident and/or community financial hardship (for example, paying for importing water, higher costs of bottled water, infrastructure costs, and increased health care costs)
- environmental pollution resulting from water transportation, storage, and waste from single-use water bottles
- reduced access to habitable housing due to water insufficiencies (a failure to meet residents' basic water needs for health and sanitation purposes)
- civic disengagement: lack of trust in local infrastructure and government
- inequitable distribution of infrastructure and resources that can cause chronic stress and lead to poorer health outcomes



The US Safe Drinking Water Act helps communities ensure the safety of many water systems, but it does not regulate those systems serving an average of fewer than 25 people for less than 60 days per year, or those systems with fewer than 15 year-round residential connections.<sup>7,8,9</sup> This includes most private water wells. For background information about the public health policy approach to addressing this gap, see *Closing the Water Quality Gap: Using Policy to Improve Drinking Water in Federally Unregulated Drinking Water Systems*.

Many communities have programs to educate well owners and other residents about drinking water quality. However, jurisdiction-wide policies implemented by state and local governments also play an important role in ensuring everyone has access to safe drinking water. Such policies can help individuals, businesses, and communities work together to improve the management and safety of private wells by, for example:<sup>10</sup>

- raising awareness about well water quality and testing
- facilitating information sharing about wells, water quality, and the health effects of contamination, including disease reporting and surveillance
- creating and clarifying protections for water quality, including groundwater management, septic and plumbing standards, and drinking water testing
- providing standards and resources about well construction and siting (including setbacks and buffer zones) for well owners, inspectors, testers, and related businesses
- creating licensing and training programs for businesses and professionals working in fields that affect the safety of private well water<sup>11,12</sup>

For all residents to have access to healthy drinking water, communities can structure their laws and policies to make it easier to create and protect healthy drinking water systems, including unregulated private wells. Public and environmental health staff can play a central role in coordinating these efforts.

# Categories of Policies That Support Drinking Water Quality in Unregulated Wells

There are many components to federally unregulated drinking water systems; interventions can affect any combination of these components. For a map of common policy levers for each component, see our [infographic and fact sheet](#) on state policies to improve drinking water quality in private well systems.

Broadly speaking, most of these policy options will fall into three categories:



## Policies affecting water and water quality

Policies that focus on water and water quality may include, for example:

- protecting sources of water from contamination
- ensuring that tap water complies with strong health and safety standards



## Policies affecting land use and infrastructure

Policies that focus on land use and infrastructure may include, for example:

- ensuring that wells are built with best practices to ensure the long-term safety of their use
- requiring periodic testing of wells for compliance and safety
- establishing comprehensive well tracking systems to monitor the existence and safety of all local wells



## Policies affecting private well people and industries

Policies that focus on well water professionals and industries may include, for example:

- creating formal partnerships to facilitate knowledge sharing and best practices
- requiring licensing and ongoing training for well construction professionals
- requiring certification of well testing laboratories to ensure they can deliver accurate information to consumers
- establishing or enforcing contamination standards for industries with runoff that may affect groundwater quality



# What Is the Process of Policymaking?

There is a spectrum of policy work, ranging from educational or programmatic support of policy development, to adopting and implementing institutional and community-wide policies, to evaluation and improvement activities for existing policies. The scope of policy work will vary by issue and by community – there is no one-size-fits-all approach.

Strong policymaking will incorporate or be informed by certain key steps, though they may happen in a slightly different order or with details tailored to specific circumstances. Many policy road maps, policy process wheels, or other “steps” for policymaking are inclusive of some version of the following strategies for success:



Depending on the issue, this policy process may be run entirely by environmental and public health staff. For example, in a community that has yearly testing requirements for local wells, a new policy could change the water quality standards for determining how community partners respond to different test results. The environmental health department can lead the entire process, as it already has the required contacts and expertise as well as the ability to implement this policy change. However, in other instances, environmental and public health staff may be involved in a process that is driven by other agencies or partners.



# STEP 1: GATHER DATA TO IDENTIFY THE PROBLEM

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**Environmental and public health professionals' skills in data collection and resident engagement can be invaluable to the policymaking process.**

Well-crafted policies address the problems communities are facing, which can be identified through local data and community input. Collecting and assessing this information can help communities prioritize needs, brainstorm solutions, and select policies tailored to community goals. Community-driven policies usually have an easier time earning support for adoption and buy-in to sustain them.

## Ask Good Questions

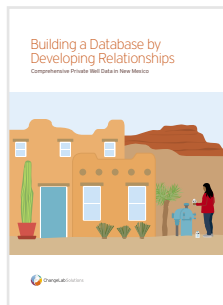
The primary difference between collecting data for day-to-day government operations and collecting data to inform policymaking is the scope of questions that drive the collection process. Communitywide assessments focused on improving access to safe drinking water from federally unregulated wells may seek to answer the following kinds of questions:

- How many residents have private wells? How many get their drinking water from private wells?
- What is the history of testing and contamination for local water sources, including private wells?
- Are there any well water testing requirements? What are the standards for well water quality?
- Is there a system for tracking private wells and testing results?
- What are local instances and rates of illnesses caused by well water contamination, outbreaks, and/or limited access to water because of poor water quality?
- How are surface water and groundwater managed under local, state, and federal regimes?
- How do existing laws and policies shape what the local community can do?
- How interested are community members, policymakers, and other stakeholders in policies that support drinking water quality from unregulated wells?

# Use a Mix of Existing and New Sources

While some community data is available from public data sets, such as **County Health Rankings & Roadmaps**, **Behavioral Risk Factor Surveillance System**, and the **US Census**, community assessments often reveal gaps in available data, particularly at the local level. Assessments can address these issues by creating new data. This can include information collected via key informant interviews; surveys (in-person, telephone, or mailed); meetings; and seminars or workshops with relevant stakeholders like residents, community groups, and local businesses. These techniques can be time intensive, but they can help ensure any policy is responsive to the community.

Even in communities with fewer resources for assessment activities, environmental and public health staff can engage in informal conversations with residents, staff from other agencies, and local businesses as they develop a plan for changing or creating a new policy. These conversations can provide valuable insight into how to address local private well water issues, laying the groundwork for successful policy development, adoption, and implementation. Assessments also provide an opportunity to identify and recruit potential partners.



## WHEN ASSESSMENTS POINT TO POLICY: A DATA-FOCUSED PARTNERSHIP IN NEW MEXICO

Challenges faced during data collection and assessments are a good place to start looking for policy solutions. Data gathering systems, data sharing, and standardizing data formats can all be accomplished with processes and partnerships established through policies.

With 20% of New Mexicans drawing drinking water from private wells but no tracking system for well testing results, the New Mexico Department of Health (DOH) set out to build a statewide database that would allow it to evaluate well contamination risks and, in the process, reap the benefits of inter-agency collaboration.



**Snippet from the Case Study:** “Beyond basic information about each well’s location and source aquifer(s), DOH also hoped to gather as much information as possible about each well’s construction (eg, depth, materials, seal), testing history (if any), and population served, which might include more than one household. All of these variables could help DOH assess and respond to health risks from well water.”

# Include the Right People

Communitywide assessments can include people and organizations such as:

- community members
- local and national water or environmental justice organizations
- local and state government staff
- decisionmakers
- small business associations
- business associations representing specific groups, such as Latino, Black, and Asian business associations
- industry-specific business associations

## RECAP CHECKLIST: WHAT CAN DATA HELP YOU ACCOMPLISH IN THE POLICYMAKING PROCESS?

- ☐ **Map the local geography to show the scope of the problem**, for example: locations and characteristics of existing or planned private wells, geographical features related to the water table and source waters, other natural or human activities that might influence water sources, and historical information related to water quality (eg, testing or treatment history, records of related illnesses or outbreaks).
- ☐ **Understand the human impact of poor water quality**, for example: demographic information about community members; information about well use, water access, water-related illnesses; access to information, broken out and compared with community-wide demographic information; and local stories about the cultural and historical significance of water, private wells, and infrastructure investment.
- ☐ **Establish partnerships and exchange resources and information with related stakeholders**, for example: well owners, experts in science and business, researchers, health care providers, government staff, and residents, particularly people from historically underrepresented groups.

## TOOLS AND RESOURCES FOR GATHERING DATA

- ➔ **Neighborhoods by Numbers** provides an introduction to finding and using small-area data to help make better community-level decisions.
- ➔ **Community Commons** includes a tool to create maps of US communities with a drop-down menu to overlay a range of health indicators, including those related to drinking water quality (for some locations).
- ➔ The US Environmental Protection Agency has a variety of water-related data and mapping tools, including collected **general water data**, **geospatial** resources, the **EnviroAtlas** Interactive Map and Eco-Health Relationship Browser, and extensive lists of **methods, models, tools, and databases for water research**.
- ➔ The US Geological Survey has created detailed data maps related to the **National Water Quality Assessment Project**, including specific resources about **private wells**, **groundwater quality**, and **changes** in water quality over time.
- ➔ State departments of environmental health, health and public health, environmental protection, water and natural resources, conservation, agriculture, and other related topics may also have data to support local assessment efforts, as well as regional boards, commissions, and other bodies.



## STEP 2: BUILD PARTNERSHIPS & MAKE A PLAN

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**Ongoing partnerships with key stakeholders can make the policymaking process more efficient and more successful in the long term.**

Investing in community partnerships can take more time and resources, up front, but can create pathways for additional funding, programming, and other policy supports. Some partners are continually engaged throughout the process while others may be needed only at specific points in the process. Depending on the community and policy area, sometimes environmental and public health staff will drive the process of building partnerships and making a plan. In other cases, they may participate as content experts related to the issues that a specific policy solution seeks to address.

### Start the Conversation

Some communities convene coalitions made up of representatives from a variety of stakeholder groups to explore local well water issues and possible solutions. This can mean creating a new group or tapping into a group that already meets, for example, to address local public health issues more broadly. Coalitions can be important vehicles for engaging stakeholders and ensuring that solutions are tailored to community needs. A coalition coordinator can come from a variety of local agencies or organizations or may be hired externally. If the coordinator is not someone from an environmental or public health agency, those staff members can work in close partnership with them. In communities where it is not be possible to create a coalition, hosting some focused meetings with a diverse group of participants can achieve similar results on a smaller scale.

Without extra support and resources, coalitions and larger community meetings may be unrealistic. No matter the scale, it is helpful to solicit input and suggestions from stakeholders representing different aspects of the private well water system, even informally, before embarking on a policy initiative.

## PRACTICE TIP

### Meeting People Where They Are (Literally)

A robust engagement process will include residents from areas most affected by well water issues as well as people and groups whose voices are traditionally missing from public policy discussions. Outreach efforts may be conducted at diverse locations, such as schools, churches, libraries, or other community institutions, as well as online (depending on how widely available internet access is in a community<sup>13</sup>). These efforts can increase the participation of people with different needs, such as older adults, children, parents, young adults, low-income residents, and persons of differing races and ethnicities.



## WHEN NEW STAKEHOLDERS JOIN THE TEAM: VERSATILE POLICYMAKING IN OREGON

Many policies include a range of strategies in response to the varying needs of stakeholders. If someone's life (at home or at work) will be affected by a policy change, you can bet they will have opinions about that policy, regardless of when they learn about it. Strong policymaking incorporates stakeholder input early and often so that staff developing policy priorities can do so with all the relevant partners at the table.

While seeking to improve implementation of Oregon's Domestic Well Testing Act, the Oregon Health Authority (OHA) embraced multiple complementary strategies for improving well stewardship and developed skills in tailoring engagement with different stakeholders.



**Snippet from the Case Study:** "OHA promoted well stewardship by making grants to counties, updating a popular resource for well owners, and working with service providers such as realtors and water testing labs. OHA informed the Oregon Environmental Council's work on the Safe Well Water bill to improve implementation of the Domestic Well Testing Act."

## Define "Stakeholders" Broadly

It can be a struggle to know who to include in the policy process. Depending on the issue, representatives of government agencies, businesses, health organizations, and the local community may all have a role to play in supporting these efforts.

The table below provides ideas about the types of partners typically engaged in policymaking around well water management, and potential roles and responsibilities for each. This list is primarily intended to start the brainstorming process and highlight stakeholders that policymakers may not have considered. The appropriate partners and roles will vary by community and by intervention; there is no one-size-fits-all approach.

## KEY RESOURCE: COMMON STAKEHOLDERS AND THEIR ROLES

Entity or Individual	Common Responsibilities	Examples
<b>Policy lead(s)</b> The person (or people), agency, or organization responsible for guiding the work. The policy lead or leads may change over time and depending on the stage of the process.	<ul style="list-style-type: none"> <li>• Initiate the policy planning process</li> <li>• Engage stakeholders</li> <li>• Organize planning meetings</li> <li>• Coordinate the assessment process</li> <li>• Identify and secure funding</li> <li>• Guide or support policy selection, drafting, and review</li> <li>• Support policy adoption</li> <li>• Guide or support programs, initiatives, or activities for policy implementation</li> <li>• Coordinate policy evaluation</li> </ul>	<ul style="list-style-type: none"> <li>• In the early stages of policy development and support-building, the lead may be from any of the partner groups in this chart.</li> <li>• Many policies are eventually spearheaded by a representative in the local government, who will guide the transition from policymaking to implementation. This representative may be a staff lead from the department of environmental health, environmental quality, public health, natural resources, or another related agency.</li> </ul>
<b>Local government partners</b> Entities or agencies that can contribute resources, expertise, or information to the policy process	<ul style="list-style-type: none"> <li>• Assist the policy lead in community stakeholder and decisionmaker engagement</li> <li>• Provide the policy lead with local data (eg, geological data, infrastructure mapping, health data, emergency plans, etc.)</li> <li>• Educate other stakeholders about the policy and its potential benefits</li> <li>• Review the policy and provide recommendations regarding, eg, technological systems, well construction and related geological implications, scientific studies, health impacts, emergency planning, etc.</li> <li>• Lead the implementation of programs or other health initiatives to support the policy</li> <li>• The Centers for Disease Control suggests activities that public health professionals, specifically, can do to support the policy process: “conducting policy analysis, communicating findings, developing partnerships, and promoting and implementing evidence-based interventions.”<sup>14</sup> Environmental and public health professionals should always follow their organization's guidance on when and how to engage in the policy process.</li> </ul>	<ul style="list-style-type: none"> <li>• Local departments of health and human services, public health, environmental health, environmental quality, natural resources, forest service, planning, public works, police/fire, disaster preparedness, housing, as well as elected officials.</li> <li>• Groups for professionals working in these departments can also make strong policy partners.</li> </ul>



Entity or Individual	Common Responsibilities	Examples
<b>Community stakeholders</b> Any person or group of people who are affected by the problem or the proposed policy change	<ul style="list-style-type: none"> <li>• Participate in needs assessment surveys, in-person meetings, and workshops to identify and define the problem</li> <li>• Participate in the development of the vision for the community</li> <li>• Assist the policy lead in engaging other community stakeholders and decisionmakers, and mobilizing community support for policy change</li> <li>• Review the policy and provide input on whether this policy addresses community needs</li> <li>• Provide feedback on how the policy is working after adoption and implementation</li> <li>• Champion healthy community policies among community, business, and organizational leaders</li> </ul>	<ul style="list-style-type: none"> <li>• Community members and local organizations (such as people from or working with vulnerable populations like newborns, pregnant women, young children, those who are immunosuppressed and immunodeficient, and the elderly)</li> <li>• Businesses (such as contractors, manufacturers, suppliers, distributors, scientists/engineers, developers, and banks) and business associations (such as the <b>Water Systems Council</b>, <b>National Groundwater Association</b>, and <b>Water Quality Association</b>)</li> <li>• Institutional leaders (such as hospitals and research universities, for example Stanford's <b>Water in the West</b> program)</li> <li>• Nonprofit organizations (such as the <b>Rural Community Assistance Partnership</b>, which offers the <b>Private Well Class program</b>; the New York Rural Water Association (NYRWA), which supports small and rural communities with local <b>source water protection plans</b>; <b>US Water Alliance</b>, and <b>Pacific Institute</b>)</li> </ul>
<b>State and federal government partners</b> Entities or agencies that can contribute resources, expertise, or information to the policy process	<ul style="list-style-type: none"> <li>• Provide sources of data at the national, state, or local level</li> <li>• Provide funding opportunities and guidance in drafting applications and grant proposals</li> <li>• Facilitate contacts among communities and experts working on related issues</li> <li>• Develop formal networks of users, practitioners, regulators, and representatives</li> <li>• Supply scientific evidence for regulatory activities and human health</li> <li>• Supply model language for policies, laws, and regulations</li> <li>• Provide legal information</li> </ul>	<ul style="list-style-type: none"> <li>• US Centers for Disease Control and Prevention (Environmental Health Services, <b>Safe Water Program</b>)</li> <li>• US Environmental Protection Agency (<b>Office of Water</b>)</li> <li>• US Army Corp of Engineers</li> <li>• US Bureau of Land Management</li> <li>• US Geological Survey</li> <li>• State environmental protection agencies (which often manage the authority to regulate wells, drinking water, and water quality)</li> <li>• Other related state agencies, such as departments of environmental health, public health, environmental protection, water and other natural resources, conservation, agriculture, etc.</li> <li>• Groups for professionals working in these departments, for example the <b>National Environmental Health Association</b> (with resources on <b>private drinking water systems</b>)</li> </ul>

# Start With a Strong Message

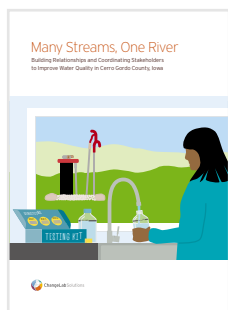
Effective communication about well water quality issues not only teaches people; it is foundational to strong policymaking. Messaging can shape people's beliefs about how the issue relates to their own lives and can motivate buy-in for possible solutions. Communication can also be responsive to stakeholders' reactions to help develop a vision and a plan for fixing it.

The most compelling messages tell a story. They include someone or something that people can relate to and have a narrative that draws listeners in. Messages should address 3 conceptual levels: Identify common ground with the audience around shared values, describe the issue at hand, and present solutions.<sup>15</sup>

**Identify shared values:** Shared values can motivate listeners to think more broadly about an issue and support local action.<sup>16</sup> Messages that emphasize values like shared prosperity and community health can help frame access to safe well water as a way to pursue goals we all consider important: clean, abundant natural resources for all; healthy homes; community health and safety.

**Describe the issue at hand:** Messages should present the issue a community is working to solve: healthier drinking water from unregulated private wells. Telling the stories of residents whose lives are most affected by the problem can ground the issue in reality and provide relatability.

**Propose a solution:** The third level of messages should communicate policy goals intended to help address the issue. Highlighting the ways that different policy options can serve shared values can be more compelling than the finer details of policy implementation.



## WHEN STORIES SPUR ACTION: MESSAGING AS A TOOL IN CERRO GORDO COUNTY, IOWA

To build support for policy change in a community and among decisionmakers, staff developing partnerships can lift up the stories of those stakeholders closest to the problem. Narratives that connect listeners to well water issues in real-life, human contexts will raise awareness about the need for finding solutions and taking action.

In the mid-2000s, the Cerro Gordo County Department of Health in Iowa began working with community and governmental partners to adopt county ordinances addressing arsenic contamination issues that could affect the county's 6,568 residents who are served by private wells. In the 2010s, the department and its partners conducted a study of the arsenic issues and succeeded in closing regulatory gaps to protect residents from arsenic, nitrates, and bacteria.



**Snippet From the Case Study:** *"The recommendations for arsenic testing were incorporated into the partners' public communications, with a big push for water testing during National Groundwater Awareness Week. Postcards were sent to residents, for example, and announcements aired on radio, television, and social media. One video features Jack and Sandy Davis, the Clear Lake couple who knows firsthand the damage that long-term arsenic exposure can cause."*

## Build a Vision and a Plan Together

What will success look like at the end of this process? A vision for success should be practical but ambitious. For example, a community may want to create a robust well water testing process to build a stronger evidence base as it tries to obtain more outside funding for local treatment solutions. The vision might include, for example:

- Yearly well water testing of all local wells
- Resources to educate well owners about the value of the tests
- Partnerships to synthesize and respond to test results
- Systems to track and report on the resulting data, over time

No matter what success looks like, establishing a vision helps clearly define an end point and facilitate the policy prioritization process in the future. In addition, communities can ensure that the vision reflects the needs of government partners, community stakeholders and residents, and decisionmakers.

The vision for the community may be broad, but its plan for needs to include specific objectives. What needs to happen and when? Using the vision above as an example, here are ideas for specific objectives for each:

- 1 **Partnerships:** By November 2020, the coordinating agency will partner with the department of public health and other related agencies to respond to test results.
- 2 **Educational resources:** By November 2020, the local government will provide educational materials and offer a call-in line to well owners to facilitate yearly testing.
- 3 **Yearly well water testing:** By January 2021, the community will adopt and implement a policy supporting or requiring the local government to ensure yearly testing of water quality for all private wells.
- 4 **Systems and reports:** By January 2021, the coordinating agency will establish a system of collecting and maintaining test results over time, to be shared directly with partnering agencies and used to create yearly reports.

## PRACTICE TIP

### Ambitious Yet Feasible



Ideally, policies that promote well water quality in unregulated private wells will have the biggest public health impact possible. However, there are important political constraints and processes that may make some policies more difficult to adopt. Policy development will always strike a balance between what is going to have the biggest effect and what is likely to be adopted.

To achieve this balance, it is often best to start with a robust vision. It is often better to start by seeking solutions that fully meet community needs rather than go for “low-hanging fruit” and miss the opportunity to have a stronger policy.

For example, a community may hope to resolve drinking water contamination issues resulting from certain well materials that degrade over time. An ideal policy solution would (1) create well construction standards that apply to all new wells, ensuring the materials and construction limit contamination risks over the long term; and (2) retroactively apply to all older wells, which could require extensive repairs. Concerns about the cost of applying new well standards universally to all older wells may make the policy unfeasible. A compromise could provide a phase-in process for older wells, in conjunction with efforts to secure funding to subsidize or cover the cost of repairs.

An ambitious goal may not always be politically or financially feasible at first. Starting out with a dream policy can nonetheless result in provisions that serve the goal over the long term.

## RECAP CHECKLIST: WHAT CAN PARTNERSHIPS AND PLANNING HELP YOU ACCOMPLISH IN THE POLICYMAKING PROCESS?

- ☐ **Identify stakeholders and how they can support the work**, for example: list key stakeholder strengths and resources that can assist with different steps of the process; identify complementary interests; and build awareness of and responsiveness to stakeholders whose voices need to be bolstered, versus those who already have strong influence.
- ☐ **Create a shared vision for success**, for example: set up multiple situations and systems for soliciting input about potential solutions from all stakeholders; focus on community strengths and goals, rather than problems; and dream big and be realistic about needing to rescope, as the process unfolds.
- ☐ **Prepare a realistic plan for moving toward that vision**, for example: set out clear, actionable tasks with timelines; allocate responsibility for each task, with partners and stakeholder strengths in mind; and provide opportunities for adjusting the plan along the way.

## TOOLS AND RESOURCES FOR PARTNERSHIPS AND PLANNING

- ➔ The **Community Engagement & Participation Checklist** was developed by PolicyLink to outline components of an authentic and participatory community engagement process; it includes a template for assessing these components.
- ➔ **Local Practices in Public Engagement** is a brief from the National League of Cities to “present some of the efforts that public officials and their staffs are incorporating in their communities to govern in more participatory, deliberative, inclusive and collaborative ways.”
- ➔ Power mapping is an exercise for thinking about people to influence, or empower, to change a policy or achieve some other outcome. It creates a visual representation of the people and entities who most affect, or are most affected by, decisions about a policy change. Related tools are found [here](#) or [here](#), [here](#), and [here](#).



## STEP 3: PRIORITIZE OPTIONS & SELECT A POLICY

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**Step 3 involves identifying the range of possible policy solutions, assessing and comparing them based on local considerations, and selecting a policy to pursue.**

Steps 1 and 2 of the policymaking process provide the foundation for identifying and selecting specific policy solutions. Assessments orient staff newer to water issues and may reveal solutions to explore. Stakeholder input and support will also highlight existing strengths, skills, and resources, which can make certain policies more efficient or practical than others. Step 3 involves identifying the range of possible policy solutions, assessing and comparing them based on local considerations, and selecting a policy to pursue.

### Identify Policy Options

Staff in environmental and public health departments may find certain private-well policies more familiar than others. It can be tempting to target solutions that are easily folded into current workflows. However, the most successful policy solutions are those that respond to a community's specific challenges, which may mean coordinating with new agencies, working more closely with local businesses, or reevaluating the way the local government engages with well owners and residents.

The icons identified on [page 8](#) of this guide, and used throughout, are worth revisiting. They outline the broad categories of issues that policies can influence at each component of the private well water system.



**Policies affecting  
water and water  
quality**



**Policies affecting  
land use and  
infrastructure**



**Policies affecting  
private well people  
and industries**

Each of these categories of intervention, for each component of a system, can be implemented through policies that address specific tasks, such as:<sup>17</sup>

- **Allocating, accessing, or creating new funding streams** – such as establishing an ongoing process for qualifying and obtaining federal grants for regular water testing
- **Requiring an activity or setting a standard** – such as professional certification requirements for all well drillers authorized to do business within the community, or listing more stringent contamination limits for specific substances in groundwater protection efforts
- **Prohibiting or discouraging certain activities** – such as listing specific materials that cannot be used to build wells in specific geographic contexts
- **Incentivizing a change in practice or behavior** – such as a tax break or a discount on a permit or licensing fee
- **Expressly allowing something in a way that supports or promotes healthier well water practices** – such as authorizing well owners to establish safety zones that prohibit certain contaminating activities within a certain distance of well heads

For a system map of state laws that may influence each component of the private well water system, see our [infographic and fact sheet](#). For stories about communities that have enacted policies related to federally unregulated private wells, please see the [case studies](#) referenced throughout this guide.

## Evaluate Local Authority to Enact Policy Options

Local governments can generally create laws and policies that improve and protect the health, safety, and welfare of their residents.<sup>18</sup> Unless federal or state law has prohibited local action, efforts to improve public health through local policies aimed at securing safer private well water likely fall under this general authority.

Communities are encouraged to consult with a local attorney familiar with the issues to determine whether there are existing federal, state, or local policies that may support or hinder a new policy.

## DOES FEDERAL OR STATE LAW PROHIBIT SPECIFIC LOCAL POLICIES?

There are a few ways that federal or state law can prohibit local authority to enact policies concerning well water quality:

- Allocating the power to another entity, such as the state (for example, some states implement the federal Safe Drinking Water Act entirely; others delegate some implementation to local governments – they can do this because they’ve been granted authority to do so by Congress)
- **Preempting**, or prohibiting, the power explicitly (for example, by determining that an issue cannot be regulated at the local level)
- Preempting the power by regulating an issue itself (for example, by explicitly controlling an issue entirely, or controlling enough of an issue to make local regulation incompatible with the higher-level policy)

## Prioritize Policy Options and Select a Policy to Pursue

The US Centers for Disease Control and Prevention’s **Policy Analytical Framework** is a helpful tool for evaluating and comparing potential policy interventions to improve public health. The criteria for scoring and comparing policies are their public health impact, their feasibility, and their economic and budgetary impacts.

The tool includes a rubric that allows users to compare policy options based on their reach and effects, including their impact on disparate populations, the likelihood of their being enacted in the specific locality, and the costs of implementation relative to their projected benefits. People developing policy solutions can create a prioritized list of options based on their scores under these criteria.

The likelihood of being adopted – the feasibility aspect of this comparison process – is especially valuable in providing a clear way to incorporate information gathered during the assessment, partnership, and planning phases of policy development. In addition to operational feasibility, the framework describes “political” feasibility considerations such as:

- political forces and political history
- who the stakeholders are (supporters and opponents)
- potential social, educational, and cultural perspectives about each option
- “potential impacts of the policy on other sectors and high priority issues”



These considerations require communities to go beyond a straightforward cost-benefit analysis – which is also important – and to use local context, partners, and perspectives to inform policy selection. With this framework, a policy lead can lean on the input of key stakeholders and to incorporate the information gathered from their local assessment in order to select a policy or policies to pursue.

### RECAP CHECKLIST: HOW CAN POLICY SELECTION BUILD ON ASSESSMENT, PARTNERSHIP, AND PLANNING ACTIVITIES?

- ☐ **Evaluate local legal and policy authority to narrow the list of options**, for example: complete a policy scan of local, state, and federal policies related to the potential solution; coordinate with a lawyer to research the scope of local authority; and update selected policy priorities to reflect the legal feasibility of each.
- ☐ **Use local context to determine trade-offs among policy options**, for example: revisit assessment data and refocus policy discussions on the priorities in them; solicit input about policy implications in historical context, such as local agency, resident empowerment, place-based power, neighborhood disinvestment, land reclamation, and ancestral rights and wisdom; evaluate funding and political will; and research best practices.
- ☐ **Select policy solutions with partnerships in mind**, for example: coordinate policy selection and drafting with a team of stakeholder representatives; provide opportunities for continued engagement throughout the process; and use analysis tools to process these inputs and select the most promising, feasible policy to pursue.

### TOOLS FOR POLICY OPTIONS AND SELECTION

- ➡ As noted above, the **Policy Analytical Framework** from the US Centers for Disease Control and Prevention provides guidance on how to identify, analyze, and prioritize policies that can improve public health.
- ➡ **Collective Impact** theory for structuring collaborative efforts to address social problems, via Stanford Social Innovation Review, includes “the five key conditions that distinguish collective impact from other types of collaboration: a common agenda, shared measurement systems, mutually reinforcing activities, continuous communication, and the presence of a backbone organization.”
- ➡ While targeted at managers of non-community water systems regulated by the Safe Drinking Water Act (SDWA), this list of **Best Practices and Resources for Building the Capacity of Non-Community Water Systems** from the Association of State Drinking Water Administrators includes examples of well protection and management tools from around the country, many of which are also applicable to private wells.



## STEP 4: DEVELOP & ADOPT THE POLICY

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**By the time a policy has reached the development and adoption phases, the implementing agency and relevant decisionmakers often take the lead.**

Key players may include legal and financial reviewers who can cross all the t's and dot all the i's of the policy. However, partners and staff who have ushered the policy to this point can remain involved to help ensure the assessment data, stakeholders, and planning inform the final stages of the process.

### Draft With an Eye Toward Implementation

In developing a policy, it is helpful to understand what successful policy implementation and enforcement will look like, including how responsibilities and accountability are allocated. For a policy to be effective, its developers typically need to ask the following questions:

- What is the evidence base for the policy? Many state or local government policies include findings (sometimes found in “whereas” clauses). These sections explain why the policy is important and why the government is adopting it.
- To whom does the policy apply? Does it apply to people, businesses, or government agencies? Many policies include explicit “applicability” provisions indicating this information so it’s easy to find and clear.
- How do government agencies and/or the private sector comply with the policy? What are the policy’s requirements? When is the policy activated? What is the process for meeting the policy’s requirements? These are the key policy provisions, and they may be accompanied by an “enforcement” section, or a comparable section containing the repercussions for compliance (in the case of incentivizing provisions) and/or non-compliance.

- How will government agencies implement or enforce the policy?

For example:

- Which government agency is responsible for the implementation of the policy?
  - What budget does the agency need to implement or enforce the policy?
  - What steps must the agency take to implement the policy fully?
  - How will the agency notify staff, businesses, and/or residents about the new policy?
  - What kinds of assistance, resources, and training do people and entities need to comply with the policy?
  - Are there penalties for noncompliance?
  - What accountability measures are there to ensure the government implements or enforces the policy?
- What is the timeline for implementation and/or enforcement?  
When does the policy go into effect? Are evaluation reports due to stakeholders or decisionmakers?

The policy development process may also include community members (particularly well owners), researchers, representatives from businesses or organizations, and other government staff affected by the policy. This inclusion can build and sustain buy-in for the policy, which can be crucial for policy adoption.

## Consider Other Community Examples

In the list of tools, below, you will see links to sample policy stories from other communities. It can be helpful to compare different ways of drafting policies and getting them adopted, while bearing in mind that each policy process is shaped by practical and political realities in each community.

## RECAP CHECKLIST: HOW CAN PARTNERS IMPROVE POLICY DEVELOPMENT AND ADOPTION?

- ☐ **Develop policy solutions based on local context**, for example: coordinate policy drafting with a team of stakeholder representatives, particularly key government partners for review and implementation; provide multiple opportunities for continued engagement throughout the drafting process; anticipate differences among stakeholders during drafting, before attempting to adopt the policy; and include explicit provisions for all goals, responsibilities, evaluation, and reporting requirements.

## TOOLS FOR STEP 4 – POLICY DEVELOPMENT AND ADOPTION

- ➡ The Community Tool Box's chapters and toolkit on choosing and adapting a policy, available [here](#), can help practitioners "learn how to select promising interventions and adapt them to culture and context consistent with ethical principles," including how to "promote the adoption and use of best practices."
- ➡ US Center for Disease Control and Prevention, Environmental Health Services, Safe Water for Community Health (Safe WATCH) [Grantee Success Stories](#).
- ➡ [Improving Well Water Quality and Well Stewardship: Case Studies on Promoting Policy Change in Private Well Systems](#) (also linked and quoted throughout this guide).



## STEP 5: IMPLEMENT & EVALUATE THE POLICY

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**After adopting the policy, it is time to put the policy into practice and assess what works and what doesn't.**

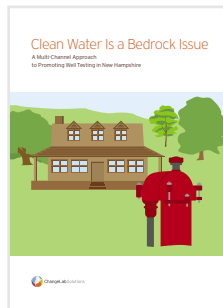
This is where environmental and public health staff are particularly suited to provide policy analysis, collect information about intended and unintended effects of the policy, and provide the evidence base to drive policy implementation and improvement.

### Designate Implementation Roles

The first matter is to identify who will be implementing the policy and work with them to clarify and streamline implementation. Depending on the policy, local government staff may play different roles:

- **Promoting the policy** by putting up signs and posters or incorporating the policy into existing resources and trainings. For example: posters and infographics educating well owners about common risks of well contamination.
- **Educating people** who are implementing the policy about strategies to increase its effectiveness including educating residents and local businesses about how to comply with the policy. For example: outreach materials to local businesses outlining compliance requirements for new well construction standards.
- **Connecting existing programs** and policies to the new policy: Regulators of larger water systems may want to include information about the new policy in different aspects of their work. For example: instructions for local staff to standardize test results to match regional or statewide data systems.
- **Implementing the policy:** Different agencies may work with residents, businesses, water laboratories, research institutions, or other agencies to implement components of the new policy. For example: specialized training for local staff responsible for well inspections upon property transfers.

- **Holding the policy accountable:** If a community has adopted a policy to improve well water quality, gathering data and tracking changes in water management can support a local government in evaluating whether the specific policy chosen is successful. For example: job descriptions that include ongoing data collection and reporting related to the policy, even in the event of staffing changes.



## WHEN IMPLEMENTATION REVEALS NEW NEEDS: TOOLS SHAPED BY POLICY IN NEW HAMPSHIRE

Policymaking can be an iterative process. Responsible policy implementation provides a way to solicit and incorporate suggestions for improvement. While this can mean fixing policy elements that aren't working or have unintended negative consequences, policy evaluation can also provide ideas for making the most of a successful policy.

With naturally high levels of arsenic in groundwater statewide and almost half of the state's residents using private wells, New Hampshire's Department of Environmental Services (NHDES) used targeted community well testing events to raise public awareness and built an online tool to help residents interpret water test results, greatly expanding the scale of its impact.



**Snippet From the Case Study:** “The department was already receiving a few hundred inquiries per year from residents seeking help in understanding their water tests: Was their water safe to drink? Did they need to treat it? What kind of treatment was required? In addition to hosting community well testing events, NHDES also used the CDC grant to develop an online tool, **Be Well Informed**, to help residents interpret their well test results and identify what steps to take to make sure their water was safe to drink.”

## Support the Policy With Promotions and Programming

Before community members can comply with or take advantage of a policy, they have to know about it. Policy implementation includes educational and promotional activities to get the word out. Stakeholders can help promote the policy by posting signs, sharing information on their websites, and providing updates at community meetings, to name a few ways.

In addition, the implementation process can connect people whose property, businesses, or water may be affected by the policy to the resources that the policy provides (such as funding, information, or technical assistance).

# Evaluate the Policy

Finally, evaluation is the key to be sure the policy works toward a community's goals and improves over time. It helps decisionmakers determine if the policy is addressing the problem originally identified and whether the policy needs to be revised to make it more effective.

To measure success, evaluators will often use the data collected during the baseline assessment that was described under Step 1. They may conduct both process evaluations (for example, surveying stakeholders about their involvement in the implementation process) and impact and outcome evaluations (for example, whether rates of well water testing have increased). Data on issues related to drinking water quality from private wells often cross the desks of environmental and public health staff, so they are particularly well positioned to assess the consequences (intended and unintended, positive and negative) of the policy.

Based on these evaluations, if a state or local government is not meeting its goals, it may revise the policy, alter how it is implementing the policy, or implement other programs and policies that will work in conjunction with the original policy to improve health outcomes.

## RECAP CHECKLIST: HOW TO IMPROVE POLICY EFFECTIVENESS THROUGH IMPLEMENTATION AND EVALUATION

- ☐ **Allocate responsibility and hold people accountable to the new policy**, for example: identify specific agencies and stakeholders to complete each task; create a clear timeline or calendar for all tasks and ongoing activities; and coordinate an implementation team with meetings or regular check-ins.
- ☐ **Prepare the community and facilitate compliance**, for example: create and disseminate educational materials in different forms and languages to support the issue and policy compliance; coordinate trainings or experts to support compliance; and include contact information on all materials.
- ☐ **Consider the policy's intended and unintended consequences**, for example: collect data related to original assessment data and other community health and improvement goals; coordinate data sharing for different implementing entities; and identify populations, areas, and outcomes that may be connected to or correlated with implementation.
- ☐ **Report on the policy's impact and incorporate feedback to improve it**, for example: require implementing entities to submit updates and data to a central source; prepare reports on policy implementation with recommendations for improvement; publicize reports; and solicit stakeholder feedback at regular intervals.

## TOOLS FOR STEP 5 – IMPLEMENTATION AND EVALUATION

- ➡ The **Framework for Evaluation in Public Health** from US Centers for Disease Control and Prevention “guides public health professionals in their use of program evaluation. It is a practical, nonprescriptive tool, designed to summarize and organize essential elements of program evaluation.” It includes **steps** for evaluation.
- ➡ **A User's Guide to Advocacy Evaluation Planning** from the Harvard Family Research Project provides 4 basic steps for planning evaluation activities.



# REFERENCES

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- 1 US Centers for Disease Control and Prevention, “Surveillance Reports for Drinking Water-associated Disease & Outbreaks” (Oct 2017), available at [www.cdc.gov/healthywater/surveillance/drinking-surveillance-reports.html](http://www.cdc.gov/healthywater/surveillance/drinking-surveillance-reports.html).
- 2 US Centers for Disease Control and Prevention, “Water & Nutrition” (Oct 2016), available at [www.cdc.gov/healthywater/drinking/nutrition/index.html](http://www.cdc.gov/healthywater/drinking/nutrition/index.html).
- 3 US Centers for Disease Control and Prevention, “Overview of Water-related Diseases and Contaminants in Private Wells” (Jul 2015), available at [www.cdc.gov/healthywater/drinking/private/wells/diseases.html](http://www.cdc.gov/healthywater/drinking/private/wells/diseases.html).
- 4 See, e.g., A. M. El-Sharkawy, O. Sahota, D. N. Lobo, Acute and chronic effects of hydration status on health, *Nutrition Reviews*, Vol. 73, Iss. suppl\_2, (1 September 2015), pp. 97-109, <https://doi.org/10.1093/nutrit/nuv038>, available at [academic.oup.com/nutritionreviews/article/73/suppl\\_2/97/1930742](http://academic.oup.com/nutritionreviews/article/73/suppl_2/97/1930742) (“Dehydration has been linked with urological, gastrointestinal, circulatory, and neurological disorders”).
- 5 See, e.g., Pershad J. A systematic data review of the cost of rehydration therapy. *Applied Health Economics and Health Policy*. 2010; 8(3): 203-14: DOI [doi.org/10.2165/11534500-000000000-00000](https://doi.org/10.2165/11534500-000000000-00000).
- 6 See, e.g., Kim, S. Preventable Hospitalizations of Dehydration: Implications of Inadequate Primary Health Care in the United States. *Annals of Epidemiology*. 2007; 17(9): 736, available at <https://doi.org/10.1016/j.annepidem.2007.07.043>.
- 7 Understanding the Safe Drinking Water Act. Washington D.C.: Environmental Protection Agency (EPA); 2004. [www.epa.gov/sites/production/files/2015-04/documents/epa816f04030.pdf](http://www.epa.gov/sites/production/files/2015-04/documents/epa816f04030.pdf).
- 8 Information about Public Water Systems. Environmental Protection Agency website. [www.epa.gov/dwreginfo/information-about-public-water-systems](http://www.epa.gov/dwreginfo/information-about-public-water-systems). Accessed March 27, 2019.
- 9 42 U.S.C. § 300f(4)(A) (1974).
- 10 For relevant examples, see, e.g., Safe Water for Community Health (Safe WATCH) Grantee Success Stories. Centers for Disease Control and Prevention, Environmental Health Services website; 2019. [www.cdc.gov/nceh/ehs/safe-watch/success-stories.html](http://www.cdc.gov/nceh/ehs/safe-watch/success-stories.html). Accessed March 27, 2019.
- 11 See, e.g., Nebraska’s Water Well Standards and Contractors’ Licensing Program, Title 178, Chapter 12. [dhhs.ne.gov/publichealth/Pages/enh\\_wws\\_regs.aspx](http://dhhs.ne.gov/publichealth/Pages/enh_wws_regs.aspx). Accessed March 27, 2019.
- 12 See, e.g., Minnesota Well Construction Statutes. [www.revisor.mn.gov/rules/?id=4725](http://www.revisor.mn.gov/rules/?id=4725). Accessed March 27, 2019.
- 13 Anderson, M. “About a quarter of rural Americans say access to high-speed internet is a major problem,” Pew Research Center’s *Fact Tank* (Sept. 10, 2018). [www.pewresearch.org/fact-tank/2018/09/10/about-a-quarter-of-rural-americans-say-access-to-high-speed-internet-is-a-major-problem](http://www.pewresearch.org/fact-tank/2018/09/10/about-a-quarter-of-rural-americans-say-access-to-high-speed-internet-is-a-major-problem). Accessed March 27, 2019.
- 14 Policy Process Introduction, US Centers for Disease Control and Prevention website; 2015. [www.cdc.gov/policy/analysis/process/index.html](http://www.cdc.gov/policy/analysis/process/index.html). Accessed March 27, 2019.
- 15 Dorfman L, Wallack L, Woodruff K. More Than a Message: Framing Public Health Advocacy to Change Corporate Practices. *Heal Educ Behav*. 2005;32(3):320-336. doi:10.1177/1090198105275046.
- 16 Dorfman L, Wallack L, Woodruff K. More Than a Message: Framing Public Health Advocacy to Change Corporate Practices. *Heal Educ Behav*. 2005;32(3):320-336. doi:10.1177/1090198105275046.
- 17 Thanks to the Healthy Food Policy Project for their tool, “Local Law & Policies that Promote Access to Healthy Food: A Food System Crosswalk,” (accessed 2018), available at [healthyfoodpolicyproject.org/crosswalk](http://healthyfoodpolicyproject.org/crosswalk) (includes overarching policy categories that formed the basis of the explanation in this section of the Guide).
- 18 See, e.g., Galva JE, Atchison C, Levey S. Public health strategy and the police powers of the state. *Public Health Rep*. 2005;120 Suppl 1(Suppl 1):20-7, DOI: 10.1177/003335490512005106, available at [www.ncbi.nlm.nih.gov/pmc/articles/PMC2569983](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2569983).