Best Practices User Guides

Putting Evidence into Practice

in Tobacco Prevention and Control

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

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This guide was produced for the Centers for Disease Control and Prevention by the Center for Public Health Systems Science at the Brown School at Washington University in St. Louis.

Primary contributors:

Stephanie Andersen, Laura Brossart, Rebecca Ballard, Amy Endrizal, Rachel Hackett, Douglas Luke, Angella Namwase

Input was provided by:

Lindsay Bishop, Ross Brownson, Natasha Buchanan Lunsford, Kevin Collins, Elizabeth Courtney-Long, Erika Fulmer, Karen Gutierrez, Nikki Hawkins, Michelle Johns, Brian King, Michon Mabry, Rebecca Murphy, Byron Powell, Robert M. Rodes, Robin Scala, Katelyn Sives, Karla S. Sneegas, Tamatha Thomas-Haase, Michael Tynan, Renee Wright

Input for the case studies was provided by:

Jackie Kaslow, CA Quits
Dr. Elisa Tong, CA Quits
April Roeseler, California Tobacco Control Program
Amanda Mortensen, Tobacco Free Nebraska

Other contributions:

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Purpose

The Center for Public Health Systems Science at Washington University in St. Louis is developing a set of user guides funded by the Centers for Disease Control and Prevention (CDC), contract 75D30120C09195, for the ***Best Practices for Comprehensive Tobacco Control Programs—2014*** (*Best Practices 2014*), an evidence-based tool to help states develop and sustain comprehensive tobacco control programs.[1]

The purpose of the user guides is to help commercial tobacco control staff and partners implement evidence-based best practices by translating research into practical guidance. The guides focus on strategies (*e.g.*, programs and interventions) that have shown strong or promising evidence of effectiveness. Recommendations are designed to help programs put into practice scientific evidence about reducing commercial tobacco use. Programs can follow these recommendations according to their needs, goals, and capacity.

Content

This user guide focuses on how commercial tobacco control programs can increase the use of evidence-based interventions. Evidence-based interventions broadly include programs, practices, processes, policies, and guidelines.[2] According to *Best Practices 2014*, "full implementation of comprehensive tobacco control policies and evidence-based interventions at CDC-recommended funding levels would result in a substantial reduction in tobacco-related morbidity and mortality and billions of dollars in savings from averted medical costs and lost productivity in the United States."[1] This guide describes how program staff and partners can use dissemination and implementation strategies from the field of Implementation Science, which is the study of how to carry out evidence-based interventions.

Links to More Information

Each instance of italicized, bolded ***blue text*** in the guide indicates a link to an additional resource or a page within the guide with more information. Website addresses for all of the blue resources noted throughout the guide are also included in the Resources section.

Organization

- **Making the Case:** A brief overview of why increasing the use of evidence-based interventions is essential to commercial tobacco control efforts
- **Brief History:** How evidence-based interventions have become a major focus of public health
- **How to:** Strategies to disseminate and implement evidence-based interventions
- **Providing Support:** How commercial tobacco control programs can support efforts to disseminate and implement evidence-based interventions
- **Case Studies:** Examples of successful efforts to put evidence into practice
- **Case for Investment:** Information to raise awareness about the importance of evidence-based commercial tobacco control
- **Resources:** Publications, toolkits, and websites to help in planning efforts\

Best Practices for Comprehensive Tobacco Control Programs—2014[1]

Best Practices 2014 is an evidence-based guide to help states plan, establish, and evaluate comprehensive tobacco prevention and control programs. The report offers recommendations and evidence for five essential components of effective programs:

- State and community interventions
- Mass-reach health communication interventions
- Cessation interventions
- Surveillance and evaluation
- Infrastructure, administration, and management

Making the Case for Putting Evidence into Practice

After more than fifty years of research, we know what works to reduce commercial tobacco use.[3] Yet more than 480,000 people die from smoking-related causes each year and tobacco use remains the leading cause of preventable disease and death in the U.S.[3] Effective commercial tobacco control interventions are unequally distributed across communities, states, and the country.[4] As a result, evidence-based interventions are not reaching the people who need them most.[4] Together, researchers and programs can tackle this problem by combining scientific evidence about what works with real-world experiences and widely sharing that information at state and local levels. Strategies that focus on communicating and implementing evidence are an important part of commercial tobacco control programs because they:

Increase the impact of commercial tobacco control

Interventions tested in controlled research settings often fail to produce the same results in the real world.[5] Commercial tobacco control programs can support communities in wisely adapting interventions to fit their needs while retaining the core components that are critical to reduce tobacco use. When fully and consistently implemented, evidence-based interventions have enormous potential to improve public health.[6-10]

Ensure commercial tobacco control efforts act on the most up-to-date scientific information

Commercial tobacco control is continually evolving. New products are emerging on the market, patterns of tobacco use are changing, and states face new challenges to protect commercial tobacco control achievements.[4] Programs need access to the most current research evidence to address these challenges.

Reduce the use of interventions that are not evidence-based

When programs continue to use ineffective interventions or fail to implement new ones that are effective, they risk slowing progress in reducing commercial tobacco use. Ending ineffective interventions also makes the best use of limited public health resources.[11]

Raise awareness about the continued importance of commercial tobacco control

Declines in cigarette smoking prevalence have created a perception among some people that other health issues are more important than reducing tobacco use.[4] Disseminating information about the remaining gaps in commercial tobacco control and how we can work to end the tobacco epidemic can energize and empower communities to continue to address tobacco.

Address tobacco-related disparities

Discovering and delivering new science to communities are both important to increase the impact of commercial tobacco control.[3] Dissemination and implementation strategies bring evidence-based interventions to populations that need them most by involving community members in decision making and overcoming barriers to implementation.[12]

Increase return on investment

CDC invested nearly $70 million in state commercial tobacco control program funding in 2020.[13] Using evidence-based interventions increases the likelihood that this investment will result in the highest possible benefit to the public. Well-implemented interventions also have the potential to greatly reduce the staggering economic toll of cigarette smoking, which costs more than $300 billion a year in direct healthcare costs and lost productivity.[3,14]

Emphasis on Evidence

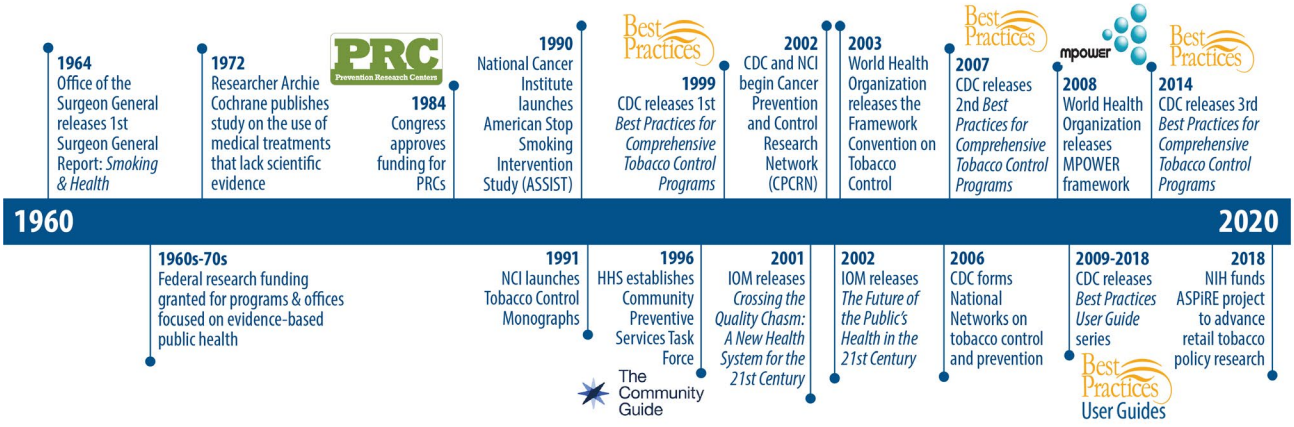
Researchers have been studying how new practices spread across communities since the early 1900s. As federal research funding grew in the 1960s and 1970s, so did interest in ensuring findings were put into practice (see Figure 1 below).[15] New information about the lack of scientific evidence supporting the use of medical treatments also led researchers to apply these concepts to health.[16] In 1984, Congress approved funding for Prevention Research Centers to identify, disseminate, and implement effective public health interventions that can be applied across diverse communities. The program now includes 26 academic research centers across the country working on a range of public health problems.[17]

The 1990s marked a new era of research on using evidence to improve health care and public health, leading to a surge in federal programs, systematic reviews, and guidelines recommending evidence-based interventions.[15] In 1996, the U.S. Department of Health and Human Services created the Community Preventive Services Task Force to develop recommendations for communities on which public health interventions are most effective. The resulting *Community Guide* now includes an online database of evidence-based recommendations for over 20 public health issues, including commercial tobacco use.[18] More federal programs followed to develop evidence-based guidelines for mental health and substance use interventions, HIV prevention, and cancer control.[19-21]

Even with this increased attention on using evidence, major reports continued to warn of a "quality chasm" in health care and stress the importance of evidence-based decision making.[22,23] These calls to action spurred more interest in studying how to increase use of scientific knowledge. The field of Implementation Science began to expand rapidly: the number of Implementation Science research articles increased from under 100 in 1990 to over 100,000 by 2012.[24]

Implementation Science methods have been especially important in commercial tobacco control, where interventions have traditionally been tested first at community and state levels. Resources like the National Cancer Institute *Tobacco Control Monographs*, launched in 1991; CDC's first *Best Practices for Comprehensive Tobacco Control Programs* (1999); and the World Health Organization's Framework Convention on Tobacco Control (2003) and *MPOWER* framework (2008) led the push to implement effective interventions.[25-28] Since then, CDC has published two more editions of *Best Practices* and eight *Best Practices User Guides* to provide evidence-based guidance for states and communities.[1,29-36] These efforts have led to successes in reducing commercial tobacco use, including the rapid adoption of state quitlines and smokefree environments.[4,37] Gaps remain, especially in extending smokefree protections to at-risk populations.[4] New initiatives, such as the Advancing Science & Practice in the Retail Environment (ASPiRE) project, focus on using dissemination and implementation strategies to increase evidence use.[38]

Figure 1. History of Putting Tobacco Control Evidence into Practice



Understanding Evidence-Based Interventions

Over the last 50 years, scientists have carefully evaluated the risks of commercial tobacco use and the effectiveness of different interventions.[3] This work has built a solid foundation of evidence-based interventions: programs, practices, processes, policies, and guidelines that have been tested using rigorous scientific methods and peer-reviewed research and are proven to reduce or prevent commercial tobacco use.[2,39] They may be new interventions or changes to existing interventions.

Awareness of the importance of using evidence-based interventions has grown in recent years. Researchers are increasingly reviewing the evidence, new initiatives are promoting evidence-based health care, and funders are requiring scientists to share their research findings.[40] So it is easy to assume that evidence-based interventions will naturally be put into practice.

The Research-to-Practice Gap

In reality, there is a gap between what researchers know and what practitioners do. In fact, public health departments have reported that just over half of programs and policies were evidence-based.[41] Similar percentages have been reported of the use of evidence-based interventions in medical care.[42]

Even when evidence-based interventions are used, they may be poorly implemented and not consistent with the original intervention. These challenges can cause a "voltage drop" that makes it difficult to achieve the same results outside the research setting.[43]

Implementation gaps exist in the use of evidence-based commercial tobacco control interventions.[4] Despite the fact that using evidence-based cessation treatments more than triples the likelihood of quitting, less than 3 in 5 people who smoke received advice to quit from a health professional in 2015 (shown in **Figure 2**).[44] Gaps also remain in insurance coverage for evidence-based cessation treatment and funding for state quitlines.[4]

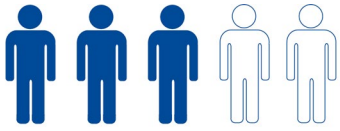
Why Use Evidence-Based Interventions?[45]

Using evidence-based interventions increases the likelihood of achieving commercial tobacco control goals. Putting evidence-based interventions into action also helps:

- Justify investment in commercial tobacco control
- Build the program's credibility with partners and the community
- Provide a framework for planning
- Secure future resources
- Learn from others who developed or used the intervention if problems occur

Strong evidence also shows that comprehensive smokefree laws reduce tobacco use and secondhand smoke exposure at the state or local level.[7] Yet nearly 40% of the U.S. population lives in a place without a comprehensive smokefree law, leaving millions at risk of tobacco-related disease and death (shown in **Figure 3** on *page 5*).[46] Even in places with smokefree protections, exemptions leave people at risk of exposure to secondhand smoke in small businesses, hotels, and family-based daycares.[3]

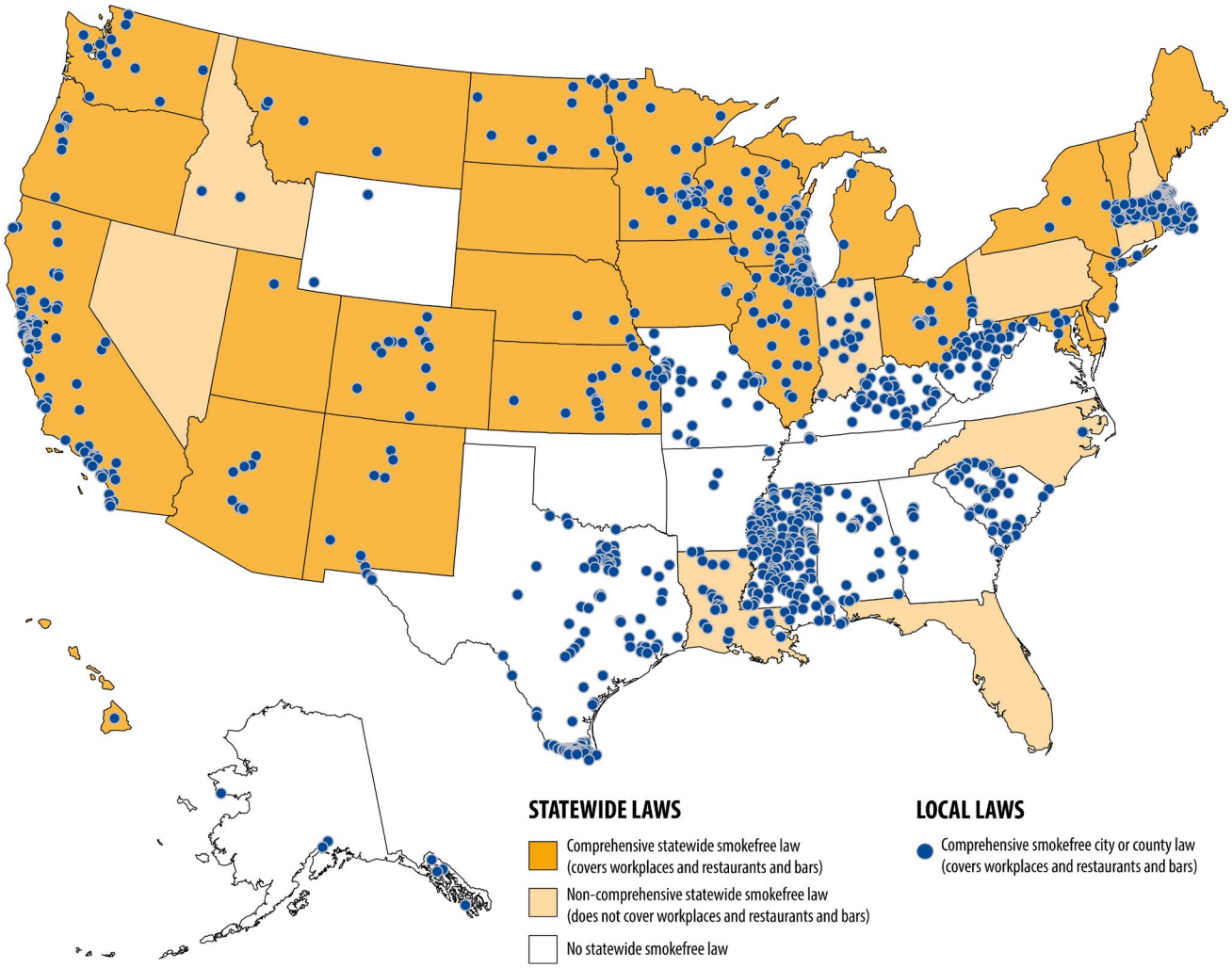
Figure 2. Advice to Quit from a Health Professional, 2015



Less than **3 in 5** people who smoke received advice to quit from a health professional in 2015

Source: Babb S, Malarcher A, Schauer G, Asman K, Jamal A[44]

Figure 3. United States Comprehensive Smokefree Air Laws, April 1, 2021



Source: American Nonsmokers' Rights Foundation[47,48]

Disparities in commercial tobacco use and cessation remain challenges, despite clear evidence on how to help people quit for good.[49] Table 1 on ***page 6*** describes implementation gaps in commercial tobacco control and the information that programs can share with practitioners and decision makers to close the gaps.

Barriers to Putting Evidence into Practice

Both researchers and practitioners face barriers when disseminating and implementing evidence.

Traditionally, researchers generate new findings and publish them using channels designed for fellow researchers. Health care providers, health departments, and tobacco control staff then put them into action without communicating with the researchers.[50] As a result, the priorities of researchers have sometimes guided the development of evidence, instead of the needs and interests of practitioners and the communities they work with.

Table 1. *Best Practices 2014* Components and Implementation Gaps

Program Component	Implementation Gaps	Key Messages
State and Community Interventions	• Gaps in smokefree law adoption; exemptions for certain settings • Lack of smokefree law coverage of other commercial tobacco products • Wide variation in commercial tobacco tax rates • Limited adoption of innovative retail interventions	• Effectiveness of adopting smokefree laws • Effectiveness of increasing the price of commercial tobacco products • Effectiveness of retail interventions • Implementation guidance for states and communities
Cessation Interventions	• Disparities in access to commercial tobacco cessation treatment, quitting success • Low levels of provider assistance to quit commercial tobacco • Gaps in insurance coverage of evidence-based cessation treatments	• Effectiveness of evidence-based cessation treatments • Implementation guidance for healthcare providers • Cost-effectiveness information for health insurers
Mass-Reach Health Communication Interventions	• Decreased funding for media campaigns • New and expanding ways that people get information	• Effectiveness of commercial tobacco control media campaigns • Implementation guidance for limited media budgets
Surveillance and Evaluation	• Limited sources of local data • Limited information on emerging commercial tobacco products	• Importance of surveillance information to assess commercial tobacco use patterns and effectiveness of different interventions
Infrastructure, Administration, and Management	• Decreased funding for state commercial tobacco control programs	• Cost-effectiveness of comprehensive tobacco control programs • Return on investment for commercial tobacco control interventions

Source: Adapted from Farrelly et al.[4]

Researcher Barriers

Researchers tend to value the discovery of information, while practitioners value practical ways to use this information. Because they are focused on creating new knowledge, nearly half of researchers (47%) do not have a person or team in their unit dedicated to dissemination.[51] Most devote less than 10% of their time to disseminating their findings.[51]

When researchers do share their findings, they may not always be a good fit for practice. Scientific evidence is published using complex technical language and in journals that can be hard for practitioners to access because of time or resource constraints.[52]

Because interventions are often tested in controlled settings, findings may fail to take into account community needs, program resources, and feasibility. As a result, recommended interventions are often too costly or complex to implement.[50] Findings often include little information on how to integrate them into existing practice or adapt them to the practitioner's environment.[50] Publishing evidence also takes time; by the time findings reach practitioners they may be out of date.[50]

Practitioner Barriers

Public health practitioners often do not have access to sources of research evidence, time to read new findings, or the training to assess the strength of evidence and how well it fits with their setting.[53] For example, a study of The Community Guide, an online collection of evidence-based public health interventions, found that only 30% of local health department staff had heard of the Guide.[54] Awareness was much higher among state program staff (90%), but use of the guidelines to make program changes was still low (35%).[54]

Even when practitioners are equipped to use evidence, other barriers can prevent practitioners from acting on new information.[53] Potential barriers to using evidence may include:

- Funding barriers: Inadequate or unstable funding, lack of funding for training or technical assistance[55]
- Organizational barriers: Lack of leadership support, an organizational culture that does not prioritize evidence-based interventions, or lack of facilities or equipment[56]
- Professional barriers: Practitioners who face competing priorities for their time, feel that continuing existing interventions is easier, or fear the unfamiliar[56]
- External barriers: Political, community, or other pressures outside the organization[56]

Closing the Gap between Research and Practice

Dissemination and implementation (D&I) strategies can help close the gap between research and practice by turning what we *know* into what we *do*. In commercial tobacco control, D&I strategies help achieve goals by sharing information about what works to reduce commercial tobacco use and putting new or improved interventions into practice.[56]

Figure 4 on *page 8* illustrates how dissemination and implementation help move evidence-based interventions through the pipeline of scientific discovery to public health impact.[4] Dissemination strategies "push" information about the evidence-based intervention to

Evidence Skills for Practitioners[57]

The following skills can help practitioners put evidence-based interventions into practice:

- Finding evidence
- Assessing the strength of evidence, how well it fits with their population or setting, and their organization's capacity to implement evidence
- Communicating about evidence to stakeholders
- Adapting evidence to their population or setting
- Implementing evidence with quality
- Sustaining use of evidence-based interventions

the people responsible for implementing interventions, such as local health department staff, health care providers, or employers. Implementation strategies can "push" evidence out. They can also and promote the "pull" of evidence by these practitioners by building capacity to find and use evidence.[58]

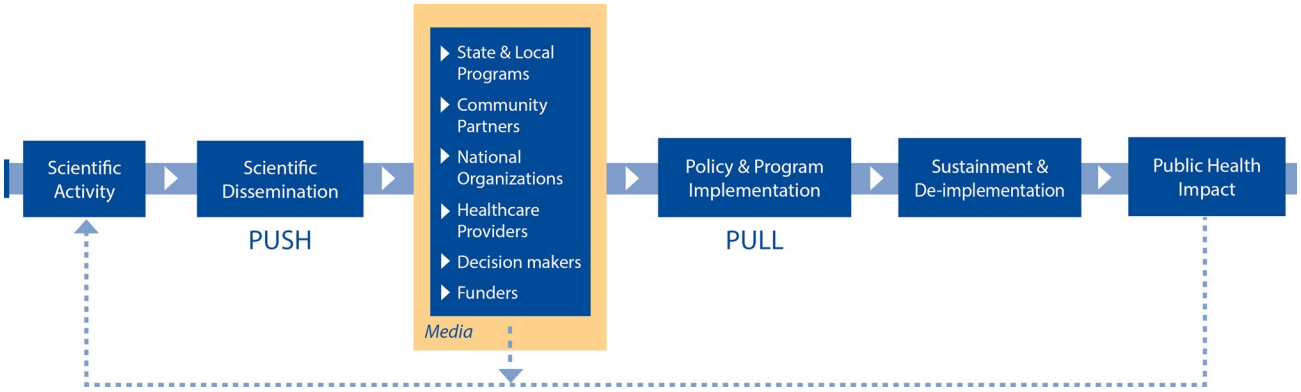
Dissemination spreads evidence-based interventions to the intended audience through planned, systematic communications efforts.[2] The goal of dissemination is to increase awareness and understanding of evidence-based interventions to support their widespread adoption.[59]

Programs are likely already doing some dissemination, such as when they post evidence-based guidance on a website where practitioners, decision makers, and the public can access it. This is called *passive dissemination* because it relies on users to seek out the information.[60] Passive dissemination alone is unlikely to increase use of evidence-based interventions.[2]

Successful dissemination requires the use of *active* approaches to tailor messages for specific audiences and try to reach them through planned strategies, such as delivering hands-on technical assistance, developing user guides, or conducting mass media campaigns.[9,61]

Implementation is the process of putting evidence-based interventions into routine use in specific settings, such as a health clinic, school, or community.[2] Because the people who decide to adopt an intervention (*e.g.*, organization leadership) are often not the same people who carry it out (*e.g.*, program staff, healthcare providers, or community members) implementation strategies are critical to make sure that the implementers actually change their behavior and use the intervention.[2] Programs are likely to use many implementation strategies to put a single evidence-based intervention into use.

Figure 4. Scientific Discovery to Public Health Impact Pipeline



Source: Farrelly et al.[4]

D&I strategies often focus on changing healthcare practices, such as integrating commercial tobacco use treatment into every patient visit. But D&I efforts are also important to improve implementation of population-level interventions, such as implementing comprehensive smokefree laws, raising the price of commercial tobacco products, and reducing the influence of the tobacco industry in retail stores.[62]

Sustainment is the ability to continue an evidence-based intervention and its benefits over time.[31] D&I strategies help support sustainability by spreading awareness of the intervention and its benefits. They also help overcome barriers that might make the intervention difficult to maintain, such as staff turnover and changing community needs. Over time, it may be better to end an intervention than to sustain it, especially as more effective or efficient interventions become available.

De-implementation is the process of ending interventions that have become ineffective, harmful, or unnecessary.[62] De-implementation strategies may be necessary for a smooth process.[63]

Sustaining effective interventions and de-implementing ineffective ones increases the potential to improve the public's health. As stakeholders see the effects of these interventions in their communities, they provide important feedback to researchers, which helps improve future D&I efforts.

What is Implementation Science?

Implementation Science is the study of the factors that lead to effective implementation of evidence-based interventions to improve population health.[64] Implementation scientists study organizational readiness, external and internal conditions that affect implementation, and strategies to put evidence into practice.[2] They seek to understand what does and does not work to implement interventions in the real world.[64] Implementation Science research can help support commercial tobacco control efforts by:

- Providing more and better information about what works to reduce commercial tobacco use[56]
- Testing strategies to put commercial tobacco control interventions into practice[56]
- Reducing the use of interventions that are not evidence-based[64]
- Reducing program costs[64]
- Examining ways to reduce tobacco-related disparities[64]

The free online journals ***Implementation Science***, ***Implementation Science Communications***, and ***Implementation Research and Practice*** publish the latest research on implementing evidence-based interventions in healthcare, organizational, and policy settings. The annual ***Conference on the Science of Dissemination and Implementation in Health*** presents new Implementation Science research, discusses challenges facing the field, and sets upcoming research priorities. Every other year, the ***Society for Implementation Research Collaboration*** hosts a conference open to researchers and practitioners to share knowledge and network.

Getting Started

It is tempting to want to jump right into making changes after learning of a new effective intervention.[65] Taking the time to carefully plan for changes can help ensure success. Programs can get started putting evidence into practice by taking the following actions:

- Planning for dissemination and implementation
- Assessing the evidence
- Understanding external context
- Assessing organizational readiness for change
- Forming a D&I team
- Engaging stakeholders

Planning for Dissemination and Implementation

Building D&I activities into a state commercial tobacco control plan helps programs clarify D&I goals, measure how well an intervention was carried out, and find and overcome potential challenges to putting evidence into practice. Like other commercial tobacco control strategies, D&I efforts have their own goals, activities, budget and timelines.

Setting D&I Goals

Setting goals is important to make sure that D&I efforts have their intended impact. Programs may choose to start with defining just one or two goals for D&I activities. For example, dissemination goals might seek to raise awareness, educate stakeholders, or get input from community members. Implementation goals might seek to test, adapt, or scale up interventions.

Goals are easier to meet when they are realistic and measurable. Using the SMART approach (Specific, Measurable, Achievable, Relevant, Time Bound) sets realistic expectations, identifies necessary activities, and defines success.[66] For example, a program might set a goal to raise awareness of the importance of smokefree homes among community members by increasing website traffic to smokefree homes information by 150% within one year. Learn more about creating SMART goals and objectives in the CDC's ***Evaluation Guide: Writing SMART Objectives***.

Planning D&I Activities

Table 2 on ***page 11*** describes potential activities to disseminate and implement evidence-based interventions. Each section is described in more detail throughout this user guide. Programs may not complete all the activities and may complete them in any order. For example, programs might include dissemination activities before *and* after an evidence-based intervention is implemented. They might first disseminate a toolkit to increase use of the intervention and then disseminate success stories after implementation.

Creating a Budget and Timeline

Budgeting for the added cost of D&I activities is critical to decide if they can be carried out with existing resources or require more support. Dissemination costs might include website hosting, or translation of materials into other languages. Implementation costs might include travel for in-person training or technical assistance. Being as precise as possible when creating the budget is important to have realistic expectations for D&I work.[67] See a complete list of potential D&I costs and ways to save money in ***The D-Cubed Guide: Planning for Effective Dissemination.***

Creating a timeline helps make sure that D&I activities are realistic given other program activities. Useful timelines cover planning, implementing, sustaining, and evaluating D&I activities as well as the expected end date for D&I efforts. They also assign responsibilities.

Reviewing and Revising D&I Activities

Regularly updating D&I activities is important to account for external changes, such as changing budget priorities or new commercial tobacco control laws. Planning who will review and how often can help reviewers set aside time for this important task even as they get busy with other D&I activities.

Table 2. What to Include in the D&I Plan

D&I Activity	What to Include in the D&I Plan	Planning Resources
Assessing Evidence	• Describe the evidence-based intervention that will be disseminated or implemented • Describe the quality of evidence, including effectiveness, feasibility, and adaptability to other settings	• National Collaborating Centre for Methods and Tools' ***Appraise Tools***
Understanding External Context	• Describe the environment where the intervention will be disseminated and implemented, including the cultural, economic, and political climate	• Community Tool Box's ***Developing a Plan for Assessing Local Needs and Resources***
Building Organizational Readiness	• Describe staff and organizational capacity to do D&I activities • Identify program resources that can be dedicated to D&I activities	• National Institutes of Health's ***Organizational Readiness for Implementing Change Assessment***
Forming a D&I Team	• Identify program staff with skills that can support D&I activities • Define D&I team roles and responsibilities	• Patient-Centered Outcomes Research Institute's ***Dissemination and Implementation Framework***
Engaging Stakeholders	• Identify key stakeholders for D&I efforts • Describe stakeholders' goals and roles in D&I	• Patient-Centered Outcomes Research Institute's ***Dissemination and Implementation Toolkit***
Disseminating Evidence-based Interventions	• Identify people who would likely use and benefit from information about the evidence-based intervention • Describe what message will be communicated to the audience and how they will be framed • Identify what products will be created to communicate the message and explain how they will be shared	• The Australian Teaching and Learning Council's ***The D-Cubed Guide: Planning for Effective Dissemination***
Implementing Evidence-based Interventions	• Describe education that will be provided, such as training, TA, or health communications • Describe core components of the intervention and which parts can be adapted • Describe how the intervention will be pilot tested or scaled up • Describe how changes will be monitored and feedback provided during implementation	• AI Hub's ***Training Plan Template*** • CPCRN's ***Putting Public Health Evidence in Action workshop*** • ***ExpandNet*** website
Evaluating D&I	• Describe how data will be collected • Define evaluation measures for D&I activities, including progress toward D&I goals and unintended outcomes • Describe how results will be shared	• RE-AIM's ***Evaluation of RE-AIM Dimensions***
Sustaining Evidence-based Interventions	• Describe how the program will build capacity to continue D&I activities, such as training staff • Define criteria for determining whether to end an intervention	• Center for Public Health Systems Science's ***Program Sustainability Assessment Tool***

Assessing Evidence

Evidence is the supporting information that helps people make decisions about an intervention.[56] Evidence-based interventions usually rely on published research studies for support. But, evidence also includes local experiences, expert consensus, national or international guidelines, and facts about a population or community. Evidence helps show what interventions work, for whom, and whether they are cost effective.[68]

Gathering Evidence

Collecting different types of evidence can help program staff make an educated decision. Evidence can come from formal or informal sources, depending on the type of evidence and the program's needs.

Research evidence comes from peer-reviewed studies that define and test research questions. Research evidence can help decide how much study has been done on an intervention, whether the intervention did what it was designed to do, and whether implementation guidance is available.[69] Because it often appears in peer-reviewed journals, this type of evidence appeals to healthcare administrators and providers who rely on and trust data from experimental studies.[70] Government reports and guidelines often synthesize and organize the strongest available research evidence, making them another good source of research evidence.

Experiential evidence includes the practical experiences of people who have used the intervention. This kind of evidence, which can include stories and anecdotes, can show what approaches worked or did not work in a particular setting and why an evidence-based intervention might appeal to certain groups.[69]

Contextual evidence refers to information about the community that can help programs decide whether an intervention fits well and would be possible in a new setting. It may include information about the setting, population characteristics, and community resources that may affect dissemination and implementation.[69] Examples include information about the community's history, culture, and infrastructure. **Table 3** on ***page 13*** lists where to find different types of evidence.

Assessing the quality of evidence is important because the best available evidence is not necessarily the best possible evidence. Useful evidence:

- Shows that an evidence-based intervention led to its intended results[71]
- Accurately describes the study methods[71]
- Includes implementation guidance[64]
- Identifies study limitations[71]

Table 3. Sources of Evidence

Type of Evidence	Sources	Examples
Research Evidence	• Systematic review databases • Journal databases of peer-reviewed studies • Government reports • Technical assistance resource centers • Internet sites of foundations, private funders, government agencies, and state or national professional and advocacy organizations • Registries of effective interventions • Academic libraries	• ***The Community Guide*** • ***Cochrane Library*** • ***PubMed*** • ***National Academies of Sciences, Engineering, and Medicine*** • ***National Institutes of Health Tobacco Control Monographs*** • ***Surgeon General's Reports*** • ***Best Practices User Guides*** • ***Public Health Law Center*** • ***World Health Organization MPOWER***
Experiential Evidence	• Case studies • Success stories • Community example webinars or presentations • Community word of mouth • Stories from colleagues • Personal communications with researchers and intervention developers	• ***National Tobacco Control Programs in Action*** • ***Tobacco Control Network Resources***
Contextual Evidence	• Community assessments • Local government data • Surveys of community members • Focus groups and interviews with community members	• ***Community Health Needs Assessments*** • ***Health Impact Assessments***

- Comes from a trustworthy source, free from financial and professional conflicts of interest, including involvement with the commercial tobacco industry[71]

A good resource to begin with is a registry of evidence-based interventions, such as *The Community Guide* shown in **Table 4** on ***page 14***. If the research base is weak, experiential and contextual evidence may add useful information. Reviewing evidence from a variety of sources allows programs to see how different kinds of evidence agree and disagree, and how they are related.[56]

Using Evidence to Make Decisions

It is important for both program staff and stakeholders to learn about different types of evidence. When health department staff get access to and training on finding evidence, they are better able to understand evidence and more likely to implement evidence-based interventions.[72] Staff can use the National Collaborating Centre for Methods and Tools' ***Appraise Tools*** to assess the quality of evidence.

Stakeholders may weigh evidence differently than staff when making decisions. Programs can ask stakeholders:

- What types of evidence they find most useful[73]
- What concerns they have about the strength of the evidence[73]
- What else they need to know to use the evidence[73]
- Whether the intervention is compelling enough to act now[73]
- What barriers might exist to using the intervention[73]
- What stakeholders know about commercial tobacco use and what misconceptions they may have[74]

Table 4. Community Guide Recommendations

The Community Guide

The Community Guide is an online registry of evidence-based interventions. Created by the Community Prevention Task Force, *The Community Guide* rates and recommends public health interventions that are effective at prevention. It includes recommendations for over 20 public health topics, including tobacco control. Learn more at ***The Community Guide website***.

Category & Description	Commercial Tobacco Control Interventions
Recommended There is strong or sufficient evidence that the intervention is effective based on the number of studies, how well the studies were carried out, and the strength of the results.	• Internet-based cessation interventions (2019) • Comprehensive tobacco control programs (2014) • Mass-reach health communication interventions (2013) • Increasing the unit price of tobacco products (2012) • Quitline interventions (2012) • Reducing out-of-pocket costs for cessation (2012) • Smokefree policies (2012) • Mobile phone–based cessation interventions (2011) • Incentives and competitions to increase smoking cessation among workers, with additional interventions (2005) • Community mobilization to restrict youth access to tobacco products, with additional interventions (2001)
Insufficient Evidence There is not enough evidence to decide whether the intervention is effective. This does not mean the intervention does not work. Programs that use interventions with insufficient evidence are encouraged to evaluate their efforts.	• Incentives and competitions to increase smoking cessation among workers, when used alone (2005) • Community education about youth access to tobacco (2001) • Laws directed at minors' purchase, possession, or use of tobacco products (2001) • Retailer sales laws and enforcement, when used alone (2001) • Retailer education about restricting youth access, when used alone (2001) • Community education to reduce exposure in the home (2000) • Mass media cessation contests (2000)
Recommended Against There is strong or sufficient evidence that the intervention is harmful or not effective.	

Source: The Community Guide (as of May, 2021)[75]

Understanding External Context

Even if an intervention works well in one setting, it may not work well in others.[76] Outside factors that may affect successful dissemination and implementation are called external context. External context can include:[77]

- Professional influences: Norms, rules, policies, or standards guiding the organizations in which people work (*e.g.*, a health system's commercial tobacco cessation treatment protocol)
- Political support: Level of support or opposition from public officials or special interest groups
- Social climate: Community beliefs, values, and customs (*e.g.*, anti-smoking norms)
- Local infrastructure: Physical or technical resources (*e.g.*, availability of cessation services)

- Legal climate: National, state, or local commercial tobacco control laws
- Relational climate: Relationships with key organizations, networks, and stakeholders
- Population: Characteristics of those affected by the intervention, including their culture, preferences, barriers, and motivations to participate
- Funding and economic climate: Funding availability and health of the national, regional, or local economy

Taking the time to gather information about the external context is important to select evidence-based interventions and plan D&I activities that meet community needs. Assessing external context can also help identify resources and anticipate possible challenges, such as competing stakeholder and funder priorities, community resistance, or poor fit with existing practices.[40]

Routinely monitoring external context may reveal opportunities for efficiencies, such as planning a cessation media campaign at the same time as a new smokefree law.

Responding quickly to unexpected changes can help create a more supportive external context. For example, when a series of smoking-related apartment fires attracted media attention, practitioners used the opportunity to educate landlords on the importance of smokefree housing.[78]

Identifying External Factors

The first step in assessing external context is to identify which external factors are likely to affect implementation.[69] For example, the implementation of a tobacco-free university campus may be affected by student attitudes and behaviors toward commercial tobacco use, where students buy tobacco products, school leadership support, and the physical campus landscape. Available cessation services and resources for educational materials and enforcement are also important factors.[79]

Free online tools, such as the National Collaborating Centre for Methods and Tools' online learning module, ***Applicability and Transferability of Evidence***, can help identify and assess context. The tool uses 21 questions to assess whether an evidence-based intervention can work in a specific setting based on social and political acceptability, available resources, organizational alignment, and population characteristics. Programs can invite stakeholders to discuss and rate the relevance of each question to figure out the most important external factors.

Collecting Contextual Information

Gathering different types of data about external context gives a richer, more comprehensive view of the environment. Community assessments are a good place to start because they combine existing data sources and community input to gather information on local needs and resources.[80] Community assessments also engage the community early on in D&I activities. Learn more about community assessments in Community Tool Box's ***Assessing Community Needs and Resources*** and the Association for Community Health Improvement's ***Community Health Assessment Toolkit***.

Community Health Needs Assessments (CHNAs) are a special type of community assessment which ranks community health priorities. The Patient Protection and Affordable Care Act requires all nonprofit hospitals to complete CHNAs every three years. Programs can use CHNAs to understand the community's other health issues and make the case for prioritizing commercial tobacco use. See the American Lung Association's ***Hospital Community Benefits and Tobacco Cessation Toolkit*** to learn more about hospital CHNAs and how to take part in them.

Online databases (such as census data, school records, hospital data, law enforcement data, and the ***County Health Rankings***) are also good sources of additional information. The CDC's ***State Tobacco Activities Tracking and Evaluation (STATE) System*** includes past and current state-level health data, maps, and fact sheets. The CDC also hosts the ***PLACES project***, which provides local-level data on chronic disease risk and outcomes. Users can compare places, view interactive maps, and download data.

Programs may also have already collected contextual information for other activities, such as completing retail store assessments or public opinion surveys. This information can provide valuable insight into how the community views and uses tobacco products. For a free store assessment tool, see the ***Standardized Tobacco Assessment for Retail Settings (STARS) tool***.

Social network analysis is a tool that can help programs understand the relationships between stakeholders that are important to increase the use of an evidence-based intervention. For step-by-step guidance on using social network analysis with any level of expertise, see Module 1 of Health Equity Works' ***Healthy Schools Toolkit***.

Increasing Organizational Readiness for Change

Evidence-based interventions are more likely to be successfully implemented when the organization making the changes (*e.g.*, the state program, healthcare system, or workplace) is ready for change.[81]

Readiness has three key parts:[81]

- Motivation: how willing staff are to change
- General Capacity: how well the organization works
- Intervention-specific Capacity: how capable the organization is to implement the change

An organization with high readiness for change is often referred to as a "learning organization."[82] These organizations are continuously finding new knowledge and using it to improve their current practices. Shared decision making, clear strategic goals, and the presence of an internal champion also help support change.[83] Although large organizations tend to have more resources and can more easily explore and implement evidence-based interventions, organizations of any size can become learning organizations.[84]

Building readiness often requires altering organizational infrastructure and culture to increase ability and motivation to change.[83] This may include altering:

- Staff perceptions of the need for the evidence-based intervention and its benefits[85]
- Leadership commitment[86]
- Staff D&I skills, such as evidence assessment, communications, and evaluation[86]
- Financial and human resources[85]

- Physical infrastructure, such as the equipment, technology, and physical space needed to implement the intervention[85]
- Partnerships from different sectors, such as local coalitions, businesses, and government[87]

Assessing Organizational Readiness

Around half of all unsuccessful implementation efforts result from organizations overestimating their readiness to begin.[88] Organizational readiness assessments can help practitioners understand their organization's strengths and weaknesses.

Formal assessment methods like surveys and focus groups may be more time consuming and expensive to conduct but can provide more in-depth information. Informal methods include comment cards, brainstorming sessions, and observations. See the National Institutes of Health's ***Organizational Readiness for Implementing Change Assessment*** for an example.

Building Readiness among Leaders and Staff

Cultivating leadership and staff support for evidence-based interventions fosters a climate of readiness. To get leaders on board, staff can educate them on the benefits of using a new evidence-based intervention and how it fits with the organization's values. Leadership can support the use of evidence-based interventions by:

- Accessing information about evidence-based interventions and sharing it widely[89]
- Securing necessary resources and staffing before beginning D&I activities[68]
- Including staff in decision making[89]
- Training staff in skills needed to use the intervention[90]
- Regularly communicating with staff about changes[68]

When individuals are ready to make a change, they are more likely to invest time and effort into the process.[2] Staff who are ready for change are also more persistent when facing challenges that arise.[2]

Some staff may be resistant to implementing new evidence-based interventions. D&I activities to put new interventions into practice are often added to staff's other responsibilities, which may cause concern about increased workload.[91] When asked to change their current practice, they may feel as if their previous work is being devalued. Taking the time to listen to concerns and educate them on the benefits of the new intervention and how it might impact their workload can help reduce resistance to change.[83]

Forming a D&I Team

Dedicated teams are important for successful D&I efforts.[92] Team members commit their time, skills, and resources to bring evidence into practice. Having a team, instead of relying on one or two people, prevents individual turnover from slowing progress.[93] It is important for each member of the team to fulfill at least one role, though many tasks require more than one team member.

Selecting Team Members

Effective teams are multi-disciplinary. Together, team members have complementary experience and the

D&I Team Roles[94]

D&I teams typically include enough members to fill the following roles:

- Leadership: Set goals, secure D&I resources, increase staff buy-in and organizational readiness
- Organization and Coordination: Develop the budget and timeline, host team meetings
- Dissemination: Select evidence to disseminate, create messages and products
- Implementation: Communicate with local programs and communities, provide training and technical assistance to implementers
- Evaluation: Select evaluation measures, collect data, share findings with team

necessary knowledge, skills, abilities, and time to conduct successful D&I.[93] Program staff who can serve on the team include those with experience in health promotion, evaluation and statistics, or program management. People with communications expertise who can translate evidence into messages are also beneficial team members. Programs without specialists in these areas may want to bring on external partners to fill these roles. In general, qualified team members:

- Clearly communicate with stakeholders[95]
- Know how to find resources and generate support[96]
- Understand the evidence[95]
- Have knowledge of the community and credibility with program partners[96]

The team works best when it includes members who can commit adequate time to their role and are available for a longer-term commitment, since D&I is an ongoing process.[68] The size and makeup of the D&I team depends on the needs and resources of the program. The implementation process alone ideally includes at least 3 to 5 people.[93] For example, teams focused on increasing cessation interventions in health systems may include tobacco treatment specialists, patient data analysts, and medical directors. Teams focused on preventing youth commercial tobacco use may include health and school psychologists, school administrators, parents, and pediatricians.

A unique type of D&I team is the Practice-Based Research Network. These networks are designed to bring together researchers and practitioners from diverse fields to leverage different skills to achieve a common goal.[97] They are commonly found in healthcare settings.

Engaging Stakeholders

Stakeholders include many different people with an interest in the intervention, including those who may:[56]

- Use a new evidence-based intervention (*e.g.*, healthcare providers)
- Be affected by its use (*e.g.*, people who use commercial tobacco)
- Care about the results (*e.g.*, community leaders or funders)

Because stakeholders understand their local community, their input is especially important to make sure that the evidence-based intervention fits with community needs, interests, and resources. Stakeholders may oppose or support D&I efforts to increase use of the intervention.[56] Those who oppose it still provide an important perspective.

Stakeholders can be involved in all D&I activities. They can assess whether interventions, dissemination products, and implementation strategies will be acceptable to the local community. Learning about stakeholders' concerns prevents roadblocks later in the process.[73] Stakeholders can also help choose evaluation questions and brainstorm ways to sustain D&I efforts. Stakeholder involvement can vary from active involvement to an advising role, depending on their availability and skill sets.[98]

Identifying Stakeholders

Stakeholders who are already involved with the state program can be helpful in carrying out D&I efforts.

Guiding Questions to Identify Stakeholders[99]

- What need does the intervention address and for whom?
- Who will use the intervention?
- Who would carry out the intervention?
- Who has influence and resources that can support D&I activities?
- Who will support use of the intervention? Who will oppose it?
- What can each of these individuals contribute to the process?
- Are diverse populations represented among the stakeholders?
- Who was not involved in the past but should have been?

Programs may also want to consider new stakeholders with experience using, disseminating, or implementing a specific intervention.

Finding out who has taken part in similar initiatives or are working toward similar goals, such as those interested in health systems change or creating environments free of commercial tobacco, is a good place to start. Program staff can also ask existing stakeholders for recommendations from their social and professional networks. Ideal stakeholders are enthusiastic, trusted by the community, and have resources and skills to support D&I activities.[2,94]

Involving too many stakeholders can lead to unrealistic expectations and make it difficult to make decisions.[99] Including too few stakeholders, however, may leave out valuable perspectives and resources.[99] The following questions can help decide if additional stakeholders would be helpful for D&I efforts:[100]

- Is more support needed to increase use of the evidence-based intervention?
- Are those who will benefit from the intervention participating?
- Is there representation from many different community groups?

Planning for Stakeholder Engagement

Well-planned efforts to engage stakeholders foster trust and successful partnerships. Too little communication or direction can lead to frustration. Defining when and how stakeholders will be involved before reaching out creates strong relationships by managing expectations.

Early stakeholder engagement is essential for successful D&I. Thinking about stakeholder availability and how they like to communicate helps engage them in meetings and other activities. Reaching different stakeholders may require different communications channels. For example, program staff may attend meetings of stakeholder organizations to share updates and encourage participation. Other stakeholders may depend more heavily on email and electronic communication. Meeting regularly with stakeholders creates opportunities to share success stories, offer encouragement, and discuss challenges. Learn more about working together effectively in the CDC resource, ***Best Practices User Guide: Partnerships in Tobacco Prevention and Control***.

When involving stakeholders, there is potential for conflicting opinions and power imbalances.[101] Different communication styles, competing interests, and assumptions about roles can all lead to conflict.[101-103] For example, stakeholders may have different commitments to fulfill the same goal, such as working with specific community groups or developing specific community practices. These responsibilities may cause conflict when stakeholders push to achieve them above others because they are required to fulfill them due to their funding or other requirements. Learn more about potential challenges to stakeholder engagement and ways to overcome them in the Australian Government Department of Health's ***Stakeholder Engagement Framework***.

Disseminating Evidence-Based Interventions

Dissemination uses planned strategies to widely share information about evidence-based interventions with the people who will put it into practice.[2] Dissemination may occur at several different points in the D&I process. Early on, program managers may host a training with healthcare providers to increase use of an evidence-based intervention. Later, they may publish success stories or post about outcomes on social media to raise awareness among community members. The activities will look different depending on the audience and goals, but the process typically follows four steps:

- Identifying the audience
- Developing messages
- Creating products
- Selecting dissemination strategies

Identifying the Audience

Audiences are the people who want or need information about an evidence-based intervention.[104] The stakeholders identified on ***page 18*** are all potential dissemination audiences. For example, the audience may be the local agency leading implementation or community organizations providing resources and support. Funders, decision makers, and community members that will be affected by the intervention can also be important audiences.

Segmenting the Audience

Audiences are most useful when they are defined as specifically as possible.[32] Breaking the audience down into smaller groups based on similar characteristics, or segmenting, narrows the scope of information that needs to be collected and allows for more tailored dissemination.[2] Audiences can be segmented by size and type of organization, location, or population served. Ideal segments are relevant to dissemination goals, have clear dissemination channels, and do not overlap with each other.[105] For example, programs may focus on reaching landlords with smokefree multi-unit housing information and tribal health clinics with interventions to integrate commercial tobacco treatment into routine care.

Audiences can also be classified into two categories: primary and secondary. The primary audience is the people who have the authority or role to make changes based on the evidence.[67] The secondary audience includes people who can influence the primary audience's decisions or who are affected by the intervention.[67] For example, when implementing a new smokefree housing law, landlords would be a primary audience. Renters and the chamber of commerce could be secondary audiences.

Learning about the Audience

Information about the audience's beliefs and values helps design effective messages and products. Understanding how the audience likes to receive information may help control costs by concentrating resources on fewer communications channels.

Audience research can help programs answer the following questions:[2]

- What does the audience want to accomplish?
- How would information about an evidence-based intervention be helpful?
- How would the audience use the information?
- Does the intervention fit with the audience's current practices?
- What concerns might the audience have about the intervention?

To answer many of the questions about how the audience will use an intervention, programs may need to talk to audience members directly. Helpful methods include focus groups, interviews, and surveys. These can give insight into the audience's priorities, attitudes, lifestyles, perceptions of commercial tobacco control, and skills needed to implement the intervention. Forming partnerships with community groups and trusted sources to collect this information, such as a local university or faith-based organization, can save money and time.[32]

A CLOSER LOOK: Disseminating Evidence-Based Interventions to Tribal Communities

It is important that messages to tribal communities respect traditional ways of communicating and recognize past exploitation by non-Native researchers.[106] Incorporating tribal traditions such as storytelling and including tribal phrases alongside statistics can help evidence-based information resonate with tribal members.[107] Programs can take the following steps to disseminate evidence-based interventions in tribal communities:

- **Center Native voices**
  Tribes vary in geographic location, governmental structure, language, culture, and tobacco use. Programs can focus on engaging their tribal partners and learning about community needs to tailor and disseminate messages.[30] Offering opportunities for community members to ask questions and talk about the evidence helps increase support and understanding of messages.[108]
- **Respect ceremonial tobacco**
  Many tribes use traditional tobacco, which may include the tobacco plant *Nicotiana* as well as mixtures of other native plants, for sacred or medicinal purposes.[109] It is important that messages focus on the use of commercial tobacco and respect ceremonial tobacco use. Learn more about traditional tobacco use on the National Native Network's website, ***Keep It Sacred***.
- **Know tribal communications channels**
  Reservations are often located in rural areas, which can make dissemination efforts challenging.[110] Recommended strategies for outreach to tribal communities include community newsletters, websites, and social media, particularly Facebook and Twitter.[111]
- **Build trust**
  Because of past exploitation, tribal communities may distrust non-Native services.[107] Community review of all products and tribal ownership of any data collected honors tribal sovereignty and can help build trust between the tribe and state program.[112] Partnering with messengers from the community, such as tribal pharmacists or elders, and disseminating information in trusted spaces, like community centers or clinics, give messages more credibility.[107,111]

Digital banner ad from Keep Tobacco Sacred's quit-smoking campaign Source: ClearWay Minnesota

For some audiences, demographic and health behavior information can also be found in databases such as the ***Behavioral Risk Factor Surveillance System*** or the ***U.S. Census Bureau***. Community assessments conducted by state and local health departments may also provide this information. These sources may require assistance in finding specific information. Information about media preferences, such as TV or radio usage, may be available for a fee from marketing firms. Paying the fee to access this information is often more cost-effective than programs collecting the data themselves.[113] Learn more about audience research in CDC's ***Best Practices User Guide: Health Communications in Tobacco Prevention and Control***.

Ad sharing new evidence about the dangers of secondhand smoke Source: North Carolina Department of Health and Human Services

Developing Dissemination Messages

Dissemination messages typically explain how the intervention works, why it is important or useful, what results can be expected, and what actions the practitioner can take.[114]

Messages may be shared in many kinds of dissemination products, such as toolkits, fact sheets, or social media posts. Focusing on three to five key messages keeps products brief and to the point.[67] Using a clear message structure, framing messages to match audience interests, and using familiar language helps audiences understand and accept information.

Structuring Messages

Memorable messages use a clear structure with three key parts:[32]

- An introduction with the most important information
  Clear, concise messages state the most important information first: the problem, the solution, and what the evidence means for practitioners. Audiences have limited time to spend interpreting research results.
- Credible supporting statements that evoke shared values
  Credible supporting statements back up claims of evidence effectiveness and match audience values, prompting the reader to reflect on their beliefs or actions and encourage behavior change.[115] Stories can create an emotional connection to the evidence, which may increase adoption.[83]
- A conclusion with a call to action
  A call to action encourages the audience to use the intervention. It is strongest when it presents steps the audience can take now.

Making Messages Relevant

Framing messages to match what the audience cares about can affect how they perceive the message and drive them to act.[116] Effective messages match the audience's knowledge, skill level, and interests.[60,67]

Putting the evidence into the local context makes it more relevant to the audience.[117] Local implementers may want information about feasibility and how to overcome potential challenges. Including materials and tools developed by local practitioners is especially helpful for this audience.[62] Decision makers may care about other information, such as costs and how widely the intervention can be used. Telling a story of a single

person who could benefit from the intervention can also help decision makers empathize with the individual and garner their support.[118] Community members are likely to care most about the evidence's impact on the people in the community and their quality of life.[119]

It is also important to avoid messages that:

- Blame individuals for commercial tobacco use[120]
- Include images of commercial tobacco use[121]
- Repeat the tobacco industry's messages[121]

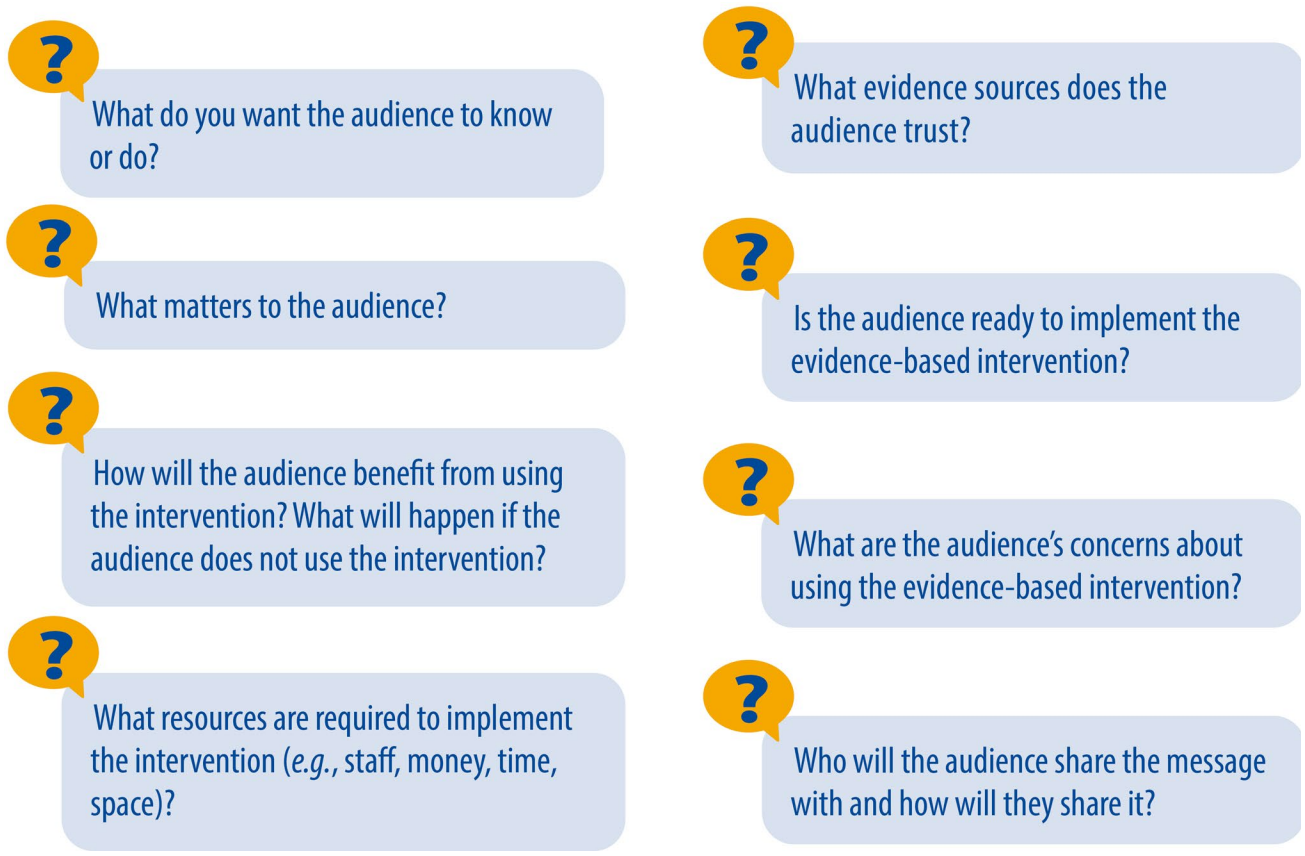
Programs can also consider how other public health issues (*e.g.*, substance use) and populations (*e.g.*, persons with disabilities) are portrayed in commercial tobacco control messages. **Figure 5** on ***page 23*** describes eight questions to guide message framing. See **Table 6** on ***page 32*** for messages for specific audience groups.

Writing Clear Messages

Easy-to-understand messages increase the likelihood that the audience will understand and act on the message.[122] Guidelines for writing readable messages include:

- Use familiar, everyday words with one or two syllables[123]
- Include definitions for technical and mathematical terms, such as "risk" or "range"[123]
- Limit abbreviations[123]
- Write in the active voice in present tense[124]
- Keep sentences short, 20 words or less[124]
- Keep paragraphs short, about three to eight sentences[124]
- Highlight key points[125]

Figure 5. Questions to Guide Message Framing



Source: Adapted from du Toit[126]

Testing messages with audiences can guide development and make sure they are clearly communicating the intended information.

Creating Dissemination Products

Dissemination messages are shared with audiences in many formats such as toolkits, journal articles, and reports. These products are designed to raise awareness of an intervention among the intended audience, enhance understanding, and encourage action. Practitioners have limited time and resources to find and review evidence, so effective dissemination products make it easy for them to access and use information.

Table 5 on *page 26* describes the products that programs typically use to share information about evidence-based interventions. Many can be disseminated in both print and online formats. Online materials allow users to navigate to content they are most interested in, personalizing their experience.[127]

Selecting Product Type

Choosing the right type of product helps practitioners see and act on the information. For instance, because decision makers receive large amounts of information, products that summarize evidence into shorter messages with graphics are often most effective with this group.[128] Local grantees and partners who will be making the changes may prefer more detailed how-to information in a guide or toolkit.

The right product may also vary based on the goals of D&I activities. Online announcements, news stories, and social media posts are good for raising awareness. Webinars and online trainings can support implementation by allowing peers to share lessons learned and ask questions.

A 2019 survey found that state program staff and partners preferred fact sheets and infographics to learn about new commercial tobacco control information, as depicted in **Figure 6**.[129] Policy briefs, one-page research briefs, and online toolkits were also popular. Reports and journal articles were least popular**.** Learn how to create an effective fact sheet in **Figure 7** on *page 25*.

Designing User-Friendly Products

Dissemination products work best when they are easy for the audience to use. User-friendly products are evidence-based, actionable, modular, understandable, accessible.[130]

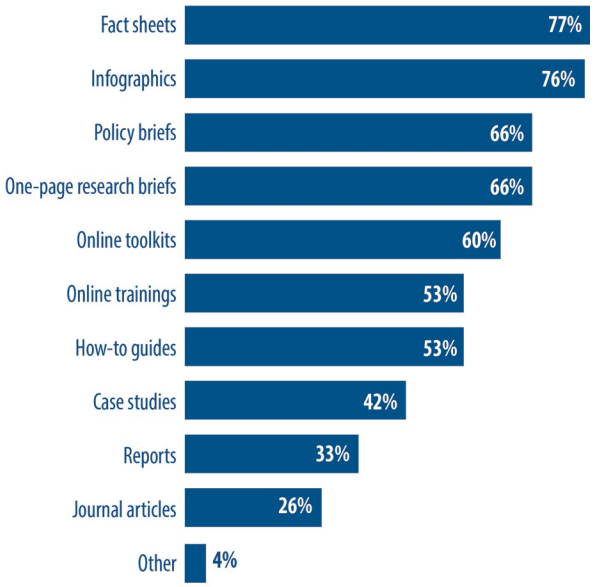
EVIDENCE-INFORMED SOURCE

Dissemination products about evidence-based interventions synthesize scientific findings into understandable information for a wide audience. They share the best available research evidence alongside practical experiences, addressing gaps in implementation guidance. They may be reviewed by topic experts or users before being shared.

ACTIONABLE INFORMATION

Effective dissemination products make it easy for the audience to plan and implement evidence-based interventions. Step-by-step guidance helps users imagine themselves taking action, increasing the likelihood they will implement recommendations.[122] Linking to additional resources and giving users the flexibility to choose from multiple strategies can also help facilitate action.[131] Including a clear call to action in a message is important to motivate the audience to act.

Figure 6. How Tobacco Control Practitioners Like to Receive Information



Source: Andersen et al.[129]

Figure 7. Anatomy of a Fact Sheet

NOVEMBER 2020

FACT SHEET

Putting Evidence into Practice

ORGANIZATION NAME

Two or three introductory sentences give the user an overview of the problem and why they should care about it. Putting this text in a larger font gets the user's attention and encourages them to learn more.[1]

HEADING 1

Subheadings help the user follow along

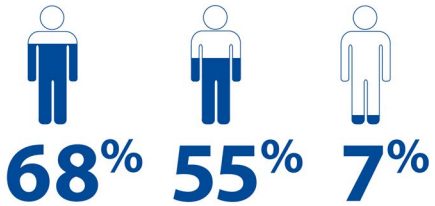
Fact sheets briefly describe evidence, summarize results, and provide action steps for the user. Messages written in familiar language and short sentences are easiest for user to understand.[1]

- A clear, concise title interests the audience and can be more easily found through an internet search.
- Headings divide the content into major sections or topics.[1]
- Statistics and numbers (like **47%** of participants and **6,427** people) support the claims made by the evidence. Highlighting these numbers helps draw the user's attention.[1]
- Bullet points break down the overall message into concise statements that are easy for the user to digest.[1]
- Logos and coordinating colors inform the user of who created the fact sheet.

HEADING 2

Subheadings also help break up the text and indicate what comes next

Graphics (like pictures, icons, graphs, and tables) support the text and make fact sheets more engaging.[2] Avoiding smoking imagery is important to minimize smoking cues.[3]



References show users where the original information is from, adding credibility to the statements and directing them if they would like to learn more from original sources.

It is important to include links to the program's website with more information and resources to take action, when applicable.[4]

1. Community Alliance for Research and Engagement. Beyond scientific publication: strategies for disseminating research findings.
2. Centers for Disease Control and Prevention. Impact and value: telling your program's story. https://www.cdc.gov/oralHealth/publications/library/pdf/success_story_workbook.pdf. Published 2007. Accessed September 25, 2018.
3. Kang Y, Cappella J, Strasser A, Lerman C. The effect of smoking cues in antismoking advertisements on smoking urge and psychophysiological reactions. Nicotine & Tobacco Research. 2009;11(3):254-261.
4. Leeman J, Myers A, Ribisl K, Ammerman A. Disseminating policy and environmental change interventions: insights from obesity prevention and tobacco control. International Journal of Behavioral Medicine. 2015;22(3):301-311

For more information, visit **www.organizationname.com**

Table 5. Dissemination Products

Product	Features	Types	Example Products
Audio & Video Tools 	• Complement other products • Can be free and downloadable for audiences	• Podcasts • Videos	• ***Tobacco Free Florida's "The Reasons" video series*** • ***The NACCHO Podcast Series***
Case Studies 	• Describe real-world efforts to put evidence into practice • Focus on people, places, and organizations that have had success with the new intervention	• In-depth case studies • Short success stories	• ***CDC's National Tobacco Control Programs in Action***
Fact Sheets 	• Provide concise (1- or 2-page) summary of data • Emphasize key points with bullets, tables, headings	• Fact sheets • Stand-alone infographics	• ***Virginia's Adult Tobacco Survey Snapshot***
Issue Briefs 	• Provide concise summary of an issue, along with interventions to address it • Often contain visuals like photographs, graphs, and tables	• Policy briefs • Topic summaries	• ***Minnesota's Tobacco Use and Asthma brief*** • ***Indiana's Youth Exposure to Secondhand Smoke brief***
News & Announcements 	• Reach broad audience • Quickly share timely information about research findings, events, or other newsworthy items	• Press releases • Press conferences • Website news stories • Media toolkit	• ***California Department of Public Health News and Press Releases***
Paid Media Products 	• Reach specific audiences at certain times to educate audiences about new evidence • Direct audience to do something or learn more with a call to action	• TV and radio ads • Posters • Digital ads • Billboard, and transit ads	• ***New York State's Talk to Your Patients Campaign***
Presentations 	• Educate and build support among stakeholders • Allow practitioners to ask questions and interact	• Presentations at community meetings • Webinars and online trainings	• ***South Dakota's Tobacco Prevention and Control Program Webinars***

Table 5. Dissemination Products (cont.)

Product	Features	Types	Example Products
Reports 	• Give in-depth evidence underlying an intervention • Share outcomes with stakeholders	• Evaluation reports • Progress reports • Community assessments	• ***Mississippi's Office of Tobacco Control Executive Report 2018*** • ***Oregon's Tobacco 21 Law: Impact Evaluation***
Research Summaries 	• Summarize key findings about an evidence-based intervention • Contain focused, succinct messages with citations to underlying research	• Short brief on a research article • Brief summary of current evidence on a topic	• ***Center for Public Health Systems Science's Research Brief*** • ***CDC Evidence Brief: Tobacco Industry Sponsored Programs in Schools***
Scientific Articles 	• Written by subject expert and reviewed by peers • Describe findings from a specific study or set of studies	• Journal articles • Systematic reviews	• ***Cowling et al., Assessing the relationship between ad volume and awareness of a tobacco education media campaign***
Social Media Posts 	• Accessible on convenient platforms for audience • Allow users to disseminate information by sharing, liking, or commenting	• Tweets • Facebook posts • Instagram posts • YouTube videos	• ***Utah's Way to Quit Facebook page***
Guides & Toolkits 	• Contain tools, guidance, and other resources for implementing an evidence-based intervention • Include links to more resources	• User guides • Training manuals • Online toolkits	• ***Surgeon General's Report Consumer Guide*** • ***California's Provider Toolkit: Special Services for Special People***
Interactive Tools 	• Give step-by-step instructions • Allow users to choose data and explore specific information	• Data dashboards • Interactive maps • Flow charts	• ***Florida's interactive tobacco maps***
Web Pages 	• Can be updated quickly • Allows users to interact with information • Includes links to more resources	• Program website • Topic-based web pages	• ***California Tobacco Control Program's website***

MODULAR STRUCTURE

Modular products organize and break down content into sections. Breaking down longer documents into sections and using elements such as headings, a table of contents, and bullet points captures users' attention and helps them follow and process text more easily.[132] Using these organizing tools makes it easier for users to quickly locate and share the information they need, especially when multiple products follow the same structure.[62]

UNDERSTANDABLE DELIVERY

Understandable products combine plain language text and graphics to convey meaning.[26,125] Text is written simply, using short sentences and everyday words and grammar. Products may include photographs, maps, tables, or infographics to give the user a rest and highlight key information. Understandable products also include adequate white space (*i.e.*, space without any graphics or text).[125]

ACCESSIBLE FORMAT

Accessible products can be used by people with a wide range of abilities. They include alternative text descriptions and a navigable structure with designated styles and headings so they can be used by assistive devices such as screen readers. Accessible features such as high background contrast, serif typeface, and adequate font size can enhance comprehension and increase the user's likelihood of taking recommended actions.[122,132]

Selecting Dissemination Strategies

Dissemination products can only be effective if they reach their intended audience.[67] Dissemination strategies are planned methods to incorporate messages into a product and deliver it via a specific channel, as shown in **Figure 8** on ***page 30***. Channels are the communication paths used to get messages and products to the right audience. Active strategies encourage higher levels of audience engagement.[133] For example, interacting with the audience through a webinar on how to implement a new evidence-based intervention may be more successful than simply sharing information on a website.

Smokefree Housing Toolkit for property owners and managers Source: District of Columbia Smokefree Housing

A CLOSER LOOK: Creating Accessible Documents

Approximately 12 million people in the U.S. have visual disabilities or blindness.[134] Many others have hearing, speech, physical, cognitive, or neurological disabilities. In 1998, Congress amended ***Section 508*** of the Rehabilitation Act of 1978 to require that all electronic content (*e.g.,* web pages, presentation slides, and PDF documents) produced by federal agencies be accessible to people with disabilities. For example, 508-compliant documents must be readable by screen readers (software programs that visually impaired people use to read text displayed on a screen with a speech synthesizer or braille display).[135]

While organizations that do not receive federal funds are not required to meet Section 508 requirements, more and more organizations are incorporating the principles of "designing for accessibility" to extend the reach and usefulness of their communications. Programs can take the following steps to create electronic documents that can be understood by most people include:

- Choosing accessible colors. People with color vision deficiency (sometimes called color blindness) often have trouble distinguishing between certain shades of color. Tools such as ***Coblis*** can help in choosing a color palette that avoids problematic color combinations.
- Ensuring strong color contrast. High color contrast between foreground and background elements on electronic documents will help users with low vision recognize text and images. Use the ***WebAIM Contrast Checker*** to check for adequate contrast between any two colors.
- Using more than just color to convey meaning. For users who cannot perceive color or who are using a screen reader, it is important to convey information in text or graphics in multiple ways (*e.g.,* color plus boldface type, color plus size, or color plus patterns or shapes).
- Including alt text for graphics. People with visual disabilities may have difficulty viewing photos, illustrations, or other types of images. It is important to include alternative (or "alt") descriptive text or captions for each image. Screen readers read the captions aloud so users with visual disabilities do not miss important visual information.
- Creating a navigable structure. Whether creating documents or web pages, using designated styles and headings will help screen readers decide the right reading order for content elements and whether a particular section is a title, heading, subheading, or body text.
- Embedding hyperlinks. It is a best practice to embed hyperlinks in the text rather than pasting the full text of URLs into documents. Hyperlink display text should be clear, concise, and meaningful out of context. Just as sighted users can visually scan the page for links, people using screen readers can pull up a list of all the links with a touch of a button.
- Giving alternatives for audio and video content. When including multimedia content in documents or website sites, always provide closed captions or transcripts for users with hearing loss.
- Designing tables with a clear and logical flow. Tables are a great way to organize data and information, but they can be confusing when read by a screen reader. It is important to keep tables as simple and logical as possible, using clear and designated column headings, avoiding merged or split cells, and designing tables to be read from left to right and top to bottom.

Visit the ***Web Accessibility Initiative website*** for more information on designing for accessibility.

Dissemination is most effective when it includes multiple strategies. One study found that partners who received information from state programs through three separate channels (reports, website, and workshop) were more likely to share information with colleagues; 84% versus 52% of those that received the information in only one way.[136]

Reviewing Audience Preferences

The most effective dissemination channels are those that audience members already trust and use.[32] A survey of state program staff and partners found that most prefer to learn about new resources via email, webinars, or in-person trainings.[129] Academic conferences, social media, and direct mail were the least popular ways to receive information.

Social media can be a helpful tool to share messages with the community. But program staff may face unique challenges when trying to use social media platforms. Organizational barriers such as blocked social media sites, strict privacy policies, complex approval processes, and technology limitations have prevented health department staff from using social media in their professional roles.[137] Social media will be an important channel to watch as public health use of digital channels continues to evolve.

It is also important to select strategies that can reach audience members when they are most attentive.[32] For example, audiences may be more likely to check their email during working hours and social media after work. To find out what channels audience members use most and when, programs can talk with audience members, and review past efforts to reach the audience.

Figure 8. Components of a Dissemination Strategy

Weighing the Pros and Cons

Countering the powerful influence of the tobacco industry requires constant and evolving dissemination efforts.[138] Because budgets for dissemination are almost always limited, it is important for programs to think critically about what is reasonable given their time, skills, and resources.

Many low-cost, effective strategies can help programs with small budgets reach audiences. Web-based strategies, such as websites and social media, are relatively inexpensive and allow audiences to

access updated information at their convenience. Adding website features like interactive data tools, infographics, separate pages for different audiences, links to social media pages, and compatibility for mobile devices can make websites even more useful for audiences.[32]

Virtual Dissemination Strategies

Virtual dissemination strategies like online trainings and webinars inform audiences about evidence-based interventions, share success stories, and encourage discussion that can lead to action. Virtual strategies are most effective when they are:

- Short: Shorter webinars and trainings limit distractions. It is helpful to keep online trainings to no more than four hours and include frequent breaks. Webinars are generally one hour, with 15 minutes allotted for introductions and questions.
- Convenient: It is helpful to schedule webinars and virtual trainings with your audience in mind, choosing a time appropriate for their schedule and time zones.
- Limited to a small group: For complex trainings, limiting the number of participants allows time for everyone to ask questions and contribute.
- Interactive: Opportunities to participate keep people interested and engaged. Interactive features can include live polls and quizzes, breakout rooms for small discussion groups, and opportunities to ask questions and get answers in real time. Some platforms also allow non-verbal ways to engage, such as selecting a "thumbs up" or "raise hand" option.
- Co-presented: Including multiple presenters adds more perspectives and expertise. Co-presenters can also help take notes or troubleshoot as problems arise. However, having multiple presenters limits each individual presenters time to share and answer questions.

Available on demand: Programs can record and share their webinars to make sure they can be viewed again. Recordings can be sent out through follow-up emails or posted online with clear instructions about who to contact with questions.

However, with the increase of web-based materials now available, there is a high level of competition for users' online attention. Some users may have difficulty searching for and finding evidence-based health information online.[139] Programs will also have to consider how to drive the audience to the information, which may require additional resources.

Some dissemination strategies, such as trainings, can be very effective at encouraging action but take time to prepare.[53] They also require more of the audience's time to attend, which may not be possible given other professional duties.[53] Making these kinds of trainings free or offering continuing education credits can help encourage attendance.

For more examples of strategies effective for audience groups, see **Table 6** below. For more pros and cons of dissemination strategies, see the CDC resource, ***Best Practices User Guide: Health Communications in Tobacco Prevention and Control***.

Table 6. Message Content, Products, and Channels to Reach Specific Audience Groups

Audience	Message Content	Product	Channel
Businesses and Retailers	• Expected economic impact of intervention • Community support • Clear recommendations and action steps	• Webinars • Trainings • Fact sheets	• Internet • Direct mail • Community forums
Community Members	• Success stories • Expected health impact of intervention	• Flyers • Press releases • Social media posts	• News media coverage • Social media platforms
Community Organizations	• Clear recommendations and action steps • Cost information • Lessons learned • Relevance to their priorities	• Toolkits • Websites • Social media posts	• Internet • Social media platforms
Decision Makers	• Stories to accompany data • Relevance to their priorities • Cost-effectiveness • Local impact	• Research briefs • Infographics • Press releases • Press conferences	• News media coverage • Personal contact
Healthcare Providers	• Up-to-date health data • Potential for improving quality of care • Cost-effectiveness • Successes from other health systems • Relevance to health system quality improvement initiatives	• E-newsletters • Scientific articles • Trainings • Website	• Health system intranet • Communications from professional associations
Public Health Program Staff and Managers	• Guidance for intervention design • Implementation steps • Effectiveness of the intervention • Cost-effectiveness • Lessons learned • Other organizations using the intervention	• Webinars • Trainings • Research briefs • Toolkits • Website	• Email • Internet • Communications from professional associations

Implementing Evidence-Based Interventions

Implementation is the process of putting an evidence-based intervention into practice. Much of a program manager's job is guiding and supporting implementation of evidence-based interventions in communities. But simply communicating information about evidence-based interventions is often not enough to change well-established practices. Implementation strategies are ways to increase the likelihood that implementation will be successful.

Dozens of different implementation strategies exist, ranging from simple actions to complex, multi-part strategies.[64,140,141] **Figure 9** shows examples of strategies to implement evidence-based clinical or public health interventions. Programs will likely not use all the strategies, but in most cases, more than one strategy will be used.

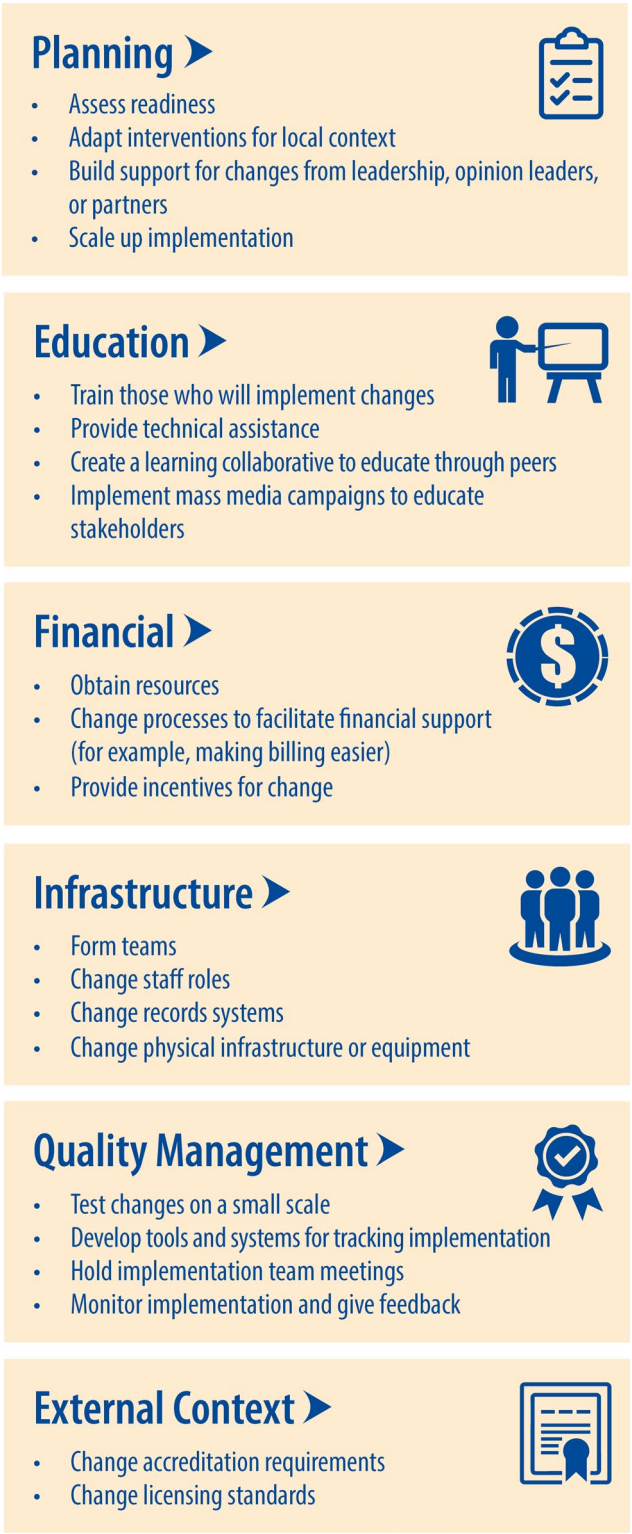
Strategies may also change as implementation progresses and new challenges arise. For a full list of implementation strategies, see the ***Implementation Science article*** by Powell et al.

Choosing Implementation Strategies

Selecting the right implementation strategies starts with understanding the challenges that might make implementation more difficult. Matching implementation strategies to these challenges can increase the likelihood of success. For example, if staff lack the skills to implement changes, they may need extra training or technical assistance. Examples of common challenges programs may face and strategies to address them are shown in **Figure 10** on ***page 34***.

A ***SWOT Analysis*** (Strengths, Weaknesses, Opportunities, Threats) can also help assess potential challenges and resources available to support implementation. Program staff can also talk to people who will make the changes and to members of the

Figure 9. Implementation Strategies



Adapted from Powell et al. [142]

population.[143] They can offer valuable insight into potential challenges and strategies to overcome them.

The sections that follow describe in more detail four of the most common implementation strategies:

- Providing training and technical assistance to those who will implement the intervention (*e.g.*, training youth on conducting retail store assessments)[144]
- Adapting an intervention to a different population or setting (*e.g.*, adapting a smokefree home intervention for tribal communities)[145]
- Pilot testing an intervention on a small scale to assess feasibility and address challenges (*e.g.*, testing and revising a new protocol to screen and treat patients for commercial tobacco use)
- Scaling up a successful pilot test to a larger population or setting (*e.g.*, expanding successful health systems changes to a larger healthcare system)

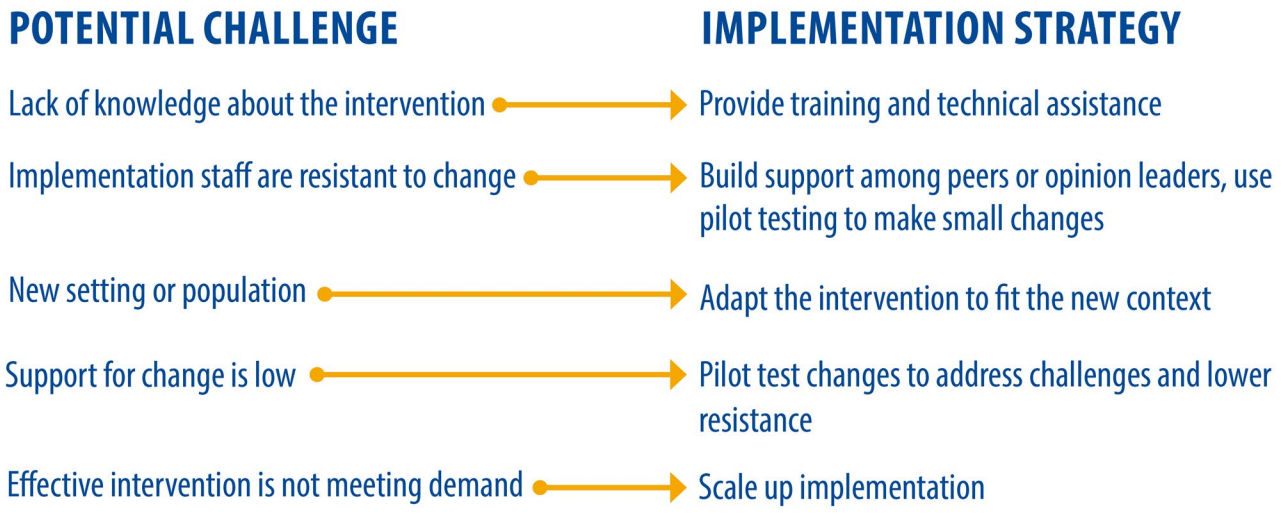
Questions to Select Implementation Strategies[76]

The following questions can help program staff and stakeholders choose implementation strategies:

- Why do stakeholders want to implement the evidence-based practice? How will it benefit them?
- What barriers might prevent them from implementing the practice?
- Which strategies could help overcome these barriers?

What combination of strategies is most likely to help them sustain the changes?

Figure 10. Matching Challenges and Implementation Strategies



Adapted from National Cancer Institute;[64] Patient-Centered Outcomes Research Institute;[73] Brach et al.[85]

Providing Training and Technical Assistance

Successful implementation relies on clearly communicating an evidence-based intervention's core components—the ingredients that are essential to produce the desired results—to those who will use it.[146] One way to do this is through training and technical assistance.[56,146]

Training teaches users the core skills to implement an evidence-based intervention. Technical assistance (TA) builds on training and can include hands-on coaching, onboarding new staff, and providing ongoing support such as retraining and skill building.[147] For example, Wisconsin developed a TA program in which outreach specialists gave presentations and created resources to teach healthcare providers to integrate commercial tobacco use treatment into routine patient visits.[148]

Training and TA together lead to better implementation outcomes than training alone.[146] By helping practitioners master and apply their skills, TA can improve the quality with which they deliver evidence-based interventions.[147] One study estimated that learners use only 5% of skills taught through training but 95% of skills learned from ongoing coaching.[149]

Effective training and TA is delivered by skilled experts who have thorough knowledge about the intervention.[150] Some skilled program staff may be able to provide training and TA. Programs may also partner with researchers, nonprofits, or trained specialists outside the program. For example, ***the Public Health Law Center*** provides in-person and online training and resources that focus on commercial tobacco control laws and policies. ***Counter Tools*** offers assessment tools, webinars, strategic consulting, and software training to help implement retail interventions.

Planning for Training and TA

Creating a training and TA plan can help training material match the needs of practitioners. An effective training and TA plan describes:[93]

- Which areas require training and skill-building
- What training will be provided
- Who will attend the training and who will lead
- Where or how to provide training (*e.g.*, in person, online, or via webinar)
- How to measure the quality of training and TA
- How training supports core components of the intervention

Choosing Training and TA Formats

In-person training works best for demonstrating new interventions, role-playing exercises, and providing individualized help, but costs more than online training.[151] Less expensive online formats can deliver material more consistently and offer convenient opportunities for refresher training and updates, but do not usually include TA.[90] Having an online format of trainings accessible is helpful for times when in-person training is not feasible. Email, instant messaging, and videotaped feedback can provide some of the advantages of in-person training at lower cost. Using a mix of training and TA formats can allow for some customized information while keeping costs down.

Effective training and TA can also include other methods such as:

- Attending conferences[152]

- Train-the-trainer approaches, where practitioners learn about the evidence-based intervention and then train their peers[89]
- Mentorship programs, where experienced partners provide hands-on learning[153]
- Peer networking and training with ***Communities of Practice***, where practitioners can learn together[89]

Measuring Training and TA Effectiveness

Evaluating training and TA can help improve training quality and show its impact.[154] Assessing skill levels before and after training helps assess where users have mastered skills and show areas for improvement. These skills assessments allow the trainer to respond by providing constructive feedback or tailoring training to participants' needs. Regularly checking in with participants after trainings can also help programs quickly see if training has led to practice changes.[154]

Adapting Interventions

Researchers do not always develop and test new interventions in the real-world settings where they will be implemented. But interventions are unlikely to work equally well in different settings and may require planned changes, or adaptation.[64] Adapting interventions can help programs:[155]

- Meet the needs of a new population and setting
- Reach more people
- Deliver interventions at lower cost
- Simplify the intervention

Carefully planning adaptations, rather than making unplanned, accidental, or reactive changes, is important.[156] Adapting an evidence-based intervention to a different setting includes identifying the intervention's core components and elements that are adaptable. Adaptation also includes tracking fidelity to the original intervention. Fidelity is the extent to which the intervention was implemented as intended by the original developers.[2]

Identifying Core Components

Before deciding to adapt an intervention, it is important to determine if the change would affect a core component. Core components are the elements that are essential to make an intervention effective. They can include the content, how it is delivered, and how it affects change.[64] If an adaptation changes the core components too much, the intervention may be less effective.[2] Reviewing the logic model, theory of change, and study protocol can also help identify core components, which may be likely found in the scientific article about the intervention.[157]

Deciding What Changes to Make

Minor changes are usually possible, such as using new data, customizing materials for a new population or setting, or changing recruitment methods.[64,108] Other changes can be more difficult to make, such as:[158]

- Changing the order or length of activities
- Adding activities that address other risk factors or behaviors
- Changing who delivers the evidence-based intervention or how it is delivered
- Substituting materials or activities
- Changing the setting or population

These types of changes require more cautious consideration than minor adjustments.

Improving Implementation through Cultural Adaptations

A community's culture can influence whether an intervention is likely to be effective in a new setting.[76] Culture refers to a population's behaviors, beliefs, values, and roles. It is based on characteristics such as race, ethnicity, gender, socioeconomic status, religion, or geographical region.[159] Adapting an evidence-based intervention to fit a population's culture is important because it:

- Respects the population's values and identity[159]
- Decreases risk of unwanted surprises due to cultural misunderstanding[159]
- Builds community support and trust[159]
- Helps reduce tobacco-related disparities[2]

Cultural adaptations may address cultural features that are easily noticeable (*e.g.,* music, clothing, and cultural references) or deep-seated characteristics (*e.g.,* values, attitudes, and beliefs).[57] Read more about developing cultural humility on ***page 42*** and from CDC's ***Networking2Save*** national networks, which focus on preventing commercial tobacco use and cancer in eight populations.

When adapting an intervention, it is important to consider:

- What will be modified
- Whether the changes are consistent with the original intervention
- The reasons for and goals of the adaptation
- Who will participate in the change

The success of changes can also be affected by whether commercial tobacco use is as high a priority in the new population as in the original, local implementation capacity is strong, and the intervention is compatible with the new social and cultural context.[76]

Pilot Testing

Sometimes implementing a full-scale evidence-based intervention can be risky or premature. For example, an organization or community may not be fully ready for change, or it may be unclear whether an intervention is adaptable to a different population or setting. Piloting an intervention on a limited basis can be a good way to learn whether it is likely to work in the long term or on a larger scale.

Pilot testing can:

- Give users the opportunity to try out an intervention[85]
- Develop and refine implementation of a new intervention[160]
- Speed up an existing intervention's adaptation or improvement through a purposeful trial and learning process rather than trial and error[93]
- Test changes on a small scale before implementing system-wide changes[161]
- Create organizational buy-in if the pilot is successful[73]

For example, Pennsylvania worked with the state quitline vendor National Jewish Health and the Department of Corrections to pilot a commercial tobacco cessation program. The program was for incarcerated women at one of 24 state correctional institutions. After evaluating the pilot, Pennsylvania developed a toolkit for scaling up the program and provided cessation classes for incarcerated people across the state to support the 2019 enactment of commercial tobacco-free policies for all state correctional institutions.[162]

A CLOSER LOOK: Disseminating and Implementing Retail Interventions in Santa Clara County, CA

In 2010, Santa Clara County passed a comprehensive tobacco retail licensing law, which decreased the number of retailers selling commercial tobacco.[163] However, because the ordinance only applied to unincorporated areas, it did not have the same impact in the county's cities, where 95% of its 1.9 million residents live. And despite an interest in retail interventions, the cities found it hard to prioritize commercial tobacco control and lacked the time and resources to implement and enforce interventions. Using funds from the state's commercial tobacco tax, the county Department of Public Health focused on dissemination and implementation strategies to help the cities reduce the influence of commercial tobacco in retail stores.

Map of Santa Clara County, CA and the 15 cities not covered by its comprehensive tobacco retailer licensing ordinance

Beginning in 2011, the county provided both grant funding to cities and support through an independent expert who provided city staff with technical assistance in researching retail interventions, educating the community, developing ordinances, and planning for how changes would be communicated and enforced. The county also helped cities enforce retail interventions by agreeing to administer retail licensing programs for each city that adopted an ordinance that mirrored the county's, at no cost to the city. This arrangement promoted consistent regulations and decreased the cities' administrative responsibilities.

The department also launched the ***Healthy Cities*** project in 2016 to disseminate evidence-based healthy living interventions, including reducing youth access to tobacco in retail stores. As part of the initiative, they created a dashboard to help cities prioritize evidence-based interventions and compare their progress with others. It showed cities opportunities for improvement and celebrated successes, motivating cities to adopt as many interventions as possible on the dashboard.[164]

Since they began D&I efforts, 9 of the county's 15 cities have adopted a commercial tobacco retail intervention, with more planned in the coming months.[164] Cities have adopted retailer licensing, reduced the density of commercial tobacco outlets, limited sales near schools, limited flavored tobacco products, banned the sale of vaping products, and limited sales in pharmacies.

Using Plan-Do-Study-Act Cycles

The Plan-Do-Study-Act (PDSA) model, which healthcare organizations commonly use to better deliver commercial tobacco cessation, can help programs assess whether a pilot is successful. The four phases of the PDSA cycle are:[165]

- Plan: Identifying the problem and developing a plan to change

A CLOSER LOOK: Pilot Testing the Ask and Act Smoking Cessation Model

People who smoke value their doctor's advice to quit smoking.[166] The American Academy of Family Physicians (AAFP) wanted to help healthcare providers integrate commercial tobacco cessation into their primary care practices, so in 2011 it launched Ask and Act, a pilot project to recruit and train office champions to implement cessation activities.[167] The office champion was usually a non-physician staff member who would educate patients, develop cessation plans, and monitor patient progress. Beginning with just 49 family medical practices, champions received training and educational materials and were required to submit an implementation plan, monitor progress, and communicate their results.[168] The pilot project was the first of three 13-month pilot testing cycles.[169]

ASK AND ACT
A TOBACCO CESSATION CAMPAIGN

At the end of the first pilot phase, the clinics increased their documentation of commercial tobacco use from 82% to 90%, and the percentage of patients offered cessation assistance increased from 48% to 72%. Nearly all (98%) of the clinics were confident that they could sustain the changes.[168] Based on this initial success, AAFP recruited another 50 practices from around the country in 2012.[170] The second pilot phase achieved similar rates of successful documentation and a dramatic 107% increase in cessation assistance, from 36% to 74%. Clinics also noted any implementation challenges and identified the project materials they found most useful.[170]

Using this feedback, AAFP undertook a third pilot phase, recruiting 20 Federally Qualified Health Centers (FQHCs) that treat underserved and uninsured populations. Over 40% of FQHC patients use tobacco, more than twice the national rate.[169] The goals were to meet or exceed previous pilot outcomes and to reduce smoking prevalence among FQHC patients by 10%–20%.[171] AAFP collected data from three clinics about what materials, changes, and activities were most useful and used it to make adjustments during the course of the project.[169] At the end of the implementation period, screening and advising rates reached project goals. The FQHC phase also identified special challenges such as patient health literacy, need for affordable cessation medication, and authorization from insurance companies.[171]

With findings from all three phases, AAFP has expanded the Ask and Act project to integrate cessation into behavioral health practices in 2015.[169] Its longer-term goal is to bring these changes to all family medical clinics and residency programs.[169,170] Learn more about integrating cessation into primary care practices in AAFP's ***Treating Tobacco Dependence Practice Manual***. AAFP has also adapted the Ask and Act model to increase adult vaccination rates and is exploring its use in addressing other chronic conditions including obesity, diabetes, and substance use disorders.[169]

- Do: Carrying out the plan to address the problem
- Study: Monitoring and learning from the changes
- Act: Incorporating the changes or test other changes in new PDSA cycles

Continuously measuring change, refining the plan, and testing over many PDSA cycles can help successfully implement and adapt interventions.[2,172] Learn more about using PDSA cycles at the National Implementation Research Network's Improvement Cycles Module on the ***Active Implementation Hub***.

The Rhode Island Department of Health used PDSA cycles to develop QuitWorks-RI, which uses electronic health records (EHR) to refer patients who want to quit commercial tobacco to the state quitline for free cessation services. Over the course of three PDSA cycles, QuitWorks-RI grew from a plan for a single group of providers, to a plan for the entire provider staff, and finally to involvement of the full clinical team.[173]

Scaling up Successful Interventions

Even the most effective, well-implemented evidence-based interventions will have little impact on commercial tobacco use if they only reach a small portion of the population.[2] Scaling up is the process of expanding an intervention to more populations or settings.[174] Scaling up can also help reach traditionally underserved groups.

In commercial tobacco control, scaling up could include implementing health systems changes in new clinics or expanding smokefree protections to new workplaces. Scaling up can improve the effectiveness, affordability, and sustainability of evidence-based interventions.[175] Programs can get started by determining if scaling up is a good option. Scaling up also includes identifying barriers and facilitators to expanding an evidence-based intervention.

Deciding Whether to Scale Up an Intervention

It may not be realistic or beneficial to scale up all interventions. Factors to consider when deciding to scale up an intervention include:[87]

- Population size and characteristics
  Some interventions may be designed for specific populations. Its is important to ensure the intervention is appropriate for other populations and if it would need to be adapted for different groups.
- Complexity
  Interventions with multiple components are harder to scale up effectively because they can be more costly and difficult to manage. Choosing those parts which have the greatest potential impact can improve the likelihood of a successful scale-up.
- Cost
  Scaled up interventions can be more expensive to sustain because they require more training, TA, and information technology to carry out. Web-based interventions can be good candidates for scaling up because they are relatively inexpensive and not limited to a geographic area.

Criteria for Scaling up Interventions[96]

Evidence-based interventions that meet the "**CORRECT**" criteria listed below are most likely to be successfully scaled up:

- **C**redible: Based on sound evidence
- **O**bservable: Users can see the results in intervention
- **R**elevant: Address persistent or important problems
- **R**elative advantage: Better than existing interventions so that users agree costs outweigh benefits
- **E**asy to implement: Simple to put into action rather than complex and complicated
- **C**ompatible: Fits well with potential users' values, norms, and facilities
- **T**estable: Can be tested on a small scale prior to large-scale adoption

Identifying Barriers and Facilitators to Scaling Up

Programs may run into unexpected challenges as scale-up efforts get underway, often because they do not fully understand the resources and constraints of the new setting.[176] Thinking through possible barriers and supports before scaling up is important to achieve success and maintain confidence among partners.[176] Common barriers to scaling up include lack of available funding, staff, time, or organizational support.[96,177] Stakeholders with different interests and values may also want to take different approaches to scaling up.[177] Absence or loss of a program champion or leader can also be a barrier to scaling up.[177]

Scaling up is easiest when:[96]

- The organization believes there is a need for the evidence-based intervention
- The organization has the capacity to adopt the intervention (including staff technical skills, training, leadership support, and evaluation capacity)
- No other major changes are on the horizon

It is important to assess the adopting organization in these three areas before starting a scale-up project.

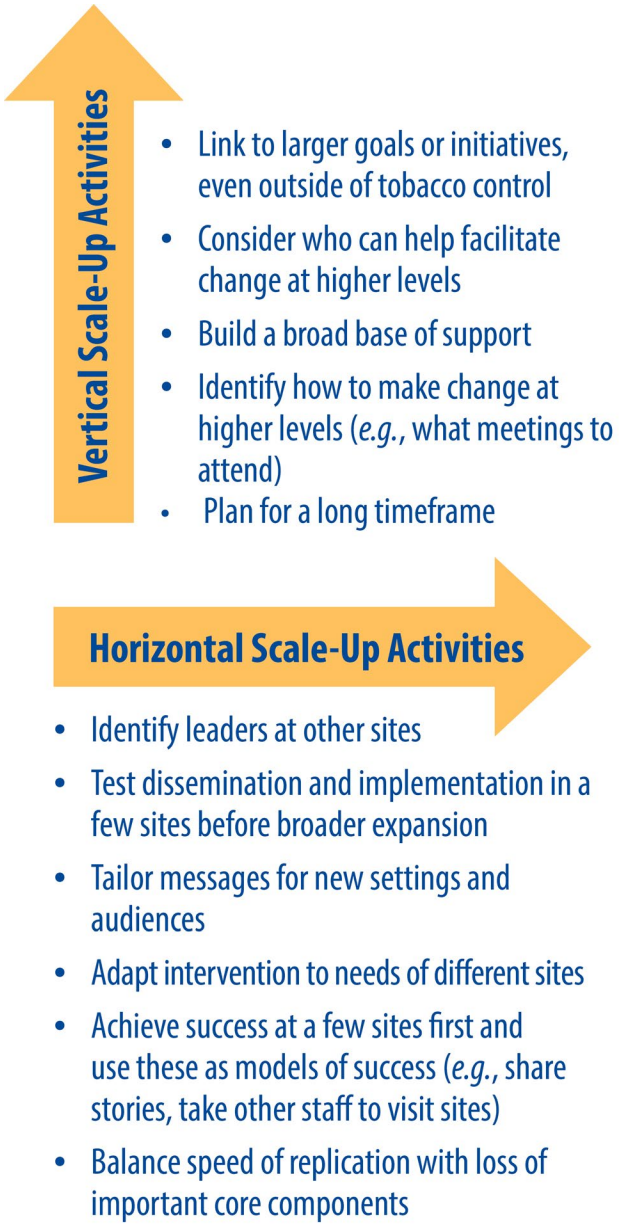
An organization is unlikely to be strong in all three areas, but that does not mean it is not a candidate for scale-up. Programs can begin scale-up efforts in areas where the organization is strongest (*e.g.*, with a strong and committed leadership) while building capacity in other areas (*e.g.*, training staff on needed skills).[96] Selecting a program champion, finding alternative sources of funding and staffing, and mobilizing existing resources can also make scaling up easier.[96] Sharing success stories with stakeholders can help raise awareness and credibility that can pave the way for a smooth expansion.[178]

Creating a Scale-Up Strategy

Evidence-based interventions can be scaled up in different directions, shown in **Figure 11**. Vertical scale-up is the adoption of an intervention at a higher level, such as expanding it from a community to statewide.[96] Horizontal scale-up is the replication of the intervention at additional sites across the same system levels, such as replicating an intervention across departments, organizations, or communities.[97]

To be sustainable, usually both types of scaling up are needed.[97] Learn more about scaling up projects on the ***ExpandNet/WHO*** website.

Figure 11. Scaling-Up Activities



Source: World Health Organization[96]

Reaching Priority Populations through D&I

Reaching populations most affected by commercial tobacco use and secondhand smoke exposure is critical to reducing commercial tobacco use overall.[1] Yet these groups often face barriers to accessing the most effective interventions. For example, some groups are less likely to use commercial tobacco cessation treatment. These include certain racial and ethnic minorities; lesbian, gay, or bisexual people who smoke; and people without health insurance.[44] Commercial tobacco advertising, which is most heavily targeted to priority populations, can compete for attention and make commercial tobacco use seem acceptable.[179] Historical and ongoing cultural discrimination can lead to mistrust of outside researchers and program staff.[2]

Efforts to test evidence-based interventions have also traditionally left out population groups who experience tobacco-related disparities by:[2]

- Implementing interventions only in high-resource settings with adequate infrastructure, capacity, training, and funding to take part in data collection
- Not engaging community participants and cultural advisors during the entire process
- Lacking shared roles and responsibilities, ownership, and mutual respect between researchers and the community
- Using research methods that are not informed by the population's cultural practices or beliefs

Implementing interventions that meet the needs of communities takes thoughtful planning and consideration. Learning about priority populations, developing cultural humility, and using community-based D&I strategies can help all communities benefit from evidence-based commercial tobacco control.

What are Tobacco-Related Disparities?

Tobacco-related disparities are differences among population groups in the patterns, prevention, and treatment of commercial tobacco use, secondhand smoke exposure, and health outcomes.[1] Disparities also can occur in community resources to reduce commercial tobacco use.[1] Disparities affect groups of people who have systematically faced health challenges based on their:[30,49]

- Age
- Disability
- Education
- Geographical region
- Health insurance status
- Income
- Mental health and substance use status
- Military status
- Occupation
- Race and ethnicity
- Sex
- Sexual orientation and gender identity

Learning about Priority Populations

Priority populations may have been excluded from or underrepresented in the intervention test population, so learning about these groups is an important first step for D&I efforts. They may be different from the test population in important ways, including:

- Community resources and strengths[103]
- Barriers to participation in evidence-based interventions[59]
- Community health priorities[59]
- Cultural values[59]

A CLOSER LOOK: Disseminating a Smokefree Homes Program through 2-1-1

Although smokefree laws protect large portions of the U.S. population, the home remains a primary source of secondhand smoke exposure for many people, particularly youth.[180] Low-income families are more likely to be exposed at home than families with higher incomes.[181,182] Researchers from the National Cancer Institute's State and Community Tobacco Control Research Initiative sought a better way to reach low-income families with smokefree information. They partnered with 2-1-1 helplines, which connect more than 12 million people to housing, food, and utility assistance each year, to disseminate the "Smoke-Free Homes: Some Things are Better Outside" program.[183,184] The program encourages families to adopt smokefree home rules by providing a coaching call and toolkit with fact sheets, action steps, promotional materials, and a smokefree home pledge.

By having 2-1-1 staff enroll callers in the program and deliver coaching, the researchers were able to disseminate smokefree home information directly to low-income families through a channel they already used and trusted. Although the program fit with the 2-1-1s' mission to empower clients with information to improve their lives, 2-1-1 staff lacked experience delivering commercial tobacco control information.[184] The project supported 2-1-1 staff by providing:[184]

- A combination of in-person training and webinars, including a general overview for all staff and webinars tailored by staff role (*e.g.,* recruiter, program coach)
- An implementation toolkit
- Mock phone sessions with staff to review how to screen for eligibility and record data
- Ongoing technical assistance to troubleshoot issues
- Monthly booster calls to discuss progress and challenges
- A web-based tracking tool to track enrollment and program delivery in real time

2-1-1 dissemination of the program reached over 2,300 people.[184] Most lived in rental homes without a smokefree rule.[184] Sixty percent of those reached for follow-up signed the smokefree home pledge, 83% developed a list of reasons to create a smokefree home, 87% had a family talk, and 30% called a quitline.[184] Learn more at Emory University's ***Smoke-Free Homes Project*** web page.

Web banner from Smoke-Free Homes Project web page

- Communications preferences[185]
- Community history[59]
- Traditional tobacco use for religious or cultural purposes

D&I strategies or the intervention itself may need to be tailored to address these differences.

To begin learning about priority populations, program staff may need to explore new data sources. State and national surveys are valuable for monitoring commercial tobacco use trends, but they often do not focus on smaller cultural groups.[186] For example, most surveys do not include sexual orientation and gender identity questions, and some lump ethnicities into one large group, missing important differences between groups.[186]

Information about specific groups can be gathered from community assessments, focus groups or interviews with community members, or discussions with partners who work with the priority population. Learn more about community assessments on ***page 15***.

Building Cultural Humility

Cultural humility is a lifelong process of self-reflection to increase understanding of others by not only learning about their culture, but also examining one's own beliefs and values. It is different from cultural competence, which has been criticized as too focused on gaining knowledge and "achieving" competence rather than a continual process of learning and self-awareness.[187]

Staff and D&I partners can practice cultural humility by:[187]

- Taking a cultural self-assessment to begin to recognize their own cultural values and biases and how those affect others
- Using mindfulness techniques to intentionally pause and recognize their own thoughts and emotions and those of others
- Thinking about the culture and experiences of people from the community
- Forming meaningful and diverse partnerships that represent the people in the community
- Learning about the group's historical experiences, especially related to commercial tobacco
- Avoiding stereotyping and acknowledging that people from the same group may have different experiences and values

Learn more in the article, ***Cultural Humility: Essential Foundation for Clinical Researchers*** and Community Tool Box toolkit, ***Building Relationships with People from Different Cultures***.

Disseminating to Priority Populations

Poorly communicated information can keep priority populations from benefitting from the latest evidence-based interventions. The following steps can help programs disseminate evidence-based interventions to priority populations:

- ### Share information about the harms of commercial tobacco use
  Educating people about how commercial tobacco use harms their community can increase their interest and motivate them to use evidence-based interventions.[138] It is important to share evidence the audience considers credible, which may include personal experiences.[138]
- ### Work with population groups to create relevant messages
  Some members of priority population groups may dismiss information about evidence-based interventions that they feel are too costly or a poor fit with their community.[2] Well-crafted dissemination messages describe how the intervention fits with the audience's goals, beliefs, and culture.
- ### Tailor and test dissemination products
  When possible, it is best to feature members of the audience in visuals and use the audience's native language.[32] Pretesting with audience members can help gauge whether materials resonate with them and make sure they share the same message as the English version.[32]
- ### Use trusted messengers
  Evidence-based information that is delivered by trusted members of the community may be better received than information shared from more traditional evidence sources.[73]

- **Choose channels used by the audience**
  Using channels popular among the audience is the best way to make sure they receive messages. For example, almost 95% of teens have or use a smartphone, and many are online almost constantly.[188] The use of smartphones among low-income Americans has doubled since 2013, though still lags behind use among those with higher incomes.[189] Some cultures may prefer low-tech methods like face-to-face communication.[190]

Implementing in Low-Resource Settings

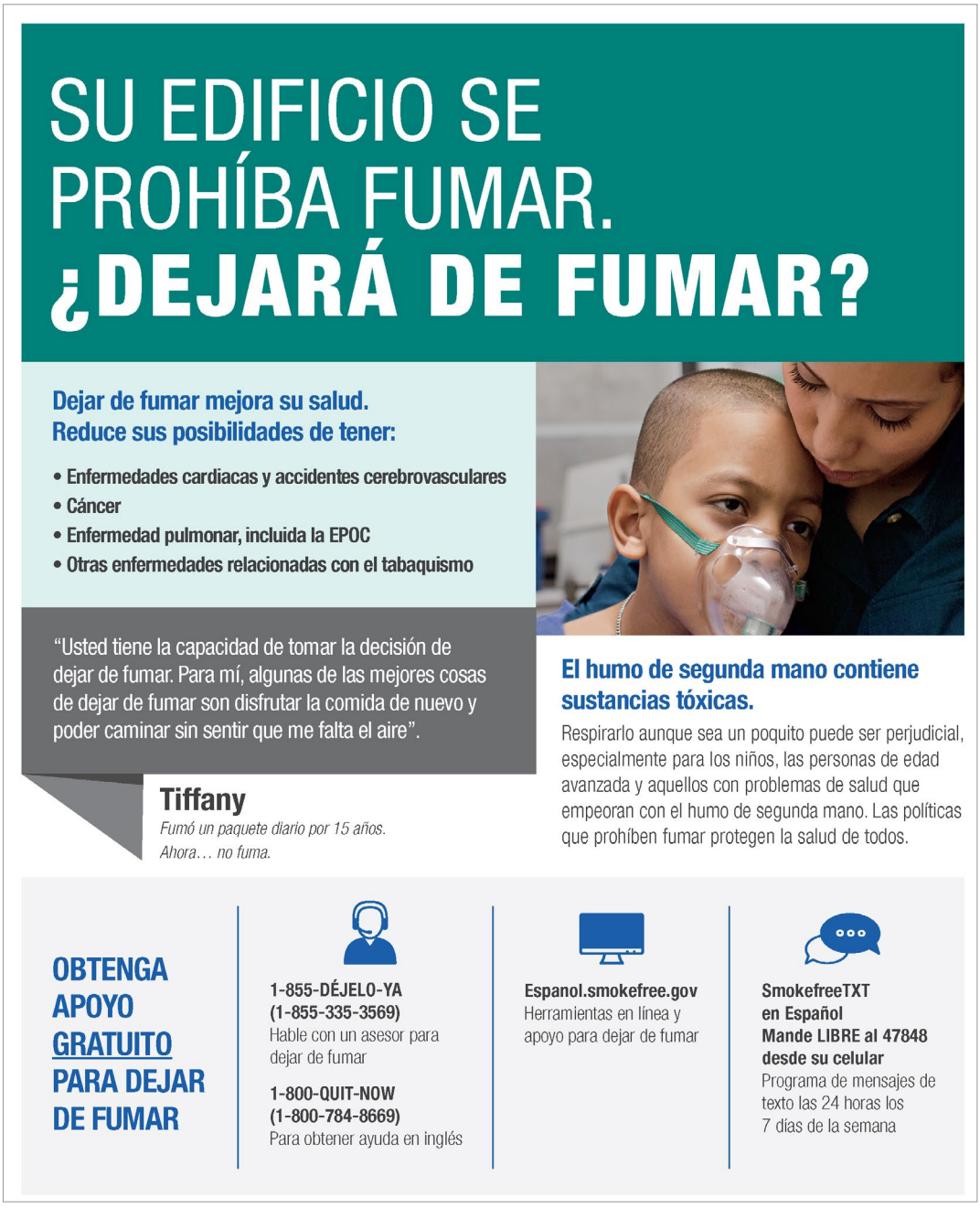
Implementing commercial tobacco control interventions can be challenging in communities with limited funding, staff, information technology, or physical infrastructure to support the changes.[2] Programs working to implement evidence-based interventions in low-resource communities can take the following steps:

- **Consider community resources**
  It is important to begin efforts by reviewing community resources, including social networks, communications channels, the political and physical environment, transportation, and competing programs.[191] Programs can think strategically about how these existing resources might be used to help support implementation.
- **Create community ownership**
  Working with community members as equal partners in every step of implementation is critical to increase the likelihood that evidence-based interventions will reach and have an impact on the people who can benefit most from them.[192] Some programs have created mini-grants for communities to implement evidence-based interventions.[193]
- **Involve the community in adapting interventions**
  Community members are the experts on their communities. They can help decide what adaptations are needed so community members will accept the new intervention.[194] Because the community's resources may be quite different than the original intervention, extensive changes may be needed.[185]
- **Train community members to be implementers**
  Low-resource communities may need training to carry out changes, especially if non-traditional partners are making changes (*e.g.*, if social service

Fact sheet to disseminate data on menthol as part of the Beautiful Lie Ugly Truth campaign
Source: Association for Nonsmokers – Minnesota

agencies are delivering commercial tobacco cessation assistance).[184]

- Meet critical community needs
  Some populations may find it hard to prioritize commercial tobacco control when facing other critical issues like inadequate housing, food insecurity, or public safety. Working to address these issues through multi-component interventions may be necessary.[195]



Fact sheet adapted for Spanish-speaking populations to educate about smokefree housing rules and commercial tobacco cessation assistance
Source: CDC

Evaluating D&I Strategies

D&I evaluation is different from program evaluation. Program evaluations are usually broad and assess many program components. They can help to make judgments about the program, improve effectiveness, and inform future program development. D&I evaluation looks at whether D&I strategies help to increase use of a specific evidence-based intervention.[2]

If an intervention does not work as planned, it is important for programs to know whether the failure resulted from an ineffective intervention or from poor dissemination and implementation of an otherwise good intervention.[2] This information can help show where D&I efforts are meeting or missing their goals and improve future efforts.

Evaluating D&I activities does not have to require a lot of additional time or resources. Programs can add D&I to their overall evaluation plan and use existing data collection activities to gather information about D&I efforts. For example, they can add D&I questions to existing surveys or track dissemination through ongoing website or social media monitoring.[158]

Tracking Dissemination

To evaluate dissemination activities, programs can monitor whether practitioners receive, accept, and use dissemination messages and materials. Surveys can also help assess changes in awareness of the intervention or changes in attitudes and behaviors toward using it. For example, an evaluation of a campaign to encourage healthcare providers to help patients quit smoking measured the percentage of providers who viewed the ad and the ad's impact on their perceptions. Most of these viewers agreed that the ads caught their attention and made them consider doing more to help their patients quit.[196] They were also more likely to assess their patients' commercial tobacco use and to be aware of the quitline and other available cessation benefits.

Many tracking tools are available to help programs monitor dissemination. Free services like ***Google Analytics*** can track web page views, and website plug-ins can be installed to help track views and downloads of PDF documents like reports. Many social media platforms have their own tools to track mentions and followers (*e.g.*, Twitter Analytics and Facebook Insights). Simple sign-in sheets at in-person events like trainings are an easy, low-tech way to track how many people received a message. Learn more about evaluating the reach of health communications activities in the CDC resource, ***Best Practices User Guide: Health Communications***.

Measuring Dissemination

Dissemination evaluation assesses whether dissemination activities were successful by measuring:[197]

REACH: Whether the audience received the message

- The percentage of the audience of who received the information
- The number of people who accessed the dissemination product (*e.g.*, website views, PDF downloads, or social media mentions)
- The number of people who participated in presentations, trainings, or other events

EFFECTIVENESS: Whether the audience will use the message

- How well the intended audience understood the message
- Whether the dissemination product is easy to use
- How recipients used the information

Monitoring Implementation

Evaluating implementation helps programs understand whether and how a community is using a new intervention. Understanding how interventions are implemented can help figure out why expected outcomes were (or were not) achieved. **Table 7** below lists common measures for evaluating implementation. Programs might use surveys to assess openness to change or examine how closely implementation matches the intervention.[198] Administrative data can also help assess whether the intervention is being used. The best sources of implementation data depend on the type of intervention. For example, cessation interventions might rely on healthcare system data and provider surveys, while retail efforts might focus on collecting store assessment data.

Table 7. Sample Implementation Measures

Outcome	Definition	Measures
Appropriateness	Whether the intervention is a good fit for the problem, setting, provider, or user	• How relevant the intervention is to the needs of the community • How compatible the intervention is to the practitioners' skill sets, role or job expectations
Feasibility	Whether the intervention could be successfully implemented in the setting	• Resources or supports for using the intervention • Barriers to using the intervention
Acceptability	Belief among stakeholders that intervention is agreeable or satisfactory	• How easy the intervention is to use • How useful the intervention is to their work • How likely practitioners are to use the intervention
Adoption	Decision to use an intervention	• Number of practitioners who report using the intervention • Characteristics of those who report using the intervention
Penetration	Integration of the intervention into the setting	• Proportion of intended audience who receives intervention • Proportion of practitioners who deliver the intervention • Characteristics of those who receive and do not receive intervention • Participant responsiveness
Fidelity	Whether an intervention is delivered consistently and according to plan	• Adherence to the intervention protocol • Amount of exposure to the intervention (*e.g.*, number of evidence-based cessation counseling sessions) • Quality of intervention delivery
Cost	Financial cost of implementation strategies	• Cost of carrying out D&I strategies • Cost savings of replacing or reducing expensive or ineffective interventions
Sustainability	Whether an intervention and its benefits are maintained over time	• Proportion of practitioners who continue to use the intervention in the long term • Extent to which intervention components are incorporated into an organization's policies or practices • Reasons for continuing or discontinuing implementation

Source: Adapted from Proctor et al.[199]

Sustaining Evidence-Based Interventions

Practitioners invest a lot of time and resources into implementing a new intervention. Sustaining the intervention maximizes their investment and helps the most people. Sustainability is the ability to continue an evidence-based intervention and its benefits over time.[31] Sustainable evidence-based interventions maintain their effectiveness over time and are adaptable to changes like staff turnover and shifting community priorities. Programs know they have achieved sustainability when practitioners accept the new intervention as the norm.[83]

Planning for Sustainability

Just like implementation, sustaining an evidence-based intervention does not just happen on its own. It takes careful planning and action on the part of the D&I team to make sure supports are in place to sustain the new intervention. Planning for sustainability starts with understanding the factors that influence the likelihood a new intervention will be sustained. These factors include:

- Stable and consistent funding
- Strong partnerships and collaborations
- Organizational resources and capacity
- Ongoing program evaluation
- Ability to adapt the intervention to meet changing environment and needs
- A supportive internal and external environment

The ***Program Sustainability Assessment Tool (PSAT)*** can help public health programs measure capacity for sustainability in each of the eight domains shown in **Figure 12**. Although the tool was originally designed to focus on program sustainability, this term is used loosely to mean any set of organized activities, such as those used to carry out an evidence-based intervention.

Strategies to Increase Sustainability

After taking the assessment, programs can review results and identify areas to improve. Some areas are easier to address than others. Programs can make the best use of resources by focusing on areas that align with stakeholder priorities and are most feasible to change. Creating an action plan with steps to improve helps hold the program and partners accountable.

Figure 12. Sustainability Domains

Source: Sustaintool.org[200]

Although practitioners are ultimately responsible for sustaining the intervention, program staff can help by:

- Planning for adequate funds to both implement and maintain a new intervention[84]
- Helping secure multiple funding sources[201]
- Training new staff and offering booster trainings for existing staff[85]
- Evaluating how the intervention is used and disseminated, adapting when needed[202]
- Monitoring external context for changes that will impact sustainability[202]
- Sharing positive early results with stakeholders to maintain enthusiasm and support[92]

Download action plan templates and learn more about sustainability at ***sustaintool.org***.

Ending Ineffective Interventions

Over time, evidence-based interventions can become ineffective, harmful, or unnecessary.[63] More effective or efficient interventions may also become available. In these cases, ending use of the intervention may be better than sustaining it. For example, research has found that partial smoking bans in a home are no more effective at reducing tobacco use than allowing smoking.[203] The decision to end an ineffective intervention can also help scarce public health resources be used wisely.[11]

An estimated 30% of healthcare spending is unnecessary, and about 25% of program staff in state health departments have reported continuing ineffective programs.[11,204] Commercial tobacco control staff are less likely to report continuing ineffective programs than staff in other areas, possibly due to the strong evidence base for many commercial tobacco control interventions.[11]

"Unlearning" an intervention can bring challenges.[63] Stakeholders may disagree about its value or assume that "more is better" when it comes to a familiar intervention, especially if it was designed to benefit a priority population.[2,63] Similarly, people who use tobacco may believe that they will be receiving ineffective services without the intervention.[63]

Continuing even a low-value intervention may provide some benefit, and funders and other stakeholders may view completely ending an intervention as a waste of their investment. New funding priorities can create mistrust and frustration among community organizations.[205] Staff who are emotionally attached to an intervention that they have used for a long time may also resist ending it.[63] They may also be reluctant to end it if they believe they lack the resources, training, or time to deliver a replacement intervention.[63]

Programs can address these challenges by deciding whether to completely end the intervention, keep parts of it, or replace it with something else.[63] This decision involves considering:[63]

- Evidence in support of continuing or ending the intervention
- Availability of other, more effective interventions
- Barriers to de-implementation (*e.g.*, resistance from stakeholders)
- Population and setting of the intervention
- Possible outcomes of de-implementation

If the decision is made to end the use of the intervention, it can be reduced gradually while increasing the use of a more effective alternative using other D&I strategies.[63]

To help decide whether an existing intervention should be ended, see the Substance Abuse and Mental Health Services Administration resource, ***Do We Need to De-Implement an Existing Program? A Checklist to Inform Decision Making***.

How Can Commercial Tobacco Control Programs Support D&I?

Efforts to put evidence into practice are most successful when they have had support from a variety of sectors, like organizational, community, and statewide public health programs.[206] State programs can help support D&I efforts by taking the following actions:

Administrative Support

- Become a "learning organization" that continuously identifies new knowledge and uses it to improve their current practices
- Dedicate staff time for D&I activities and include D&I responsibilities in staff job descriptions
- Include D&I activities in program evaluations
- Assess what support is needed to sustain evidence-based interventions and where ineffective interventions could be ended

Coordination & Collaboration

- Create a variety of dissemination products to share information about evidence-based interventions with implementation partners such as health department staff, healthcare providers, business owners, and community members
- Identify potential partners that can help adapt, scale up, or pilot test evidence-based interventions
- Involve stakeholders in assessing evidence, creating dissemination products, planning implementation strategies, and evaluating D&I efforts
- Ask members of priority populations about the best communications channels and messengers to deliver information about evidence-based interventions
- Form partnerships to address critical needs that may prevent at-risk communities from adopting evidence-based interventions (*e.g.*, quality housing, safety, or healthy retail)

Training & Technical Assistance

- Train commercial tobacco control staff on finding evidence, assessing the strength of evidence, communicating about evidence to stakeholders, and how to implement evidence with quality
- Train those who will implement the intervention (*e.g.*, training providers on how to talk to patients about tobacco use) and provide ongoing technical assistance to address potential challenges
- Bring together peer organizations so practitioners can learn from others with similar experience
- In low-resource communities, train non-traditional partners to help implement interventions

California Case Study

California scales up health systems change statewide.

California takes action to bring evidence-based cessation treatment to the entire state

Despite significant smoking declines in California, prevalence remains high among some groups. From 2016 to 2017, 19% of American Indians living in California, 23% of low-income African Americans, and 34% of Whites that did not complete high school smoked.[207] The state realized that strategies to reach people who smoke are especially needed to keep making progress to reduce commercial tobacco use.

In 2016, California funded a one-year pilot project called CA Quits to integrate evidence-based commercial tobacco cessation treatment in 15 public hospital systems. The project showed promise as a way to address gaps in cessation treatment statewide, including in rural areas with limited resources. In 2018, the project team proposed a five-year scale-up of the CA Quits initiative. The new project would implement health systems changes statewide by engaging three sectors: local health departments, Medi-Cal managed care plans, and safety-net health care systems that serve people regardless of their ability to pay or insurance coverage. The California Tobacco Control Program funded the scale-up and supported CA Quits by encouraging collaboration, providing technical assistance and training, and evaluating progress.

CA Quits prepares to scale up by learning the landscape

The pilot program was successful, but CA Quits knew there might be challenges integrating treatment into new settings. To prepare for these challenges, the project team gathered information about commercial tobacco use treatment in the state. They asked stakeholders in the three sectors about their priorities and strategies to address commercial tobacco use, tailoring messages for potential partners based on what they learned. For example, local health departments wanted to address disparities, insurance plans were interested in the business case for cessation, and health systems were focused on improving quality metrics. CA Quits reviewed the county

commercial tobacco control plans and identified 31 plans with cessation objectives. CA Quits focused their outreach and partnership development across the three health sectors in these counties.

Using existing state infrastructure helped engage partners because it showed they would not have to start from scratch. For example, the California Smokers' Helpline provided foundational cessation services in each new setting. "It has to be easy for providers and systems to adopt. That's why working with the Helpline was a key part of this. The Helpline is available free statewide. You start with a basic model for folks, find out what they need—and what can you build up around that?" said CA Quits Project Director Elisa Tong.

California emphasizes collaborative implementation

Collaboration is a key strategy used by CA Quits to scale up the integration of cessation services in healthcare systems. The project created learning collaboratives and workgroups on implementing commercial tobacco cessation best practices to help partners learn from their peers. These groups created a learning environment where participants can exchange ideas and address challenges together. The structure

CA Quits uses a peer learning structure to share implementation strategies for health systems change

also allows participants to choose strategies most useful for them and adapt them to their setting.

California supports scaling up ideas with strong technical assistance and training

The CA Quits team includes specialists with knowledge of the three sectors and other key areas like quality improvement, data, and communications. To bring in more expertise, CA Quits hosts speaker bureaus for external specialists such as state partners, pediatricians, and experts on emerging products to present on issues important to the participants.

CA Quits also created a training curriculum covering topics such as quality improvement, partnerships, disparities, and emerging trends. To plan the courses, CA Quits conducted an initial needs assessment and surveys participants after they complete courses. One frequent request was for help electronically connecting health systems to the Helpline. The program worked closely with health systems to review choices and support information technology needs. California Tobacco Control Program Chief April Roeseler says, "I'm a believer that you need strong technical support; that's going to be the driver to adopt any new policy or thing that you're working on."

California plans to reach more health systems in the future

In the first year, CA Quits recruited 11 public hospital systems and 10 federally qualified health centers to join learning collaboratives, and 14 insurance plans to form a commercial tobacco workgroup. The project has reached nearly 65% of the 31 counties with a cessation objective.

In the future, CA Quits plans to continue expanding health systems change to safety-net health systems in all 58 counties in the state.

> "I'm a believer that you need strong technical support; that's going to be the driver to adopt any new policy or thing that you're working on."
>
> — April Roeseler

Nebraska Case Study

Tobacco Free Nebraska disseminates resources to help public housing go smokefree.

Nebraska recognizes the gap between clean indoor air laws and smokefree public housing

The health hazards of secondhand smoke exposure have been known for decades, yet gaps in smokefree protections still exist.[206] Multi-unit housing residents are disproportionately exposed to smoke from commercial tobacco use.[208] Because secondhand smoke moves across apartments and cannot be fully removed through filters or ventilation, going smokefree is the only effective way to eliminate secondhand smoke exposure.[209] In 1997, the Kearney, Nebraska, public housing authority was one of the first in the U.S. to make its properties smokefree. Despite this early effort, the creation of smokefree public housing was nearly at a standstill for the next decade.

After Nebraska passed its Clean Indoor Air Act in 2008, the state's commercial tobacco control program, Tobacco Free Nebraska, recognized that the law did not extend to public housing and saw an opportunity to fill that gap. "By focusing on smokefree policies in multi-unit housing, we can have that bigger impact and provide protection from secondhand smoke exposure for everyone living in that building," said Amanda Mortensen, Tobacco Free Nebraska's program manager. The program reached out to public housing agencies, surveying their needs, and disseminating resources to help them create smokefree environments. These efforts helped the public housing agencies understand the importance of smokefree properties.

Program reaches out to public housing authorities

Since public housing authority staff gather every year at the National Association of Housing and Redevelopment Officials (NAHRO) state conference, Tobacco Free Nebraska bought a vendor booth and ad space in the conference program. This small investment allowed the program to start building relationships and begin a dialogue about smokefree housing. Tobacco Free Nebraska also became a member of NAHRO and gained access to a directory of housing agency contacts, which helped them keep communication lines open after the conference ended.

Tobacco Free Nebraska smokefree housing window cling

At first, the housing staff at the conference had doubts about a smokefree rule. They were especially worried about the legality of limiting smoking, potential loss of tenants, and possible implementation and enforcement costs. At a later conference, Tobacco Free Nebraska held presentations and a panel on creating smokefree housing with public housing agencies that had already implemented a policy, together with legal aid, and fair housing organizations. Having public housing directors share their experiences about going smokefree resonated with other housing agencies with similar concerns. Participating in the conference every year has helped Tobacco Free Nebraska maintain relationships with public housing authorities and serve as a trusted resource for creating smokefree properties.

Nebraska develops dissemination products by listening to public housing authorities

The program conducted an online survey to find out whether the state's public housing agencies had smokefree requirements, what they covered, and the benefits and challenges of going smokefree. They learned that public housing directors believed that it was illegal to prohibit smoking on their properties, that

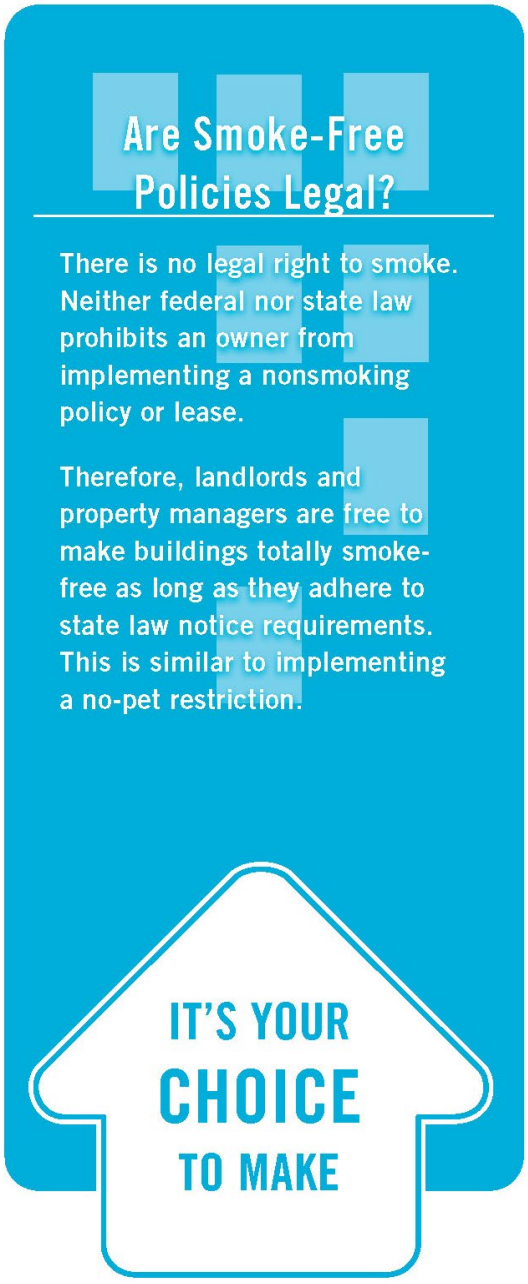
enforcement was difficult, and that resident turnover would increase. To respond to these concerns, Tobacco Free Nebraska created fact sheets that described how landlords have the right to limit smoking and how smokefree housing reduces cleaning costs and the risk of fire. Mortensen said, "Taking time to listen to questions and concerns is important to develop messaging that really resonates with the housing agencies."

The public housing agencies also needed guidance on how to make the changes, so the program compiled and mailed out a three-ring binder of resources on how to implement smokefree housing. Housing directors liked the binder because it helped them understand the steps to go smokefree and learn about available resources. Tobacco Free Nebraska also served as a resource if they had additional questions. The mailing also included materials to help property managers educate tenants. Door hangers in English and Spanish announced the start date and reminded tenants of the new rules. Instead of "no smoking" signs, window clings and stickers positively stated, "Proud to be a Smoke-Free Property." Budget-conscious housing agencies appreciated free promotional yard signs for smokefree properties.

Evidence-based resources help local housing authorities prepare for federal changes

In 2016, the Department of Housing and Urban Development (HUD) announced a rule requiring all public housing to go smokefree within 18 months. To help agencies fully follow the rule, Nebraska printed and distributed new HUD smokefree resources to housing directors. Because Nebraska's agencies were already familiar with smokefree requirements and how to implement them, they were ready for the change: as of 2016, 87% of respondents surveyed from Nebraska's 108 public housing agencies already had some form of smokefree rule in place, compared with 19% nationally.[210]

Nebraska's dissemination efforts have shifted the attitudes of public housing agencies from skepticism to enthusiasm. In 2015, the program conducted a follow-up survey that found that most housing directors agreed that smokefree public housing is legal, reduces property rehab costs and fire risk, and improves air quality and tenant health. The program is also helping public housing agencies positively enforce smokefree



Page from Tobacco Free Nebraska smokefree housing brochure

requirements by offering quitline and cessation resources to address violations. Tobacco Free Nebraska hopes that by sharing the successes of smokefree public housing, privately owned low-income housing communities will also learn about the health and economic benefits of smokefree multi-unit housing and adopt similar rules.

Why Invest in Putting Evidence into Practice?

Over five decades of research have identified proven, effective interventions to reduce commercial tobacco use.[1,3] With additional effort and support, these interventions could have a large-scale impact on health.[211] Dissemination and implementation (D&I) strategies can help achieve this goal by providing more and better information about what works and putting effective interventions into practice.[56]

History and Adoption

Interest in evidence-based healthcare and public health began in the 1970s when research discovered that many medical treatments were not evidence-based.[16] This discovery spurred the growth of Implementation Science, the study of how to increase use of evidence-based interventions in clinical and public health settings to improve population health.[64]

Commercial tobacco control has been at the forefront of this research, since many commercial tobacco control interventions are first tested in states and communities. The National Cancer Institute published the first guidance for commercial tobacco control practitioners in 1991 with the Tobacco Control Monograph series.[25] Five years later, the U.S. Department of Health and Human Services created the Community Preventive Services Task Force to develop recommendations on which public health interventions work, including commercial tobacco control. In 1999, the CDC released the first *Best Practices for Comprehensive Tobacco Control Programs* report to provide evidence-based recommendations for state programs to reduce commercial tobacco use.[26] Since then, CDC has published two more editions of the *Best Practices* (2007, 2014) and seven *Best Practices User Guides* to provide evidence-based guidance for states and communities.[1,29-35]

As a result of these efforts, the prevalence of cigarette smoking among U.S. adults has decreased by more than half since the first Surgeon General's Report was published on the dangers of smoking, from 42% in 1965 to 14% in 2019.[4,212] Yet evidence-based commercial tobacco control interventions are still not reaching many people who need them.[4] New projects, like the Advancing Science & Practice in the Retail Environment (ASPiRE) Center, aim to strengthen the evidence base and increase use of evidence-based interventions.[38]

Scientific Evidence

When fully and consistently implemented, evidence-based commercial tobacco control has enormous potential to save lives and reduce healthcare costs.[6-10] The sooner evidence-based interventions reach practitioners, the sooner they can be implemented and improve community health outcomes. D&I strategies have led to major accomplishments, including the rapid adoption of quitlines and widespread adoption of smokefree air laws.[4,37] D&I strategies bring these interventions to populations that need them most, helping to reduce health disparities.[12] Access to the most up-to-date scientific information is even more critical to continue reducing commercial tobacco use as new tobacco products emerge on the market, patterns of tobacco use continue to change, and states face challenges to protect tobacco control achievements.[4]

Investing in D&I can help overcome barriers to successfully put evidence into practice and fill remaining gaps in commercial tobacco control. Practitioners with access to and support for using the evidence are better able to implement evidence-based interventions.[72] Without this support, strategies are likely to experience a "voltage drop" when interventions tested in controlled research settings are implemented in the real world.[43]

Cost

Tobacco use is the leading cause of preventable death and disease in the U.S.[3] Cigarette smoking alone costs more than $300 billion per year in the U.S., including $170 billion in healthcare costs and approximately $156 billion in annual productivity losses.[3,14] D&I efforts that put effective commercial tobacco control interventions into practice have great potential to reduce this burden.

In 2020, CDC invested nearly $70 million in state commercial tobacco control programs.[13] Yet states have cut their funding for commercial tobacco control and in many cases do not allocate Master Settlement Agreement funds toward reducing commercial tobacco use.[213] As a result, gaps remain in implementation of proven interventions like smokefree laws, funding for state quitlines, and use of evidence-based cessation treatments.[4] Dissemination and implementation increase the likelihood that the money invested into research will lead to real improvements in the public's health.[51]

Investing in D&I strategies can help programs save money by preventing spending on ineffective interventions.[214] Investing in D&I can also speed up the process of moving from expensive, low-value interventions to more cost-effective ones.[214]

Sustainability

Nearly 40% of public health practitioners report that effective interventions often or always end that should be continued.[11] D&I strategies help increase the likelihood that evidence-based interventions will be tried, adopted, implemented, and sustained.[215] By adapting commercial tobacco control efforts to fit community needs, they help overcome implementation challenges that lead effective interventions to end too soon or never be implemented at all. By involving stakeholders throughout the process, D&I strategies help communities take ownership of commercial tobacco control activities. D&I can also increase the likelihood of sustaining benefits of evidence-based interventions by integrating new interventions into routine practice and community norms.[216]

Through training and technical assistance, D&I builds community capacity to disseminate, implement, and sustain evidence-based interventions. Scaling up effective interventions to reach more people and settings also helps secure resources and maintain health benefits over time.[175]

Disseminating relevant, understandable information also counters the perception that other health issues take priority over reducing commercial tobacco use.[4] Clear guidance about how to close remaining gaps can energize and empower communities and funders to take on tobacco. Programs built on a solid foundation of evidence-based interventions are better able to show the impact and cost-effectiveness of commercial tobacco control to the public and future funders.

Commercial Tobacco Prevention and Control

Behavioral Risk Factor Surveillance System (BRFSS)

Publisher: Centers for Disease Control and Prevention
Summary: State and local data about health risk behaviors, health conditions, and use of preventive services that can inform audience research

https://www.cdc.gov/brfss

Best Practices for Comprehensive Tobacco Control Programs—2014

Publisher: Centers for Disease Control and Prevention
Summary: Interventions and funding recommendations to plan state commercial tobacco control programs

http://bit.ly/bp_2014

Best Practices User Guide: Health Communications in Tobacco Prevention and Control (2018)

Publisher: Centers for Disease Control and Prevention
Summary: Steps for state commercial tobacco control staff and partners to develop effective health communications

http://bit.ly/cdc_communications

Best Practices User Guide: Health Equity in Tobacco Prevention and Control (2015)

Publisher: Centers for Disease Control and Prevention
Summary: Steps that state commercial tobacco control staff and partners can take to promote health equity and reduce tobacco-related disparities

http://bit.ly/cdc_healthequity

Best Practices User Guide: Partnerships in Tobacco Control and Prevention

Publisher: Centers for Disease Control and Prevention
Summary: Steps that state commercial tobacco control staff and partners can take to form strategic partnerships and coalitions

http://bit.ly/cdc_partnershipsguide

Best Practices User Guide: Program Infrastructure in Tobacco Prevention and Control (2017)

Publisher: Centers for Disease Control and Prevention
Summary: Steps that state commercial tobacco control programs can take to build strong infrastructure

http://bit.ly/cdc_programinfrastructure

The Community Guide

Publisher: Community Preventive Services Task Force
Summary: Collection of evidence-based recommendations for more than 22 health topics, including commercial tobacco

https://www.thecommunityguide.org/topic/tobacco

Counter Tools (2019)

Publisher: Counter Tools
Summary: Training and technical assistance for retail interventions

https://countertools.org/

Keep It Sacred

Publisher: National Native Network
Summary: Evidence-based commercial tobacco control information for tribal populations

keepitsacred.itcmi.org

Hospital Community Benefits and Tobacco Cessation: A Toolkit

Publisher: American Lung Association
Summary: Recommendations for using hospital Community Health Needs Assessments to promote cessation

https://bit.ly/ala_benefitsandcessation

MPOWER (2019)

Publisher: World Health Organization
Summary: Six strategies to help countries implement effective interventions to reduce commercial tobacco use

https://bit.ly/who_mpower

National Tobacco Control Programs in Action (2019)

Publisher: Centers for Disease Control and Prevention
Summary: Case studies of successful evidence-based interventions implemented by state programs

https://bit.ly/cdc_programsinaction

Networking2Save: CDC's National Network Approach to Preventing and Controlling Tobacco-related Cancers in Special Populations

Publisher: Centers for Disease Control and Prevention
Summary: Consortium of national networks focused on tobacco-related disparities in priority populations

http://bit.ly/cdc_networking2save

Public Health Law Center

Publisher: Mitchell Hamline School of Law
Summary: Training and technical assistance resources on a variety of chronic disease topics, including commercial tobacco control

https://publichealthlawcenter.org/

PLACES Project

Publisher: Centers for Disease Control and Prevention
Summary: Local level data on chronic disease risk and outcomes for counties, places, census tracts, and zip codes throughout the U.S.

https://www.cdc.gov/places

Scientific Evidence Briefs

Publisher: Centers for Disease Control and Prevention
Summary: Summaries of scientific evidence and evidence-based best practices in commercial tobacco control and prevention

http://bit.ly/cdc_briefs

Smoke-Free Homes Project (2014)

Publisher: Emory University
Summary: Intervention to reduce secondhand smoke exposure in homes, implemented with 2-1-1

http://smokefreehomes.emory.edu

Standardized Tobacco Assessment for Retail Settings (STARS) Tool

Publisher: Counter Tobacco
Summary: Store assessment tool to collect information about tobacco retailers

http://bit.ly/countertobacco_stars

State Tobacco Activities Tracking and Evaluation (STATE) System

Publisher: Centers for Disease Control and Prevention
Summary: Current and archived state-level data, maps, and fact sheets on commercial tobacco use

https://www.cdc.gov/statesystem/index.html

Surgeon General's Reports on Smoking and Tobacco Use (2020)

Publisher: Centers for Disease Control and Prevention
Summary: Links to the Surgeon General's reports on the health consequences of commercial tobacco use with evidence-based recommendations

https://bit.ly/cdc_sgr

Taking Stock of Tobacco Control Program and Policy Science and Impact in the United States (2017)

Publisher: Journal of Addictive Behaviors and Therapy
Authors: Farrelly MC, Chaloupka FJ, Berg CJ, et al.
Summary: Overview of major commercial tobacco control accomplishments and implementation gaps

http://bit.ly/farrelly_takingstock

Tobacco Control Monograph Series (2017)

Publisher: National Cancer Institute
Summary: Evidence-based guidance about emerging commercial tobacco control issues

https://bit.ly/nci_monographs

Tobacco Control Network Resources

Publisher: Tobacco Control Network
Summary: Webinars, podcasts, success stories, and other tools to help state commercial tobacco control programs implement evidence-based interventions

http://tobaccocontrolnetwork.org/resources

Treating Tobacco Dependence Practice Manual: A Systems Change Approach (2017)

Publisher: American Academy of Family Physicians
Summary: Tips and templates for healthcare providers who want to make health systems changes

http://bit.ly/aafp_practicemanual

General D&I

Assessing Community Needs and Resources (2018)

Publisher: Community Tool Box
Summary: Overview of methods for assessing community strengths and weaknesses

https://bit.ly/ctb_assessingneeds

Building Capacity for Evidence-Based Public Health: Reconciling the Pulls of Practice and the Push of Research (2018)

Publisher: Annual Review of Public Health
Authors: Brownson RC, Fielding JE, Green LW
Summary: Strategies to build state program capacity to implement evidence-based public health interventions

http://bit.ly/brownson_capacity

Checklist to Assess Readiness for Implementation (CARI) (2011)

Publisher: The Hospital for Sick Children
Summary: Checklist to assess readiness to implement an evidence-based intervention

http://bit.ly/barwick_CARI

Cochrane Database of Systematic Reviews

Publisher: The Cochrane Library
Summary: Databases of evidence to inform healthcare decision making, including systematic reviews

https://www.cochranelibrary.com

Community Health Assessment Toolkit (2017)

Publisher: Association for Community Health Improvement
Summary: Nine-step toolkit to conduct a community health assessment and develop implementation strategies

https://bit.ly/healthycommunities_toolkit

Conference on the Science of Dissemination and Implementation in Health

Publisher: Academy Health
Summary: Annual conference to share the latest research on disseminating and implementing health interventions

http://bit.ly/academy_annualconference

Cost-Effectiveness Analysis (CEA) Registry (2018)

Publisher: Center for the Evaluation of Value and Risk in Health
Summary: Collection of public health interventions and their cost-effectiveness

https://bit.ly/cea_registry

County Health Rankings & Roadmaps (2019)

Publisher: County Health Rankings
Summary: Database of county-level health indicators

http://www.countyhealthrankings.org/

Criteria for Choosing Promising Practices and Community Interventions (2018)

Publisher: Community Tool Box
Summary: Checklist for assessing evidence quality and fit with the community

https://bit.ly/ctb_promisingpractices

Cultural Humility: Essential Foundation for Clinical Researchers (2013)

Publisher: Applied Nursing Research
Authors: Yeager K, Bauer-Wu S
Summary: Practical guidance to enhance cultural humility

http://bit.ly/yeager_culturalhumility

RESOURCES

Dissemination and Implementation Research in Health: Translating Science to Practice (2018)

Publisher: Oxford University Press
Authors: Brownson R, Colditz G, Proctor E, eds.
Summary: Textbook on planning and carrying out D&I efforts

http://bit.ly/brownson_translatingscience

Developing a Plan for Assessing Local Needs and Resources (2020)

Publisher: Community Tool Box
Summary: Guidance on how and why to develop a plan to assess the community

https://bit.ly/ctb_developingaplan

Building Relationships with People from Different Cultures

Publisher: Community Tool Box
Summary: Information on how to learn about and build relationships with people from other cultures

http://bit.ly/ctb_relationships

Evaluation Guide: Writing SMART Objectives

Publisher: Centers for Disease Control and Prevention
Summary: Guide to creating specific, measurable, actionable, realistic, and time-bound objectives

http://bit.ly/cdc_smartobjectives

Evidence-Based Behavioral Practice (2018)

Publisher: Evidence-Based Behavioral Practice
Summary: Online training modules for planning and implementing evidence-based interventions

https://ebbp.org

Evidence Informed Public Health (2021)

Publisher: National Collaborating Centre for Methods and Tools
Summary: Tools to find, assess, and use evidence

https://www.nccmt.ca/tools/eiph

Healthy Cities

Publisher: Santa Clara County
Summary: Overview and resources for Santa Clara County's Healthy Cities Program to disseminate and implement evidence-based interventions

http://bit.ly/santaclara_healthycities

The Healthy Schools Toolkit

Publisher: Health Equity Works
Summary: Toolkit on assessing systems and messages to support implementation to improve health in schools, including guidance on conducting a social network analysis

https://bit.ly/hew_healthyschools

The Hexagon: An Exploration Tool (2018)

Publisher: National Implementation Research Network
Summary: Tool to assess fit and feasibility of evidence-based interventions and organizational readiness

https://unc.live/2ZElulu

Organizational Readiness for Implementing Change Assessment (2016)

Publisher: National Institutes of Health
Summary: Questionnaire designed for healthcare settings that measures commitment and ability to change

https://bit.ly/nih_assessment

PCORI Dissemination and Implementation Framework (2015)

Publisher: Patient-Centered Outcomes Research Institute
Summary: Five-step framework describing how to disseminate and implement evidence-based interventions

https://bit.ly/PCORI_framework

PCORI Dissemination and Implementation Toolkit (2015)

Publisher: Patient-Centered Outcomes Research Institute
Summary: Action steps, worksheets, and examples to plan and carry out D&I efforts with a focus on stakeholder engagement

https://bit.ly/PCORI_toolkit

Prevention Research Centers

Publisher: Centers for Disease Control and Prevention
Summary: Descriptions and contact information for 26 research centers that develop, test, and evaluate public health interventions that can be applied widely, especially in underserved communities

https://www.cdc.gov/prc/index.htm

Program Sustainability Assessment Tool (2012)

Publisher: Center for Public Health Systems Science
Summary: Tool to assess capacity for sustainability and create a sustainability action plan

https://sustaintool.org

Promoting the Adoption and Use of Best Practices

Publisher: Community Tool Box
Summary: Why, when, and how to promote the use of best practices

https://bit.ly/ctb_bestpractices

PubMed

Publisher: U.S. National Library of Medicine
Summary: Database of scientific articles on public health topics

https://www.ncbi.nlm.nih.gov/pubmed

Putting Public Health Evidence in Action Training Workshop (2017)

Publisher: Cancer Prevention and Control Research Network
Summary: Interactive training for program planners on selecting and using evidence-based interventions

https://www.cpcrn.org/training

Society for Implementation Research Collaboration

Publisher: Society for Implementation Research Collaboration
Summary: Collaborative group of researchers and practitioners who share knowledge and host an annual conference

https://societyforimplementationresearchcollaboration.org/

Stakeholder Engagement Framework

Publisher: Australian Government Department of Health
Summary: Challenges to stakeholder engagement and ways to overcome them

http://bit.ly/au_stakeholder

A Survey Tool for Measuring Evidence-Based Decision Making Capacity in Public Health Agencies (2012)

Publisher: BMC Health Services Research
Authors: Jacobs J, Clayton P, Dove C, et al.
Summary: Survey to assess state and local public health staff capacity to use evidence-based interventions

https://bit.ly/jacobs_measuring

SWOT Analysis

Publisher: Minnesota Department of Public Health
Summary: Information on how to conduct a SWOT analysis and community examples

https://bit.ly/mdh_swot

Tool for Assessing Applicability and Transferability of Evidence (2017)

Publisher: National Collaborating Centre for Methods and Tools
Summary: Questions to assess fit of evidence to local context

https://bit.ly/nccmt_tool

Tools for Data Demand and Use in the Health Sector: Stakeholder Engagement Tool (2011)

Publisher: MEASURE Evaluation
Summary: Worksheets and step-by-step guidance to identify and engage stakeholders

https://bit.ly/MEASURE_stakeholder

Tools for Implementing an Evidence-Based Approach in Public Health Practice (2012)

Publisher: Preventing Chronic Disease
Authors: Jacobs JA, Jones E, Gabella BA, Spring B, Brownson RC
Summary: Overview of tools to conduct community assessments, select evidence, plan D&I efforts, and evaluate results

http://bit.ly/jacobs_implementing

Dissemination

Beyond Scientific Publication: Strategies for Disseminating Research Findings

Publisher: Community Alliance for Research and Engagement
Summary: Checklist and worksheets to develop a dissemination plan and select strategies

https://bit.ly/CARE_strategies

Coblis – Color Blindness Simulator (2018)

Publisher: Colblindor
Summary: Online platform to upload pictures and test visibility for people with visual impairments

https://bit.ly/coblis

Contrast Checker

Publisher: WebAIM
Summary: Online tool to assess contrast of text and background color for people with visual impairments

https://webaim.org/resources/contrastchecker

Designing for Dissemination: Lessons in Message Design from "1-2-3 Pap" (2015)

Publisher: Health Communication
Authors: Cohen E, Head K, McGladrey M, et al.
Summary: Case study on disseminating HPV vaccination messages, with lessons on adapting messages and selecting dissemination channels

https://bit.ly/cohen_dissemination

Disseminating a Smoke-Free Homes Program through 2-1-1

Publisher: Nicotine & Tobacco Research
Authors: Bundy LT, Haardorfer R, Kegler MC, et al.
Summary: Results of disseminating smokefree homes information through 2-1-1 helplines that connect callers of low socioeconomic status to assistance

https://bit.ly/bundy_smokefree

Disseminating Policy and Environmental Change Interventions: Insights from Obesity Prevention and Tobacco Control (2015)

Publisher: International Journal of Behavioral Medicine
Authors: Leeman J, Myers A, Ribisl K, Ammerman A
Summary: Challenges in disseminating policy and environmental change information and strategies to overcome them

http://bit.ly/leeman_disseminating

Dissemination Planning Tool (2014)

Publisher: Agency for Healthcare Research and Quality
Summary: Six-step tool and guiding questions to create a dissemination plan

https://bit.ly/ahrq_planning

Future Directions in Disseminating Research Findings to Urban Alaska Native People (2018)

Publisher: American Indian Alaska Native Mental Health Research
Authors: Shane AL, Apok CR, Doyle MJ, Hiratsuka VY, Dillard DA
Summary: Lessons learned about sharing information with Alaska Native populations

http://bit.ly/shane_directions

Getting the Word Out: New Approaches for Disseminating Public Health Science (2018)

Publisher: Journal of Public Health Management and Practice
Authors: Brownson R, Eyler A, Harris J, Moore J, Tabak R
Summary: Review of new dissemination channels to share research findings with practitioners

http://bit.ly/brownson_disseminating

Google Analytics

Publisher: Google
Summary: Online tool to track interactions with webpages and web-based content

http://bit.ly/google_getanalytics

Guide to Writing for Social Media (2012)

Publisher: Centers for Disease Control and Prevention
Summary: Best practices for using social media and text messaging to communicate public health messages

https://bit.ly/cdc_guidesocialmedia

The Health Communicator's Social Media Toolkit (2011)

Publisher: Centers for Disease Control and Prevention
Summary: Guide to communicating through social media and other digital channels

http://bit.ly/cdc_socmedia

Impact and Value: Telling Your Program's Story (2007)

Publisher: Centers for Disease Control and Prevention
Summary: Guidance for developing success stories

https://bit.ly/cdc_impact

Implementation Research Toolkit: Disseminating the Research Findings (2014)

Publisher: World Health Organization
Summary: Toolkit module 5 of 6, with an overview of dissemination products and step-by-step guidance to disseminate research

https://bit.ly/who_toolkit

Knowledge Translation Planning Template (2013)

Publisher: The Hospital for Sick Children
Summary: Checklist to plan dissemination efforts

http://bit.ly/hsc_template

Making the Web Accessible

Publisher: W3C Web Accessibility Initiative
Summary: Resources and information on making webpages accessible for people with disabilities

https://www.w3.org/WAI

Plain Language: Getting Started or Brushing Up

Publisher: National Institutes of Health
Summary: Information and checklist for writing and formatting easy-to-understand documents

https://bit.ly/nih_plainlanguage

Plain Language.gov

Publisher: Plain Language Action and Information Network
Summary: Federal guidelines for writing in plain language

https://www.plainlanguage.gov

The D-Cubed Guide: Planning for Effective Dissemination (2011)

Publisher: Australian Learning & Teaching Council
Summary: Strategies to disseminate evidence, including assessing readiness for change and budgeting for dissemination

https://bit.ly/au_planning

Potent Presentations Initiative

Publisher: American Evaluation Association
Summary: Videos, checklists, and other tools for creating effective presentations

http://bit.ly/aea_ppi

SAMHSA American Indian/Alaska Native Communication Strategy (2016)

Publisher: Substance Abuse and Mental Health Services Administration (SAMHSA)
Summary: Audiences, messages, and channels to disseminate evidence to tribal populations

https://bit.ly/samhsa_communication

Section 508.gov

Publisher: U.S. General Services Administration
Summary: Information on federal requirements for accessible documents

https://www.section508.gov

United States Census

Publisher: U.S. Census Bureau
Summary: Local, county, and state-level demographic data that can inform audience research

https://www.census.gov

Implementation

A Refined Compilation of Implementation Strategies: Results from the Expert Recommendations for Implementing Change (ERIC) Project (2015)

Publisher: Implementation Science
Authors: Powell BJ, Waltz TJ, Chinman MJ, et al.
Summary: A list of 73 strategies to implement clinical and public health evidence-based interventions

http://bit.ly/powell_eric

Active Implementation Hub

Publisher: National Implementation Research Network
Summary: Series of interactive learning modules on implementation topics, such as implementation stages and improvement cycles

https://nirn.fpg.unc.edu/modules-and-lessons

Adapting Community Interventions for Different Cultures and Communities

Publisher: Community Tool Box
Summary: Guiding questions to learn about the community when adapting interventions

https://bit.ly/ctb_communityinterventions

Creating Communities of Practice

Publisher: Edmonton Regional Learning Consortium
Summary: Guidance on creating and supporting peer networks for implementers to learn from one another

http://bit.ly/ca_cop

Delivering Training and Technical Assistance (2010)

Publisher: Compassion Capital Fund
Summary: Worksheets for designing and delivering training and technical assistance

http://bit.ly/ccf_trainingandTA

Do We Need to De-Implement an Existing Program? A Checklist to Inform Decision Making

Publisher: Substance Abuse and Mental Health Services Administration (SAMHSA)
Summary: Checklist to decide whether to continue or end an evidence-based intervention

https://bit.ly/nccmt_checklist

ExpandNet

Publisher: World Health Organization
Summary: Guides for scaling up evidence-based interventions

https://expandnet.net

Evaluation of RE-AIM Dimensions Table

Publisher: Re-AIM
Summary: A 5-part framework to evaluate dimensions of implementation

https://bit.ly/reaim_evaluation

Implementation Science at a Glance (2018)

Publisher: National Cancer Institute
Summary: Introduction to core concepts of Implementation Science and tips for practitioners who want to implement evidence-based interventions

https://cancercontrol.cancer.gov/IS/tools/practice.html

Implementation Science (2018)

Publisher: BioMed Central
Summary: Open access journal publishing the latest research on Implementation Science

https://implementationscience.biomedcentral.com

Implementation Science Communications (2018)

Publisher: BioMed Central
Summary: Open access companion journal to Implementation Science publishing research on increasing implementation strategy uptake

https://implementationsciencecomms.biomedcentral.com

Increasing the Scale of Population health Interventions: A Guide (2014)

Publisher: NSW Ministry of Health
Summary: Guide for assessing scalability of evidence, creating a scale-up plan, and scaling up interventions

https://bit.ly/nsw_scalability

Implementation Research and Practice (2018)

Publisher: SAGE Publishing
Summary: Open access journal publishing research on implementation strategies to address mental health and substance use disorders

https://journals.sagepub.com/home/irp

Letting Go: Conceptualizing Intervention De-implementation in Public Health and Social Service Settings (2018)

Publisher: American Journal of Community Psychology
Authors: McKay VR, Morshed AB, Brownson RC, Proctor EK, Prusaczyk B
Summary: Overview of de-implementation and criteria for identifying interventions to be discontinued

https://bit.ly/McKay_lettinggo

Methods for Translating Evidence-Based Behavioral Interventions for Health-Disparity Communities (2013)

Publisher: Preventing Chronic Disease
Authors: Napoles A, Santoyo-Olsson J, Stewart A
Summary: Strategies to implement evidence-based interventions among priority populations

https://bit.ly/Napoles_methods

RE-AIM

Publisher: RE-AIM
Summary: Information, publications, and tools about a 5-part implementation planning and evaluation framework

http://www.re-aim.org

Scaling-Up Brief: Readiness for Change (2013)

Publisher: State Implementation & Scaling-up of Evidence-based Practices Center
Authors: Fixsen D, Blase K, Horner R, Sims B, Sugai G
Summary: Elements of organizational readiness necessary to scale-up an evidence-based intervention

https://unc.live/39CRlNe

Scaling-up Health Promotion/Disease Prevention Programs in Community Settings: Barriers, Facilitators, and Initial Recommendations (2010)

Publisher: Patrick and Catherine Weldon Donaghue Medical Research Foundation
Authors: Norton W, Mittman B
Summary: Experiences from 10 community-based programs in scaling up interventions and lessons learned

http://bit.ly/norton_scalingup

Six Components Necessary for Effective Public Health Program Implementation (2014)

Publisher: American Journal of Public Health
Authors: Frieden TR
Summary: Overview of six elements of effective public health programs

http://bit.ly/frieden_components

Training Plan Template

Publisher: Active Implementation Hub
Summary: Worksheet to guide the development of an implementation training plan

https://bit.ly/aihub_template

Understanding Mis-Implementation in Public Health Practice (2015)

Publisher: American Journal of Preventive Medicine
Authors: Brownson R, Allen P, Jacob R, et al.
Summary: Survey of public health departments about incorrectly ending effective interventions or continuing ineffective ones

http://bit.ly/brownson_misimplementation

Case Studies

CALIFORNIA

Building and Scaling-up California Quits: Supporting Health Systems Change for Tobacco Treatment (2018)

Publisher: American Journal of Preventive Medicine
Authors: Kaslow AA, Romano PS, Schwarz E, Shaikh U, Tong EK
Summary: Description of scaling up the CA Quits health systems change initiative to safety-net healthcare providers

http://bit.ly/kaslow_CAQuits

CA Quits: Redesigning the Health Care System to Combat California's Smoking Disparities (2018)

Publisher: Digital Access to Scholarship at Harvard
Author: Kaslow AA
Summary: Formative evaluation describing the CA Quits scale-up initiative and barriers and drivers to scaling up

http://bit.ly/kaslow_redesigning

NEBRASKA

Smoke-Free Public Housing Policies in Nebraska (2016)

Publisher: Nebraska Department of Health and Human Services
Summary: Findings from a survey of Nebraska's public housing agencies about adoption of smokefree policies

http://bit.ly/nebraska_smokefree

States in Action: Nebraska

Publisher: Centers for Disease Control and Prevention
Summary: Success story describing Nebraska's efforts to reduce secondhand smoke exposure in multi-unit housing

http://bit.ly/cdc_nebraska

State Tobacco Control Program Implementation Strategies for Smoke-Free Multiunit Housing (2016)

Publisher: Health Promotion Practice
Authors: Kuiper NM, Marshall LL, Lavinghouze R, King BA
Summary: Case study of three states and strategies used to reduce secondhand smoke exposure in multi-unit housing

http://bit.ly/kuiper_strategies

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3. US Department of Health and Human Services. The health consequences of smoking—50 years of progress: a report of the Surgeon General. Published 2014. Accessed November 11, 2018. https://www.cdc.gov/tobacco/data_statistics/sgr/50th-anniversary/index.htm.
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7. Tobacco use and secondhand smoke exposure: smoke-free policies. The Guide to Community Preventive Services. Published 2012. Accessed July 11, 2019. https://www.thecommunityguide.org/findings/tobacco-use-and-secondhand-smoke-exposure-smoke-free-policies.
8. Tobacco use and secondhand smoke exposure: interventions to increase unit price for tobacco products. The Guide to Community Preventive Services. Published 2012. Accessed August 5, 2019. https://www.thecommunityguide.org/findings/tobacco-use-and-secondhand-smoke-exposure-interventions-increase-unit-price-tobacco.
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12. Emmons K, Colditz G. Realizing the potential of cancer prevention—the role of implementation science. *New England Journal of Medicine*. 2017;376(10):986-990. doi: 10.1056/NEJMsb1609101.
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17. Prevention Research Centers: PRC history. Centers for Disease Control and Prevention. Published December 9, 2018. Accessed July 26, 2019. https://www.cdc.gov/prc/about-prc-program/history.htm.
18. About The Community Guide. The Guide to Community Preventive Services. Accessed March 27, 2019. https://www.thecommunityguide.org/about/about-community-guide.
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20. Cancer Prevention and Control Research Network. Accessed July 26, 2019. https://cpcrn.org/home.
21. Evidence-Based Practices Resource Center. Substance Abuse and Mental Health Services Administration. Updated April 2020. Accessed October 17, 2019. https://www.samhsa.gov/ebp-resource-center.
22. Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academies Press; 2001. https://pubmed.ncbi.nlm.nih.gov/25057539/.
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32. Centers for Disease Control and Prevention. Best practices user guide: health communications in tobacco prevention and control. Published 2018. Accessed November 6, 2018. https://www.cdc.gov/tobacco/stateandcommunity/bp-health-communications/index.htm.
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