Public Health Practice in Communities

With Thiruvengadam Muniraj

CHAPTER OUTLINE

Chapters 24 and 25 discuss the organization and health of the public health system overall. This chapter discusses the theory and practice of improving community health. Theories are important because a theory-based program is more likely to be effective (see Chapter 15). The technical term for attempts to improve community health is *community/program planning.*

Community planning is defined as an organized process to design, implement, and evaluate a clinic or community-based project to address the needs of a defined population.[1] Community planning is often the province of personnel in a public health agency, such as the commissioner of health or agency staff. However, the principles of community planning and evaluation pertain to any person who has a stake in improving the community (stakeholders, policy makers), including an employee of a foundation, school, mayor's office, or political party and any interested citizen. Although there are many ideas on how to improve the health of a community, many good ideas fail. Reasons include lack of community or organizational support, lack of coordination, "turf battles," inefficient and duplicative efforts, and failure to use evidence-based interventions. Careful planning before a project begins can make a significant impact on the success of the project.[2]

This chapter discusses the steps involved in planning and evaluating a program, highlighting two special applications of community planning: (1) tobacco prevention, as an example of multiple successful community interventions (Box 26-1), and (2) health disparities, one of the greatest public health problems. A community is only as strong as its weakest link. Therefore, public health practitioners should aim not just to raise health overall, but to raise most the health of the vulnerable populations. Box 26-2 lists some examples how health disparities have been successfully addressed.

Many models and acronyms describe the steps of community planning (Box 26-3). They all have their strengths and weaknesses. We follow mainly the steps outlined in the Centers for Disease Control and Prevention (CDC) model, Community Health Assessment and Group Evaluation (CHANGE).[3] Other models are described in the section that addresses their main emphasis. Any other model of community planning likely works equally well as long as planners follow the following basic principles:

- Assemble community stakeholders and, in collaboration with them, define the agenda, values, and priorities.
- Perform a needs assessment.
- Design measurable objectives and interventions.
- Choose multilevel approaches rather than single interventions.
- Build evaluation into the entire process.

Table 26-1 provides an overview of the process and possible resources for each step.

I. THEORIES OF COMMUNITY CHANGE

When behavioral factors are a threat to health, improving health requires behavior change. Unhealthy behaviors (e.g., sedentariness) need to be replaced by healthy ones (e.g.,

Box 26-1 Prevention Efforts: Tobacco Use (Cigarette Smoking)

The decrease in tobacco use has been called one of the 10 great public health achievements in the 20th century. This success illustrates what is required to change community health practices. Several historic factors came together to enable significant improvements in this important public health problem.

A. Credible evidence and effective interventions led to medical consensus:

1. Changes in understanding of the genesis of tobacco addiction reframed the problem as not one of individual control and choice, but of addiction. Evidence for harm to nonsmokers (secondary tobacco exposure) strengthened the case for regulation.
2. Behavioral and pharmacologic treatments became available, making it easier to support smokers desiring to quit.

B. Trusted experts and grassroots groups provided effective advocacy:

3. The American Cancer Society, American Lung Association, and American Heart Association were each advocating against tobacco independent from each other. In 1981 they formed a coalition on smoking, which was later joined by the American Medical Association. This broad coalition led legitimacy to the argument against smoking.
4. Grassroots efforts in many communities and from many sources changed cultural norms about smoking. Examples include flight attendants advocating for their right for a smoke-free workplace and the *Reader's Digest* series educating its readers. These grassroots groups framed their issues as part of the broader environmental protection movement and increased consumer health consciousness.

C. Political will on many levels and available funds led to effective tobacco control.

5. On a federal level, Congress passed several laws addressing tobacco labeling, advertising on TV and radio, smoking bans on airlines and buses, and changes to FDA rules for more oversight over tobacco production and marketing.
6. *States' action.* States used excise tax on tobacco to fund smoking control programs, which led to the development and evaluation of community-level approaches to tobacco control.
7. New litigation strategies opened up even more monies and created willingness in industry to agree to changes.

Because of this high level of attention at all levels and significant funding for community prevention programs, multiple effective interventions to reduce smoking were developed, evaluated, and disseminated. The U.S. Community Preventive Services recommends a three-pronged approach combining strategies to:

- Reduce exposure to environmental tobacco smoke.
- Reduce tobacco use initiation, especially among adolescents.
- Increase tobacco use cessation.

Recommended interventions include:

- Smoking bans and restrictions in public areas, workplaces, and areas where people congregate
- Increasing the unit price for tobacco products
- Mass media campaigns of extended duration using brief, recurring messages to motivate children and adolescents to remain tobacco free
- Provider reminders to counsel patients about tobacco cessation
- Provider education combined with such reminders
- Reducing out-of-pocket expenses for effective cessation therapies
- Multicomponent patient telephone support through a state quit line

Modified from Institute of Medicine: Ending the tobacco problem: a blueprint for the nation, 2007; Task Force on Community Preventive Services (TFCPS): Recommendations regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke, *Am J Prev Med* 20(2 suppl):10–15, 2001; and Tobacco. In Zaza S, Briss PA, Harris KW, editors: *The guide to community preventive services: what works to promote health?* Atlanta, 2005, Oxford University Press, http://www.thecommunityguide.org/tobacco/Tobacco.pdf.

Box 26-2 Addressing Health Disparities

Health in the U.S. population is characterized by pervasive and persistent health care disparities, sometimes also called *health inequities.* Despite the deeply rooted and intractable nature of many health care disparities, many states and communities have successfully implemented intervention to reduce them. Characteristics of successful programs include:

- Strong data skills with geographic mapping of premature death clusters and other determinants of health
- Strong coalitions among agencies, community leaders, and other stakeholders
- Assessment of the community environment as a whole and addressing the social determinants at the root of health inequities (e.g., poverty, low rates for high school graduation, violence)
- Empowering communities to a sense of increased ownership and leadership
- Emphasizing community participation
- Addressing environmental factors such as safe walkability, bikeability of environment, and access to high-quality food
- Making health equity a component of all policies, including housing, youth violence, transportation, and agriculture

Interventions against health inequities can be successful even on a very small scale. Examples for such successful interventions include librarians who visit schools to give each child a library card; public housing directors who address lead and mold; and safe route to school initiatives with "human school buses" (group of parents who take turns in walking children to school).

Modified from Centers for Disease Control and Prevention: Health disparities and inequalities report (CHDIR), 2011. http://www.cdc.gov/minorityhealth/CHDIReport.html#ExecSummary. IOM reports on unequal treatment and reducing healthcare disparities. http://www.iom.edu/Reports/2011/State-and-Local-Policy-Initiatives-To-Reduce-Health-Disparities-Workshop-Summary.aspx

Box 26-3 Frequently Used Acronyms in Program Planning

CBPR	Community-Based Participatory Research
CHANGE	Community Health Assessment and Group Evaluation
DEBI	Diffusion of Effective Behavioral Interventions
DOI	Diffusion of Innovations
HEDIS	Healthcare Effectiveness Data and Information Set
IOM	Institute of Medicine
MAP-IT	Mobilize, Assess, Plan, Implement, Track
MAPP	Mobilizing for Action through Planning and Partnerships
NACCHO	National Association of County and City Health Officials
NCQA	National Committee for Quality Assurance
NPHPSP	National Public Health Performance Standards Program
P.L.A.N.E.T.	Plan, Link, Act, Network with Evidence-based Tools
PAR	Participatory Action Research
PATCH	Planned Approach to Community Health
PRECEDE	Predisposing, Reinforcing, and Enabling Constructs in Educational Diagnosis and Evaluation
PROCEED	Policy, Regulatory, and Organizational Constructs in Educational and Environmental Development
RTIP	Research Tested Intervention Program
RE-AIM	Reach, Efficacy,Adoption, Implementation, Maintenance
SCT	Social Cognitive Theory
SMART	Specific, Measurable, Attainable, Relevant, and Timely
SPARC	Sickness Prevention Achieved through Regional Collaboration
VERB	Not an acronym, but a program emphasizing *verb* as a part of speech, meaning an *action* word

Table 26-1 Overview of Steps for Community Program Design, Implementation, and Evaluation

Step/Description	Suggested Resources*
1. Create strategy and elicit community input.	Community Health Assessment and Group Evaluation (CHANGE) http://www.cdc.gov/healthycommunitiesprogram/tools/change.htm
2. Identify primary health issues in your community.	Community Health Assessment and Group Evaluation County Health Rankings: http://www.countyhealthrankings.org/ National Public Health Performance Standards: http://www.cdc.gov/nphpsp/ Mobilizing for Action through Planning and Partnerships (MAPP): http://www.naccho.org/topics/infrastructure/MAPP/index.cfm
3. Develop measurable process and outcome objectives to assess progress in addressing these health issues.	*Healthy People 2020* leading health indicators http://www.healthypeople.gov/2020/default.aspx HEDIS (Healthcare Effectiveness Data and Information Set) performance measures http://www.ncqa.org/tabid/59/default.aspx
4. Select effective interventions to help achieve these objectives.	*Guide to Community Preventive Services* *Guide to Clinical Preventive Services* http://www.uspreventiveservicestaskforce.org National Guideline Clearinghouse: http://guidelines.gov/ Research-Tested Intervention Programs http://rtips.cancer.gov/rtips/index.do
5. Implement selected interventions.	Partnership for Prevention: http://preventioninfo.org/ CDCynergy http://www.cdc.gov/healthcommunication/CDCynergy/ http://rtips.cancer.gov/rtips/index.do
6. Evaluate selected interventions based on objectives; use this information to improve program.	Framework for program evaluation in public health http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4811a1.htm CDCynergy www.re-aim.org

Modified from *The community guide,* Atlanta, 2011, Centers for Disease Control and Prevention. http://www.thecommunityguide.org/uses/program_planning.html.
*For all steps, 1 through 6: Community health promotion handbook: Action guides to improve community health: http://www.prevent.org/Action-Guides/The-Community-Health-Promotion-Handbook.aspx; Cancer Control P.L.A.N.E.T.: http://cancercontrolplanet.cancer.gov/; Community tool box: http://ctb.ku.edu/en/default.aspx; DEBI: http://www.effectiveinterventions.org/en/Home.aspx.

exercise). Individual behavior, however, does not occur in a vacuum; it is strongly influenced by group norms and environmental cues. Practitioners aiming to change group norms and environmental cues should be aware of theories of community changes. This is because, as with any behavior change, practitioners will have a higher chance of success if they intervene in accordance with a valid theory of behavior change (see Chapter 15 for theories of individual behavior change.) A number of theories have been developed to describe how individual change is brought about through interpersonal interactions and community interventions. These theories can be broadly characterized as **cognitive-behavioral theories** and share the following key concepts:

- Knowledge is necessary, but is not in itself sufficient to produce behavior changes.
- Perceptions, motivations, skills, and social environment are key influences on behavior.

Some well-known theories governing social change are social cognitive theory, community organization and other participatory approaches, diffusion of innovations, and communication theory. Taken together, these theories can be used to influence factors within a social-ecological framework, as follows:

Interpersonal: Family, friends, and peers provide role models, social identity, and support.
Organizations: Organizations influence behavior through organizational change, diffusion of innovation, and social marketing strategies.
Community: Social marketing and community organizing can change community norms on behavior.
Public policy: Public opinion process and policy changes can change the incentives for certain behaviors and make them easier or more difficult (e.g., taxes on high-sugar beverages).

Although behavior can be changed directly through any of these levels, the physical, regulatory, and political environments also have a powerful impact on behavior.

A. Social Cognitive Theory

Social cognitive theory (SCT) is one of the most frequently used and robust health behavior theories.[4] It explores the reciprocal interactions of people and their environments and the psychosocial determinants of health behavior (see Chapter 15).

Environment, people, and their behavior constantly influence each other **(reciprocal determinism).** Behavior is not simply the result of the environment and the person, just as the environment is not simply the result of the person and behavior.[5] According to SCT, three main factors affect the likelihood that a person will change a health behavior: (1) self-efficacy (see Chapter 15), (2) goals, and (3) outcome expectancies, in which people form new norms or new expectations from observing others **(observational learning).**

B. Community Organization

A heterogeneous mix of various theories covers community organization. The **social action theory** describes how to increase the *problem-solving ability* of entire communities through achieving concrete changes towards social cause. The theory includes several key concepts. **Empowerment** is a social action process that improves community's confidence and life skills beyond the topic addressed. Empowerment is any social process that allows people to gain mastery over their life and their community. For example, individuals in a community may feel more empowered as they work together to strengthen their cultural identity and their community assets. Empowerment builds community capacity.

Community capacity is the unique ability of a community to mobilize, identify, and solve social problems. It requires the presence of leadership, participation, skills, and sense of community. Community capacity can be enhanced in many ways, such as through skill-building workshops that allow members of the community to become more effective leaders.

Critical consciousness is a mental state by which members in a community recognize the need for social change and are ready to work to achieve those changes. Critical consciousness can be built by engaging individuals in dialogues, forums, and discussions that clearly relate how problems and their root causes can be solved through social action.

Social capital refers to social resources such as trust, reciprocity, and civic engagement that exist as a result of network between community members. Social capital can connect individuals in a fragmented community across social boundaries and power hierarchies and can facilitate community building and organization. Social networking techniques and increasing the social support are vital methods that build social capital.[6]

Media advocacy is an essential component of community organizing. It aims to change the way community members look at various problems and to motivate community members and policy makers to become involved. This occurs through a reliable, consistent stream of publicity about an organization's mission and activities, including articles and news items about public health issues. Media advocacy relies on mass media, which make it expensive. In the 21st century, *social media* and games can generate extensive publicity with minimal investment. Table 26-2 summarizes how social marketing, public relations, and media advocacy complement each other.

1. Participatory Research

Immigrants and racial or ethnic minorities often distrust the health care system, making it more difficult for researchers

Table 26-2 Relationship of Social Marketing, Public Relations, and Media Advocacy

	Social Marketing	Public Relations	Media Advocacy
Message focus	"Look at you." Know about risk. Change your behavior.	"Look at me." Enhance image and relationship with public.	"Look at us." Sets agenda. Shapes debate. Advances policy.
Target audience	Individuals at risk General public	Funders Clients	Stakeholders Policy makers
Effect	Individuals	Individuals	Social environment
Benefits	Motivates individual behavioral change.	Develops strategic relationships. Generates support for cause.	Community change through policy

Modified from Media Advocacy to Advance Public Health Policy, UCLA Center for Health Policy Research, 2002. http://www.healthpolicy.ucla.edu/healthdata/tw_media2.pdf

and health practitioners to identify and address the health needs of these communities. For these groups, as well as for building community capacity in general, various participatory research methods have been proposed. Participatory efforts combine community capacity–building strategies with research to bridge the gap between the knowledge produced and its translation into interventions and policies.[7]

Participatory action research (PAR) and **community-based participatory research** (CBPR) are two participatory research approaches that have gained increasing popularity since the late 1980s.[8] Both PAR and CBPR conceptualize community members and researchers working together to generate hypotheses, conduct research, take action, and learn together. PAR focuses on the researcher's direct actions within a participatory community and aims to improve the performance quality of the community or an area of concern.[9-12] In contrast, CBPR strives for an action-oriented approach to research as an equal partnership between traditionally trained experts and members of a community. The community members are partners in the research, not subjects.[13] Both approaches give voice to disadvantaged communities and increase their control and ownership of community improvement activities.[10,13,14]

The guidelines for participatory research in health promotion[15] describe seven stages in participation, from passive or no participation to **self-mobilization.** For both approaches, the process is more important than the output, goals and methods are determined collaboratively, and findings and knowledge are disseminated to all partners.[10,13] Participatory research is more difficult to execute because of greater time demands and challenges in complying with external funding requirements.[16-18] For example, if actions require a negotiated process with the community, they may divert from a project plan previously submitted to a funder.

Engaging the community in research efforts is essential in translating research into practice. However, there are still large gaps in translating conclusions from well-conducted randomized trials into community practice. The **Multisite Translational Community Trial** is a research tool designed to bridge the gap. This trial type explores what is needed to make results from trials workable and effective in real-world settings and is particularly suited to practice-based research networks such as the Prevention Research Centers.[19]

C. Diffusion of Innovations Theory

To be successful, a community strategy needs to be disseminated. Successful dissemination is called **diffusion.** Diffusion of innovations (DOI) theory is characterized by four elements: innovations, communication channels, social systems (the individuals who adopt the innovation), and diffusion time. The DOI literature is replete with examples of successful diffusion of health behaviors and programs, including condom use, smoking cessation, and use of new tests and technologies by health practitioners.[20] Although DOI theory can be applied to behaviors, it is most closely associated with devices or products.

Groups are segmented by the speed with which they will adopt innovations. *Innovators* are eager to embrace new concepts. Next, *early adopters* will try out innovations, followed by members of the *early majority* and *late majority. Laggards* are the last to accept an innovation. Consequently, innovations need to be marketed initially to innovators and early adopters, then need to address each segment in sequence. The relevant population segments are generally referred to as innovators 2.5% of the overall population), early adopters (13.5%), early majority (34%), late majority (34%), and laggards (16%).[20]

The speed of adoption by any group depends on *the perceived characteristics* of the innovations themselves. **Relative advantage,** the degree to which an innovation is perceived as being better than the idea it supersedes, is a consequence of the following:

- *Compatibility,* the degree to which an innovation is perceived to be consistent with the existing values, current processes, past experiences, and needs of potential adopters
- *Low complexity,* the degree to which an innovation is perceived as easy to use
- *Trialability,* the opportunity to experiment with the innovation on a limited basis
- *Observability,* the degree to which the results of an innovation are visible to others

1. Social Marketing in Public Health

Social marketing is typically defined as a program-planning process that applies commercial marketing concepts and techniques to promote behavior change in a **target audience.** Social marketing has also been used to analyze the social consequences of commercial marketing policies and activities, such as monitoring the effects of the tobacco and food industries' marketing practices.[21] As in commercial marketing, social marketing depends on the following:

Audience segmentation. Dividing markets into small segments based on sociodemographic, cultural, or behavioral characteristics.[22]

Tailoring messages to individuals. Tailored messages address specific cognitive and behavioral patterns as well as individual demographic characteristics. Therefore, tailored materials are more precise, but also more limited in population reach and more expensive. For example, the CDC's VERB campaign ("It's what you do") specially promoted the benefits of daily physical activity to children age 9 to 13 years.[23]

Branding. Public health branding is the application of commercial branding strategies to promote health behavior change.[24] For example, a study recruited highly regarded peers to make condom use "cool" among a group of men at risk for human immunodeficiency virus (HIV) infection.[25]

Marketing mix. Addressing the four Ps of marketing (product, price, place, promotion) and redefining them for social marketing (see next).

Product is the desired type of behavioral change and includes not only the behavior being promoted but also the benefits that go with it. **Price** is an exchange of benefits and costs and refers to barriers or costs involved in adopting the behavior (e.g., money, time, effort). **Place** (making new

behaviors easy to do) is about making the "product" accessible and convenient, delivering benefits in the right place at the right time. **Promotion** (delivering the message to the audience) is how the practitioner informs the target market of the product, as well as its benefits, reasonable cost, and convenience. Social marketing techniques have been used successfully in many communities that seemed impervious to traditional health promotion messages.[26]

D. Communication Theory

Communication theory describes the use of communication to effect change at the community level and in society as well. Communication influences community and societal change in areas such as building a community agenda of important public health issues, changing public health policy, allocating resources to make behavior change easier, and legitimizing new norms of health behavior.

1. Delphi Technique

The Delphi technique is a method for structuring a group communication process so that it is effective in allowing a group of individuals, as a whole, to deal with a complex problem.[27] Furthermore, it is a method for the systematic solicitation and collation of judgments on a particular health topic through a set of carefully designed sequential questionnaires, interspersed with summarized information and feedback of opinions from earlier responses. The Delphi technique is used most frequently to integrate the judgments of a group of experts on guidelines if there is insufficient evidence. It can also be used to help decision making in a disparate group such as a community coalition.

2. Role of Media Communication

Media institutions play a crucial role in health behavior change because of their role in disseminating information. As agents of socialization, media also have a powerful impact in legitimizing behavioral norms. Popular and academic perspectives both hold that media communication plays a powerful role in promoting, discouraging, or inhibiting healthy behaviors. Public health managers need to be aware of how messages are produced and how they impact people. In particular, media can play a major role in how a problem is *framed.* This framing influences how the public understands it, how much attention people will pay, and which actions individuals or communities are likely to take. For example, the Harvard School of Public Health mounted a successful campaign to persuade television producers to include messages about designated drivers with their ads.[28]

Knowledge and behavior change can each precede the other. In **dissonance-attribution,** behavior change comes before attitude change and knowledge, whereas in the **low-involvement** hierarchy, increased knowledge leads to behavior change and finally attitude change. Early studies focused on opinion or attitude change based on the credibility of the information source, fear, organization of arguments, the role of group membership in resisting or accepting communication, and personality differences. Since the 1960s, however, research has emphasized cognitive processing of information leading to persuasion.

Table 26-3 summarizes key concepts and potential change strategies for communication. Table 26-4 outlines theories of behavior change at the community level.

E. Environmental Influences on Behavior

Many health promotion campaigns seek to reduce high-risk behaviors such as unhealthy eating, alcohol and drug abuse, and smoking. Such programs should not ignore the material, social, and psychological conditions in which the targeted behaviors occur. For example, a strong association exists among material hardship, low social status, stressful work or life events, and smoking prevalence.[29] Many strategies that include modifications of the regulatory environment (e.g., taxes on tobacco products) and "built" environment (e.g., impact of an environment that is conducive to exercise or obesity) seem to be at least as effective as those directly aimed at behaviors. The structural as well as the political and socioeconomic environment influences how people interact, behave, and recover from noxious stimuli. This interaction has been described extensively by D. William Haddon for the field of injury prevention (see Chapter 24). However, Haddon's concept of countermeasures to injury is equally

Table 26-3 Concepts in Communication: Agenda Setting

Concept	Definition	Potential Change Strategies
Media agenda setting	Institutional factors and processes influencing how the media define, select, and emphasize issues	Understand media professionals' needs and routines for gathering and reporting news.
Public agenda setting	The link between issues covered in the media and the public's priorities	Use media advocacy or partnerships to raise public awareness of key health issues.
Policy agenda setting	The link between issues covered in the media and the legislative priorities of policy makers	Advocate for media coverage to educate and pressure policy makers about changes to the physical and social environment needed to promote health.
Problem definition	Factors and process leading to identification of an issue as a "problem" by social institutions	Community leaders, advocacy groups, and organizations define an issue for the media and offer solutions.
Framing	Selecting and emphasizing certain aspects of a story and excluding others	Advocacy groups "package" an important health issue for the media and the public.

From Glanz K, Rimer BK, Viswanath K: *Health behavior and health education: theory, research, and practice,* Bethesda, Md, National Cancer Institute at National Institutes of Health, 2008. http://www.cancer.gov/cancertopics/cancerlibrary/theory.pdf

Table 26-4 Overview of Community-Level Theories of Behavior Change

Theory	Description	Key Factors
Community organization	Community-driven approaches to assessing and solving health and social problems	Empowerment Community capacity Participation Relevance Issue selection Critical consciousness
Diffusion of innovations	How new ideas, products, and practices spread within a society or from one society to another	Relative advantage Compatibility Complexity Trialability Observability
Communication theory	How different types of communication affect health behavior	Media agenda setting Public agenda setting Policy agenda setting Problem identification and definition Framing

From Glanz K, Rimer BK, Viswanath K: *Health behavior and health education: theory, research, and practice,* Bethesda, Md, National Cancer Institute at National Institutes of Health, 2008. http://www.cancer.gov/cancertopics/cancerlibrary/theory.pdf

Table 26-5 Application of Haddon Countermeasures to Gun Injury and Cancer Prevention

Countermeasure	Preventing Injury by Handguns	Preventing Cancer Associated with Smoking
1. Prevent the creation of the hazard.	Eliminate handguns.	Eliminate cigarettes.
2. Reduce the amount of hazard brought into being.	Limit the number of handguns allowed to be sold or purchased.	Reduce the volume of tobacco production by changing agricultural policy.
3. Prevent the release of the hazard.	Install locks on handguns.	Limit sales of tobacco to certain age groups.
4. Modify the rate of release of the hazard from its source.	Eliminate automatic handguns.	Develop cigarettes that burn more slowly.
5. Separate the hazard from that which is to be protected by time and space.	Store handguns only at gun clubs rather than at home.	Establish shutoff times for vending machines and earlier closings of convenience stores and groceries.
6. Separate the hazard from that which is to be protected by a physical barrier.	Keep guns in locked containers.	Install filters on cigarettes.
7. Modify relevant basic qualities of the hazard.	Personalize guns so they can be fired only by the owner.	Reduce the nicotine content of cigarettes.
8. Make what is to be protected more resistant to damage from the hazard.	Create and market bulletproof garments.	Limit exposure to other potential synergistic causes of cancer (e.g., environmental carcinogens) among smokers.
9. Begin to counter the damage done by the hazard.	Provide good access to emergency care in the prehospital period.	Set up screening to detect cancer in the early stages.
10. Stabilize, repair, and rehabilitate the object of damage.	Provide high-quality trauma care in hospitals.	Provide good-quality health care for cancer patients.

Modified from Runyan CW: *Epidemiol Rev* 25:60–64, 2003.

applicable to harmful behaviors such as smoking[30] (Table 26-5). Structural interventions for patients with HIV infection have been categorized into the following three dimensions:

1. **Social change.** These approaches focus on factors affecting multiple groups (e.g., a region or country as a whole), such as legal reform, stigma reduction, and efforts to cultivate strong leadership on acquired immunodeficiency syndrome (AIDS).
2. **Change within specific groups.** These approaches address social structures that create vulnerability among specific populations (e.g., men who have sex with men, mine workers, disadvantaged women). Examples include efforts to organize and mobilize sex workers, microfinance programs for poor women, and interventions to change harmful sexual norms.
3. **Harm reduction or health-seeking behavior change.** These approaches work to make harm reduction technologies available to those in need and to change rules, services, and attitudes about these technologies. Examples include efforts to provide safe housing for drug users and "100% condom use" campaigns.

Using a theoretical model of the interactions between behavior and environment (such as those just listed) allows planners to think through the interaction of people, harmful substances, and their environment. It opens up new ways of thinking about prevention in a more comprehensive way.

II. STEPS IN DEVELOPING A HEALTH PROMOTION PROGRAM

One model of program planning comes from the CDC's **Community Health Assessment and Group Evaluation.** CHANGE is a comprehensive data collection tool and resource for community program planning with the following steps (see Table 26-1):

1. Define a strategy and assemble a team.
2. Identify primary health issues.
3. Develop objectives to measure progress.
4. Select effective interventions.
5. Implement innovations.
6. Evaluate.

Some of the specific programs relevant to each of these steps are explained in detail next. Again, other planning resources/programs are described under those headings where they have a strong emphasis.

A. Define Strategy and Assemble Team

Broad-based participation in the planning process from the start is critical to the success of a project.[31] Possible coalition participants include physicians, nurses, social workers, teachers, emergency medical services (EMS) personnel, health educators, parents, and police. However, partners can also come from churches, businesses, dental clinics, and unions. It is important to stress that building a coalition should come *before* gathering any data. There is no reason to gather data on problems nobody is willing or able to change. *Sustainable coalitions* are those that utilize preexisting partnerships, have access to at least minimal levels of funding, are perceived as well functioning, and plan for sustainability.[32,33]

B. Identify Primary Health Issues

The second step in program planning is to identify the primary health issues concerning the community. This involves a **needs assessment** (areas for improvement) as well as **asset mapping** (identifying the people, institutions, available funds, and capacity to solve problems). Tools used in screening and identifying overall problems in the community include the following:

- PRECEDE-PROCEED model
- Planned Approach to Community Health (PATCH)
- Mobilizing for Action through Planning and Partnerships (MAPP)
- National Public Health Performance Standards Program (NPHPSP)
- Data sources (see Chapter 25)
- Tools within the CHANGE process

Examples for a needs assessment that emphasizes the environmental factors of diet, exercise, and smoking include the following questions[34]:

Do sidewalks make walking (walkability) and biking (bikeability) easy and safe? Are they connected, continuous, free from barriers, and safe from traffic and crime?

Are healthier food options in grocery stores available and affordable? Are they of good quality?

How many homes, parks, hospitals, and schools have easy access to tobacco and are exposed to tobacco advertising?

Are there tobacco-free campus policies in hospitals, on college campuses, and in multiunit housing?

1. PRECEDE/PROCEED Model

The PRECEDE-PROCEED tool, a planning model developed by Green and Kreuter, provides a comprehensive structure for (1) assessing health and quality-of-life needs and (2) for designing, implementing, and evaluating health promotion and other public health programs to meet those needs. The PRECEDE part—**Predisposing, Reinforcing, and Enabling Constructs in Educational Diagnosis and Evaluation**—outlines a diagnostic planning process to assist in the development of targeted and focused public health programs. The second part, PROCEED, provides an implementation and evaluation program—**Policy, Regulatory, and Organizational Constructs in Educational and Environmental Development**—for the program designed using PRECEDE. The process starts with desired outcomes and works backward to identify a mix of strategies for achieving objectives[35] (Fig. 26-1).

PRECEDE comprises the following five steps[36]:

Step I: **Social assessment.** Determining the quality of life or social problems and needs of a given population. To conduct a social assessment, the practitioner may use multiple data collection activities (e.g., key informant interviews, focus groups, participant observation, surveys) to understand the community's perceived needs.

Step II: **Epidemiologic assessment.** Identifying the health determinants of these problems and needs. The epidemiologic assessment may include secondary data analysis or original data collection to prioritize the community's health needs and establish program goals and objectives.

Step III: **Behavioral and environmental assessment.** Analyzing the behavioral and environmental determinants of the health problems. This step identifies factors, both internal and external to the individual, that affect the health problem. Reviewing the literature and applying theory are two ways to map out these factors.

Step IV: **Educational and ecological assessment.** Identifying the factors that predispose to, reinforce, and enable the behaviors and lifestyles. Practitioners can use individual, interpersonal, or community-level change theories to classify determinants of behavior into one of these three categories and rank their importance. Because each type of factor requires different intervention strategies, classification helps practitioners consider how to address community needs.

Step V: **Administrative and policy assessment.** Ascertaining which health promotion, health education, and policy-related interventions would best be suited to encourage the desired changes.

PROCEED comprises four additional phases, as follows[36]:

Step VI: **Implementation.** Carrying out the interventions from step V.

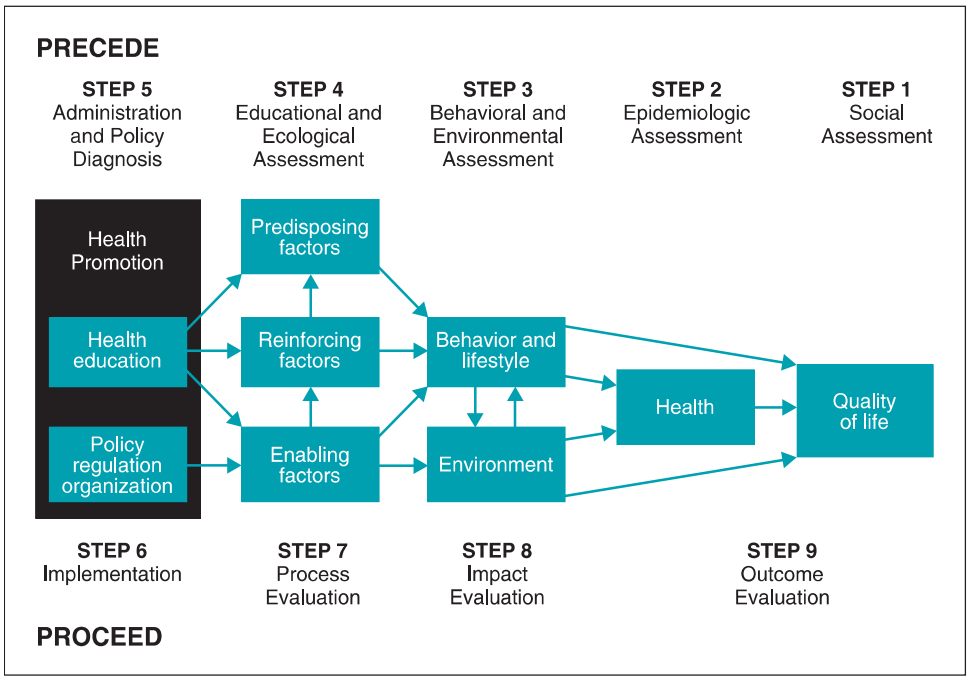

Figure 26-1 The PRECEDE/PROCEED model. (Redrawn and modified from Green L, Kreuter M: *Health program planning: An educational and ecological approach*, ed 4, New York, 2005, McGraw-Hill. Slide 8 from http://www.lgreen.net/hpp/chapters/Chapter01.htm.)

Step VII: **Process evaluation.** Evaluating the process for implementing the interventions.
Step VIII: **Impact evaluation.** Evaluating the impact of the interventions on the factors supporting behavior and on behavior itself.
Step IX: **Outcome evaluation.** Determining the ultimate effects of the interventions on the health and quality of life of the population.

In reality, when implemented in a program, PRECEDE and PROCEED interact as a continuous cycle, since feedback data from the PROCEED steps indicate how programs may be modified to more closely reach their goals and targets.[37]

2. Planned Approach to Community Health

The Planned Approach to Community Health (PATCH) was developed by the CDC in the mid-1980s. The primary goal of PATCH was to create a practical mechanism through which effective community health education action could be targeted to address local-level health priorities. A secondary goal was to offer a practical, skills-based program of technical assistance in which health education leaders in state health agencies could work with their local counterparts to establish effective community health education programs.[38] Those interventions included mobilizing the community, collecting and organizing data, choosing health priorities, developing a comprehensive intervention plan, and evaluation.

Historically, the most demanding and time-consuming step in PATCH has often been the gathering and analysis of local area data to facilitate program planning and evaluation. On average, communities spent about a year collecting and analyzing data. This energy appears to be well spent, however. With information to document the magnitude and extent of their health problems and to set measurable health priorities for health promotion and disease prevention, communities have additional leverage to strengthen their requests for resources. With more data becoming available online (see Chapter 25), this step may become less demanding in the future.

3. Mobilizing for Action through Planning and Partnerships

Mobilizing for Action through Planning and Partnerships (MAPP) is a program sponsored by the National Association for County and City Health Officials (NACCHO) in cooperation with the Public Health Practice Program Office of the CDC. It is a community-driven strategic planning process for improving community health. The seven principles of MAPP are as follows:

1. **Systems thinking**—to promote an appreciation for the dynamic interrelationship of all components of the local public health system required to develop a vision of a healthy community.
2. **Dialogue**—to ensure respect for diverse voices and perspectives during the collaborative process.
3. **Shared vision**—to form the foundation for building a healthy future (visioning).
4. **Data**—to inform each step of the process.
5. **Partnerships and collaboration**—to optimize performance through shared resources and responsibility.
6. **Strategic thinking**—to foster a proactive response to the issues and opportunities facing the system.
7. **Celebration of successes**—to ensure that contributions are recognized and to sustain excitement for the process.

In addition to these seven principles, MAPP also emphasizes identifying community strengths and assessing current forces of change (Fig. 26-2).

C. Develop Objectives to Measure Progress

One of the most important parts in planning change is to define objectives. **Objectives** are defined as specific measurable parameters; each objective should be specific, relevant, measurable, and associated with a time frame. Objectives can cover structure, processes, or outcomes (see Chapter 28). When writing objectives, health planners should follow the acronym SMART: **specific, measurable, attainable, relevant, and timely.** One source of SMART objectives is the *Healthy People* database.[39]

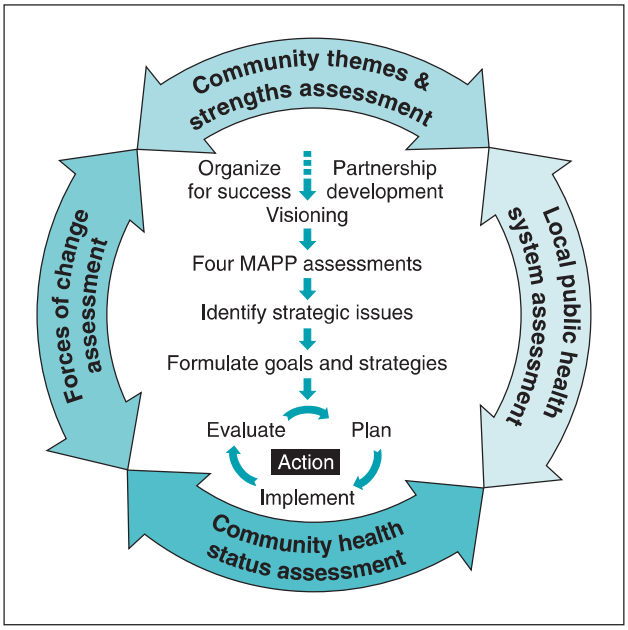

Figure 26-2 Mobilizing for Action through Planning and Partnerships (MAPP). (From National Association of County and City Health Officials, Washington, DC, with Centers for Disease Control and Prevention, Atlanta. http://www.naccho.org/topics/infrastructure/MAPP/index.cfm)

1. Healthy People 2020

During the 1970s, representatives from many public health and scientific organizations began to develop national health promotion and disease prevention objectives. Their efforts resulted in the publication of objective, science-based, national 10-year objectives to improve the health of all Americans. The most recent version of these is *Healthy People 2020.* Although the federal government acted as coordinator and facilitator of these efforts and supported the goals and objectives outlined, the documents themselves were "not intended as a statement of federal standards or requirements."[40] They do represent, however, a national consensus strategy of the government, public health organizations, and public-spirited citizens. The reports have had a major impact on the way government and other institutions in the United States direct their resources in public health. For example, most federal grants require possible grantees to describe how proposals will advance *Healthy People 2020* goals.

Healthy People 2020 proposed the following four overarching goals (Table 26-6):

1. Attain high-quality, longer lives free of preventable disease, disability, injury, and premature death.
2. Achieve health equity, eliminate disparities, and improve the health of all groups.
3. Create social and physical environments that promote good health for all.

Table 26-6 *Healthy People 2020:* Goals, Foundational Health Measures, and Progress

Overarching Goals	Foundational Health Measures Category	Measures of Progress
Attain high-quality, longer lives free of preventable disease, disability, injury, and premature death.	General health status	Life expectancy Healthy life expectancy Physically, mentally unhealthy days Self-assessed health status Limitation of activity Chronic disease prevalence International comparisons (where available)
Achieve health equity, eliminate disparities, and improve the health of all groups.	Disparities and inequity	*Disparities/inequity to be assessed by:* Race/ethnicity Gender Socioeconomic status Disability status Lesbian, gay, bisexual, and transgender status Geography
Social and physical environments that promote good health for all.	Social determinants of health	*Determinants can include:* Social and economic factors Natural and built environments Policies and programs
Promote quality of life, healthy development, and healthy behaviors across all life stages.	Health-related quality of life and well-being	Well-being/satisfaction Physical, mental, and social health-related quality of life Participation in common activities

From *Healthy People 2020,* U.S. Department of Health and Human Services: http://healthypeople.gov/2020/TopicsObjectives2020/pdfs/HP2020_brochure_with_LHI_508.pdf

4. Promote quality of life, healthy development, and healthy behaviors across all life stages.

Four **foundational health measures** serve as an indicator of progress: (1) general health status, (2) health-related quality of life and well-being, (3) determinants of health, and (4) disparities (see Table 26-6). Each foundational health measure is further divided into submeasures. *Healthy People 2020* contains 42 topic areas with almost 600 objectives (with others still evolving), encompassing 1200 measures. A smaller set of objectives, called **leading health indicators,** has been selected to communicate high-priority health issues and actions that can be taken to address them (Table 26-7).

The document includes measurable indicators of progress, which are helpful in tracking progress or documenting the lack of progress. For each leading indicator, an objective is described and appropriate background information provided. Each focus area objective is broken into many subobjectives, each of which has baseline values and target values for subgroups of the population (age, gender, ethnic, and other subgroups).[40]

Mobilize, assess, plan, implement, track (MAP-IT) is a framework that can be used to plan and evaluate public health interventions in a community using the *Healthy People 2020* objectives (Fig. 26-3). Using MAP-IT, a step-by-step, structured plan can be developed by a coalition and tailored to a specific community's needs. The phases of mobilize-assess-plan-implement-track provide a logical structure for communities to address and resolve local health problems and to build healthy communities.

D. Select Effective Interventions

1. Community Preventive Services

The U.S. Preventive Services Task Force (USPSTF) *Guide to Clinical Preventive Services* championed a rigorous, evidence-based approach to **clinical** preventive services. Modeled on this process, the Department of Health and Human Services (DHHS) tasked the CDC to develop a parallel guide to **community preventive services** (CPS).[41] The *Guide to Community Preventive Services* is a free, online resource to help choose programs and policies to improve health and prevent disease in the community.[42]

METHODS

Systematic reviews are used to answer questions such as: Which program and policy interventions have proved

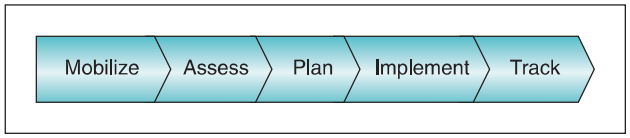

Figure 26-3 MAP-IT. This framework to help set objectives for the health of the U.S. population is from *Healthy People 2020,* a joint effort of the U.S. Department of Health and Human Services with representatives from the departments of Agriculture; Education, Housing and Urban Development; Justice; the Interior; and Veterans Affairs, as well as the Environmental Protection Agency.

Table 26-7 *Healthy People 2020:* Leading Health Indicators

12 Topic Areas	26 Leading Health Indicators
Access to health services	Persons with medical insurance
	Persons with a usual primary care provider
Clinical preventive services	Adults who receive colorectal cancer screening based on most recent guidelines
	Adults with hypertension whose blood pressure is under control
	Adult diabetic population with Hb A_{1c} value greater than 9%
	Children age 19-35 months who receive recommended doses of diphtheria, tetanus, and pertussis; polio; measles, mumps, and rubella; *Haemophilus influenzae* type b; hepatitis B; varicella; and pneumococcal conjugate vaccines
Environmental quality	Air Quality Index exceeding 100
	Children age 3-11 years exposed to secondhand smoke
Injury and violence	Fatal injuries
	Homicides
Maternal, infant, and child health	Infant deaths
	Preterm births
Mental health	Suicides
	Adolescents who experience major depressive episodes
Nutrition, physical activity, and obesity	Adults who meet current federal physical activity guidelines for aerobic physical activity and muscle-strengthening activity
	Adults who are obese
	Children and adolescents who are considered obese
	Total vegetable intake for persons age 2 years and older
Oral health	Persons age 2 years and older who used oral health care system in past 12 months
Reproductive and sexual health	Sexually active females age 15-44 who received reproductive health services in past 12 months
	Persons living with HIV infection who know their serologic status
Social determinants	Students who graduate with a regular diploma 4 years after starting ninth grade
Substance abuse	Adolescents using alcohol or any illicit drugs during past 30 days
	Adults engaging in binge drinking during past 30 days
Tobacco	Adults who are current cigarette smokers
	Adolescents who smoked cigarettes in past 30 days

Modified from *Healthy People 2020,* U.S. Department of Health and Human Services: http://healthypeople.gov/2020/TopicsObjectives2020/pdfs/HP2020_brochure_with_LHI_508.pdf

effective? Are there effective interventions suited for that community? What might effective interventions cost? What is the likely return on investment?

Recommendations address a wide variety of topics, such as the following:

- Worksite health promotion (e.g., tobacco policy, physical inactivity, health risk appraisal)
- Supporting local community health (e.g., community water fluoridation, school vaccination program, school-based physical education)
- Addressing social determinants of health

After balancing the evidence and cost-effectiveness of recommendations, the guide provides the following ratings: recommended, recommended against, and insufficient evidence.

RECOMMENDATIONS

Changing Risk Behaviors Commensurate with policy successes, data is abundant to rate tobacco interventions (see Box 26-1), but much less for other less-funded topics, such as high-calorie foods and firearms. There are also sometimes heterogeneous results for identical interventions on various diseases, such as patient reminders for breast cancer screenings versus other cancers. Examples for community interventions aimed at changing risk behaviors[43] include community-wide campaigns to promote the intake of folic acid among women of childbearing age and restricted hours for teenage drivers (see Chapter 24).

Addressing the Environment Commensurate with the influence of environment on behavior, many community guide recommendations address the importance of the environment. Examples include laws mandating seat belt use, community-level urban redesign to make neighborhoods more walkable and bikeable, and community water fluoridation to decrease caries. Other agencies have also published numerous strategies to improve diet and exercise (e.g., improving school food policies to make healthy choices available for lunches and snacks), adopting worksite wellness policies that promote healthy lifestyle choices for staff and the community, establishing smoke-free environments in parks, and establishing farmers' markets and community gardens.

Reducing Disease, Injury, and Impairment Community guide recommendations addressing the reduction of disease, injury, and impairment include early-childhood home visitation programs for violence and injury prevention, influenza vaccination programs for health care workers, and partner notification for HIV-positive individuals.

2. *Cultural Congruence of Interventions*

It is important to balance evidence-based interventions with those that are culturally congruent with the community. Health program evaluators have long known that a particular program may be an outstanding success in one community, place, and time, yet fail miserably in another community or even in the same community at another time. Even strong evidence is not a substitute for common sense and sensitivity to local culture. Evidence supports that interventions with community support and perceived as culturally congruent are more effective.[44] Lastly, any intervention needs to be tailored to individual patients' needs for maximum engagement, especially for hard-to-reach populations.[45]

E. Implement Innovations

Implementation of interventions poses its own challenges, mainly managing people's reaction to change (see Chapter 28). The role of the environment and community capacity should not be underestimated. The *Guide to Community Preventive Services* evaluates the effectiveness of types of interventions (vs. individual programs) by conducting systematic reviews of all available research in collaboration with partners. One such innovation is the **Research Tested Intervention Program** (RTIP), a searchable database of cancer control interventions with detailed program materials. RTIP is designed to provide program planners and public health practitioners with easy and immediate access to research-tested materials.

F. Evaluate

Evaluation should be built into the entire process of any project. The evaluation must be planned at the start of the planning process. If left until the end of the project, important opportunities to understand what did and did not work may be lost. The overall structure of an evaluation program was outlined by the CDC in 1999 with 30 standards for effective program evaluation guided by the following overarching principles[46] (Fig. 26-4):

Utility. Evaluations should serve the practical information needs of a given audience. Questions for this domain include: Is the purpose of your evaluation clear? Who needs the information, and what information do they need? Will the evaluation provide relevant, useful information in a timely manner?

Feasibility. Evaluations take place in the field and should be realistic, prudent, diplomatic, and frugal. Questions for this domain include: How practical is your evaluation? How much money, time, and effort can you invest? Is the planned evaluation realistic, given the time, resources, and expertise available?

Propriety. The rights of individuals affected by evaluations should be protected. Questions for this area include: What steps need to be taken for your evaluation to be ethical and legal? Does it protect the rights and welfare of the individuals involved? Does it engage those affected by the program and the evaluation?

Accuracy. Evaluations should produce and convey accurate information about a program's merit and value. Questions for this area include: Have you documented your program clearly and accurately? What design will provide accurate, valid, and reliable information? Have you demonstrated that your measures are valid and reliable? Have you used appropriate analyses, and are your conclusions justified? Is your report impartial?

Other examples of domains to think through in evaluation include the RE-AIM model: **reach, efficacy, adoption, implementation, maintenance.**[47]

For evaluating, it can sometimes be helpful to structure evaluation of a project in the logic model. The **basic logic**

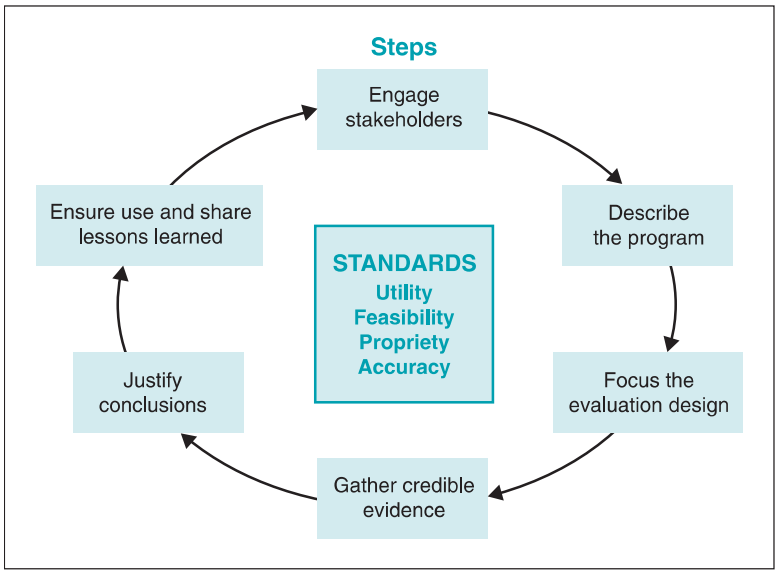

Figure 26-4 Program evaluation in public health. (Modified from Baker QE, Davis DA, Gallerani R, et al: *An evaluation framework for community health programs*, Durham, NC, 2000, Center for the Advancement of Community Based Public Health. http://www.doh.state.fl.us/COMPASS/documents/Community_Health_Programs_Eval.pdf)

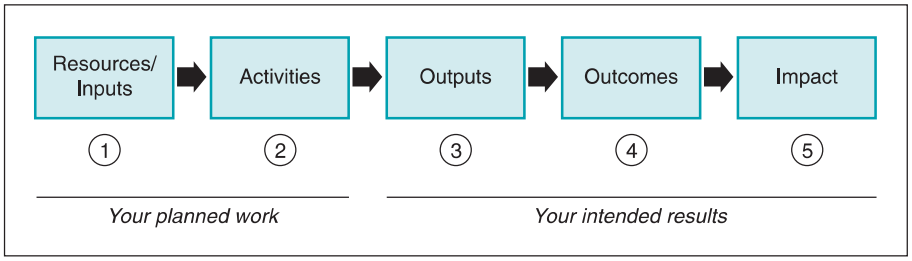

Figure 26-5 Basic logic model. (Modified from *The logic model development guide*, 1998, WK Kellogg Foundation. http://www.wkkf.org/knowledge-center/resources/2006/02/WK-Kellogg-Foundation-Logic-Model-Development-Guide.aspx)

model distinguishes resources, input, output, outcomes, and impact (Fig 26-5).

Evaluations can be done using qualitative or quantitative methods and can be formative or summative type. Questions for a **formative** evaluation include: Was the process implemented? Which activities, meetings, or training sessions were implemented, and when? A **summative** evaluation attempts to assess if the program had the expected impact/outcome. In practice, most evaluations are *quantitative* (e.g., surveys, screening, data collections, chart reviews, computer-generated reports). They use numerical data to evaluate objectives. However, quantitative evaluation will not provide information about why an intervention did or did not work, and whether participants were satisfied with the interventions. *Qualitative* methods can answer those questions; examples include direct observations, satisfaction surveys, focus groups, and interviews with providers or program participants (Fig. 26-6).

III. FUTURE CHALLENGES

Multiple challenges are inherent in the program planning process and are likely to become worse with decreasing resources and an environment less and less conducive to healthy lifestyles. A few of these challenges are outlined here.

A. Integrating Clinical Care and Prevention

Interventions that address multiple levels simultaneously are much more effective than interventions aimed at one group (e.g., tobacco quit rates among adolescents are higher if parents and adolescents are targeted at the same time).[48] Although some health problems might be best addressed by either a clinical prevention approach *or* a community approach, the theories listed at the beginning of this chapter teach us that an integrated and combined approach is usually most effective.[49] Interventions on both levels usually reinforce each other and also leverage existing resources for maximum impact.

B. Integrating Community-Based Prevention with Other Community Services

Another approach to prevention is to integrate it with other community services. This has been demonstrated successfully with the **Sickness Prevention Achieved through Regional Collaboration** (SPARC) model,[50] which integrates preventive services with voting booths and home-delivered meals. Other examples include school-based health clinics, and work-based incentives and competitions (see Chapter 22).

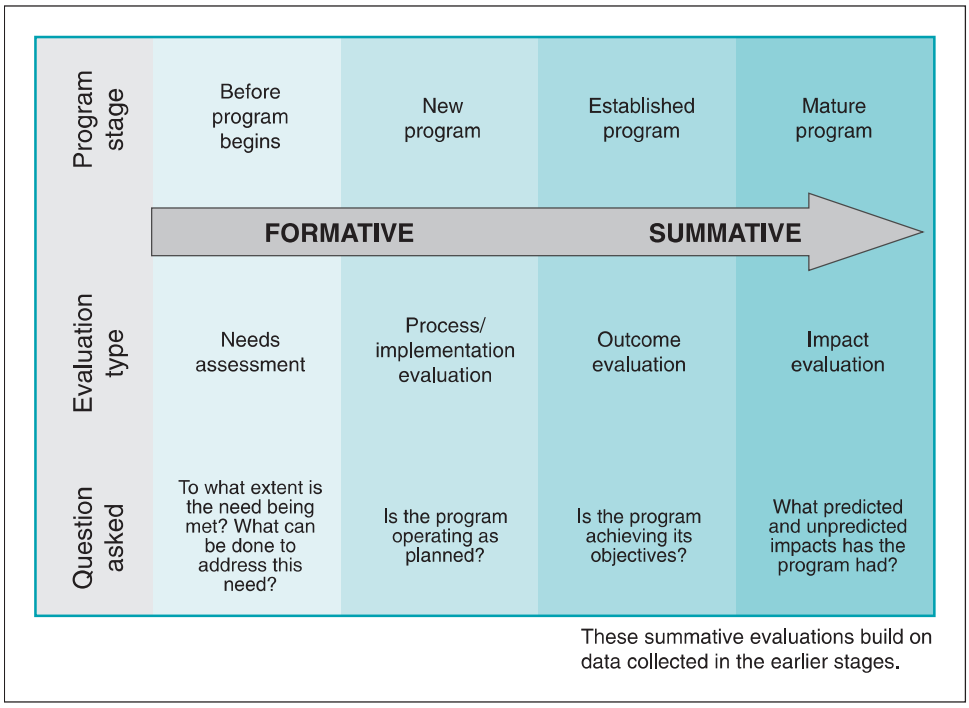

Figure 26-6 Summary of evaluation procedures. (Modifed from Norland E: From education theory ... to conservation practices. Annual Meeting of the International Association for Fish & Wildlife Agencies, Atlantic City, NJ, 2004; Pancer SM, Westhues A: A developmental stage approach to program planning and evaluation, *Eval Rev* 13:56–77, 1989; and Rossi PH, Lipsey MW, Freeman HE: *Evaluation: a systematic approach*, Thousand Oaks, Calif, 2004, Sage.)

C. E-Health

Electronic health information (e-health) includes the use of traditional media for new uses (e.g., TV series to promote healthy eating among Hispanic viewers),[51] as well as new media. Newer communication strategies include, but are not limited to, health information on the Internet, online support groups, online collaborative communities, information tailored by computer technologies, educational computer games, computer-controlled in-home telephone counseling, and patient-provider e-mail contact. Major benefits of e-health strategies follow:

- Increased reach (ability to communicate to broad, geographically dispersed audiences)
- Asynchronous communication (interaction not bounded by having to communicate at the same time)
- Ability to integrate multiple communication modes and formats (e.g., audio, video, text, graphics)
- Ability to track, preserve, and analyze communication (computer records of interaction, analysis of interaction trends)
- User control of the communication system (ability to customize programs to user specifications)
- Interactivity (e.g., increased capacity for feedback)

Examples for such successful use of new media include a video game series to improve children's and adolescents' self-care behaviors for asthma;[52] texting adolescents with sexual health test messages;[53] and the use of Internet tools to increase diagnosis of hepatitis C.[54]

Social media and emerging technologies will likely blur the line between expert and peer health information. Monitoring and assessing the impact of these new media (e.g., mobile health) on public health will be challenging. Further challenges arise with changes in health care quality and efficiency resulting from the creative use of health communication and information technology (IT). Capturing the scope and impact of these changes—and the role of health communication and health IT in facilitating them—will require multidisciplinary models and data systems. Such systems will be critical to expanding the collection of data to better understand the effects of health communication and health IT on population health outcomes, health care quality, and health disparities.[39]

IV. SUMMARY

Community program planning is defined as an organized process to design, implement, and evaluate a community-based project to address the needs of a defined population. Community planning should be guided by theories (social cognitive, diffusion, communication). Changing the structural, social, and political environment to be more conducive to healthy behavior is crucial. Multiple models to guide community planning are available, including PRECEDE/PROCEED, PATCH, CHANGE, and MAPP. Community planning includes these steps: assemble a team, assess community health status, define objectives, select effective intervention, implement the intervention, and evaluate. The *Healthy People 2020* objectives provide science-based objectives for 26 leading health indicators. The *Guide to Community Preventive Services* evaluates community interventions in a rigorous, science-driven process, providing science-based recommendations on interventions proved effective. Evaluations can be formative or summative, and the

evaluation process should be built into the entire program process rather than appended at the end. Future trends in community prevention may include integrating clinical and community preventive services as well as integrating preventive services with other community activities.

References

1. McKenzie J, Pinger R, Kotecki J: *An introduction to community health*, Boston, 2005, Jones & Bartlett, p 127.
2. Frazier PJ, Horowitz AM: Priorities in planning and evaluating community oral health programs. *Fam Community Health* 3:103–113, 1980.
3. Centers for Disease Control and Prevention: Community health assessment and group evaluation. www.cdc.gov/healthycommunitiesprogram/tools/change.htm
4. Bandura A: *Self-efficacy: the exercise of control*, New York, 1997, WH Freeman.
5. Glanz K, Rimer BK, Lewis FM: *Health behavior and health education: theory, research and practice*, San Francisco, 2002, Wiley & Sons.
6. Minkler M, Wallerstein N, Wilson N: Improving health through community organization and community building. In Glanz K, Rimer BK, Lewis FM, editors: *Health behavior and health education: theory, research, and practice*, San Francisco, 2008, Wiley & Sons.
7. Jacobs G: Conflicting demands and the power of defensive routines in participatory action research. *Action Res* 8:367, 2010.
8. Cornwall A, Jewkes J: What is participatory action research? *Soc Sci Med* 41:1667–1676, 1995.
9. Dick B: Action Research and Action Learning for community and organizational change, 2002. http://www.aral.com.au/resources/aandr.html
10. Reason P, Bradbury H, editors: *Handbook of action research: participative inquiry and practice*, Thousand Oaks, Calif, 2001, Sage.
11. Hult M, Lennung S: Towards a definition of action research: a note and bibliography. *J Manage Stud* 17:242–250, 1980.
12. McNiff J: Action research for professional development, ed 3. http://www.jeanmcniff.com/ar-booklet.asp
13. Minkler M, Wallerstein N, editors: *Community-based participatory research for health: from process to outcomes*, ed 2, San Francisco, 2008, Jossey-Bass.
14. Stoecker R: Making connections: community organizing, empowerment planning, and participatory research in participatory evaluation. *Sociol Pract* 1:209–232, 1999.
15. Green LW: Ethics and community-based participatory research: commentary on Minkler. *Health Educ Behav* 31:698–701, 2004.
16. Kur E, DePorres D, Westrup N: Teaching and learning action research: transforming students, faculty and university in Mexico. *Action Res* 6:327–349, 2008.
17. Sankaran S, Hase S, Dick B, et al: Singing different tunes from the same song sheet: four perspectives of teaching the doing of action research. *Action Res* 5:293–305, 2007.
18. Ospina S, Dodge J, Godsoe B, et al: From consent to mutual inquiry: balancing democracy and authority in action research. *J Action Res* 2:47–69, 2004.
19. Katz DL, Murimi M, Gonzalez A, et al: Controlled trial to community adoption: the Multisite Translational Community Trial. *Am J Public Health* 101:e17–e27, 2011.
20. Rogers EM: *Diffusion of innovations*, ed 5, New York, 2003, Free Press.
21. Hastings G, Saren M: The critical contribution of social marketing: theory and application. *Mark Theory* 3:305–322, 2003.
22. Forthofer MS, Bryant CA: Using audience-segmentation techniques to tailor health behavior change strategies. *Am J Health Behav* 24:36–43, 2000.
23. Huhman M, Berkowitz JM, Wong FL, et al: The VERB campaign's strategy for reaching African-American, Hispanic, Asian, and American Indian children and parents. *Am J Prev Med* 34:S194–S209, 2008. http://www.ajpmonline.org/article/S0749-3797(08)00261-4/fulltext
24. Evans WD, Hastings G: Public health branding: recognition, promise, and delivery of healthy lifestyles. In Evans WD, Hastings G, editors: *Public health branding: applying marketing for social change*, London, 2008, Oxford University Press.
25. Kelly JA, St Lawrence JS, Diaz YE, et al: HIV risk behavior reduction following intervention with key opinion leaders of population: an experimental analysis. *Am J Public Health* 81:168–171, 1991.
26. Gibson DR, Zhang G, Cassady D, et al: Effectiveness of HIV prevention social marketing with injecting drug users. *Am J Public Health* 100:1828–1830, 2010.
27. Linstone HA, Turoff M: The Delphic methods: techniques and applications. *Boston, 1975, Addison-Wesley. Available at http://is.njit.edu/pubs/delphibook*, 2002.
28. http://www.hsph.harvard.edu/research/chc/harvard-alcohol-project/
29. Osler M, Prescott E, Gottschau A, et al: Trends in smoking prevalence in Danish adults, 1964-1994: the influence of gender, age, and education. *Scand J Soc Med* 26:293–298, 1998.
30. Runyan CW: Introduction: back to the future—revisiting Haddon's conceptualization of injury. Epidemiology and prevention. *Epidemiol Rev* 25:60–64, 2003.
31. Hanlon JJ, Pickett GF: *Public health administration and practice*, St Louis, 1984, Mosby.
32. Feinberg ME, Bontempo DE, Greenberg MT: Predictors and level of sustainability of community prevention coalitions. *Am J Prev Med* 34:495–501, 2008.
33. Porterfield DS, Hinnant L, Stevens DM, et al: The diabetes primary prevention initiative interventions focus area: A case study and recommendations. *Am J Prev Med* 39:235–242, 2010.
34. Cowlitz County healthy communities assessment workbook, Pub No 345–296, Washington State Department of Health.
35. http://depts.washington.edu/waaction/action/n2/DOH-HC_Workbook_Cowlitz.pdf
36. Gold R, Green LW, Kreuter MW: *EMPOWER: enabling methods of planning and organizing within everyone's research*, Sudbury, Mass, 1997, Jones & Bartlett.
37. Green LW: Prevention and health education. In Last JM, Wallace RB, editors: *Maxcy-Rosnau-Last: Public health and preventive medicine*, ed 13, Norwalk, Conn, 1992, Appleton & Lange.
38. Nelson CF, Kreuter MW, Watkins NB, et al: A partnership between the community, state and federal government: rhetoric or reality? *Hygiene* 5:27–31, 1986.
39. http://healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=18
40. http://www.healthypeople.gov/2020/LHI/2020indicators.aspx.
41. Benedict I, et al: Developing the *Guide to community preventive services:* overview and rationale. *Am J Prev Med* 18(1 suppl):18–26, 2000.
42. www.thecommunityguide.org
43. http://www.nrpa.org
44. Plescia M, Herrick H, Chavis L: Improving health behaviors in an African American community: the Charlotte racial and ethnic approaches to community health project. *Am J Public Health* 98:1678–1684, 2008.
45. Lee E, Mitchell-Herzfeld SD, Lowenfels AA, et al: Reducing low birth weight through home visitation: a randomized controlled trial. *Am J Prev Med* 36:1554–1560, 2009.
46. http://www.cdc.gov/mmwr/pdf/rr/rr4811.pdf
47. http://cancercontrol.cancer.gov/is/reaim/
48. Guillamo-Ramos V, Jaccard J, Dittus P, et al: The Linking Lives health education program: a randomized clinical trial of a parent-based tobacco use prevention program for African American and Latino youths. *Am J Public Health* 100:1641–1647, 2010.

49. Ockene JK: Integrating evidence-based clinical and community strategies to improve health. *Am J Prev Med* 32:244–252, 2007.
50. http://www.cdc.gov/aging/states/sparc.htm
51. Hinojosa MS, Nelson D, Hinojosa R, et al: Using fotonovelas to promote healthy eating in a Latino community. *Am J Public Health* 101:258–259, 2011.
52. Lieberman DA: Management of chronic pediatric diseases with interactive health games: theory and research findings. *J Ambulatory Care Manage* 24:26–38, 2001.
53. Levine D, McCright J, Dobkin L, et al: Sexinfo: a sexual health text messaging service for San Francisco youth. *Am J Public Health* 98:393–395, 2008.
54. Zuure FR, Davidovich U, Coutinho RA, et al: Using mass media and the Internet as tools to diagnose hepatitis C infections in the general population. *Am J Prev Med* 40:345–352, 2011.

Select Readings

Public health management tools. In Wallace RB, editor: *Maxcy-Rosenau-Last: Public health and preventive medicine*, ed 15, New York, 2008, McGraw-Hill Medical.

Yarbrough DB, Shulha LM, Hopson RK: *The program evaluation standards: a guide for evaluators and evaluation users*, ed 3, Thousand Oaks, Calif, 2011, Sage. American Evaluation Association. http://www.eval.org/

Websites

http://www.ahrq.gov
http://www.thecommunityguide.org
http://www.countyhealthrankings.org/
http://www.effectiveinterventions.org
http://www.healthypeople.gov
http://www.naccho.org/
http://www.prevent.org
http://www.wkkf.org/knowledge-center