Planning & Workforce Development Section

GUIDE AND TEMPLATE FOR COMPREHENSIVE HEALTH IMPROVEMENT PLANNING

Version 2.1

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CONNECTICUT
DEPARTMENT
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Planning Branch

GUIDE AND TEMPLATE FOR COMPREHENSIVE HEALTH IMPROVEMENT PLANNING

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Contents

Introduction

A community of diverse stakeholders exists for every acute and chronic disease and condition of public health interest. Each health community comprises individuals, groups, and institutions that cut across traditional geographic, cultural, and organizational borders. They may include government agencies, academic institutions, health care providers, professional organizations, businesses, health insurers, non-profit organizations, advocacy groups, and individuals who have or are affected by the disease or condition. The community members are united by their shared concerns and commitment to eliminating or reducing the impact of the health condition. More often than not, however, the community exists in concept only. Although members may have specific linkages, they often operate independent of one another, without substantial networking, coordination, or sharing of resources. Fragmentation and lack of true connectedness limits the ability of the community as a whole and its constituent members to get the job done.

As a result, along with their common interests, most health communities typically share the same major problems.

- Infrastructure (administrative and organizational systems) is inadequate.
- Human and financial resources are limited, there is fierce competition for available resources, funding streams are categorical and inflexible, and support from the State legislature, federal government, and other funding sources is insufficient.
- Programs and services are fragmented and lack coordination, resulting in inefficient or redundant efforts.
- Decisions and policies are made *ad hoc* and subjectively, rather than systematically, rationally, and based on sound scientific evidence.
- Where data exist, different data sources are used for decision making by different constituents.
- Programs and services are not evaluated adequately, so information is lacking about what interventions are and are not effective.
- Pronounced disparities in disease and death rates, knowledge, and access to care exist among certain population groups.

For more than a decade, the U.S. Centers for Disease Control and Prevention has been encouraging states to transcend these obstacles by moving in a new direction—toward "comprehensive health improvement planning."[1] The backbone of comprehensive planning is a community-collaborative approach involving partnerships within and among State agencies and

[1] In this guide, "comprehensive" is used in the context of the CDC's comprehensive prevention or control initiatives (cancer, diabetes, HIV, heart disease, stroke, oral disease, tobacco use, childhood lead poisoning, domestic violence, sexual violence, suicide, etc.) as described, for example, in its guidance documents for HIV Prevention Community Planning (http://www.cdc.gov/hiv/topics/cba/resources/guidelines/hiv-cp/index.htm) and Comprehensive Cancer Control (http://www.cdc.gov/cancer/ncccp/cccpdf/guidance-guidelines.pdf).

other public, private, and community organizations, to break down traditional barriers and organizational silos. The partners develop a global plan for the state, and they share responsibility and accountability for it. In this environment, stakeholders can work together on all fronts to combat the health problem through integrated and coordinated efforts with shared priorities.

The planning coalition or consortium is the most common type of public health planning group. For a successful effort, it important to ensure that the planning process involves not only professionals but also those that are affected by the plan and those who will do the work of implementing the plan. Allowing such persons to participate in the decision-making process leads to the development of better plans and improves the ability of the coalitions to carry out their missions.

Public health agencies such as the Connecticut Department of Public Health typically structure their activities using three types of plans: strategic plans, operations plans, and health improvement plans. *Strategic plans* (e.g., *A Plan to Implement Environmental Public Health Tracking in Connecticut*) are organizational business plans that guide the activities of the organization, itself, or its program units--what they are, what they do, and why they do it--in keeping with the organization's mission. *Operations plans* (*Public Health Emergency Response Plan* and its annexes) describe who is responsible for carrying out specific actions, and identify the personnel, equipment, facilities, supplies, and other resources available for use under a given set of circumstances.

In contrast, comprehensive *health improvement plans*, the subject of this document, are road maps for improving the health status and well being of communities or population groups Often called "comprehensive prevention and control plans" for specific diseases or conditions, they focus on ways to eliminate root causes, modify associated behavioral risks, and improve other factors that affect health, such as health insurance coverage and access to health care. Connecticut's *Comprehensive HIV Prevention Plan, Comprehensive Cancer Control Plan, Tobacco Use Prevention and Control Plan*, and *Plan to Eliminate Childhood Lead Poisoning* are examples of comprehensive health improvement planning efforts in our state.

The *Guide and Template for Comprehensive Health Improvement Planning* was created specifically for use by program staff at the Connecticut Department of Public Health, to facilitate development of CDC-sponsored prevention and control plans. It can easily be adapted, however, for use by other governmental and community organizations for their unique planning purposes.

The planning process described here is based on a "flow chart" containing six key elements of a plan: Vision, Mission, Goals, Objectives, Strategies, and Action Plans. Although other terminology or different definitions for the same terms are employed in other planning documents, those used here are particularly well suited to comprehensive health improvement planning. Together, they form a framework for rational planning and decision-making consistent with CDC-style stages and

steps for plan development. More importantly, this planning approach is logical, systematic, and based on historically successful planning initiatives.

The major stages and steps for a multi-year health improvement planning initiative are summarized in the table below.

- ***Part One*** of this document is an outline of the planning process, with suggestions for carrying out each step of plan development, based on real coalition experiences.
- ***Part Two*** contains definitions and examples of the six planning elements: Vision, Mission, Goals, Objectives, Strategies, and Work Plans, including Action Plans.
- ***Part Three*** contains criteria for and methods of setting priorities for organizing the plan into focus areas and for objectives and implementation strategies.
- ***Part Four*** contains a template (available separately as a Microsoft Word document) for creating a generic health improvement plan, and includes current boilerplate content on Connecticut demographics. Except for the Demographics section, the template is in outline form, with headings and "dummy" placeholder text.
- ***The Appendices*** contain suggestions and recommendations for formatting the plan; templates for preparing tables and graphs, based on accepted style conventions and principles for the design and presentation of data (templates also available as Word documents); different literature citation methods; and where to find more information on health planning.

The *Guide and Template* borrows heavily from two excellent CDC planning documents: *Healthy People 2010 Toolkit* and *Guidance for Comprehensive Cancer Control Planning*. Because the present document incorporates features from several existing plans and is intended to be as inclusive as possible, all of its components may not be needed for every planning effort. Hospitalization and death data, for example, may not be germane to genomics or emergency response plans, and a discussion of behavioral risk factors would not be relevant to a plan addressing sickle cell disease. Users are encouraged to adapt the template to their particular planning initiatives and to expand or remove sections as needed. .

SUMMARY STAGES AND STEPS FOR CREATING A COMPREHENSIVE HEALTH IMPROVEMENT PLAN[a]

	Planning Stages and Steps					
Time Line (Months)	**Enhance Infrastructure**	**Mobilize Support**	**Use Data & Research**	**Build Coalitions**	**Assess Burden of Disease or Problem**	**Conduct Evaluation**
1-3	▪ Assess infrastructure needs and capacity ▪ Gain buy-in from coordinating agency's leadership ▪ Identify or hire program coordinator and staff	▪ Assess current level of support	▪ Build linkages to registries and other data-collecting entities and sources	▪ Identify potential coalition members, especially key stakeholder institutions that could serve as "founding partners"		
4-6	▪ Create a core planning group or "steering committee" ▪ Involve other related staff from the coordinating agency ▪ Develop work plan to guide the planning process	▪ Secure funds and in-kind resources for planning	▪ Review published literature ▪ Identify available data and research	▪ Develop clear roles and responsibilities individual participants and organizational members ▪ Develop statement of member benefits		▪ Identify resources and staff for evaluation ▪ Develop questions for evaluating the planning process and outcomes of the planning initiative and the Plan
7-9	▪ Coordinate & monitor the planning process (Ongoing)	▪ Build support in the public and private sectors (Ongoing)	▪ Compile relevant data	▪ Contact and invite potential partners to meeting ▪ Assess partner interest and capacity ▪ Hold first meeting		▪ Document the planning process by archiving meeting minutes and other products (Ongoing)
10-12			▪ Review data and research as basis for Plan goals and objectives ▪ Assess data gaps	▪ Agree on vision, mission, goals, and decision-making process for the planning coalition ▪ Establish coalition leadership ▪ Create committees or work groups	▪ Organize coalition around areas of interest of members (Can be based on vulnerable population groups, the continuum of care, type or site of disease, risk factors, etc.)	▪ Identify emerging challenges encountered and solutions devised during the planning process (Ongoing)
13-15			▪ Collect data if feasible ▪ Incorporate surveillance and research needs into Plan, where data do not exist	▪ Assess partner satisfaction with planning process and level of input (Ongoing)	▪ Use current data and trends to identify critical areas of burden and high-risk populations ▪ Assess gaps in strategies already in place and in existing resources, services, and facilities	▪ Provide technical assistance and training on evaluation to partners ▪ If funding allows, begin process of obtaining a consultant to perform the evaluation

[a] Concept and content adapted from Centers for Disease Control and Prevention, *Guidance for Comprehensive Cancer Control Planning*, March 25, 2002. This example is for a 2-year plan, but the time line could be adapted for longer planning periods.

(*Table continues*)

SUMMARY STAGES AND STEPS FOR CREATING A COMPREHENSIVE HEALTH IMPROVEMENT PLAN[a]

	Planning Stages and Steps					
Time Line (Months)	**Enhance Infrastructure**	**Mobilize Support**	**Use Data & Research**	**Build Coalitions**	**Assess Burden of Disease or Problem**	**Conduct Evaluation**
16-18	▪ Coordinate and monitor the planning process (Ongoing)	▪ Publicize the coalition's efforts	▪ Identify or collect baseline data against which to measure progress ▪ Set targets	▪ Develop ways for new members to join and non-members to provide input (Ongoing)	▪ Formulate goals and SMART objectives with baseline and target data ▪ Identify evidence-based interventions and other strategies for achieving the objectives	
19-21		▪ Develop approaches for funding implementation of the Plan			▪ Establish criteria for setting priorities ▪ Rank objectives, and strategies in order of priority	
22-24		▪ Reassess coalition representation and coverage for implementation			▪ Identify organizations that will implement the strategies ▪ Obtain commitments from members	▪ Develop methods to assess planning process and monitor and evaluate outcomes and implementation

	Planning Outcomes					
Time Line (Months)	**Enhance Infrastructure**	**Mobilize Support**	**Use Data & Research**	**Build Coalitions**	**Assess Burden of Disease or Problem**	**Conduct Evaluation**
24	▪ Management and administrative structures and procedures are developed and enhanced ▪ Planning products are produced, distributed, and archived	▪ Priorities for allocation of existing resources are developed ▪ Gaps in resources and level of support are identified ▪ Use of existing resources and level of support are improved	▪ Planning and research data are reviewed for needs assessment and development of goals, objectives, and strategies ▪ Gaps in data and research are identified ▪ The extent to which planning and implementation decisions are evidence-based is increased	▪ Awareness and involvement of all sectors are expanded ▪ Coordination and collaboration among stakeholders is improved ▪ Original coalition members remain committed and engaged while new members join ▪ Coalition leadership group, committees, and work groups meet regularly	▪ Focus areas for addressing the disease or problem are selected, and priorities are agreed upon	▪ Methods are put in place for assessing the planning process, monitoring implementation, and measuring outcomes
	THE STATE HEALTH IMPROVEMENT PLAN ✓ Written ✓ Reviewed ✓ Finalized ✓ Produced ✓ Distributed					

[a] Concept and content adapted from Centers for Disease Control and Prevention, *Guidance for Comprehensive Cancer Control Planning*, March 25, 2002. This example is for a 2-year plan, but the time line could be adapted for longer planning periods.

Part One

OUTLINE OF THE PLANNING PROCESS

Outline of the Planning Process

Certain events must occur before, during, and after a health improvement plan is written: convening a planning group; creating vision and mission statements for the group; establishing priority areas; identifying goals, objectives, and potential strategies for the overall initiative and each priority area; developing detailed work plans; evaluating the overall plan; using the plan to carry out the planning group's mission; setting priorities for implementation; and reviewing progress.

The following section highlights these steps. In-depth guidance for developing vision and mission statements, goals, objectives, strategies, and work plans, and for setting priorities is provided in subsequent parts of this Guide.

1. CONVENE A PLANNING GROUP

A. Invite individuals and representatives of organizations deeply committed to improving health outcomes, along with those who are affected by the problem.

B. Involve as many stakeholders as possible in the initial planning process. The number of active participants will diminish with time.

   1. Include not only those who will write the plan but also those who will implement it and those who will benefit from it.
   2. Include all sectors and dimensions of the health community:
      a. Government agencies
      b. Academic institutions
      c. Businesses
      d. Faith-based organizations
      e. Community-level, and non-profit organizations
      f. Health care providers and professional organizations
      g. Insurers
      h. Consumers
   3. Ensure diversity in the planning group
      a. Geographic--From all regions of Connecticut
      b. Racial and ethnic—Take care to include members of groups that may experience health disparities
      c. Organizational--To the greatest extent possible, avoid over-representation from too few organizations at the planning table (e.g., from a particular State agency, university, health care organization or facility, etc.) To do so makes the group seem insular, could alienate other potential members, and undermines the "coalition" aspect of the planning effort.

C. Create a smaller "Steering Committee" of planners and representatives from key agencies or community groups to help plan meetings and keep the larger group engaged and organized. As noted above, make sure that no single organization is over-represented. It is better, for example, to have one individual from each of three community organizations than three people from the same organization.

D. Hire an outside facilitator if funding for this purpose exists. This step is particularly important if no one in your group has experience developing a formal plan or has the skills needed to facilitate and coordinate a large, diverse group.

E. Meetings:

1. The appropriate number and duration of meetings will depend on the planning experience of group leaders and number of issues that need to be addressed.
2. Planning meetings should be held no more than 2 or 3 weeks apart; otherwise momentum and involvement will be lost and participants will drop out.

F. At the first or first few meetings, nail down the problem or issue and the general purpose of the gathering. This is, perhaps the most difficult part of the planning process, as it calls for clearly defining the problems to be tackled. In many cases this is best accomplished by dividing the group into "committees" or "work groups" with interest and expertise in specific areas.

2. CREATE A VISION FOR THE COMMUNITY OR INITIATIVE

A. In a meeting devoted to identifying the group's vision, capture:

1. Dreams for the community or initiative--the ideal condition
2. What success would look like
3. How things ought to be
4. What people and conditions would look like if things were consistent with that picture.

B. Support diversity of vision by having multiple vision statements. Write down all statements that emerge, and review them for conciseness (usually 2-10 words) and positive framing.

C. Identify vision statements with particular power

1. Choose vision statements that resonate for the entire group. Consensus is essential.
2. (As appropriate) Select/edit the several that are particularly effective in conveying the group's dreams.
3. Check to see that everyone's voice is heard in the final selections.

D. Choose one statement *that all buy into* and that concisely expresses why the initiative has come to together.

3. CREATE A MISSION STATEMENT

A. The mission statement is the *raison d'etre* of an organization or program--the reason for and driving force behind all its activities, and the "what and why" of its existence.

B. Develop a mission statement for your planning coalition that includes what is to be done and why it is to be done.

1. Describe the essential "what" of the organization or initiative by reviewing its core functions and current programs and activities (e.g., training, advocacy, support)
2. Explain the essential "why" of the organization or initiative by reviewing the vision statements
3. If possible, frame the mission statement as a single sentence that captures the common purpose (essential "what" and "why").

C. Review the mission statement, making sure it is:

1. Clear regarding what is to be done and why
2. Concise (often one sentence)
3. Outcome oriented
4. Robust (It leaves open a variety of possible methods for carrying out the mission)
5. Inclusive (It reflects the voices of all members of the planning coalition, not just those with the strongest voices)

4. ESTABLISH PRIORITIES

A. The planning group needs to set priorities at every level of the plan development process and revisit priorities continually. Priorities must be determined for:

1. Focus areas
2. Goals
3. Objectives
4. Implementation strategies

B. Before priorities or focus areas for a plan can be set, the planning group needs to agree upon criteria for choosing priorities. Factors that drive priorities are:

1. Scarcity of resources
2. Health emergencies or epidemics
3. Demographic trends that affect health (aging of population, changes in tobacco use)
4. Research and technological advances in prevention, diagnosis, and treatment

C. Many methods exist for formulating priorities, but those best suited for health improvement planning have certain characteristics:

1. Rational and systematic, rather than *ad hoc*
2. Clear and consistent criteria
3. Representation and participation in the process by all members of the planning coalition
4. Balanced representation of all sectors and all perspectives

5. As objective as possible
6. Well structured
7. Transparent and understandable process that produces clear and feasible goals and objectives
8. Draw from multidisciplinary knowledge bases (clinical medicine, public health, social sciences, ethics)

D. Commonly used criteria for setting health improvement priorities:
   1. Burden of disease
      a. Magnitude of the problem, disease, or condition (number of people, rate, or percentage of population affected)
      b. Seriousness of the problem, disease, or condition
         1. Urgent need to intervene and act rapidly to control the spread
         2. Public concern
         3. Severity (incidence, prevalence, hospitalization and death rates; premature deaths; disability)
         4. Actual or perceived economic and social consequences
         5. Actual impact on others in the population (infectious diseases, environmental conditions)
   2. Evidence based (there is scientific evidence indicating a potential for disease reduction or the effectiveness of an intervention)
   3. Cost effectiveness (best value for the money)
   4. Disparities or inequalities (to what extent vulnerable populations or disadvantaged groups are affected and can be reached, e.g., the poor, certain racial and ethnic groups)

E. Create a system for ranking all the options in terms of the relative importance of the various criteria. (Methods of priority setting are discussed in detail elsewhere in this Guide.)

F. Common problems encountered with criteria used in priority setting
   1. Difficulty judging relative importance of the criteria
   2. Need to integrate the different criteria and consider them all together, not independent of one another.
   3. Potential for the criteria to conflict with one another
   4. Societal attitudes
      a. Negative attitudes about health problems and interventions related to perceived choice or irresponsible behavior (e.g., addictions; needle exchange programs)
      b. “The rule of rescue” (the desire people feel to rescue individuals facing avoidable death, regardless of cost-effectiveness). This confers priority on identifiable individuals rather than statistically significant population groups or overall need or value

5. DEVELOP ONE OR MORE GOALS FOR THE PROGRAM OR INITIATIVE, AND FOR EACH OF THE PRIORITY AREAS

A. Characteristics of a goal:
   1. A *broad, general statement* about a desired outcome or outcomes for the initiative or program. It represents the eventual destination you hope to reach.
   2. Reflects the overall focus, vision, and direction, along with the context and reality of the community
   3. Can be lofty and idealistic, as *it is not necessary for a goal to be reached within a specified time frame*; in fact, most goals are long-term
   4. Encompasses all aspects of the program or initiative
   5. Can be *non-specific and non-measurable*

B. The number of goals depends on the number of different focus or priority areas encompassed by the initiative
   1. The initiative, itself, can have one or more overarching goals
   2. There also can be separate goals for each priority area in the Plan

6. DEVELOP OBJECTIVES THAT SUPPORT EACH GOAL

A. Objectives state *how much of what you hope to accomplish and by when*

B. In developing objectives, clearly describe:
   1. Baseline or pre-intervention values (The markers or benchmarks for assessment of current status)
   2. Target values (The markers or benchmarks of where we will be if the initiative is successful)
   3. Behavioral objectives (when appropriate)--The changes in behaviors that would result if the intervention were successful; what people would be doing differently.
   4. Population-level objectives--The changes in population-level outcomes that would result if the objectives were completed.

C. Review the objectives to determine if they are “SMART”:
   1. Specific
   2. Measurable (at least potentially)
   3. Achievable
   4. Relevant (to the mission and goal) and Realistic
   5. Time-bound (date for attainment included)

D. When developing objectives, try to be flexible with timelines. Defining objectives is time-consuming and may require second and third considerations for completeness. The best plans are “living documents” that are revisited, evaluated, and updated at least once a year.

7. IDENTIFY POTENTIAL STRATEGIES FOR ACCOMPLISHING THE OBJECTIVES

A. A strategy is an approach to getting things done--a statement of *how* an objective will be achieved. It identifies the general direction of the specific action steps (sequence of events) needed to carry it out. Strategies often begin with words such as "identify," "advocate for" "support," "develop," and "educate."

B. In developing strategies, identify:

1. The levels to be targeted (i.e., individuals, geographic communities, special populations (age groups, racial or ethnic groups, etc.), organizations and sectors, and/or broader systems).
2. Whether the strategy will be universal (i.e., includes all of those who may be at risk or may benefit, e.g. all children and youth) or targeted (i.e., targets those who may be at greater risk for the problem, e.g., youth with a history of violence)
3. The personal and environmental factors to be addressed by the initiative
    a. Personal factors may include: knowledge, beliefs, skills, education and training, experience, cultural norms and practices, social status, cognitive or physical abilities, gender, age.
    b. Environmental factors may include: social support, available resources and services, barriers (including financial, physical, and communication), social approval, policies, environmental hazards, living conditions, poverty.
4. Those who can most benefit and contribute and how they can be reached or involved in the effort
    a. Targets of change - those who may at particular risk
    b. Agents of change - those who may be in a position to contribute to the initiative (includes targets of change)
    c. Community sectors through which targets and agents of change can be reached or involved
5. The kinds of behavioral strategies to be used. Approaches may include:
    a. Providing information and enhancing skills - (e.g., conduct a social marketing campaign to educate citizens about the issue or problem)
    b. Modifying barriers, access, and opportunities - (e.g., increase availability of affordable childcare for those entering job force)
    c. Enhancing services and supports - (e.g., increase the number of community health centers that provide dental care)
    d. Changing incentives and disincentives that affect the issue - (e.g., encourage housing developers and property owners to redevelop scattered sites as mixed income developments through tax abatements)
    e. Modifying policies and broader systems that affect the issue - (e.g., require businesses provide time off for an adequate number of prenatal doctor visits)

6. For each strategy, consider what programs, policies, and/or practices would need to be created or modified. Make a list, keeping in mind how they work together to address the problem or goal.

C. Review the strategies for:
   1. Consistency with the goals and objectives
   2. Goodness of fit with the resources and opportunities available
   3. Anticipated resistance and barriers and how they can be minimized
   4. Whether it enables those who are affected to be reached
   5. Whether those who can contribute to implementation are involved

8. CREATE A WORK PLAN (ACTION PLAN) DESCRIBING THE STEPS NEEDED FOR EACH CHANGE

A. Generally, a work plan or action plan is created for each objective, describing in detail the sequence of events or activities needed to carry out specific strategies. Work plans typically are formulated in tabular form.

B. The work plan should include:
   1. The objective
   2. The strategy (what specific change or aspect of the intervention will occur)
   3. The sequence of activities required
   4. Who will carry out the strategy or specific activities (identify one or more coalition members)
   5. When each activity will be completed or for how long it will be maintained
   6. What resources (money, staff, equipment, facilities) are needed
   7. Who needs to be informed about this

9. EVALUATE THE OVERALL PLAN

A. A successful planning effort requires agreement early in the process about what will be tracked and evaluated.

B. The CDC often provides specific criteria for the evaluation process, itself

C. The following are some general criteria for evaluating the overall planning effort
   1. ***Completeness***. All the changes and efforts intended by your group were included. A wide variety of strategies and sectors were utilized.
   2. ***Clarity.*** It is clearly stated what will be done and who will do what by when to make it happen.
   3. ***Sufficiency.*** If all that is proposed were accomplished, it would meet the group's mission, goals, and objectives. If not, determine the additional changes that need to be planned and implemented.
   4. ***Currency.*** The action plan reflects the current work, while anticipating possible future opportunities and barriers.

5. ***Flexibility***. The plan is flexible enough to respond to unexpected changes in the community at large, and it can be updated and revised as activities and strategies are carried out, objectives are achieved, or goals are broadened or narrowed.

10. USE THE PLAN TO CARRY OUT THE COALITION'S MISSION

A. Communicate the initiative's purpose to others (i.e., use the plan as a marketing tool)
   1. Identify who should know about the group's vision, mission, goals, objectives, and strategies for implementing them (i.e., compile a list of audiences/recipients such as legislators, insurers, businesses, etc.)
   2. Describe how the initiative will communicate this new framing of what it does and why (i.e., develop a communications plan for marketing the initiative)

B. Check the organization's core functions

C. Find common ground and anticipate potential conflict
   1. Identify potential disagreements about ends and means that the group is facing or may encounter
   2. Indicate how you might use this new framing of the problem to build consensus

D. Plan how to detect and discern opportunity
   1. Identify the criteria that will be used to judge an "opportunity". These might include qualities such as:
      a. Consistency with the vision
      b. Consistency with the mission
      c. Contributes to the action plan
   2. In view of the vision, mission, and action plan, pinpoint new or emerging opportunities for the community initiative or organization.

E. Identify potential new partners
   1. Indicate who can help the group achieve its vision and mission. List organizations that share this common work (governmental agencies, academic institutions, community organizations, faith-based organizations, businesses, health care providers, etc.).
   2. In light of the vision, mission, and action plan, identify some potential partners with whom the community initiative or organization should collaborate.

11. CHOOSE PRIORITIES FOR IMPLEMENTATION

A. The last step before beginning to implement the Plan is to decide which objectives to tackle first in each of the focus areas

B. To help choose implementation priorities, consider:
   1. Which objectives or activities need to be completed before others can begin. (Some may require other changes and relationships to be established first.)
   2. Which objectives or activities can be accomplished faster and more easily. Determine whether completing them gives the partners a sense of success and provides the group with much needed media exposure.

3. Which changes are the most important or key to the initiative's objectives.
4. Which changes would inspire and encourage participants and build credibility within the community.

12. REVIEW THE PLAN AT REGULAR INTERVALS.

A. Don’t allow your plan to sit on a bookshelf gathering dust!

B. Use it to benchmark achievements throughout your health community.

C. Encourage all coalition members to align their own organization’s priorities with those in the Plan.

D. As the coalition grows and objectives are accomplished, conditions change, or new technologies become available, the Plan will need to be revised.

1. Keep it up to date through regular, periodic reviews. These reviews can be performed by an established “data and evaluation” committee or an *ad hoc* plan review committee.
2. Distribute progress reports and updates to coalition members, to keep them informed and, more importantly, engaged.

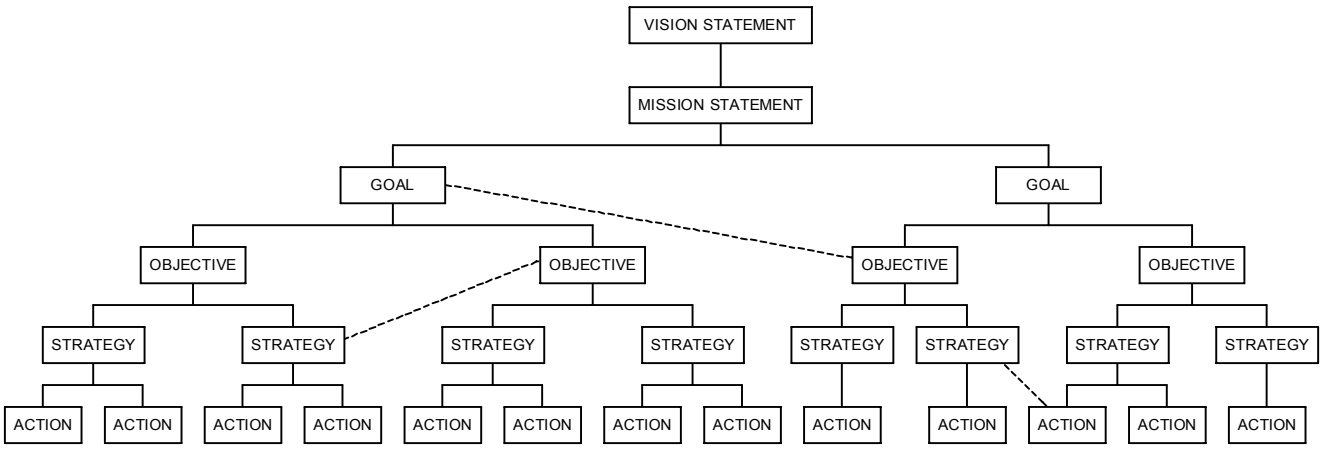
Part Two

ELEMENTS OF A COMPREHENSIVE HEALTH IMPROVEMENT PLAN

Elements of a Comprehensive Health Improvement Plan

People use various words to describe what they want to happen (priorities, aims, objectives, targets, goals, recommendations, mission, purpose, vision, accomplishments, results, products, outcomes) and how they want to get there (strategies, activities, steps, action steps). Although each term might mean something slightly different to different people, most would agree that these words all describe various ways of defining what you are trying to do, and how you will do it. It is helpful to put these terms into different groupings, from the general to the specific, from the lofty to the concrete.

For the purposes of this discussion, a Comprehensive Health Improvement Plan can be viewed as an organization-style chart that grows and increases in detail and specificity from the initial formulation of the health community's vision to outgrowths of goals, specific objectives, and strategies and action steps for achieving them. The Plan may have one or many goals, goals may have one or more objectives, and so on. Additionally, any given objective may pertain to more than one goal, and several different objectives may share the same strategies or action steps.



THE PLANNING GROUP'S VISION STATEMENT

A vision statement is a short phrase or sentence that conveys the planning group's hope for the future. Your vision is your dream. It is what you believe are the ideal conditions for your community as a whole or specific population groups--how things would look if the issues important to you were addressed perfectly. It sometimes takes several vision statements to capture fully the dreams of those involved in a health improvement effort, so it is by no means necessary to have just one "perfect" phrase. (*See Part 1, Section 2 of this guide for process aspects of developing a vision statement*.)

Characteristics of Vision Statements

- Understood and shared by members of your group, organization, or community
- Broad enough to include diverse local perspectives
- Inspiring and uplifting to everyone involved in your effort
- Easy to communicate (i.e., short enough to fit on a T-shirt)

Examples of Vision Statements

- A clean, healthful environment (*Department of Environmental Protection*)
- Safe streets, safe neighborhoods
- Equal access to quality health care for all
- A superior education for Connecticut's 21st century learners (*Department of Education*)
- A personal computer in every home running Microsoft software
- Tyson is the world's first choice for protein while maximizing shareholder value
- GM is the world leader in transportation products and related services

THE PLANNING GROUP'S MISSION STATEMENT

A mission statement grounds the planning group's vision in practical terms. Like a vision statement, it looks at "the big picture," but it does so in more concrete, action-oriented terms. It describes why the planning initiative exists, what it is going to do, and how it intends to do it. Vision statements inspire people to *dream*, whereas mission statements inspire them to *act*.

The mission statement might refer to a health problem, such as a high disease incidence rate, or a goal, such as providing access to health care for everyone. While mission statements don 't go into a lot of detail, they hint broadly at how your group might fix problems or reach goals. (*See also Part 1, Section 3 of this guide for more about the process of developing a mission statement.*)

Characteristics of Mission Statements

- ***Concise.*** While not as short as vision statements, mission statements generally still get their point across in one sentence. They may or may not answer the question, "How?" (In the examples below, the "how" usually follows the word "through" or "by"."
- ***Outcome-oriented.*** Mission statements explain the main outcomes you are working to achieve.
- ***Inclusive.*** While mission statements address your group 's key goals, they do so very broadly, so as not to limit the strategies or the sectors of the community that may become involved in the initiative.

Examples of Mission Statements

The mission statements of some national businesses and organizations and Connecticut State agencies are given below. Sometimes, the most effective ones are the simplest. Some state only what is desired, while others state both what and how.

Mission statements of some national businesses and organizations:

- To make people happy (*Disney*)
- To prevent lung disease and promote lung health (*American Lung Association*)
- To help people and businesses throughout the world realize their full potential (*Microsoft*)
- To organize the world's information and make it universally accessible and useful (*Google*)
- To promote health and quality of life **by** preventing and controlling disease, injury, and disability (*Centers for Disease Control & Prevention*)
- To eliminate cancer as a major health problem **by** preventing cancer, saving lives, and diminishing suffering from cancer, through research, education, advocacy, and service (*American Cancer Society*).
- To provide branded products and services of superior quality and value that improve the lives of the world's consumers, now and for generations to come (*Proctor & Gamble*).
- To provide society with superior products and services **by** developing innovations and solutions that improve the quality of life and satisfy customer needs, and to provide employees with meaningful work and advancement opportunities, and investors with a superior rate of return (*Merck*)

Mission statements of some Connecticut State agencies:

- To prevent child abuse and neglect and ensure the positive growth and development of children (*Children's Trust Fund*)
- To protect and improve the health and safety of the people of Connecticut **by** assuring the conditions in which people can be healthy, promoting physical and mental health, and preventing disease, injury, and disability (*Department of Public Health*)
- To foster a healthy economic, environmental and social climate for agriculture **by** developing, promoting and regulating agricultural businesses; protecting agricultural and aqua cultural resources; enforcing laws pertaining to public health, animal health and animal care; and promoting an understanding among the state's citizens of the diversity of Connecticut's agriculture, its cultural heritage and its contribution to the state's economy. (*Department of Agriculture*)
- To ensure that the citizens of Connecticut have access to a quality health care delivery system. The agency fulfills its mission **by** advising policy makers of health care issues; informing the public and the industry of statewide and national trends; and designing and directing health care system development (*Office of Health Care Access*)

- To protect children, improve child and family well-being and support and preserve families. These efforts are accomplished **by** respecting and working within individual cultures and communities in Connecticut, and in partnership with others (*Department of Children and Families*)
- To conserve, improve and protect the natural resources and environment of the State of Connecticut in such a manner as to encourage the social and economic development of Connecticut while preserving the natural environment and the life forms it supports in a delicate, interrelated and complex balance, to the end that the state may fulfill its responsibility as trustee of the environment for present and future generations (*Department of Environmental Protection*)
- To direct and coordinate all available resources to protect the life and property of the citizens of Connecticut in the event of a disaster or crisis, **through** a collaborative program of prevention, planning, preparedness, response, recovery, and public education (*Department of Emergency Management and Homeland Security*)

OVERVIEW: GOALS, OBJECTIVES, AND STRATEGIES

The differences among goals, objectives, and strategies can be confusing, in large part because different individuals and groups define them differently. For the purposes of comprehensive health improvement planning in this Guide, in the simplest possible terms:

A ***goal*** is a broadly stated, non-measurable change in health status

An ***objectiv***e is a specific, measurable change in health status or behavior

A ***strategy*** is the method, approach, or process used to achieve the change

GOALS

A goal is simply a clearer statement of what you want to accomplish. It describes in broad terms a desired outcome of the planning initiative. Goals often are written to sound like more detailed mission statements. Whereas a mission statement pertains to the overall purpose of the planning group or organization--its reason for existence--goals pertain to the priority areas within the organization's programs or initiatives. (*See Part 1, Section 5 of this guide for more suggestions about developing goals*.)

Characteristics of Goals

- Global in nature; provide general direction
- Non-specific
- Non-measurable; cannot be quantified
- Long-term
- Can be lofty and idealistic, as it is not necessary that a goal be reached during a specific time frame

Examples of Goals

- Ensure the safe and effective use of medical products (*Healthy People 2010*)
- Improve the health and well being of women, infants, children, and families (*Healthy People 2010*)
- Promote the health and safety of people at work through prevention and early intervention (*Healthy People 2010*)
- Reduce substance abuse to protect the health, safety, and quality of life for all, especially children (*Healthy People 2010*)

Example of Difference between a Mission Statement and a Goal

The following examples are the actual mission statement and goals of the American Cancer Society. Note that all the goals relate to the mission statement and that none contains numbers or time frames.

Mission Statement

To eliminate cancer as a major health problem by preventing cancer, saving lives, and diminishing suffering from cancer, through research, education, advocacy, and service

Goals

- Promote awareness about cancer prevention
- Increase the early detection of cancers for which proven screening methods exist
- Ensure that all people with cancer have equal access to high-quality treatment
- Eliminate deaths from tobacco-related cancers
- Improve the quality of life of cancer survivors and their families

OBJECTIVES

Objectives articulate goal-related outcomes *in specific and measurable terms.* Whereas goals are broad, general, intangible, and abstract, objectives are narrow, precise, tangible, and concrete. One goal may have many objectives. For example, a goal to reduce heart disease deaths might have objectives related to smoking cessation, weight reduction, and physical activity. Conversely, a single objective may relate to more than one goal. A smoking cessation objective, for example, would be appropriate for goals concerning stroke, certain cancers, emphysema, and any of the other diseases and conditions for which smoking is a known risk factor.

Objectives add specificity to goals by stating "*who, what, when, and where*," and by stipulating "*how many, by how much, or how often*." They typically begin with active verbs such as *increase, decrease, reduce, create,* and *establish*. (*See also Part 1 Section 6 of this guide for more information about the process of creating objectives.*)

Kinds of Objectives

The objectives in Comprehensive Health Improvement Plans commonly fall into two categories: *outcome objectives* and *process objectives*. Although the guidelines for developing the two types are the same, it is helpful to understand how they differ, because their differences define how they are tracked and evaluated.

Outcome Objectives

Outcome objectives state in measurable terms what a program or intervention will achieve for the participants or for a given population group. They pertain to achievements like reducing disease incidence and mortality, increasing the prevalence of healthy behaviors, or lowering pollution levels--all of which can be measured *numerically*. Outcome objectives may involve improvements in health status or changes in knowledge, attitudes, beliefs, behaviors, and conditions related to a specific goal. They define how things will be if the program or intervention is successful, and how success will be measured.

The following examples of outcome objectives are from *Healthy People 2010:*

- Eliminate elevated blood lead levels in children
- Increase to 70% the proportion of women 40 years of age and older who have received a mammogram with the preceding 2 years
- Reduce hospital acquired infections in intensive care unit patients with ventilator-associated pneumonia to 10 infections per 1,000 day's use

Outcome Objectives (Developmental)

Developmental objectives are a subset of outcome objectives. They have the following characteristics:

- Lack baseline and target values (see *Ingredients for Writing a SMART Objective* below)
- Can't be measured or tracked, because no tracking mechanism or system of measurement currently exists for the indicator
- Qualitative or descriptive in nature; non-numeric
- Provide a vision for a desired outcome or health state

- Are written with the expectation that a quantitative data source will be developed within a reasonable amount of time (commonly during the period covered by the Plan)

The following are examples of developmental objectives:

- Increase the number of HIV-positive persons who know their serostatus
- Increase the proportion of patients who are satisfied with the patient education they receive from their healthcare provider
- Decrease the proportion of pregnant women with gestational diabetes
- Increase the proportion of persons who have had a vision screening

Process Objectives

While outcome objectives describe measurable health improvements or those for which systems of measurement will be developed, process objectives describe tasks that will be completed or implemented during the planning period. They often pertain to changes in organizational infrastructure or capacity building (creating or enhancing methods of surveillance, effecting new legislation, etc.). Process objectives also are measurable, but they not necessarily quantifiable; the measure is usually that something has been enacted, accomplished, implemented, or established.

The following are examples of process objectives:

- Implement guidelines for pre-hospital and hospital pediatric care
- Pass legislation to increase the mandatory age for bicycle helmet use to 17 years
- Establish performance standards for essential public health services
- Update the Connecticut Public Health Code

SMART Objectives

When writing an objective, it is critical to word it in such a way that you will be able to gauge whether or not it has been achieved, or if progress has been made even if the objective was not achieved. Objectives worded in such a way are termed "SMART."

SMART is the acronym for objectives that meet the following criteria:

- **S**pecific (what will be achieved--a behavior or outcome, by whom, how much, and when)
- **M**easurable (progress or attainment can be determined qualitatively or quantitatively)
- **A**chievable (taking into account available time, staffing, and resources; it doesn't make sense to set your initiative for failure by creating objectives that are impossible to attain)
- **R**elevant (to the mission, goal, needs, and interests of the organization or partnership)
- **T**ime-phased (includes a time frame for achievement)

Ingredients for Writing a SMART Objective

Writing a SMART objective is like preparing a recipe, in that it requires the assembly and addition of certain ingredients.

1. **Target Population**
   The target population is the group to which the objective pertains (e.g., all Connecticut residents; Hispanic women; African Americans 65 years of age and older). When defining a population, consider first what sources of data are available for that population. Estimates of asthma prevalence, for example, may be obtained from the CT Behavioral Risk Factor Surveillance System (BRFSS). Because this survey pertains to adults 18 years of age and older, prevalence objectives that rely on BRFSS data should not include children.

2. **Time Frame**
   The time frame is the deadline for achievement of an objective. It needs to be realistic. At a minimum, it is aligned with the time frame of the Plan, itself (5 years, 10 years, etc.) When the Plan stipulates a single deadline (e.g., 2010), it is not necessary to reiterate it in the wording of each objective.

3. **Baseline Value**
   Before you can determine where you want to be, you need to know where you are. The baseline value is the current situation; the starting point from which improvement or worsening will be measured; the first data point in the tracking series. Baseline values often are the most recent values available for a given parameter. Baseline values are always given for outcome objectives. They are not stipulated for process objectives such as policy or organizational changes, or for developmental objectives, for which no systems of measurement currently exist (see above). Along with the value, itself, include the following information:

   Unit of Measurement. Choose a unit of measurement for which data are available. Many *Healthy Connecticut 2000* objectives written by experienced epidemiologists and program staff could not be evaluated, because data were not collected in the units of measurement they specified. For calculating rates and percentages, it is sometimes helpful to specify what will be used as the numerator and denominator when more than one option exists.

   Data Source and Year. Indicate the year and data source along with the value itself. If no data source currently exists, indicate the potential data source.

   Examples of baseline values:
   - Infant mortality: 5.4 deaths per 1,000 live births (2003 CT Registration Report)
   - Hospitalization rate for pneumonia: 269 per 100,000 population (2004 CT Hospitalization Report) Numerator: hospitalizations with ICD-9 codes 480-486; Denominator: 2004 CT population estimate
   - Annual AIDS deaths: 216 (2002, DPH Infectious Diseases Division)

4. ***Target Value***

   The target value is where you want to be at the end of the specified period. It is the desired amount of change, measured in the same units as the baseline value (numbers of individuals, percentages, rates, etc.) Targets are particularly important, because the difference between the baseline and target values is commonly used to evaluate progress or achievement of the objective.

   The process of setting targets can be tricky--like Goldilocks trying to find the bowl of porridge, chair, or bed that is "just right" without getting eaten by the bears. (The moral here is that target values should be developed carefully or they will not be effective). Unfortunately, targets often are set arbitrarily, rather than rationally.

   Target levels can be chosen by work groups made up of people who are most familiar with the condition, issue, or problem.

   Methods of Setting Targets:

   - Using national targets
   - Retaining targets from earlier plans
   - Computing a statistical regression (using past and current values to project a future value)
   - Using knowledge of existing programs and expected change based on prior experience
   - Relying on expert judgment

   Ways of Stating Targets:

   - Better than the best (among disparate groups)
   - Percent improvement (increase or decrease)
   - Total coverage or total elimination (for targets like 100%, 0 %, all towns, etc.)
   - Consistent with….(another existing program or initiative)

Examples of SMART Objectives

Consistent with the examples used above for the mission and goals of the American Cancer Society, the following are SMART objectives for the goal, "Increase the early detection of cancers for which proven screening methods exist.".

- ***Objective 1***: By 2010, increase to 85% proportion of women 50 years of age and older who have annual clinical breast exams and mammograms.
- ***Objective 2***: By 2010, decrease the prostate cancer death rate for African Americans by 50%.
- ***Objective 3***: By 2010, establish a free statewide colorectal cancer screening program for people 50 years of age and older who do not have health insurance.

Checklist for SMART Objectives

The checklist below is helpful for assessing whether draft objectives conform with criteria for SMART objectives.

SMART Objectives Checklist*

(Complete one column for each objective under a particular goal. Create a new sheet for each goal.)

Goal #___ *(Write goal number or statement here)*	**Objective Number**					
Test Questions	**1**	**2**	**3**	**4**	**5**	**6**
1. Will attainment of the objective help to reach the goal?						
2. Does the goal have at least one objective?						
3. Is the objective evidence-based (supported by data and theory)?						
4. Does the objective specify a starting (baseline) value or condition and a desired accomplishment (target value or condition)?						
5. Can progress toward achieving the objective be measured?						
6. Is the objective attainable and realistic, given the planning period and available resources?						
7. Does the objective specify *a realistic result*, rather than an *activity*?						
8. Is a time frame specified for attainment of the objective or implied in the Plan, itself?						
9. Would someone unfamiliar with the planning group understand what the objective means?						
10. Have you identified who will be accountable for achieving the objective?						

* Adapted from an instrument developed by the Kansas Cancer Partnership and published in the CDC's *Guidance for Comprehensive Cancer Control Planning, Volume 2: Toolkit* (March 25, 2002).

STRATEGIES

A strategy describes your approach to getting things done. It is less specific than action steps but tries broadly to answer the question, "How can we get from where we are now to where we want to be?"

A good strategy will take into account existing barriers and resources (people, finances, time, and materials). It will also be consistent with the overall mission, goals and objectives of the initiative. Often, an initiative will use many different strategies, such as enhancing support, removing barriers, providing resources, etc., to achieve its objectives.

Objectives articulate the aims of your initiative - what success would look like in achieving your mission. In contrast, strategies suggest paths to take (and how to move along) on the road to success. That is, strategies help you to determine how you will achieve your objectives through action. (*See also Part 1, Section 7 of this guide for more suggestions about the process of identifying strategies*.)

Characteristics of Good Strategies

- They point out the overall path and sometimes a specific approach
- They fit resources and opportunities, taking advantage of current assets and public opinion
- They minimize resistance and barriers; creative strategies can help to attract allies and deter opponents
- They reach those who are affected; they must be geared to the abilities and needs of the target population
- They involve as many sectors of the community as possible

Examples of Strategies

Consistent with the examples used above for mission, goals, and SMART objectives of the American Cancer Society, the following are possible strategies for achieving Objective 1 (By 2010, increase to 85% proportion of women 50 years of age and older who have annual clinical breast exams and mammograms):

- ***Strategy 1***: Identify populations who underutilize mammography and clinical breast exams
- ***Strategy 2***: Advocate for increased public funding for breast cancer screening for the uninsured and underinsured.
- ***Strategy 3***: Develop a media campaign (public service announcements, posters, etc.) to educate women about breast cancer risk factors and the benefits of early detection.
- ***Strategy 4***: Train people in faith-based organizations to educate their congregations about the importance of breast cancer screening.

WORK PLANS AND ACTION PLANS

Comprehensive Health Improvement Work Plans

Work plans (time lines) for overall Comprehensive Health Improvement Plans contain summaries of the plan's goals, objectives, and strategies, presented in hierarchical order in a table. They do not contain specific action steps for carrying out the strategies (see *Action Plans* below). One work plan is usually created for each of the Plan's priority areas. The work plan puts strategies for achieving objectives into the context of a time frame by indicating the intervals within the planning period during which each strategy will be carried out. A sample work plan is shown below.

SAMPLE WORK PLAN PAGE

Goal	Objective	Strategy	Year of Plan 1	2	3	4	5
Improve quality of life through the prevention, detection, and treatment of risk factors for heart attacks and strokes	1. Reduce to 15% the percentage of adults 18 years of age and older with high levels of total blood cholesterol	1. Develop a public education campaign to increase awareness of the risk factors for heart disease and stroke					
		2. Promote evidence-based practices for lowering cholesterol					
		3. Increase the availability of free cholesterol screening for the uninsured and underinsured					
	2. Decrease to 10% the percentage of middle school and high school students who start to smoke	1. Reduce depictions of tobacco use in entertainment media					
		2. Advocate for increasing the sales tax on cigars and cigarettes					
		3. Promote smoke-free homes					
		4. Devise targeted and effective media campaigns					

Action Plans

Action plans (sometimes called implementation plans) are detailed work plans that guide the implementation of a Comprehensive Health Improvement Plan. They lay out sequential steps for carrying out each strategy needed to meet an objective, i.e., they specifify activities to be conducted during a designated time frame. Action plans get people organized and add structure to the details needed to get things done. By enabling groups to structure their activities, action plans can save time, energy, and resources.

Functions of an Action Plan

- Provides a framework for planning the work needed to achieve objectives through individual strategies
- Justifies why funds are needed and how they will be used; imparts credibility
- Provides a guide for carrying out the work within the given time period
- Contributes to transparency, as it can be shared with all who have the need or right to know what you're doing and why you're doing it (legislators or other funding sources, the implementers, target populations, committees, etc.)

Components of an Action Plan

Depending on its purpose and the stage of planning or implementation, an action plan may contain a few basic components or it may be extremely detailed. At a minimum, the action plan should contain the following information:

- **The goal, objective, and strategy** to which the activities pertain
- **What** activities or changes will take place
- **Who** will perform each activity
- **By when and for how long** will the activities take place

More detailed action plans might contain the following additional information about each of the scheduled activities

- **Resources needed** (people and money)
- **Outputs** (what will be produced)
- **Outcome measures** (how success will be evaluated)
- **Communications** (how specific audiences will be informed)

Tip for Developing an Action Plan

An action plan is like a small-scale logic model. To develop it, "Think backward, then act forward." Visualize the desired outcome (the intended change). Then generate the steps needed to get there from where you are now, *in reverse order*.

Ensuring That the Action Plan Is Carried Out

- Everyone with a task receives a copy of the action plan in which his/her role is clearly defined.
- Staff or key volunteers regularly make friendly, supportive phone calls, asking how things are going and if help is needed.
- Add reports on accomplishments to the agendas of all Board and Committee meetings.
- Acknowledge and commend those who complete their activities.

Examples of Action Plans

Examples of simple and detailed action plans are shown below.

SIMPLE ACTION PLAN (SAMPLE)

Goal 1: Reduce deaths and injuries from unintentional falls among older adults			
Objective 1. Reduce by 25% the death rate for unintentional falls among persons 65 years of age and older			
Strategies	**Action Steps**	**(Responsible Entities)**	**Time Frame**
1. Develop a public education campaign to increase awareness of the risk factors for falls among older adults	1. Create a statewide common message about factors that increase the risk of falls and injuries among older adults 2. Develop a communications plan targeting high-risk populations 3. Develop culturally-sensitive information on ways to reduce fall risks 4. Incorporate common fall and injury messages across Stage agencies that provide services for older adults	Governor's Advisory Council on Aging; State Health Care Cost Containment System; State Department of Economic Services, Division of Adults & Aging; Tribal Councils; Senior centers; Academic institutions	1. By 8/31/2007 2. By 12/31/2007 3. By 3/31/2008 4. By 3/31/2008
2. Promote evidence-based healthy living practices that lower the risk of falls (e.g., physical activity, medication management, annual vision assessment)	1. Identify existing best practice programs 2. Develop guidelines and criteria for best practice programs that promote healthy living and lower fall risk, targeting high-risk populations. 3. Distribute medical forms (e.g., from www.themedform.com) at pharmacies, senior centers and community health centers throughout the state. 4. Market existing fall prevention programs	Home Safety Council; State Agencies; Local Health Departments; Fall Prevention Coalition; Senior Centers; Community Health Centers; Osteoporosis Prevention Coalition; Pharmacies	1. By 9/30/2009 2. By 2/28/2010 3. By 6/30/2010 4. By 12/31/2010

Adapted from *Arizona Injury Surveillance and Prevention Plan, 2006-2010*
http://www.azdhs.gov/phs/owch/pdf/injury_plan_06-10.pdf

DETAILED ACTION PLAN (SAMPLE)

Goal: Decrease Lyme disease morbidity among Connecticut residents								
Objective: By 2010 decrease the incidence of Lyme disease to 25 new cases per 100,000 population								
Strategy: Develop an education module on Lyme Disease prevention								
					Time Line (2009)			
Action Steps	**Responsible Team Members**	**Resources Needed**	**Potential Partners**	**Outcome (Products)**	**Q1**	**Q2**	**Q3**	**Q4**
1. Research existing materials	Epidemiologists, Planners	PC with Internet access (in kind)	UCHC Yale SPH	Written inventory				
2. Adapt or translate the materials	Communications specialist Translator	20 hours of translation services ($)	Hispanic Health Council Asian Family Services	Spanish, Cambodian, Chinese, & Vietnamese translations				
3. Peer review and corrections	Department staff		DEP	Draft materials to pilot				
4. Test module presentation in focus groups	Program coordinator	Transportation to focus groups ($) Incentives for participants ($)	DEP CRCC	Report on focus groups findings				
5. Finalize the module	Epidemiologists, Communications staff	Printing of hand-outs ($)		Completed module & hand-outs				
6. Identify and enroll potential trainees	Program coordinator	Marketing flyer, PSAs ($)		Trainees identified and enrolled				
6. Hold workshops for trainers	Contracted vendor	Marketing flyer Facility rental ($) Food ($)	Local Health Depts. Schools	# of trainers in every county				

Part Three

METHODS OF SETTING PRIORITIES

Methods of Setting Priorities

INTRODUCTION

It is important to establish focus areas for your Plan early in the planning process. Later, it is necessary to set priorities for goals, objectives, and implementation strategies.

Determining health priorities helps direct resources, time, and energy to the areas and programs that matter most, have the greatest potential to improve health, and are the most practical to address. Arranging health issues by priority usually is a group process in which various items or options are placed in rank order, based on their measured or perceived importance or potential impact.

A systematic, rational, and objective method of priority setting throughout the planning effort is essential, to keep stakeholders interested and committed, and to prevent fragmentation of interventions and unbalanced appropriation of funding. Ideally, the process allows for a standardized comparison of problems grounded in reality. Using a method for recommending and adopting priorities that has clear criteria, is well publicized and documented, and is understood and accepted by all the partners helps to ensure that the Plan will have the support and endorsement that are essential to successful fundraising and implementation.

There is no single best approach to setting priorities. The "right" approach is situational and depends on factors such as the purpose of the priority setting process (addressing a health problem, helping decision-makers make rational choices), its geographic focus (local or state-wide), and the guiding principles behind the process (participation by all stakeholders, transparent, multidisciplinary). It also is shaped by the nature and composition of the planning group's membership.

Several different methods--from informal discussion and consensus-reaching to complex mathematical processes--can be used for setting priorities, and each has its own strengths and weaknesses. A complete discussion of priority-setting methods is beyond the scope of this section, so only certain methods that seem to work particularly well with health planning coalitions will be discussed here. These methods have been used successfully at all planning levels--by countries, states, research institutions, and other organizations. Before describing the methods, general approaches to selecting and organizing the major focus areas of the Plan will be discussed briefly.

CHOOSING AND ORGANIZING MAJOR PRIORITY (FOCUS) AREAS FOR THE PLAN

A health problem, disease, or condition can be viewed from several different perspectives, depending on the interests or mission of the stakeholders. Three general approaches to organizing focus areas are: 1) along the continuum of care; 2) addressing vulnerable populations; and 3) by category of disease (e.g., type, site of occurrence, risk factors). A fourth approach comprises themes that cut across all other priority areas. A comprehensive health improvement plan can use one or a combination of these approaches.

Priority Areas Based on the Care Continuum

A continuum is a succession of parts with indistinct boundaries that be distinguished from neighboring parts only by arbitrary division. For preventing and managing a disease or condition, there are many successive points of contact between individuals or populations and social or health care systems.

Continuum-of-Care planning enables service providers and other community stakeholders to coordinate and link resources, so patients can move seamlessly across the various settings, from prevention to end-of-life care. Depending on the subject of the Plan, the continuum of care may include some or all of the following parts.

- **Prevention**
- **Early Detection or Diagnosis** (Includes evidence-based screening for risk factors)
- **Clinical Management or Treatment**
- **Rehabilitation**
- **Post-treatment Physical and Emotional Support**
- **End-of-Life Care** (Includes palliative and hospice care)

Priority Areas Based on Vulnerable Populations

Many health problems do not affect all populations equally. In some cases, it may therefore be helpful to build the Plan around the issues or parts of the continuum of care that are most important to address for specific population groups. Such groups include:

- **Age Groups** (e.g., infants, children, adolescents, women of childbearing age, adults, the elderly)
- **Groups by Sex and Gender** (e.g., males, females, gay, lesbian, transgendered)
- **Racial or Ethnic Groups** (e.g., African American, American Indian, Asian American, Hispanic)
- **Socioeconomic Groups** (e.g., income level, poverty status, educational attainment, occupation)
- **Other Groups** (e.g., injection drug users, men who have sex with men, urban or rural residents, occupational groups)

Priority Areas Based on Type, Site, or Risk Factors

Diseases, chronic conditions, and other illness and causes of death may occur at different sites in the body. They may fall into different categories based on how they are acquired or transmitted, or they may result from a variety of external causes or risk factors. Any of these characteristics could be used to organize a Plan's priority areas.

- **Site of Occurrence** (e.g., for cancer: lung, breast, and colorectal cancers; for injury: traumatic brain injuries; hip fractures)
- **Type or Category** (e.g., intentional or unintentional injuries; type 1 or type 2 diabetes)
- **External Cause or Mechanism of Occurrence** (e.g., for lead poisoning: environmental; residential; for injuries: firearms, falls, fires)
- **Risk Factors** (e.g., for diabetes, cardiovascular disease, or cancer: obesity, physical activity, smoking)

Cross-Cutting Priority Areas

Certain themes or issues cut across all other focus areas of a Plan and often are included in Plans structured in the ways discussed above. Some of these same factors may serve as the framework for Plans that cannot readily be organized using other approaches, for example, those that address hereditary diseases. Common cross-cutting themes are listed below.

- **Surveillance Systems** (Data Collection, Data Management)
- **Disparities**
- **Health Care Services**
- **Access to Care**
- **Research**
- **Advocacy and Policy**
- **Education and Training** (Patient Education, Workforce Education)
- **Communication**s (Outreach, Public Awareness, Public Information)

Blended Priority Areas

A single method of organizing priority areas is not always appropriate for planning efforts, so blends often are used. Statewide comprehensive cancer control plans, for example, typically are structured either along the continuum of care or by site of occurrence (type of cancer). Within the major categories, however, other categories of priorities typically are addressed (e.g., Early Diagnosis > Breast Cancer > Disparities among Racial Groups). Examples of the organization of state cancer plans is shown below.

CHARACTERISTICS OF A SUCCESSFUL PRIORITY SETTING PROCESS

Planning groups often have difficulty narrowing the scope of their health improvement plans and choosing priorities from among all the options. It is important to establish a balance between the need for inclusivity with the realistic need to identify and concentrate on certain areas, especially when seeking or allocating finite resources. Successful processes for setting priorities share certain characteristics.

- Open and understandable
- Balanced participation between different groups, especially professionals and community groups
- Multi-disciplinary and multi-sector involvement
- Criteria for choosing priorities are:
  - Defined clearly
  - Narrowed down to a manageable number
  - Independent of one another
  - Applied consistently
  - Understood by all
- Agreement on who will make the final decisions
- Clear process for decision review
- Effective communication to ensure that the process is transparent

Comprehensive Cancer Control Plans of Selected States
Organization of Priority Areas

New Jersey

New Hampshire

Arizona

Washington State

New York

CRITERIA FOR CHOOSING PRIORITIES

Before priorities can be set, the planning group must reach consensus on criteria for ranking the options. Criteria for choosing priorities encompass both objective (qualitative and quantitative) criteria and the subjective criteria such as preferences of the stakeholders and level of public and political interest and acceptability. These are discussed briefly below. Ultimately, selection of criteria will depend on the purpose of the initiative, the availability of information related to the criteria, and the ability to define and measure the criteria.

Types of Criteria

Criteria for choosing priorities fall into four broad areas: appropriateness, relevance, feasibility, and impact. The criteria that fall within these areas are noted below. More detailed discussion of the criteria follows in the section on *Useful Criteria*.

Appropriateness (Should we do it?)

- Ethical and moral issues
- Human rights issues
- Legal aspects
- Political and social acceptability
- Public attitudes and values
- Adequacy and usefulness of the current knowledge base

Relevance (How important is it?)

- Burden (magnitude and severity; economic cost; urgency) of the problem;
- Community concern;
- Degree of relatedness to local, state, or national health improvement plans and priorities;
- Focus on equity and accessibility

Feasibility (Can we do it?)

- Technical aspects
- Economic aspects
- Political aspects
- Socio-cultural aspects
- Ethical aspects

Impact (What will we get out of it?)

- Short- and long-term benefits
- Affordability
- Efficacy
- Effectiveness
- Coverage

Useful Criteria for Ranking Health Problems

Many different criteria have been used to set priorities in health improvement planning. Some are subjective, and others are objective. Some are substantive, and others are process-oriented. Some are best suited to ranking the diseases or conditions, themselves, whereas others are preferable for ranking interventions and programs. The more commonly used criteria are discussed below.

Burden of Disease

"Burden" refers to all the consequences of a disease, chronic condition, injury, or risk factor, including its health, economic, and social costs. To qualify for a burden-of-disease analysis, a health condition must: be:

- Epidemiologically significant
- Require substantial provision of health services
- An important topic of current health policy discussion

A risk factor must be:

- Potentially modifiable
- A leading contributor to diseas,
- Measurable, with good data available about its prevalence

The burden associated with specific diseases and injuries is expessed most commonly as a summary health measure called *disability-adjusted life year* (DALY).[1] The DALY combines in a single measure the time lived with disability and the time lost due to premature mortality. The value is derived through a series of mathematical equations that take into account variables such as number of deaths, life expectancy at age of death, years lived with disability, and average duration of disability[2]

Such complex mathematical measures of disease impact are not always needed or even desirable for the purposes of health improvement planning at the state and local levels. Other measures of disease burden that are easier to understand and quantify often are used as criteria for setting priorities. They allow less complicated processes of decision making (discussed in the section, *Methods of Choosing Priorities*, below). Some examples follow.

- **Magnitude** (size) of the problem
  - Number of new cases
  - Cumulative number of people affected
  - Percentage of population affected
- **Severity** (seriousness) of the problem
  - Number or rate of hospitalizations
  - Number or rate of deaths
  - Number or percentage of persons at risk
- **Economic cost** (actual or potential)
- **Urgency** to intervene

Socioeconomics, Legality, and Political Viability

Priorities--especially when they relate to programs or interventions--can be determined on the basis of social and economic factors, legality, and political viability, together with other criteria. These measures are the constituents of the "P.E.A.R.L." and "C.L.E.A.R." criteria outlined below.

1 Lopez, AD, CD Mathers, M. Ezzati, et al., Editors. Global Burden of Disease and Risk Factors. Oxford University Press and The World Bank. 2006. Available online at the World Health Organization Web site, http://www.who.int/healthinfo/bodproject/en/index.html

2 Pruss-Ustun, A., D. Campbell-Lendrum, C. Corvalan, and A. Woodward, Editors. Assessing the environmental burden of disease at national and local levels. Environmental Burden of Disease Series, No. 1. Geneva: World Health Organization, Protection of the Human Environment. 2003. http://www.who.int/quantifying_ehimpacts/publications/en/9241546204.pdf

P.E.A.R.L. Criteria[3]

Propriety (Is the problem consistent with the coalition's mission?)

Economic Feasibility (Does it make economic sense to address this problem?)

Acceptability (Will society or the community accept that the problem is important? Is a proposed program or intervention viewed as necessary or desirable?)

Resource Availability (Are funding and other resources available or potentially available to support a program or intervention?)

Legality (Do statutes or ordinances allow a program or intervention to be implemented? If not, is it worth spending time, energy, and resources working for regulatory or legislative change?)

C.L.E.A.R. Criteria.[4]

Community Capacity (Is there public intention to address the issue? Is there community capacity to identify issues and to mount potential interventions? Is there community resilience or ability to accommodate and respond to changes?

Legality (Whose mandate is it to deal with the issue? Is legal liability associated with addressing the issue?)

Efficiency (Is it cost effective to address the problem?)

Acceptability (Will it be accepted by the target population? Is there government intention to address the issue? If other services are dropped when funding is reallocated, will withdrawal of services be acceptable to providers and the target population?

Resource Availability (Is it practical to provide an intervention? Are staff, monetary resources, and facilities available?)

Availability of Effective Interventions and Ability to Evaluate Outcomes

Two additional factors are helpful to consider when choosing priorities:

- **Do effective interventions exist?** If so, can they be implemented quickly?
- **Can outcomes be evaluated?** If so, on what will the evaluations be based?
  - Perceptions (anecdotal evaluation)
  - Counts of services delivered
  - Comparison numbers from a snapshot survey, focus groups, etc.
  - Several years of reliable data from ongoing formal evaluation

[3] Vilnius, D and S. Dandoy. A priority rating system for public health programs. *Public Health Reports*, 1990; 105(5):463-470.

[4] Canadian Ministry of Health, Community Health Division. *A Guide to Needs/Impact-Based Planning. Final Report*. Toronto: Metropolitan Toronto District Health Council, April, 1996.

Other Criteria [5]

- **For Medical Treatments**
  - Likelihood of benefit to patients or target population
  - Impact on quality of life
  - Duration of benefit
  - Urgency of patient or population need
  - All else being equal, the amount of resources required for successful treatment
- **For Medical Treatments or Interventions**
  - Evidence of effectiveness
  - Value for the money
  - Health gain
  - National priority
  - Public preference
- **For Health Care Services**
  - Improves access to care for those who experience barriers
  - Prevents future long-term health problems
  - Ensures efficiency (No unnecessary duplication of services)
  - Improves health outcomes or quality of life

TECHNIQUES FOR REACHING CONSENSUS ABOUT PRIORITIES

Many different methods are available for gathering views and priority ratings from stakeholders. The choice of method depends greatly on the nature of the planning group and the subject matter. Individual-based methods such as the Delphi survey technique rely on questionnaires or private interviews to determine preferences. Group-based methods such as the nominal group method use community forums, citizens' juries, focus groups, and more structured group processes.

The Delphi Technique[6]

Overview of the Method

The Delphi Technique was developed in the 1950's as a method of decision-making based on expert opinion, and has been used to identify problems, define needs, set priorities, and evaluate solutions. It is a structured process that allows a group of participants or experts to rank a list if items, without the need of meeting face-to-face. The participants respond to a series of questionnaires in two or more rounds, while being provided with the results of the prior ratings. The questionnaires are refined and administered until consensus is reached.

---

[5] Summarized in: Leggat, S.G. *Developing a Clinical Priority Setting Framework*. Melbourne: South Australian Department of Health, Adelaide & La Trobe University, School of Public Health. 2004.

[6] RAND. 2003. Delphi and Long Range Forecasting. A Bibliography of Selected RAND Publications. Santa Monica: RAND, SB-1019. Available at: http://www.rand.org/publications/bib/SB1019.pdf

Advantages

- Participants remain anonymous
- The participants can be selected carefully to include diverse stakeholders from all key sectors, who ordinarily would not be at the same table
- It enables agreement to be reached among disparate individuals or groups, even when re hostility may have existed previously
- Participants can share information and the reasoning behind their decisions
- It precludes dominance by individuals, personality conflicts, and peer pressure; allows free expression of opinion without fear of judgement
- Participants can change their minds without "losing face"
- It is inexpensive
- It gives reliable results

Disdvantages

- It requires knowledge and skill with questionnaire design
- Unless the group of participants is not selected for diversity, its decisions will not be entirely representative
- It tends to eliminate extremes, and forces moderate choices
- Anonymity could engender lack of accountability and responsibility
- It is more time-consuming than other methods (requires at least 1 month)

Steps in the Process

- **Choose a facilitator.** This person or contractor will prepare, send out, and compile, and analyze the results of questionnaires and surveys.
- **Select participants.** There is no limit to the number of participants, from less than 20 to more than 1,000.
- **Administer first questionnaire.** The questionnaire can be mailed or distributed by e-mail or over the Internet using a Web-based application such as Survey Monkey. Typically, round 1 contains an open-ended series of questions. Participants are asked to suggest topics (goals, objectives, etc.) or to identify issues or options to be addressed in later rounds.
- **Administer second questionnaire.** Second and subsequent questionnaires are structured and quantitative, to enable analysis by a rating technique. The second round contains a summary of responses in which major themes are identified. Original wording is retained whenever possible to avoid subjective judgement or misinterpretation. After reviewing this material, the same participants are asked to rate each topic, goal, objective, etc. according to pre-determined criteria (e.g., magnitude and severity of problem, feasibility, social acceptability), using a numeric scale. (See previous section on *Useful Criteria*.)
- **Administer subsequent questionnaire(s).** In subsequent rounds, participants rank the top-scored results from the prior round. Additional dimensions to these priority items may be added for ranking. Responses are summarized, sent back to the group, and tanked again until consensus is reached.

Nominal Group Technique (NGT)

Overview of the Method

Like the Delphi Technique, the Nominal Group Technique is a method of obtaining expert consensus on a given topic. It differs from the Delphi Technique in that the participants are not anonymous and meet face to face for the process. The group is called "nominal" because the participants act as individuals in the silent generation of ideas and priority ranking. Members of the group privately prepare lists of options (health issues or problems, goals, objectives, etc.) related to the subject of concern. Depending on the group and its purpose, there may or may not be criteria for choosing the options. The individual lists are compiled into a single list and the items are clarified without judgement or discussion. Each group member ranks or votes on the options on the list, and the rankings or votes are tallied. The result is a list of priorities or a shortened list of options from which priorities can be determined by using a multi-criteria ranking method (discussed in the next section).

Advantages and Uses

When people get together to set priorities, those who are most articulate or who have the highest status or loudest voices tend to be heard more than others. The nominal group technique precludes many of these problems.:

- It ensures that each member participates equally
- It fosters commitment to the final choices, because each person was allowed to participate
- It eliminates peer pressure in the voting or ranking process
- It prevents dominant group members from controlling newer or more passive members
- It allows objective discussion and agreement upon controversial topics and points of disagreement

While structured, the nominal group technique is the less formal of the two group planning methods discussed here. It is based on information exchange, rather than complex arithmetic calculations. NGT can be used to decide:

- What problems or issues cause the greatest concern (i.e., to choose goals and objectives)
- What strategies to use for tackling the identified issues
- Ways to improve interventions, services, and programs.

It works particularly well when subcommittees recommend priorities for individual focus areas, then take them to the main planning group for final decision making.

Disadvantages

- Reduced range of topics covered
- Limited group size
- Need for all participants to be assembled physically in one place at one time
- Time for response to and reflection on information is limited

Steps in the Process

1. **Establish the the group and a facilitator.** The nominal group method works best with about 5 to 15 participants. If the planning group is larger, divide the group into committees or subgroups with special expertise, to address specific categories or focus areas of the Plan (e.g., types of sites of disease, parts of the care continuum, vulnerable populations). Identify leaders (co-chairs or facilitators).
2. **Each participant creates a list of issues, options, objectives, strategies, etc.** The facilitator writes the topic or question being considered by the group on a flip chart or white board. Each participant *privately and silently* writes a list of all his or her ideas or responses to the question.
3. **The facilitator records all items on a flip chart or white board.** In this step, ties to individuals are lost, and the group takes on ownership of the list. Comments and discussion are not permitted during this step. Each participant takes a turn reading one item from his or her list out loud, while the facilitator records them verbatim on a flip chart or white board. (If a laptop computer and projector are available, the items can be entered into a table or spreadsheet.) For large groups, it might be necessary to limit the number of items presented by each participant. If an item has already been communicated, the person moves to the next item on his/her list or passes if all items have been expressed. This continues as a round-robin until all items have been presented.

[**NOTE:** ***Alternative to Steps 2 & 3.*** To speed up transcription and provide initial anonymity, the facilitator informs the group members in advance about the purpose of the meeting and asks them to submit their lists by a certain date. The facilitator collates the responses into a single list (using the exact language submitted), sends it out to all participants to review before the meeting, and prepares the same list of items on a flip chart or white board for the meeting.]

4. **The group clarifies, refines, and condenses the list.** The facilitator reads each item aloud in sequence. Items are discussed, for clarification purposes only, by the entire group, not by the individuals who originated them. This step ensures that all group members are "on the same page" regarding the meaning of and rationale for each item. The facilitator explains that because the items will be voted on, no debate or cross-talking is needed. Similar items can be combined, and main and sub-items can be regrouped. The final list of options is posted.
5. **Individuals vote on the relative importance of the items**. Two options for voting are noted below.

OPTIONS FOR VOTING OR RANKING

"Dot Voting"

Dot voting (multi-voting, sticker voting) is a method used to set priorities, in which participants vote by applying round adhesive labels under or beside written items on lists to indicate their preference. It requires that participants be physically present.

- List the items legibly on large sheets of paper from a flip chart, and hang the sheets on the wall. Leave enough blank space beside or beneath each item for a large number of dots. Draw lines between items so it's easy to tell which dots go with which item.

- Distribute a specific number of colored adhesive dots (called round or "inventory" labels) to each group member. If a white board is used, be sure to get removable dots. There is no hard and fast rule for determining how many dots to give each person, but in most cases, about one-fourth to one-third of the total number of items on the list works well.
- If a few distinct types of stakeholders are voting (e.g., consumers, health care providers, health department staff), each can be given a different color of dot. This will provide valuable insight into differences in priorities among the various groups.
- Instruct the participants to stick their dots on the charts next to the items they consider most important. Provide guidelines, if any, for applying the dots. (For example, each group member can apply only one dot per item or as many dots per item as desired, including all dots on a single item. If they can use more than one dot per item, ask them to overlap their own dots; this will enable you to tell how many people voted on any given item.) Depending on the group and subject of the voting, participants may be asked to base "importance" on certain criteria, such as magnitude of problem, economic feasibility, etc. (See *Criteria for Choosing Priorities*, above.)
- After the voting is done, the facilitator counts the dots beside each option and reports back to the group. Rankings are based on number of dots received. Sometimes the purpose is to choose only the top priorities in order. In other circumstances, voting is used to find groupings of items of high, medium, and low priority.
- A second vote may be used to narrow down the items on a long, ranked list to key health problems, recommendations, goals, objectives, or strategies. If a large planning group initially was divided into smaller subgroups to decide on priorities for their respective focus areas, collate the results for the steering committee or full planning coalition.

Simple Numeric Ranking

Numeric ranking can be used either when participants are physically assembled or when they vote in writing by mail or via the Internet.

- With this voting method, the facilitator gives each person a complete list of items with a letter beside each item ("a" through "z"). If there are more than 26 items in the list, use "aa," "bb," etc.
- Participants are asked to rate the items by assigning points from "1" to "*n*" (where "*n*" is the total number of items on the list). Each number may only be used once. Use the *highest* number for the *most* important, and the *lowest* number for the *least* important. If the list contains more than 15 or 20 items, participants may be asked to rank only their top 10 (or no more than about one-fifth of the total).
- The preceding two steps may be done before the face-to-face meeting, to allow participants enough time to think about their choices.
- After everyone has ranked the items, the facilitator collects the sheets and tallies the numbers (ranks) given to each item. For example, if item "a" were ranked "1," "5," "3," "6," "2," and "3" by the six members in a group, its score would be "20." The items with the highest total scores have the highest priority.
- After the votes have been tallied and posted, the group may wish to discuss the results, recategorize the items, and vote again.

Sample Tally Sheet

In the following example, 7 group members (participants A through G) were asked to rate the top 10 of 14 items (10 points for the most important item, 1 point for the least important). The numbers in the columns show how the participants rated the various items. Items D, F, H, I, and L (> 40 points) were high priority; items A, E, and J (10-39 points) were moderate priority; and items B, C, G, M, and N (<10 points) were low priority.

Sample Vote Tallying Sheet for Nominal Group Technique

	Participants								
Options	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**Total**	**Priority**
Option A	3		2	5	4	3	4	**21**	**7**
Option B		2	-	2	-	-	-	**4**	**-**
Option C	2	-	-	-	-	2	3	**7**	**9**
Option D	6	6	5	7	5	5	9	**43**	**5**
Option E	4	3		4	3	4	2	**20**	**8**
Option F	5	8	9	6	7	7	6	**48**	**4**
Option G	-	-	1	-	2	1	1	**5**	**10**
Option H	9	4	10	9	10	10	10	**62**	**1**
Option I	8	9	8	10	8	9	7	**59**	**3**
Option J	1	5	4	-	-	-	-	**10**	**-**
Option K	7	7	6	3	6	6	5	**40**	**6**
Option L	10	10	7	8	9	8	8	**60**	**2**
Option M	-	1	-	-	1	-	-	**2**	**-**
Option N	-	-	3	1	-	-	-	**4**	**-**

Multi-Criteria Ranking Method

Many methods exist for determining priorities based on how well the various options meet a set of criteria (see *Appendix, Suggested Reading*). These techniques allow multiple options (problems, objectives, strategies, interventions, etc.) to be placed in rank order, based on the relative importance of the criteria. The method described here incorporates features of several different methods, all of which use numeric scoring systems that are more scientific and objective than the nominal group technique.

When to Use It

- When making a comparative assessment of heterogeneous options.
- When a list of options needs to be shortened based on facts and statistics, rather than opinions.

Steps in the Process

1. **Create and refine a list of options to be ranked.** The variation of the Nominal Group Technique described above can be used to narrow down the choices.
2. **Create a list of appropriate criteria.** Criteria are the standards, measures, expectations, or other attributes that will be used to for judging the options. Criteria commonly used

for setting health improvement priorities were discussed earlier in this Appendix (see *Criteria for Choosing Priorities*).

3. **Reduce the list to those that the group agrees are the most important**. Once again, the choices can be narrowed by using the Nominal Group Technique (discussed above).
4. **Decide how many criteria to use.** The number of criteria depends on the nature of the planning effort and the options being considered. No fixed number of criteria is appropriate for setting priorities in all situations, but generally, a few essential criteria seem to work better than many unimportant ones. Typically, fewer than 10 are used, and in many cases only 3 to 5 are needed, especially if they are completely independent of one another.
5. **Establish a numeric rating scale for each criterion**. Depending on the set of criteria, the scale can be very simple (e.g., 1 for Criterion Not Met; 2 for Criterion Met; and 3 for Criterion Very Well Met) or more complex (e.g., a scale of 1 to 10 with specific parameters for each). Regardless of complexity, the rating scales for different criteria must be consistent. Always phrase the criteria and create the scales so that the highest number on the scale is the most desirable rating, i.e., the characteristic that would make you choose the option. Examples of rating scales for various criteria are given below.
6. **Assign relative weights to the criteria.** If all the criteria you choose have equal importance, weighting is unnecessary. If some have more or less importance or "weight," however, than their individual scores would contribute, the criteria, themselves, can be ranked or "weighted" based on their relative significance. Weighting is done after a reasonable number of key criteria have been chosen (see Item 4, above). A simple method of weighting is described below.
    a. On the first day of school, teachers might tell their classes, "25% of your grade will be based on class attendance, 25% on quizzes, 30% on your written homework assignments, and 20% on your final exam." This same method can be used to weight criteria.
    b. Distribute 100 points among the chosen criteria. The way the points are distributed can be done by simple discussion and consensus or by allowing the group members to assign weights, then combining them for aggregated weighting.

Examples of Rating Scales (from 1 to 3) for Various Criteria

Criteria and Scales
Magnitude of problem (Number of people affected per 100,000 population)
1 = Less than 50
2 = 50 to 500
3 = More than 500
Severity (Illness, hospitalizations, disability, deaths)
1 = Not serious, many cases but little disability, few hospitalizations or deaths
2 = Somewhat serious, causes extensive illness with some hospitalizations and deaths
3 = Very serious, high incidence and/or many premature deaths
Preventability
1 = Cannot be prevented
2 = Cannot be prevented but can be diagnosed early with screening
3 = Highly preventable
Availability of Treatments or Interventions
1 = No known effective interventions
2 = Possible effective interventions based on perceptions and anecdotes
3 = Effective interventions based on scientific evidence
Economic Feasibility
1 = Not feasible with current resources
2 = Feasible with current resources
3 = Highly feasible with current resources
Urgency
1 = No urgency
2 = Important, but a delay would be acceptable
3 = Action urgently needed
Political Acceptability
1 = Unacceptable to high-level policymakers
2 = Could be made acceptable with education and advocacy efforts
3 = Completely acceptable

Priority Setting Matrix

The priority setting matrix is used to compare needs or interventions relative to specific standards or criteria. It is set up as a grid in which the options are listed in rows and the criteria are listed in column headings. The cells within the table get filled in with numbers on a predetermined scale, indicating how well each option fits the respective criteria. A simple priority-setting matrix is shown below, using a rating scale of 1 to 5, where 1 means little or small extent and 5 means large or great extent.

	Criteria				
Options	Magnitude (size of population affected)	Severity (cause of pre-mature death, hospital-ization, disability)	Annual cost per case	Can be prevented	Total (Rank)
AIDS	1	3	5	5	14 (2)
Heart disease	5	3	2	2	12 (3)
Motor vehicle injury	3	4	5	4	16 (1)
Osteoporosis	1	1	1	3	6 (4)

Part Four

GENERIC PLAN TEMPLATE

[*The Template comprises an outline of the major sections of a health improvement plan and the key information, denoted by headings, that normally is included. Dummy placeholder text in Latin (Lorem ipsum...) beneath each heading is intended to be replaced with content by the writer. Instructions and suggestions for the writer (such as this note) are in bracketed blue type and should be deleted.*]

TITLE OF PLAN

Subtitle of Plan

[*An artistic cover design is heartly encouraged!*]

DRAFT

CONNECTICUT DEPARTMENT OF PUBLIC HEALTH

Branch Name
Section Name
Program Name

Year or Month and Year of Publication

CREDITS AND ACKNOWLEDGEMENTS

[Title of Plan]

[Use same title as the one on the cover and title page]

[Year or month and year of issue]

Prepared by:

[Name of Preparer: Consortium, Partnership, Advisory Panel etc. that developed the Plan]

List of Members of the Group that Prepared the Plan

[*Acknowledge contributors to the document or collaborators in the planning process. List names, credentials, and affiliations of all who contributed to plan development or content, whether or not they did the actual writing. This section should be organized in accordance with the way the plan was written (by a whole group, separate committees, etc.). Make sure that each contributor specifies the wording of his/her listing, to avoid the embarrassment of misspelled names or missing degrees. If the list is long, it may be written on a separate page, preceded by a statement of appreciation by the authors. Use 2-columns if necessary and as many pages as needed.*]

Name
Affiliation

Name
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Affiliation

ACKNOWLEDGEMENTS

Use this space to thank those who helped with production, gave technical or clerical assistance, provided editorial review, etc., but was not a member of the planning group.

Suggested citation: [Author(s). Year of publication. Title of plan (in italics). Hartford: Connecticut Department of Public Health, Name of Program.]

[Acknowledgement of financial support]: Example: *Development of this Plan was supported by Cooperative Agreement U59/CCU/xxxxx from the Centers for Disease Control and Prevention*

[*Disclaimer*] Example: *The contents of this Plan are the sole responsibility of [Authors or Name of Organization] and do not necessarily represent the official views of the Centers for Disease Control and Prevention or any other participating entity*

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CONTENTS

[Sample formats are shown below. Choose one or use your own]

Example 1 (2 columns, page numbers on right)

Example 2 (2 columns, page numbers on left)

Example 3 (single column)

LIST OF TABLES

[*Sample format*]

LIST OF FIGURES

[*Sample formats*]

EXECUTIVE SUMMARY

[*Note: Prepare the Executive Summary last, after the rest of the Plan has been completed. It serves as a quick overview of the entire full-length Plan, except the appendices. Arrange it in the same order as the sections of the Plan, and include summary data (figures and tables) where appropriate.*

In many cases, the Executive Summary will be the only part of the Plan that gets read, so be sure to cover all the important material (especially priorities).]

EXECUTIVE SUMMARY

INTRODUCTION AND BACKGROUND

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[OTHER SECTIONS] *[Follow organization of the full Plan]*

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Part I
BACKGROUND
Planning Process and History
Profile of Connecticut's Population
The Burden of [Disease or Condition]

[*Include other relevant backround information such as*:]

Vulnerable Populations
Risk Factors
Prevention
Early Detection

PLANNING PROCESS AND HISTORY

PURPOSE OF THE PLAN:

Quaeris igitur idque iam saepius quod eloquentiae genus probem maxime et quale mihi videatur illud, quo nihil addi possit, quod ego summum et perfectissimum iudicem. In quo vereor ne, si id quod vis effecero eumque oratorem quem quaeris expressero.

HISTORY OF THE PROGRAM

Sed par est omnis omnia experiri, qui res magnas et magno opere expetendas concupiverunt. Quod si quem aut natura sua [aut] illa praestantis ingeni vis forte deficiet aut minus instructus erit magnarum artium disciplinis, teneat tamen eum cursum quem poterit.

PRIOR RELATED EFFORTS IN CONNECTICUT

Rhodi vidimus, non potuerunt aut Coae Veneris pulchritudinem imitari, nec simulacro Iovis Olympii aut doryphori statua. exprimatur; quod neque oculis neque auribus neque ullo sensu percipi potest, cogitatione tantum et mente complectimur. Itaque et Phidiae simulacris, quibus nihil in illo genere perfectius videmus, et eis picturis quas nominavi cogitare tamen possumus.

THE PLANNING PROCESS

[Legislative Mandate, State Inititive, Federal Program or Grant, or Other Grant that prompted the Plan]

Nam in poetis non Homero soli locus est, ut de Graecis loquar, aut Archilocho aut Sophocli aut Pindaro, sed horum vel secundis vel etiam infra secundos. Itaque et Phidiae simulacris, quibus nihil in illo genere perfectius videmus, et eis picturis quas nominavi cogitare tamen

Building the Planning Team

Nec solum ab optimis studiis excellentes viri deterriti non sunt, sed ne opifices quidem se ab artibus suis removerunt, qui aut Ialysi, quem Rhodi vidimus, non potuerunt aut Coae Veneris pulchritudinem imitari, nec simulacro Iovis Olympii aut doryphori statua deterriti reliqui minus experti sunt quid efficere.

Creating the [Leadership Group Advisory Board, Steering Committee]

Aut quo progredi possent; quorum tanta multitudo fuit, tanta in suo cuiusque genere laus, ut, cum summa miraremur, inferiora tamen probaremus. In oratoribus vero, Graecis quidem, admirabile est quantum inter omnis unus excellat; ac tamen, cum esset Demosthenes, multi oratores magni et clari fuerunt et antea fuerant nec postea defecerunt.

Establishing a Vision and Mission

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Vision Statement *[See Part Two on how to formulate a vision statement]*

Sed par est omnis omnia experiri, qui res magnas et magno opere expetendas concupiverunt.

Mission Statment *[See Part Two on how to forumlate a mission statemen])*

Aut quo progredi possent; quorum tanta multitudo fuit, tanta in suo cuiusque genere laus, ut.

Choosing Priority Areas for the Plan and Forming Subcommittees

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NEXT STEPS

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PROFILE OF CONNECTICUT'S POPULATION

[*Update, add, or remove data as appropriate*]

INTRODUCTION

Connecticut is the third smallest state in the U.S. in terms of area, but it has the 29th highest population and is the fourth most densely populated. The state is divided into 8 counties and 169 towns, 104 of which are considered "urban."[1] About 88% of the population lives in these urban areas,[2] which include the larger towns along the state's coastal plain and in the Connecticut River valley.

Connecticut is characterized by high social and economic contrast and racial and ethnic diversity. Whether in terms of health status, income, poverty, racial composition, or almost any other factor, statewide statistics for Connecticut often are misleading. Striking disparities exist across town lines, among racial and ethnic groups, and between urban and rural populations. These differences have engendered the concepts of "two Connecticuts"[3] and even "five Connecticuts"[4] based on the paradoxical reality that people can live in the wealthiest state in the nation, while residing in towns that constitute some the most severe and concentrated pockets of poverty in the U.S. The overall health of Connecticut's people varies dramatically between its wealthiest and poorest communities so it is always important to frame health status in a socioeconomic context.

Connecticut's population is changing, and the demographic changes are reflected in both numbers and patterns of [name of disease or condition] and evolving needs for health care and support services. Disparities in [name of disease or condition] in relation to [incidence, prevalence, disability, mortality, access to care, treatment, etc.] were fundamental considerations in the development of the [*name of Plan*].

POPULATION PROFILE

[*NOTE: This section is tailored to factors that may be related to heart disease, stroke, cancer, and other chronic diseases. Different or additional variables may need to be discussed for other diseases and conditions.*]

The Aging of the Population

Connecticut's population is older, on average, than that of the U.S. population as a whole, and older adults are the fastest growing segment of the state's population. The median age of Connecticut residents increased from 34.4 years in 1990 to 39.1 years in 2007, which is 2.4 years greater than the national median age,[5] and in 2007, 13.5% of the Connecticut population was 65 years of age and older, compared to 12.5% of the U.S. population.[6]

Shifts in Racial and Ethnic Composition

Rates and patterns of [name of disease or condition] vary across demographic groups, including racial and ethnic groups. From 1990 to 2007, the number of persons of white race in Connecticut decreased by 255,004 (8.9%) and the proportion of whites decreased by 12.6%. In contrast, numbers and proportions of minority populations increased and in some cases doubled during the same period (Table 1).

Connecticut's population remains predominately white (74.4%) and non-Hispanic (88.5%); however, the racial and ethnic composition of the state's largest towns is considerably different. People of non-white race or Hispanic ethnicity account for 84.8% of the population in Hartford, 72.8% in Bridgeport, 65.2% in New Haven, and, 52.8% in Waterbury.[7] Independent of race, Hispanics represent the largest minority group both in Connecticut as a whole and and in its largest towns.

TABLE 1
NUMBERS AND PERCENTAGES OF SELECTED POPULATION GROUPS
CONNECTICUT, 1990, 2000, AND 2007

	1990		2000		2007	
Population Group[a]	Number	% of Total	Number	% of Total	Number	% of Total
Total Population (all races)	3,287,116	100	3,405,565	100	3,502,309	100.0
Non-Hispanic	3,074,000	93.5	3,085,242	90.6	3,098,934	88.5
White	2,754,184	83.8	2,638,845	77.5	2,592,457	74.0
African American[b]	260,840	7.9	295,571	8.7	316,412	9.0
Asian American/Pacific Islander	49,114	1.5	82,522	2.4	117,760	3.4
American Indian/Alaskan Native	5,950	0.2	7,267	0.2	6,475	0.2
Other race[a]	3,912	0.1	61,037	1.8	65,830	1.9
Hispanic[c] (any race)	213,116	6.5	320,323	9.4	403,375	11.5

Source: U.S. Census Bureau.[8, 9, 10]

[a] "Race groupings exclude persons of Hispanic/Latino ethnicity. For 1990, non-Hispanic race groups includes the named race alone or in combination with one or more other races. For 2000 and 2007 non-Hispanic race groups are the named race only, and the category "other race" includes "other race" and "two or more" races.

[b] "African American" refers to individuals of African American or black race.

[c] "Hispanic" refers to individuals of Hispanic or Latino ethnicity.

Differences in Age Distribution by Race and Ethnicity

Connecticut's racial and ethnic minority populations are younger, on average, than the white population (Table 2). Only 39% of whites are under 35 years of age, compared to 62% of Hispanics, 55% of African Americans, 54% of Asians, and 52% of American Indians/Alaska Natives. Two to three times as many whites are 65 years of age and older, compared to proportions in other racial and ethnic groups.

TABLE 2
AGE DISTRIBUTION BY RACE[a] AND ETHNICITY
CONNECTICUT, 2007

Age Group	Race				
	White	African American	Asian	American Indian or Alaska Native	Hispanic/ Latino Ethnicity
0–4 yrs	5.0%	7.5%	7.9%	9.2%	9.9%
5-17 yrs	15.8%	21.2%	17.4%	19.1%	23.2%
18-34 yrs	18.3%	25.9%	28.2%	23.6%	29.3%
35-64 yrs	44.8%	37.3%	40.7%	39.3%	33.0%
65+ yrs	16.0%	8.1%	5.8%	8.8%	4.7%

Source: U.S. Census Bureau 2008.[11]

[a] Race groupings exclude persons of Hispanic or Latino ethnicity. Hispanic or Latino persons may be of any race.

Social and Economic Characteristics

Educational Attainment

Connecticut residents have higher levels of education compared to the U.S. population as a whole, and their educational attainment has been increasing over time (Table 3). In 2007, 88% of Connecticut residents 25 years of age and older were high school graduates or higher and 35% had completed a bachelor's degree or more, whereas less than 5% had less than a 9th grade education. Sharp contrast exists, however, between educational attainment figures statewide and for Connecticut's largest towns. Hartford and Bridgeport were conspicuously poorer than the national average in 2007, with only 68% and 73% graduating high school, 13% and 14% having a bachelor's degree or higher, and 14% and 11% failing to complete the 9th grade in the respective towns.[12]

TABLE 3
SELECTED SOCIAL AND ECONOMIC CHARACTERISTICS
CONNECTICUT, 2000 AND 2007 AND UNITED STATES, 2007

Characteristic	Connecticut		U.S. (2007)[14]
	2000[13]	2007[12]	
Less than 9th grade education (age 25+)	5.8%	4.6%	6.4%
High school graduate or higher (age 25+)	84.0%	88.0%	84.5%
Bachelor's degree or higher	31.4%	34.7%	27.5%
Speak language other than English	18.3%	19.4%	19.7%
Do not speak English "very well"	7.4%	7.7%	8.7%
Per capita income[15]	$28,766	$35,904	$26,688
Persons living below poverty level[16, 17]	7.6%	7.9%	13.0%

Source: U.S. Census Bureau[12, 13, 14].

Language Spoken at Home

The percentages of Connecticut residents who speak a language other than English and who do not speak English well have been increasing, especially in the state's largest towns. By 2007, one in five Connecticut residents over 5 years of age spoke a language other than English, and nearly 8% did not speak English "very well" (Table 3). Nearly half of the populations of Hartford and Bridgeport (48% and 47%, respectively) spoke a language other than English, and more than one-fourth of Bridgeport residents (27%) and one-fifth of Hartford residents (19%) spoke English less than "very well."[18]

People with a poor ability to read, write, and speak English often have a poor understanding of medical information and advice. As a result, they are more likely to engage in risky behaviors, they are less likely to access preventive health services, they get diagnosed later, have poor adherence to treatment plans, and end up with worse health outcomes, compared to people with high English literacy.[19]

Income and Poverty

Connecticut is the wealthiest state in the nation, but a great and growing gap exists between its rich and its poor. Between 2000 and 2007 the *per capita* income (average income for every women, man, and child) of Connecticut residents rose by 25% to $35,904 (Table 3). This is 35% greater than the national *per capita* income and more than twice the income defined by the federal government as "poverty level" for a family of three ($117,170)[20] In 2007, Connecticut had the second lowest poverty rate in the nation, with 7.9% of the population having incomes below the federal poverty level (Table 3).

No disparities among Connecticut's 169 towns are more glaring than those for income and poverty. According to the 2000 Census (the most recent survey for which town-level data are available), *per capita* income ranged from $13,428 in Hartford to $82,049 in New Canaan--a difference of $68,621 or more than 500%, and poverty rates ranged from 0.7% in Killingworth to 30.6% in Hartford.[21] Hartford had the second highest poverty rate of all U.S. cities.[22]

Income and poverty also vary dramatically by race and ethnicity. In 2007, *per capita* income of white, non-Hispanics in Connecticut was $40,778, compared to $37,931 for Asians, $24,898 for American Indians/Alaska Natives, $21,049 for African Americans, and $18,382 for Hispanics.[15] Poverty rates in 2007 were 4.8% for white, non-Hispanics, 9.3% for Asians, 11.6% for American Indians/Alaska Natives, 16.3% for African Americans, and 21.3% for Hispanics.[16] Disparity between state and town statistics also was evident. Hartford, for example, had poverty rates of 20.0% for white, non-Hispanics, 29.2% for African Americans, and 34.5% for Hispanics.[23]

According to a report by the Connecticut State Data Center,[24] the U.S. Census Bureau underestimates income, largely because it does not include capital gains income. The result is an artificial reduction of the income gap between Connecticut's wealthiest and poorest towns; the

corrected gap was $145,982, more than double the census amount of $68,621. Poverty in Connecticut also may be undercounted, because the cost of living is so far above than the national average on which thresholds are based. Accordingly, individuals or families may have incomes above the national threshold for poverty, but they might be living in stressed financial conditions by Connecticut standards. [25]

Health Insurance

Connecticut ranked sixth lowest in the U.S. in 2006-2007 for percentage of people lacking health insurance.[26] According to the 2006 Household Survey by the Office of Health Care Access,[27] 6.4% of the Connecticut population had no health insurance at the time they were surveyed; however, 10% said they had been uninsured at some time during the prior year. Racial and ethnic minority groups accounted for 55% of the uninsured. Compared to whites, African Americans and Hispanics were about 2 times and 5 times more likely, respectively, to have no health insurance (Table 4); these disparities were related to lack of access to coverage from employers, low income, and lack of permanent, full-time employment. The majority of uninsured (61%) were employed working adults; 62% were between 19 and 39 years of age, and 36% had not graduated from high school. Estimates of insurance coverage differ with the survey method used (Table 4).

TABLE 4
PERCENTAGE OF UNINSURED CONNECTICUT RESIDENTS
BY SELECTED AGE GROUPS, RACE, AND ETHNICITY
CONNECTICUT, 2006 AND 2007

	BRFSS		OHCA Household Survey	Current Population Survey	Kaiser Family Foundation
Population Group	2006	2007	2006	2007	2006-2007
All ages	-	-	6.4%	9.4%	9.0%
Non-elderly, 0-64 years of age	-	-	-	-	11%
Adults, 18-64 years of age	12.1%	11.0%	-	-	13%
Adults, 18+ years of age	10.1%	9.4%	-	-	-
White	6.3%	6.2%	4%	-	8%
African American	16.5%	22.4%	9%	-	18%
Hispanic	40.4%	33.9%	19%	-	22%

Sources: Behavioral Risk Factor Surveillance System, 2006, 2007;[28] Connecticut Office of Health Care Access, 2007;[27] Current Population Survey, 2008;[29] Kaiser Family Foundation, 2007.[30]

Compared to people with health insurance coverage, those without health insurance have more difficulty accessing primary and preventive care, receive less treatment of acute and traumatic conditions, and are less likely to manage chronic conditions properly; as a result, they tend to have worse health outcomes. Because the uninsured often seek care at a later or more advanced stage of disease, they have higher death rates.[31]

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THE BURDEN OF [NAME OF DISEASE OR CONDITION]

TRACKING AND SURVEILLANCE SYSTEMS

Disease-specific Surveillance Systems

[*Describe any relevant registries, databases, or methods, as appropriate.*]

Other Data Sources

The Death Registry, part of the DPH Vital Records section, is the second oldest in the nation and has records of [name of disease] deaths in Connecticut since 1848. The Connecticut Hospital Discharge and Billing Data Base (managed by the Office of Health Care Access and shared with DPH) contains records on [name of disease] hospitalizations and charges since 1989.

Three surveys conducted by DPH—the Connecticut Behavioral Risk Factor Surveillance System, Connecticut Youth Risk Behavior Surveillance System, and Connecticut Youth Tobacco Survey--have collected information on risk factors among state residents since as early as 1988. Since 2005, the Youth Risk Behavior Survey and Youth Tobacco Survey have been administered together as the Connecticut School Health Survey.

THE BURDEN OF [NAME OF DISEASE OR CONDITION]

[See Appendices 1 and 2 for templates for graphs and tables to be used in this section.]

Prevalence (People living with the disease or condition)

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Incidence (New Cases)

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Incidence by Age

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Incidence by Sex

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Incidence by Race and Ethnicity

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Trends in Incidence

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Morbidity (Hospitalizations, Emergency Department Visits, Other)

[*The outline below applies to hospitalizations, but the same structure can be used or repeated to discuss emergency department visits and any other known indicators of morbidity for which data are available.*]

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Hospitalizations by Age

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Hospitalizations by Sex

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Hospitalizations by Race and Ethnicity

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Trends in Hospitalizations

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Mortality (Deaths)

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Deaths by Age

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Deaths by Sex

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Deaths by Race and Ethnicity

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Trends in Deaths

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Economics of [Name of Disease or Condition]

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Disparities: Vulnerable Populations

Age Disparities [Children, Adolescents, Elderly etc.]

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Sex Disparities [Male/Female differences]

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Racial and Ethnic Disparities

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Disparities Based on Socioeconomic Status [Income, poverty, education, etc.]

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Geographic Disparities [Urban vs. rural or among counties or towns]

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Disparities among Other Populations [Nursing Home Residents, Prison Inmates, etc.]

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RISK FACTORS FOR [NAME OF DISEASE OR CONDITION]

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Risk Factor 1

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Risk Factor 2

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TABLE 1

Prevalence of Risk Factors for [Name of Disease] among Adults[a] and Students[b] Connecticut, 2007

[The risk factors listed below are associated with several chronic diseases.]

Risk Factor	Percentage of Persons at Risk*	
	Adults	Students
Current cigarette smoking	15.4	21.1
Eat fruits/vegetables less than 5 times a day	71.5	78.5
High cholesterol	38.3	--
High blood pressure	26.2	--
Physical activity:		
No physical activity	19.7	--
Males	17.6	--
Females	21.6	--
No vigorous physical activity	69.8	--
No moderate physical activity	47.6	--
Did not meet recommended levels of physical activity	--	54.9
Body weight (based on Body Mass Index):		
Overweight	37.5	13.3
Obese	21.7	12.3
Heavy alcohol consumption (5+ drinks in a row)	5.9	26.2

[a] 18 years of age and older.
[b] Grades 9-12 combined.

Sources :2007 Behavioral Risk Factor Surveillance System and School Health Survey.

Risk Factor 3

Mauris in risus ac diam interdum cursus. Duis ultricies euismod enim. Cras adipiscing, lorem quis scelerisque pulvinar, est quam euismod dui, id laoreet enim nulla eu nisl.

PREVENTION OF [NAME OF DISEASE OR CONDITION]

[Discuss evidence-based methods of prevention, including those that are already in use in Connecticut.]

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Cras lacinia, nulla non mattis nonummy, metus est condimentum neque, at gravida libero tellus nec pede. Praesent velit. Nunc cursus, turpis non consectetuer vehicula, odio odio adipiscing justo, et placerat tellus nulla quis lorem.

[EARLY] DETECTION OF [NAME OF DISEASE OR CONDITION]

[Discuss methods of diagnosis, early diagnosis or screening, and include screening utilization data (blood pressure, cholesterol, mammography, etc.) if available.]

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Cras lacinia, nulla non mattis nonummy, metus est condimentum neque, at gravida libero tellus nec pede. Praesent velit. Nunc cursus, turpis non consectetuer vehicula, odio odio adipiscing justo, et placerat tellus nulla quis lorem.

Part 2
PRIORITY AREAS

[List priority areas below]

- Name of Priority Area
- Name of Priority Area
- Name of Priority Area
- Name of Priority Area

[Repeat the following section for each Priority Area in the Plan.]

[NAME OF FIRST PRIORITY AREA]

BACKGROUND AND RATIONALE

[This section sets the stage for the goals and objectives that follow. Expand upon material given in the section on "Burden" in this template, as needed, to document and clarify why the particular area has been chosen as a priority. Include summary data if applicable, including trends over time and comparison with national data. It is helpful to mention work or initiatives that are already in progress, along with disparities and gaps in information, training, service, etc..]

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Donec laoreet sem et felis. Sed mi nibh, facilisis sit amet, scelerisque nec, luctus eget, eros. Proin id orci vel ante cursus sollicitudin. Nam velit. Nam sed diam. Vivamus tellus. Vestibulum id enim ac ante vestibulum blandit. Ut quis nisi. Integer eu ligula. Aliquam suscipit purus eu est dapibus fringilla. Mauris malesuada enim at sem.

GOALS

[See Part 3 of the Guide on how to formulate goals. Follow format below for each goal. List objectives under each goal, and baseline]

GOAL 1

Example:
Reduce deaths, illness, and disability from [name of disease].
[Note that no numbers or dates are specified.]

OBJECTIVES FOR GOAL 1

[See Part 3 of the Guide on how to formulate objectives. Use same format for each objective under the goal in this section.]

[Name of Priority Area] Objective 1

[State the objective here.]
Example:
By 2010, reduce the death rate from [name of disease] by 15%.
[Note that the objective is specific in terms of number and time frame.]

Baseline: ___ deaths per 100,000 population
[Specify the year and data source, e.g., 2003, DPH Death Registry]

Target: ___ deaths per 100,000 population

Data Source: *[Indicate the source of the data that will be used for tracking, or the expected source if none currently exists.]*

Strategies

[See Part 3 of the Guide on how to formulate strategies. Use the same format for strategies under each objective in this section.]

1. Strategy 1
2. Strategy 2
3. Strategy 3

How Results Will Be Evaluated

[Describe how success in meeting the objective or progress in moving toward it will be determined. Generally, there is one evaluation method or indicator for each of the listed strategies.]

1. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Donec laoreet sem et felis. Sed mi nibh, facilisis sit amet, scelerisque nec, luctus eget, eros.
2. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Donec laoreet sem et felis. Sed mi nibh, facilisis sit amet, scelerisque nec, luctus eget, eros.
3. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Donec laoreet sem et felis.

WORK PLAN AND TIME LINE

[The basic work plan shown on the next page is appropriate for a comprehensive health improvement plan. It is designed to put all the goals, objectives and strategies for a single priority area into a time frame. At this basic level, the work plan does not contain columns for action steps, responsible entities, resources needed for carrying out specific strategies, etc. More detailed "action work plans can be developed after the health improvement plan is issued, to guide implementation activities. (See Part 3 of the Guide for explanations and examples.]

Work Plan and Time Line for Priority Area One
(Sample Format)

Goal	Objective	Strategy	2007	2008	2009	2010
1. Reduce deaths, illness, and disability from heart disease	1. Decrease by 20% the percentage of adults 18 years of age and older who smoke	1. Advocate for the development, implementation, promotion, and enforcement of smoke-free tobacco policies at all public and private facilities and work sites				
		2. Obtain funding for Tobacco QuitLine				
		3. Develop and implement culturally appropriate smoking cessation programs for populations with the highest smoking prevalence				
	2. Increase by 30% the proportion of adults 18 years of age and older who know the symptoms of heart attack	1. Develop and implement a statewide media campaign on heart attack symptoms in men and women				
		2. Develop and implement education programs at senior centers				
	3. Decrease by 15% the proportion of children and adolescents who are obese	1. Promote healthy food choices in school cafeterias and vending machines and at school events				
		2. Advocate for mandatory physical education programs through grade 12				

REFERENCES

[References cited in the narrative of the burden section as "endnotes" will appear here.]

APPENDICES

[The Appendices may be used for: lists of Committee Members; a condensed list of Goals and Objectives; Definitions; Abbreviations; text of Statute or Public Act; Budgets; Technical Notes; and other supportive documentation.]

APPENDICES

Appendix 1
TYPOGRAPHY AND LAYOUT

A health improvement plan is more like a scientific report than a novel or marketing tool. Because its readers include both health professionals and non-professionals, however, the writing must be clear and accurate, yet in plain language with minimal jargon. A mixed audience also means that physical appearance is important.

COVER DESIGN ATTRACTS READERS

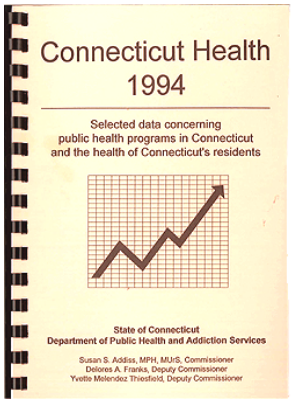
The way written material is presented matters almost as much as its content. Just as beautifully presented food is more appetizing, a plan with an attractive cover invites readers to look inside. If there is no funding for graphic design, seek out the artistic talent of a co-worker or borrow a cover style from an existing publication.

Which Is More Appealing?

OR

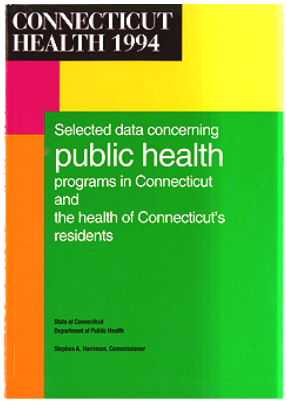
People really do judge books by their covers. The Connecticut Department of Public Health once issued the same report twice—first spiral-bound with a plain cover for distribution at a special event, then a month or two later with a professionally designed cover. The two versions were identical except for their covers. The first printing received little notice, whereas the second printing was in great demand and remained a popular reference for many years.

Which Is More Appealing?



First Printing

OR



Second Printing

LEGIBILITY AND READABILITY

Legibility and readability largely determine how "appetizing" a document is, and how easily it can be read and understood. *Legibility* means how easily individual letters and words can be recognized. *Readability* means ease of reading and depends on two things: typography (letter, word, and line spacing, and letter and number shapes); and visual design (layout of the content on the page, including headings, use of color, and paragraph length). Illegible type cannot be read regardless of how nicely it is arranged on a page. Legible type can be made unreadable, however, if it is set in too small or too large a space, if the letters are too wide apart or the lines are too close together, or the if text and background colors are incompatible.

Factors That Affect Legibility

Typeface

A *typeface* is a full set of typographic characters (letters, numbers, punctuation) with a common design. Ariel, Old English Text, and *Mistral* are examples of typefaces. Typefaces fall into three broad categories: *serif*, *sans serif*, and *script*. Serif typefaces, such as Times New Roman, Century Schoolbook, and Courier, have little feet and hooks at the ends of their letter strokes, whereas sans serif faces such as Ariel, **Impact**, and Verdana have unembellished horizontal and vertical strokes. Script looks like cursive handwriting. Each letter and number within a typeface family has a unique shape, governed by dozens of structural parts called arms, legs, beaks, ears, eyes, hairlines, spines, tails, etc. Details about such "letterform anatomy" can be found elsewhere.[1]

Serif **Sans Serif** **Script**

Serif typefaces are easier to read for body text in printed documents, but not with very small character sizes or on computer monitors, where the serifs tend to run together. Sans serif typefaces are more legible for small type (e.g. footnotes) and for body text on Web pages.

The sans serif typefaces Verdana and Trebuchet were created specifically for use on Web pages, to have optimum legibility and readability on computer screens. Unlike other sans serif typefaces, their capital "I" forms are different from the lowercase "l." Also, their normal letter strokes are bolder.

Times New Roman **Arial** **Trebuchet** **Verdana**

A related typeface called Tahoma is a condensed, compressed variant of Verdana. Its letterforms are the same basic shape but narrower, and characters are spaced closer together, which decreases legibility (see the highlighted words below). For this reason, Tahoma is not recommended for body text either in print or on Web pages.

[1] Adobe Systems Inc. 2000. Typography Basics: Anatomy of Letterforms. Available at: http://www.infor.uva.es/~descuder/docencia/IG/letterform_anatomy.pdf

Verdana: Now is the time for all good men and women...

Tahoma: Now is the time for all good men and women...

Font Size and Style

A *font* is a set of characters within a typeface family that has a specific size and style. The unit of measure in typography is the *point*. Points are used to measure letter height, the space between letters, and the space between lines. In desktop publishing, there are about 72 points to the inch, but this sometimes varies with the typeface.

Same Point Size, Different Typefaces

This is Arial 11 point.
This is Verdana 11 point.
This is Franklin Gothic Book 11 point.
This is Times New Roman 11 point.
This is Garamond 11 point.

Font style comprises characteristics such as weight (light, regular, boldface), slope (normal, italic), width (expanded, condensed), and other features such as all caps, small caps, underlined, subscript, superscript, etc.[2] Styles may be used alone or in combination.

Same Typeface and Point Size, Different Styles

This is Arial 11 point regular
This is Arial 11 point superscript.
This is Arial 11 point condensed.
This is Arial 11 point expanded.
This is Arial 11 point italic.
This is Arial 11 point bold.
This is Arial 11 point bold italic.

Factors That Affect Readability

Length of Lines

Margins are important because short lines are easier to read than long lines. Lines that are too short, however, are more difficult to read. Line length and font size go hand in hand, as together they determine the numbers of characters and words per line. One common mistake is creating reports and tables in landscape (11 x 8 ½ inch) format, which creates too-long lines that become even less readable when there is inadequate space between lines.

[2] In Word, font styles are accessed through FORMAT > FONT. To expand or condense the spacing of letters, click on: FORMAT > FONT > CHARACTER SPACING > SPACING.

Short Lines of Text Are Easier to Read Than Long Lines

The percentages of Connecticut residents who speak a language other than English and who do not speak English well have been increasing, especially in the state's largest towns. By 2007, one in five Connecticut residents over 5 years of age spoke a language other than English, and nearly 8% did not speak English "very well" (Table 3). Nearly half of the populations of Hartford and Bridgeport (48% and 47%, respectively) spoke a language other than English, and more than one-fourth of Bridgeport residents (27%) and one-fifth of Hartford residents (19%) spoke English less than "very well."

People with a poor ability to read, write, and speak English often have a poor understanding of medical information and advice. As a result, they are more likely to engage in risky behaviors, they are less likely to access preventive health services, they get diagnosed later, have poor adherence to treatment plans, and end up with worse health outcomes, compared to people with high English literacy.

Connecticut is the wealthiest state in the nation, but a great and growing gap exists between its rich and its poor. Between 2000 and 2007 the per capita income (average income for every women, man, and child) of Connecticut residents rose by 25% to $35,904 (Table 3). This is 35% greater than the national per capita income and more than twice the income defined by the federal government as "poverty level" for a family of three ($117,170) In 2007, Connecticut had the second lowest poverty rate in the nation, with 7.9% of the population having incomes below the federal poverty level (Table 3).

No disparities among Connecticut's 169 towns are more glaring than those for income and poverty. According to the 2000 Census (the most recent survey for which town-level data are available), per capita income ranged from $13,428 in Hartford to $82,049 in New Canaan--a difference of $68,621 or more than 500%, and poverty rates ranged from 0.7% in Killingworth to 30.6% in Hartford. Hartford had the second highest poverty rate of all U.S. cities.

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Spacing and Alignment

The empty space between characters, words, and lines is one of the most important determinants of readability. According to a recent study by neuroscientists at New York University,[3] the amount of space between characters is even more important than size or typeface for determining both legibility and readability. A minimum amount of space is required between letters and words for them to be recognizable, and reading speed depends on letter, word, and line spacing rather than type size. Generally speaking, more space between words, letters, and especially lines is needed when smaller fonts are used.

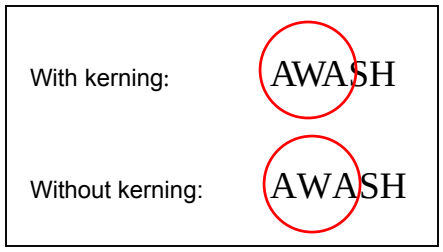
Space between Letters and Words

Too much space between letters and words can be just as bad as too little. As shown h e r e , w i d e r s p a c i n g b e t w e e n l e t t e r s d o e s n o t necessarily improve legibility. It can be useful, however, for setting off headings and titles, and for decorative elements, such as enlarged quotations, in the plan.

Lines of text can be aligned with the left, or right margins, centered on the page, or *justified*. (Justified text is aligned with both the left and right margins.) Justification works well with

[3] Pelli, D.G. and K.A. Tillman. The uncrowded window of object recognition. *Nature Neuroscience*. 2008; 11: 1129-1135.

professional typesetting, when letters can be *kerned* (moved closer to neighboring letters for a better fit), but its effect can be disastrous with Microsoft Word and similar word processing programs.



Justification in the absence of kerning can result in large gaps between words that make the text both unattractive and difficult to read (see below left). This effect is more likely to happen when pages are broken into columns or when text is wrapped around illustrations.

Justified Lines with Word Gaps

CT's population is changing, and the demographic changes are reflected in both numbers and patterns of hospitalization and ED visits. Disparities in disease control in relation to incidence, mortality, and treatment were the major considerations in the development

Too Little Space between Lines

CT's population is changing, and the demographic changes are reflected in both numbers and patterns of ED visits and hospitalizations. Disparities in disease control in relation to incidence, mortality, and treatment were the major considerations in the development of this prevention plan. Rates and patterns of disease vary across demographic groups, including racial and ethnic groups.

Leading (Blank Space between Lines)

Single spacing is difficult to read—especially with long paragraphs. Double spacing is helpful during editing, but makes reading awkward. A common convention for leading (pronounced "ledding") is to add 3 to 4 points to the point size of your typeface, and set your line spacing at this value. This appendix is written in 11-point type with 15-point line spacing. (To set line spacing, click on: FORMAT > PARAGRAPH >LINE SPACING)

STYLE RECOMMENDATIONS

Communication of information is the single most important reason for writing. Plans and reports (along with all other documents) should therefore be written and designed for easy reading and comprehension by all audiences, guided by the principle, "Keep it simple."

Typefaces and Fonts

General Guidelines

- **The choice of typeface and font depends mainly on where and how they will be used.** Legibility is not a problem with most mainstream typefaces, so whether the document will be printed, projected on a screen, or viewed on a computer monitor is the first thing to consider. Recommendations for typefaces by intended use are summarized in the table below.

Recommended Typefaces for Various Applications

Type of Document or Application	Typeface Class	Suggested Typeface
Printed plans, reports, briefings, etc.		
Headings	Sans serif	Arial
Body text (paragraphs)	Serif	Times New Roman
Tables (includes Excel spreadsheets)	Sans serif	Arial
Graphs	Sans serif	Arial
Slide (PowerPoint) presentations	Sans serif	Arial
Web pages	Sans serif	Verdana
Footnotes	Sans serif	Arial

- **Use no more than two different typefaces in any document**. Just because dozens of typefaces are available on our computers doesn't mean we have to use them all in a single document. Variety of appearance can be achieved by changing font size, style, and color.
- **Use plain, ordinary typefaces.** (Suggested typefaces for different applications are given in the table above.) Stylized or decorative typefaces (e.g., **Impact**, Bradley Hand, Comic Sans, Tempus Sans) are useful for titles and chapter headings consistent with the overall document design, but never for body text in reports and plans.
- **Never use underlining to emphasize words—not even in headings**. Underlining is a vestige of typewriter days, when typefaces could not be varied by size or style. Note how underlining decreases legibility by cutting off the bottoms of certain letters.

g j p q y

Headings (Display Type)

- **Typeface:** Use a sans serif typeface for most headings. Arial is the standard, but a more decorative typeface could also be used.
- **Font Style:** Boldface, italics, and all uppercase letters (all caps) may be used in headings. Color also may be varied. Size depends on the typeface used and overall look desired.
- **Alignment:** Left or center alignment may be used for headings.
- **Hierarchy:** If the document will contain multiple levels of headings and subheadings, decide in advance what typeface and font to use for each, and follow the rule consistently throughout the document. The heading levels used in *Guide and Template for Health Improvement Planning* are:

HEADING 1

Heading 2

Heading 3

Heading 4

Body Text (Paragraph Content, Narrative)

- Always use a serif typeface for the body text of plans, reports, and other lengthy documents, because serif is easier to read. Times New Roman (used here) is the standard.
- Use 11 point for Times New Roman; as noted earlier in this section, point size often varies with the typeface, so make adjustments accordingly. Larger sizes (even 12 point Times New Roman, which some programs have used for their plans) are not necessarily easier to read--except from a distance or by people with visual impairments.
- Do not write whole paragraphs in ALL CAPS, SMALL CAPS, *italics*, or **boldface**. People depend on letter shapes for recognition, and all these styles are more difficult to read than plain, serif fonts. In addition, writing in all capital letters is perceived as shouting (especially in electronic correspondence). Limit the use of all caps, boldface, and italics to headings, tables, graphs, and short text boxes.
- Within paragraphs, use italics only for titles of publications or to emphasize new terms. If sentences are written clearly, readers won't need to be told which words are more important than others.

Page Layout

General Guidelines

- In Microsoft Word, use FILE > PAGE SETUP to set margins and orientation (portrait or landscape); use FORMAT > PARAGRAPH to set paragraph alignment, indenting, and spacing.

General Formatting Guidelines for Page Layout,
(Assumes Times New Roman 11 Point Type on 8 ½ x 11 Paper)

Feature	Suggested Setting
Page orientation	Portrait (except for certain tables or large graphs or illustrations)
Margins	Top and bottom: At least 1 inch Left and right: At least 1.25 inches
Line length	Length of lines (as number of words) is controlled by margins and font size. Full page: 20-word maximum (15-20 words is optimal) Columns: 5-word minimum
Alignment	Left alignment (ragged right margin). Never use "justified" alignment.
Indentation	First line of paragraph: 0.25 inches Hanging indent for bullets: Align with first character of line 1 (after the bullet) Multiple-sentence direct quotes: Indent whole paragraph 0.25 inches as a bloc
Paragraph spacing	Before new paragraph: 6 points Before bullet: 3 points
Line spacing	Set at "exactly" 14 or 15 points (i.e., font size + 3-4 points)
Columns*	Use single column for 11-point type Use 2 columns for 10-point type

* Example of single-column format with 11-point type: 2009 *Connecticut Health Disparities Report*
http://www.ct.gov/dph/lib/dph/hisr/pdf/2009ct_healthdisparitiesreport.pdf
Example of 2-column format with 10-point type: *Connecticut Women's Health*
http://www.ct.gov/dph/LIB/dph/state_health_planning/PDF/CTWomensHealth_Chp1_10.pdf

Other Suggestions

- **Use Lots of Headings:** Modern readers tend to scan pages for information, reading only those sections that seem interesting. To ensure that your readers can find important information quickly, break up narrative text with headings, and highlight keywords at the beginnings of paragraphs or bullets.
- **Limit Use of Text Wrapping:** If illustrations, graphs, tables, or text boxes are greater than one-half page in width, center them on the page with text above and below but not beside them. If you wrap text around them, you risk having too few words per line, and unless done by a professional with a program other than Word, it might look amateurish.
- **Disable Automatic Style Updating:** In Word, the style default "decides" whether a line is a header, body text, etc. Then it formats the rest of the document accordingly. As a result, changing one part of your plan might automatically change the rest--even when you don't want the rest changed. To prevent this from happening, disable the automatic style update feature as soon as you begin writing your plan. To disable automatic style updating for the entire document (or for a particular section or style in an existing document), click on: FORMAT > STYLE > MODIFY, and then remove the checkmark from the box beside "Automatically update."

CREATING PDF FILES

When plans, reports, tables, memos, letters, and other written materials are distributed electronically (by e-mail) or published on the DPH web site as Word documents or Excel spreadsheets, they can be downloaded, saved, and changed by readers.

Unless you want to allow readers to manipulate the data in your spreadsheets or alter the content of your Word documents, always convert your documents to PDFs (Portable Document Format) before distributing or publishing them. Creating a PDF is easy, but it requires special software.

- **Adobe Acrobat:** Any documents that can be printed can be converted to PDF, using Adobe Acrobat (the full commercial product, not Acrobat Reader). Many DPH staff have licensed copies of Acrobat, so ask around your unit or check with the Help Desk to see who has one.
- **CutePDF:** Several low-priced or free PDF converters do the same job as Adobe Acrobat. CutePDF (Acro Software, Inc.) is a free PDF converter for PCs that contains no advertising or adware, has been reviewed favorably by professionals, and is used by many schools, universities, and municipalities. It can be downloaded at http://www.cutepdf.com/.

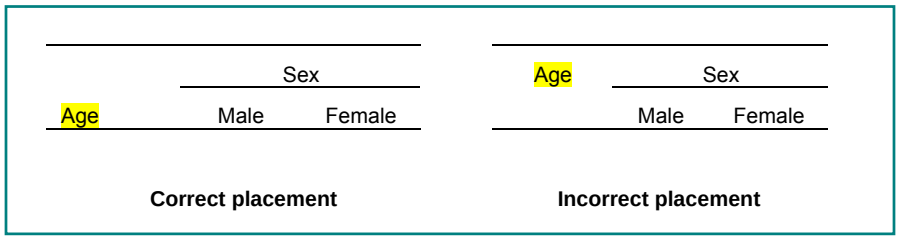
After converting the document to PDF, use the security settings (in Adobe Acrobat, click on FILE > DOCUMENT PROPERTIES > SECURITY) to password protect the PDF document and to restrict printing and changing it, if desired.

Appendix 2

RECOMMENDATIONS AND TEMPLATES FOR TABLES

RECOMMENDATIONS:

- Always use a *sans serif* type face, such as Ariel, Helvetica, or Franklin Gothic Book, for table titles, headings, and contents. This is serif: EFGHI. (Note little "feet" and hooks on letters.) This is sans serif: EFGHI. Use 9 point type for table titles and contents, and 7 or 8 point for footnotes and legends.
- In most journals and textbooks, vertical lines rarely are used in tables, and horizontal lines are used only at the top and bottom, and beneath column headings. Any of the templates below would be fine for use in reports or plans, but only the first would be acceptable for a journal.
- Alternate-row shading works well with long, wide tables (see Example 3).
- Do not outline every cell in a table. It looks amateurish and wastes ink or toner.
- Place all column headings directly above the lines separating them from the first row.



- Denote single footnotes with an asterisk (*). Denote multiple footnotes with superscript letters.

EXAMPLES:

1. TABLE TEMPLATE (No vertical lines, no shading)

TABLE X
TITLE OF TABLE
CONNECTICUT, [YEAR(S)]

	Main Heading		
Heading 1[a]	**Heading 2[b]**	**Heading 3[c]**	**Heading 4[d]**
First level			
Second level			
Third level			

[a] Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Nunc mollis malesuada diam. Curabitur id risus sed neque adipiscing vestibulum. Pellentesque varius dignissim felis. Duis leo. Duis nec neque vel risus mollis dignissim.
[b] Nulla imperdiet massa id nulla.
[c] Curabitur imperdiet scelerisque enim.
[d] Sed mattis odio non ipsum

2. TABLE TEMPLATE (Some vertical lines, no shading)

TABLE X
TITLE OF TABLE
CONNECTICUT, [YEAR(S)]

Heading 1[a]	Main Heading		Heading 4[d]
	Heading 2[b]	Heading 3[c]	
First level Second level Third level			

[a] Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Nunc mollis malesuada diam. Curabitur id risus sed neque adipiscing vestibulum. Pellentesque varius dignissim felis. Duis leo. Duis nec neque vel risus mollis dignissim.
[b] Nulla imperdiet massa id nulla.
[c] Curabitur imperdiet scelerisque enim.
[d] Sed mattis odio non ipsum

3. TABLE TEMPLATE (Some vertical lines, alternate-row shading)

TABLE X
TITLE OF TABLE
CONNECTICUT, [YEAR(S)]

Heading 1[a]	Main Heading		Heading 4[d]
	Heading 2[b]	Heading 3[c]	
Row 1			
Row 2			
Row			
Row			
Row			
Row			
Row			
Row			
Row			
Row			
Row 3			
Row 4			
Row 5			

[a] Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Nunc mollis malesuada diam. Curabitur id risus sed neque adipiscing vestibulum. Pellentesque varius dignissim felis. Duis leo. Duis nec neque vel risus mollis dignissim.
[b] Nulla imperdiet massa id nulla.
[c] Curabitur imperdiet scelerisque enim.
[d] Sed mattis odio non ipsum

Appendix 3
RECOMMENDATIONS AND TEMPLATES FOR GRAPHS

RECOMMENDATIONS

Graphics can have many functions, including entertainment, beautification, and persuasion. But the single purpose of graphs in a health improvement plan is to display quantitative information. Because quantitative graphics are a form of information processing, the principles of cognitive science--how humans process visual information--can be applied to their design to make them more effective. Several authors have done just that, and the recommendations below reflect their findings.[4]

Keep It Simple!

If a graph contains too many visual modes, its information is less likely to be remembered. This is even more important for slide presentations, which can be looked at only briefly.

- No 3-D effects, unless "depth" is one of the parameters displayed in the graph. The default style using Microsoft's chart function is 3-D, which may account for its overuse.
  - Making two-dimensional bars look like the New York skyline does not enhance communication. Instead, it makes it difficult to reference the top of the "block" against a scale.
  - Three-dimensional pie charts distort information by making wedges appear larger or smaller, depending on the perspective. Keep them flat.
- No shadow outlines.
- No colored backgrounds. (The default Microsoft background is gray. Delete it.)
- No "filled areas" in line graphs, unless there is a compelling need to use a profile chart.

Choose Your Own Color Scheme

Avoid the default colors (gray background; maroon, violet, and yellow for bar graphs and pie charts; navy, magenta, and yellow for line graphs) provided in Microsoft charting applications.

- Apply a single color scheme throughout the Plan, and use the same colors in all graphs.
- Use colors to differentiate *categories* but not *scales*.
- When color is impractical or expensive (as with print publications), use shading to represent different categories, but not different quantities. It's difficult to discern when an object is half, twice, or three times darker or lighter compared to another.
- Use consistent graph styles throughout the Plan to keep it from looking like it was designed by a committee (even though it probably was).
- Use consistent colors for entities in graphs throughout the Plan (e.g., for males and females) so the reader will not have to reorient with each chapter.

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[4] Wilkinson, L, M. Hill, P. Howe, G. Birkenbeuel, J. Beck, and J. Liu. Chapter 16. Cognitive science and graphic design. In: SYSTAT for DOS: Using SYSTAT, Version 6. Evanston, IL: SYSTAT, Inc. 1994.

Okabe, M. and K. Ito. Barrier free presentation: How to make figures and presentations that are friendly to color blind people. J*Fly Data Depository for *Drosophila* Researchers. Available online at: http://jfly.iam.u-tokyo.ac.jp/color/

- Consider how your graph will look in black and white (i.e., when photocopied). Different colors may look the same in black and white.
- In line graphs, vary line styles (solid, dashes, dots) and thicknesses as well as color, or use colored lines with different symbols to match each data point.
- In bar graphs and pie charts, try to use contrasting colors and vary brightness as well as hue. Alternate light and dark colors, so bars and wedges of different colors will photocopy as distinct grays.
- Mix patterns, especially stripes, with solids.
- Follow the "Rule of Six." Use no more than six different colors, shades, patterns, or line styles in any given graph. If more are needed, make two graphs.

Design User Friendly Graphs for Color-Blind People.

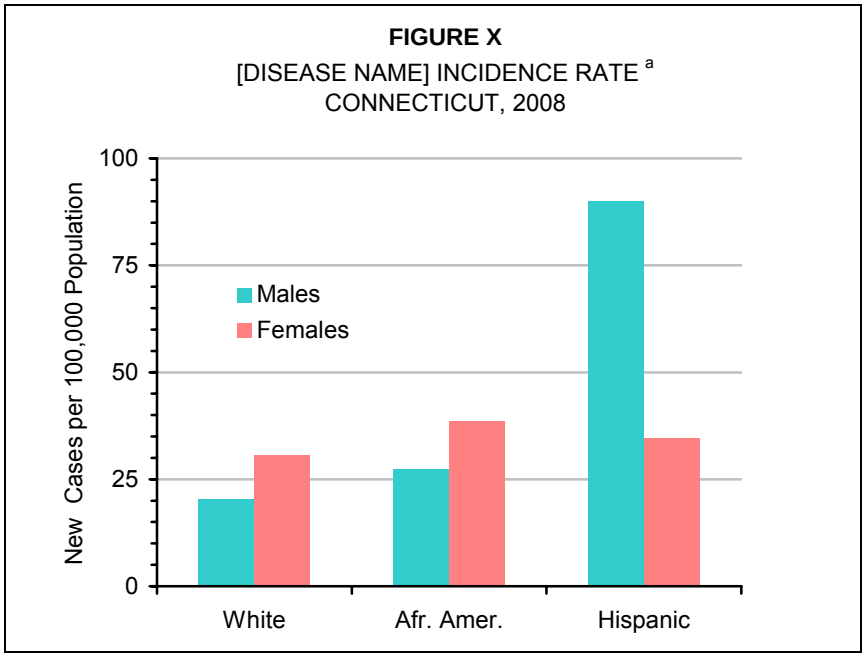
One in 12 males and 1 in 200 females is color-blind. Some cannot distinguish between red and green, and others can't easily tell the difference between light yellow and green, blue and green, or blue and violet. Against a black or dark blue background, some fail to see objects or letters in dark red or magenta or thin lines. The following guidelines ensure visibility to such people.

- Don't use colored text against a black or dark background.
- Avoid pure red (use magenta, orange-red, or orange instead) and pure green (use bluish-green instead). Don't use light green or yellow at all.
- Use vivid (highly saturated) colors, instead of pale ones.
- Make text and objects as large as possible.
- Don't try to convey information with color alone. Use shape, size, patterns, and words, too.
  - Use different colors and shapes (circles, triangles, squares, diamonds) for data points in line graphs.
  - Use a few colors with several different symbols, instead of a single symbol in different colors in line graphs.
  - Make lines thicker and symbols larger in line graphs.
  - Use different line styles and thicknesses in line graphs.
  - In bar graphs and pie charts, do not put red and green or yellow and light green next to one another.
  - Don't depend on separate legends or keys. Instead, use "redundant coding" in line, bar graphs and pie charts, to show differences using both color and shape.
    - Place the labels within the drawings (with a line extending from the label to the line, bar, or pie wedge it represents within the graph).
    - Add "hatching" (patterns) and internal labels to the colored areas of bar graphs and pie charts.

TEMPLATES FOR GRAPHS

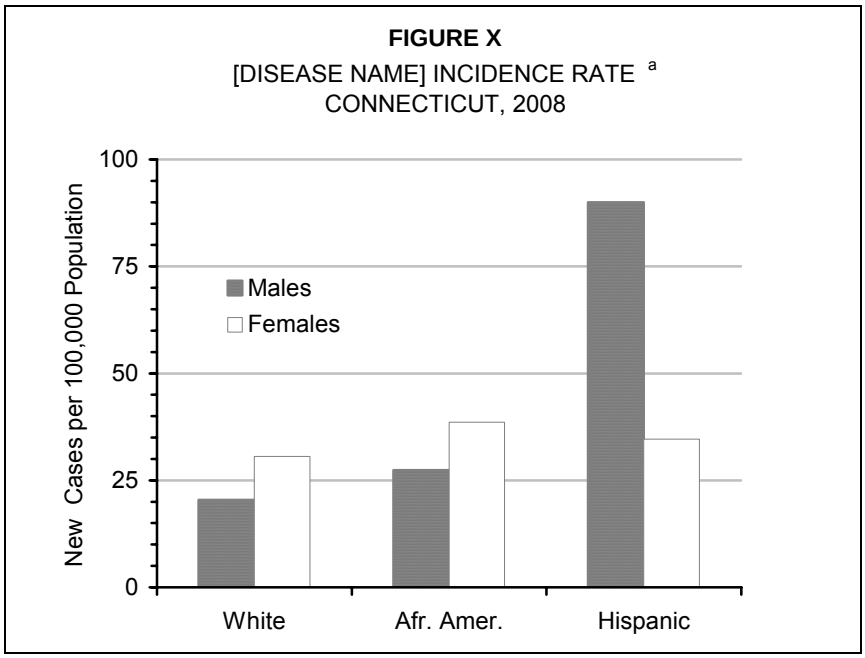
A selection of templates for bar, line, and pie charts follows. Some, but not all, would be appropriate for all audiences, including color-blind individuals.

1a. BAR GRAPH TEMPLATE (Color)



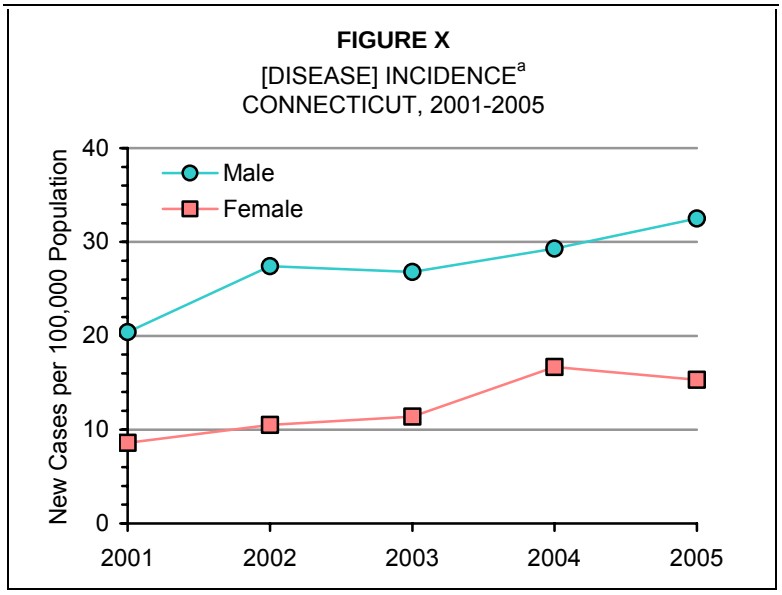
[a] Age standardized to 2000 U.S. population

1b. BAR GRAPH TEMPLATE (Black & White)



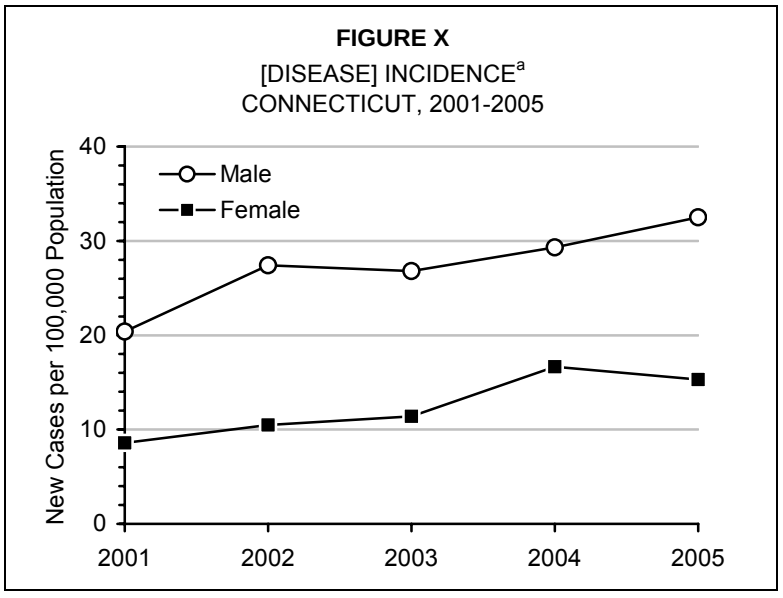
[a] Age standardized to 2000 U.S. population

2a. LINE GRAPH TEMPLATE (Color)



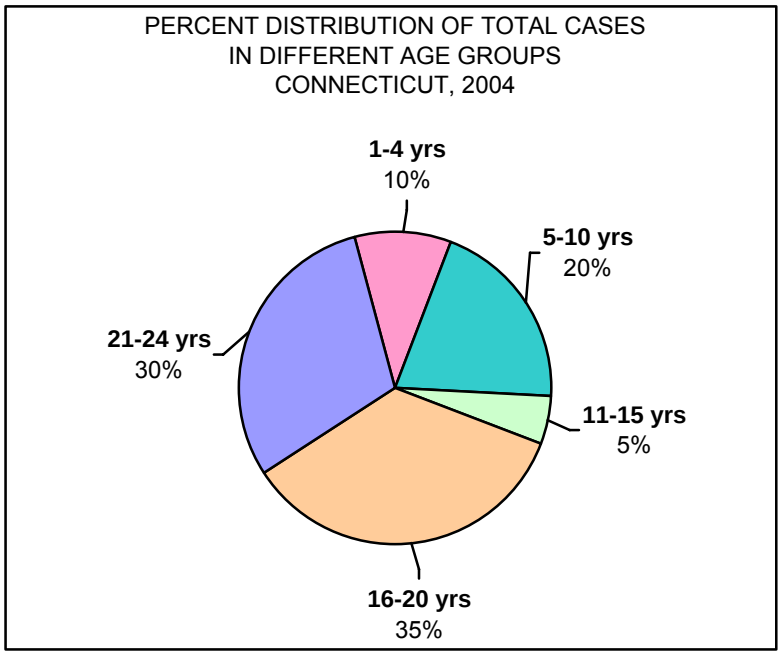
[a] Age standardized to 2000 U.S. population

2b. LINE GRAPH TEMPLATE (Black & White)

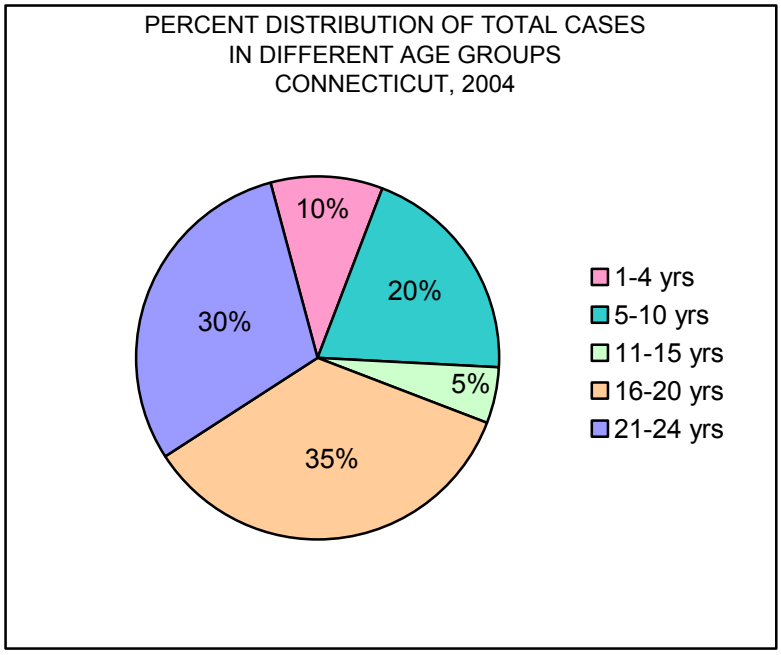


[a] Age standardized to 2000 U.S. population

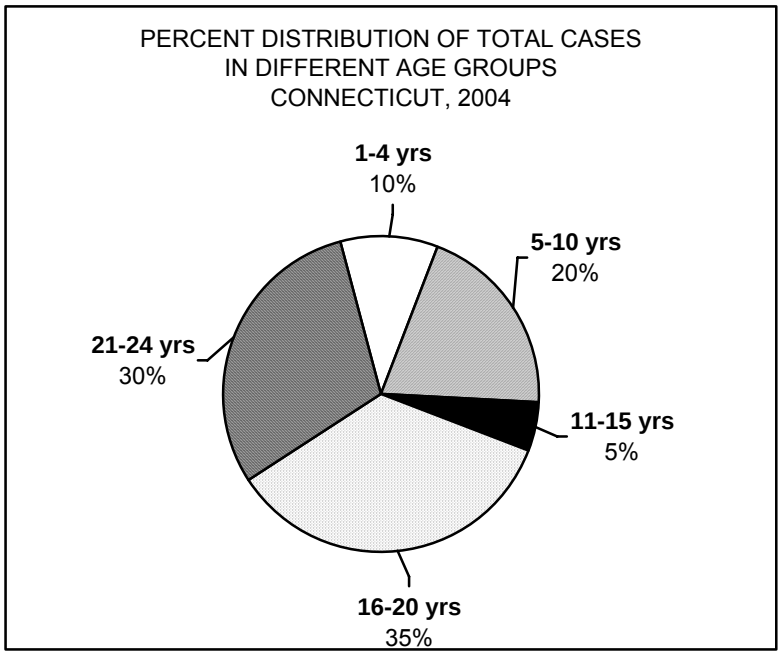
3a-1. PIE CHART TEMPLATE (Color, no legend)



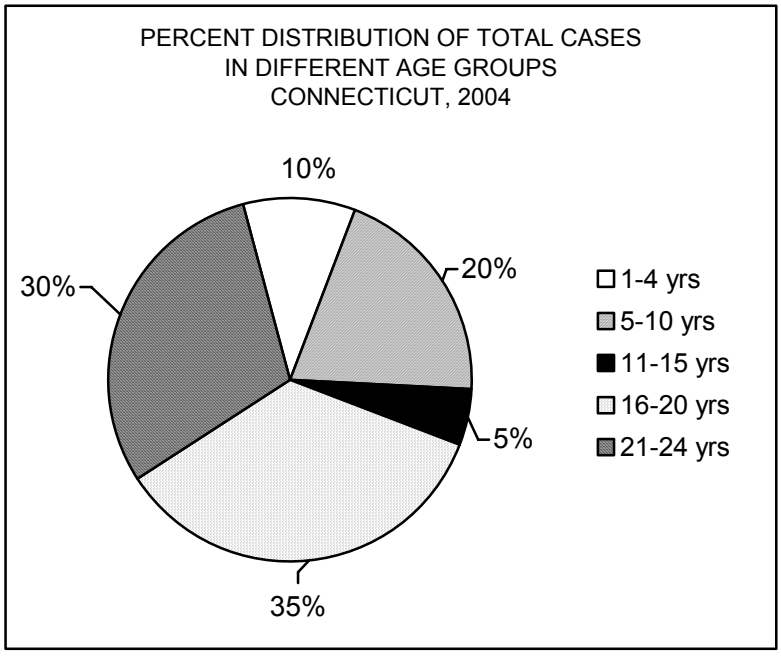
3a-2. PIE CHART TEMPLATE (Color, with legend)



3b-1. PIE CHART TEMPLATE (B/W, no legend)



3b-2. PIE CHART TEMPLATE (B/W, with legend)



Appendix 4
HOW TO CITE REFERENCES

1. Council of Scientific Editors Style Guide.

Source: Ohio State University Libraries. How do I cite resources? Cite resources. Council of Science Editors style. (Scientific Style and Format: The CSE Manual for Authors, Editors, and Publishers.) http://library.osu.edu/sites/guides/csegd.php

This guide is based on *Scientific Style and Format: The CSE Manual for Authors, Editors, and Publishers, 7th edition*, 2006. The developers of this citation style were formerly known as the Council of Biology Editors (CBE). Examples are provided in Name-Year format. Bibliography items are listed alphabetically at the end of the report or section of the plan. These items are referred to in the body of the paper using the "In-Text" style.

Books

Bibliography:

McCormac JS, Kennedy G. 2004. Birds of Ohio. Auburn (WA): Lone Pine. p. 77-78.

In-Text:

(McCormac and Kennedy 2004)

Book Chapter

Bibliography:

McDaniel TK, Valdivia RH. 2005. New tools for virulence gene discovery. In: Cossart P, Boquet P, Normark S, Rappuoli R, editors. Cellular microbiology. 2nd ed. Washington (DC): ASM Press. p. 473-488.

In-Text:

(McDaniel and Valdivia 2005)

Electronic Book

Bibliography:

Rollin, BE. The unheeded cry: animal consciousness, animal pain, and science [Internet]. Ames (IA): The Iowa State University Press; 1998 [cited 2007 August 27]. Available from: http://www.netlibrary.com

In-Text:

(Rollin 1998)

Journal Article (Print)

Bibliography:

Meise CJ, Johnson DL, Stehlik LL, Manderson J, Shaheen P. 2003. Growth rates of juvenile Winter Flounder under varying environmental conditions. Trans Am Fish Soc 132(2):225-345.

In-Text:

(Meise et al. 2003)

Electronic Article

Bibliography:

Parmentier H, Golding S, Ashworth M, Rowlands G. 2004. Community pharmacy treatment of minor ailments in refugees. Journal of Clinical Pharmacy and Therapeutics [Internet]. [cited 2007 Jul 24]; 29(5):465-469. Available from: http://journals.ohiolink.edu/ejc/pdf.cgi/Parmentier_H.pdf?issn=02694727&issue=v29i0005&article=465_cptomair

In-Text:

(Parmentier et al. 2004)

Electronic Article (From Journal Publisher's Web site)

Bibliography:

Leng F, Amado L, McMacken R. 2004. Coupling DNA supercoiling to transcription in defined protein systems. Journal of Biological Chemistry [Internet]. [cited 2007 Jul 24]; 279(46):47564-47571. Available from: http://www.jbc.org/cgi/reprint/279/46/47564

In-Text:

(Leng et al. 2004)

Electronic Article (From Online-Only Journal)

Bibliography:

Hong P, Wong W. 2005. GeneNotes: a novel information management software for biologists. BMC Bioinformatics [Internet]. [cited 2007 July 24]; 6:20. Available from: http://www.biomedcentral.com/1471-2105/6/20

In-Text:

(Hong and Wong 2005)

Electronic Encyclopedia Article (From Database)

Bibliography:

Wang C. c2007. Stem Cells. In: AccessScience@McGraw-Hill. [Internet][Hightstown (NJ)]: McGraw-Hill Education; [cited 2007 Sept 10]. Available from: http://www.accessscience.com/content.aspx?id=800100

In-Text:

(Wang c2007)

Dissertation/Thesis

Bibliography:

Dettmers JM. 1995. Assessing the trophic cascade in reservoirs: the role of an introduced predator [dissertation]. [Columbus (OH)]: Ohio State University. p. 7-14.

In-Text:

(Dettmers 1995)

Conference Paper

Bibliography:

Clarke A, Crame JA. 2003. Importance of historical processes in global patterns of diversity. In: Blackburn TM, Gaston KJ, editors. Macroecology: concepts and consequences. Proceedings of the 43rd annual symposium of the British Ecological Society; 2002 Apr 17-19; Birmingham. Malden (MA): Blackwell. p. 130-152.

In-Text:

(Clarke and Crame 2003)

Conference Abstract

Bibliography:

Swanson TA, Blair P, Madigan L. 2004. Reduction in medication errors through redesign of the medication use system [abstract]. In: American Society of Health-system Pharmacists 39th midyear meeting; 2004 Dec 5-9; Orlando. Bethesda (MD): American Society of Health-System Pharmacists. MCS-28.

In-Text:

(Swanson et al. 2004)

Technical Report

Bibliography:

Ford PL, Fagerlund RA, Duszynski DW, Polechla PJ. 2004. Fleas and lice of mammals in New Mexico. Fort Collins (CO): USDA Forest Service Rocky Mountain Research Station. General Technical Report No. RMRS-GTR-123.

In-Text:

(Ford et al. 2004)

Web Page (With No Author Listed)

Bibliography:

Emerald Ash Borer (EAB) [Internet]. [updated 2007 Feb 27]. Columbus (OH): Ohio Department of Natural Resources, Division of Forestry; [cited 2007 Jul 24]. Available from: http://www.dnr.state.oh.us/forestry/health/eab.htm

In-Text:

(Emerald Ash Borer ... [updated 2007])

2. Chicago-Style Citation Quick Guide

Source: The Chicago Manual of Style Online. Chicago-style citation quick guide.
http://www.chicagomanualofstyle.org/tools_citationguide.html

The Chicago Manual of Style presents two basic documentation systems: the humanities style (notes and bibliography) and the author-date system. Choosing between the two often depends on subject matter and nature of sources cited, as each system is favored by different groups of scholars.

The humanities style is preferred by many in literature, history, and the arts. This style presents bibliographic information in notes and, often, a bibliography. It accommodates a variety of sources, including esoteric ones less appropriate to the author-date system.

The more concise author-date system has long been used by those in the physical, natural, and social sciences. In this system, sources are briefly cited in the text, usually in parentheses, by author's last name and date of publication. The short citations are amplified in a list of references, where full bibliographic information is provided.

Below are some common examples of materials cited in both styles. Each example is given first in humanities style (a note [N], followed by a bibliographic entry [B]) and then in author-date style (an in-text citation [T], followed by a reference-list entry [R]). For numerous specific examples, see chapters 16 and 17 of The Chicago Manual of Style, 15th edition. [*NOTE: The reference-list style [R] is useful in most cases for citations in public health reports or health improvement plans.*]

Online sources that are analogous to print sources (such as articles published in online journals, magazines, or newspapers) should be cited similarly to their print counterparts but with the addition of a URL. Some publishers or disciplines may also require an access date. For online or other electronic sources that do not have a direct print counterpart (such as an institutional Web site or a Weblog), give as much information as you can in addition to the URL. The following examples include some of the most common types of electronic sources.

Book

One author

N: [1.] Wendy Doniger, Splitting the Difference (Chicago: University of Chicago Press, 1999), 65.

B: Doniger, Wendy. Splitting the Difference. Chicago: University of Chicago Press, 1999.

T: (Doniger 1999, 65)

R: Doniger, Wendy. 1999. Splitting the difference. Chicago: University of Chicago Press.

Two authors

N: [6.] Guy Cowlishaw and Robin Dunbar, Primate Conservation Biology (Chicago: University of Chicago Press, 2000), 104–7.

B: Cowlishaw, Guy, and Robin Dunbar. Primate Conservation Biology. Chicago: University of Chicago Press, 2000.

T: (Cowlishaw and Dunbar 2000, 104–7)

R: Cowlishaw, Guy, and Robin Dunbar. 2000. Primate conservation biology. Chicago: University of Chicago Press.

Four or more authors

N: [13.] Edward O. Laumann et al., The Social Organization of Sexuality: Sexual Practices in the United States (Chicago: University of Chicago Press, 1994), 262.

B: Laumann, Edward O., John H. Gagnon, Robert T. Michael, and Stuart Michaels. The Social Organization of Sexuality: Sexual Practices in the United States. Chicago: University of Chicago Press, 1994.

T: (Laumann et al. 1994, 262)

R: Laumann, Edward O., John H. Gagnon, Robert T. Michael, and Stuart Michaels. 1994. The social organization of sexuality: Sexual practices in the United States. Chicago: University of Chicago Press.

Editor, translator, or* compiler *instead of author

N: [4.] Richmond Lattimore, trans., The Iliad of Homer (Chicago: University of Chicago Press, 1951), 91–92.

B: Lattimore, Richmond, trans. The Iliad of Homer. Chicago: University of Chicago Press, 1951.

T: (Lattimore 1951, 91–92)

R: Lattimore, Richmond, trans. 1951. The Iliad of Homer. Chicago: University of Chicago Press.

Editor, translator, or compiler in addition to author

N: [16.] Yves Bonnefoy, New and Selected Poems, ed. John Naughton and Anthony Rudolf (Chicago: University of Chicago Press, 1995), 22.

B: Bonnefoy, Yves. New and Selected Poems. Edited by John Naughton and Anthony Rudolf. Chicago: University of Chicago Press, 1995.

T: (Bonnefoy 1995, 22)

R: Bonnefoy, Yves. 1995. New and selected poems. Ed. John Naughton and Anthony Rudolf. Chicago: University of Chicago Press.

Chapter or other part of a book

N: [5.] Andrew Wiese, "'The House I Live In': Race, Class, and African American Suburban Dreams in the Postwar United States," in The New Suburban History, ed. Kevin M. Kruse and Thomas J. Sugrue (Chicago: University of Chicago Press, 2006), 101–2.

B: Wiese, Andrew. "'The House I Live In': Race, Class, and African American Suburban Dreams in the Postwar United States." In The New Suburban History, edited by Kevin M. Kruse and Thomas J. Sugrue, 99–119. Chicago: University of Chicago Press, 2006.

T: (Wiese 2006, 101–2)

R: Wiese, Andrew. 2006. "The house I live in": Race, class, and African American suburban dreams in the postwar United States. In The new suburban history, ed. Kevin M. Kruse and Thomas J. Sugrue, 99–119. Chicago: University of Chicago Press.

Chapter of an edited volume originally published elsewhere (as in primary sources)

N: [8.] Quintus Tullius Cicero. "Handbook on Canvassing for the Consulship," in Rome: Late Republic and Principate, ed. Walter Emil Kaegi Jr. and Peter White, vol. 2 of University of Chicago Readings in Western Civilization, ed. John Boyer and Julius Kirshner (Chicago: University of Chicago Press, 1986), 35.

B: Cicero, Quintus Tullius. "Handbook on Canvassing for the Consulship." In Rome: Late Republic and Principate, edited by Walter Emil Kaegi Jr. and Peter White. Vol. 2 of University of Chicago Readings in Western Civilization, edited by John Boyer and Julius Kirshner, 33–46. Chicago: University of Chicago Press, 1986. Originally published in Evelyn S. Shuckburgh, trans., The Letters of Cicero, vol. 1 (London: George Bell & Sons, 1908).

T: (Cicero 1986, 35)

R: Cicero, Quintus Tullius. 1986. Handbook on canvassing for the consulship. In Rome: Late republic and principate, edited by Walter Emil Kaegi Jr. and Peter White. Vol. 2 of University of Chicago readings in western civilization, ed. John Boyer and Julius Kirshner, 33–46. Chicago: University of Chicago Press. Originally published in Evelyn S. Shuckburgh, trans., The letters of Cicero, vol. 1 (London: George Bell & Sons, 1908).

Preface, foreword, introduction, or similar part of a book

N: [17.] James Rieger, introduction to Frankenstein; or, The Modern Prometheus, by Mary Wollstonecraft Shelley (Chicago: University of Chicago Press, 1982), xx–xxi.

B: Rieger, James. Introduction to Frankenstein; or, The Modern Prometheus, by Mary Wollstonecraft Shelley, xi–xxxvii. Chicago: University of Chicago Press, 1982.

T: (Rieger 1982, xx–xxi)

R: Rieger, James. 1982. Introduction to Frankenstein; or, The modern Prometheus, by Mary Wollstonecraft Shelley, xi–xxxvii. Chicago: University of Chicago Press.

Book published electronically

If a book is available in more than one format, you should cite the version you consulted, but you may also list the other formats, as in the second example below. If an access date is required by your publisher or discipline, include it parenthetically at the end of the citation, as in the first example below.

N: [2.] Philip B. Kurland and Ralph Lerner, eds., The Founders' Constitution (Chicago: University of Chicago Press, 1987), http://press-pubs.uchicago.edu/founders/ (accessed June 27, 2006).

B: Kurland, Philip B., and Ralph Lerner, eds. The Founders' Constitution. Chicago: University of Chicago Press, 1987. http://press-pubs.uchicago.edu/founders/. Also available in print form and as a CD-ROM.

T: (Kurland and Lerner 1987)

R: Kurland, Philip B., and Ralph Lerner, eds. 1987. The founders' Constitution. Chicago: University of Chicago Press. http://press-pubs.uchicago.edu/founders/.

Journal article

Article in a print journal

N: [8.] John Maynard Smith, "The Origin of Altruism," Nature 393 (1998): 639.

B: Smith, John Maynard. "The Origin of Altruism." Nature 393 (1998): 639–40.

T: (Smith 1998, 639)

R: Smith, John Maynard. 1998. The origin of altruism. Nature 393: 639–40.

Article in an online journal

If an access date is required by your publisher or discipline, include it parenthetically at the end of the citation, as in the fourth example below.

N: [33.] Mark A. Hlatky et al., "Quality-of-Life and Depressive Symptoms in Postmenopausal Women after Receiving Hormone Therapy: Results from the Heart and Estrogen/Progestin Replacement Study (HERS) Trial," Journal of the American Medical Association 287, no. 5 (2002), http://jama.ama-assn.org/issues/v287n5/rfull/joc10108.html#aainfo.

B: Hlatky, Mark A., Derek Boothroyd, Eric Vittinghoff, Penny Sharp, and Mary A. Whooley. "Quality-of-Life and Depressive Symptoms in Postmenopausal Women after Receiving Hormone Therapy: Results from the Heart and Estrogen/Progestin Replacement Study (HERS) Trial." Journal of the American Medical Association 287, no. 5 (February 6, 2002), http://jama.ama-assn.org/issues/v287n5/rfull/joc10108.html#aainfo.

T: (Hlatky et al. 2002)

R: Hlatky, Mark A., Derek Boothroyd, Eric Vittinghoff, Penny Sharp, and Mary A. Whooley. 2002. Quality-of-life and depressive symptoms in postmenopausal women after receiving hormone therapy: Results from the Heart and Estrogen/Progestin Replacement Study (HERS) trial. Journal of the American Medical Association 287, no. 5 (February 6), http://jama.ama-assn.org/issues/v287n5/rfull/joc10108.html#aainfo (accessed January 7, 2004).

Popular magazine article

N: [29.] Steve Martin, “Sports-Interview Shocker,” New Yorker, May 6, 2002, 84.

B: Martin, Steve. “Sports-Interview Shocker.” New Yorker, May 6, 2002.

T: (Martin 2002, 84)

R: Martin, Steve. 2002. Sports-interview shocker. New Yorker, May 6.

Newspaper article

Newspaper articles may be cited in running text (“As William Niederkorn noted in a New York Times article on June 20, 2002, . . . ”) instead of in a note or an in-text citation, and they are commonly omitted from a bibliography or reference list as well. The following examples show the more formal versions of the citations.

N: [10.] William S. Niederkorn, “A Scholar Recants on His ‘Shakespeare’ Discovery,” New York Times, June 20, 2002, Arts section, Midwest edition.

B: Niederkorn, William S. “A Scholar Recants on His ‘Shakespeare’ Discovery.” New York Times, June 20, 2002, Arts section, Midwest edition.

T: (Niederkorn 2002)

R: Niederkorn, William S. 2002. A scholar recants on his “Shakespeare” discovery. New York Times, June 20, Arts section, Midwest edition.

Book review

N: [1.] James Gorman, “Endangered Species,” review of The Last American Man, by Elizabeth Gilbert, New York Times Book Review, June 2, 2002, 16.

B: Gorman, James. “Endangered Species.” Review of The Last American Man, by Elizabeth Gilbert. New York Times Book Review, June 2, 2002.

T: (Gorman 2002, 16)

R: Gorman, James. 2002. Endangered species. Review of The last American man, by Elizabeth Gilbert. New York Times Book Review, June 2.

Thesis or dissertation

N: [22.] M. Amundin, “Click Repetition Rate Patterns in Communicative Sounds from the Harbour Porpoise, Phocoena phocoena” (PhD diss., Stockholm University, 1991), 22–29, 35.

B: Amundin, M. “Click Repetition Rate Patterns in Communicative Sounds from the Harbour Porpoise, Phocoena phocoena.” PhD diss., Stockholm University, 1991.

T: (Amundin 1991, 22–29, 35)

R: Amundin, M. 1991. Click repetition rate patterns in communicative sounds from the harbour porpoise, Phocoena phocoena. PhD diss., Stockholm University.

Paper presented at a meeting or conference

N: [13.] Brian Doyle, “Howling Like Dogs: Metaphorical Language in Psalm 59” (paper presented at the annual international meeting for the Society of Biblical Literature, Berlin, Germany, June 19–22, 2002).

B: Doyle, Brian. “Howling Like Dogs: Metaphorical Language in Psalm 59.” Paper presented at the annual international meeting for the Society of Biblical Literature, Berlin, Germany, June 19–22, 2002.

T: (Doyle 2002)

R: Doyle, Brian. 2002. Howling like dogs: Metaphorical language in Psalm 59. Paper presented at the annual international meeting for the Society of Biblical Literature, June 19–22, in Berlin, Germany.

Web site

Web sites may be cited in running text (“On its Web site, the Evanston Public Library Board of Trustees states . . .”) instead of in an in-text citation, and they are commonly omitted from a bibliography or reference list as well. The following examples show the more formal versions of the citations. If an access date is required by your publisher or discipline, include it parenthetically at the end of the citation, as in the second example below.

N: [11.] Evanston Public Library Board of Trustees, “Evanston Public Library Strategic Plan, 2000–2010: A Decade of Outreach,” Evanston Public Library, http://www.epl.org/library/strategic-plan-00.html.

B: Evanston Public Library Board of Trustees. “Evanston Public Library Strategic Plan, 2000–2010: A Decade of Outreach.” Evanston Public Library. http://www.epl.org/library/strategic-plan-00.html (accessed June 1, 2005).

T: (Evanston Public Library Board of Trustees)

R: Evanston Public Library Board of Trustees. Evanston Public Library strategic plan, 2000–2010: A decade of outreach. Evanston Public Library. http://www.epl.org/library/strategic-plan-00.html.

Weblog ("blog") entry or comment

Weblog entries or comments may be cited in running text ("In a comment posted to the Becker-Posner Blog on March 6, 2006, Peter Pearson noted . . .") instead of in a note or an in-text citation, and they are commonly omitted from a bibliography or reference list as well. The following examples show the more formal versions of the citations. If an access date is required by your publisher or discipline, include it parenthetically at the end of the citation, as in the first example below.

N: [8.] Peter Pearson, comment on "The New American Dilemma: Illegal Immigration," The Becker-Posner Blog, comment posted March 6, 2006, http://www.becker-posner-blog.com/archives/2006/03/the_new_america.html#c080052 (accessed March 28, 2006).

B: Becker-Posner Blog, The. http://www.becker-posner-blog.com/.

T: (Peter Pearson, The Becker-Posner Blog, comment posted March 6, 2006)

R: Becker-Posner blog, The. http://www.becker-posner-blog.com/.

E-mail message

E-mail messages may be cited in running text ("In an e-mail message to the author on October 31, 2005, John Doe revealed . . .") instead of in a note or an in-text citation, and they are rarely listed in a bibliography or reference list. The following example shows the more formal version of a note.

N: [2.] John Doe, e-mail message to author, October 31, 2005.

Item in online database

Journal articles published in online databases should be cited as shown above, under "Article in an online journal." If an access date is required by your publisher or discipline, include it parenthetically at the end of the citation, as in the first example below.

N: [7.] Pliny the Elder, The Natural History, ed. John Bostock and H. T. Riley, in the Perseus Digital Library, http://www.perseus.tufts.edu/cgi-bin/ptext?lookup=Plin.+Nat.+1.dedication (accessed November 17, 2005).

B: Perseus Digital Library. http://www.perseus.tufts.edu/.

T: (Pliny the Elder, Perseus Digital Library)

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Appendix 5
WHERE TO FIND MORE INFORMATION

HEALTH PLANNING TOOLKITS

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