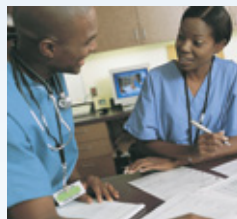


# Creating Healthier

Hospital Food, Beverage, and Physical Activity Environments:



Forming Teams,  
Engaging Stakeholders,  
Conducting Assessments  
and Evaluations

National Center for Chronic Disease Prevention and Health Promotion  
Division of Nutrition, Physical Activity, and Obesity



# Purpose

Hospitals are an important setting for public health efforts to combat chronic diseases because of their reach among a large population of employees, patients, and visitors, as well as their effect on neighboring communities. This document provides guidance to hospital nutritionists, human resources and employee health staff, and others who wish to promote and support healthy food, beverage, and physical activity options in hospitals. This document is part of a toolkit which includes assessment tools for food, beverage and physical activity environments and a guide on conducting those assessments available [here](#).

During 2011, the Department of Health and Human Services (HHS) and the US General Services Administration (GSA) released guidelines that specify healthy food and sustainable procurement practices for all federal food service concessions and vending machines.<sup>1</sup> In addition, the Centers for Disease Control and Prevention (CDC) has released several guides to improve the food environment by using nutrition standards, with a focus on government procurement practices and sodium reduction.<sup>2,3</sup> The food service standards<sup>1</sup>

and procurement guide<sup>2</sup> were intended for federal work sites. The sodium reduction<sup>3</sup> guide was designed for hospitals specifically. Lastly, the CDC has released recommendations for work sites on promoting physical activity by implementing *Steps to Wellness: A Guide to Implementing the 2008 Physical Activity Guidelines for Americans in the Workplace*.<sup>4</sup>

There are several state-based efforts underway to promote healthier choices in work sites<sup>5</sup> and some specifically in hospitals.<sup>6,7</sup> There are also some tool kits that provide valuable resources for developing healthier food and beverage and sustainable procurement practices in work sites<sup>8</sup> and hospitals.<sup>9,10</sup> This document will augment these materials by providing a hospital-specific rationale, as well as a step-by-step guide for implementing policy and environment changes to promote healthier food, beverage, and physical activity choices in hospitals. This document may also be applicable to other health care settings. This document will provide guidance on how to evaluate these efforts.



# Rationale

Nationwide, there were more than 5,700 hospitals registered with the American Hospital Association in 2012, with more than 37 million inpatient admissions, 118 million emergency department visits, and 481 million outpatient visits.<sup>11</sup> Hospitals also employ more than 6.3 million full- and part-time salary and wage workers.<sup>12</sup> In light of the growing burden of preventable chronic diseases, such as obesity, heart disease, and diabetes, hospital leadership and champions can promote the health of employees, patients, and communities by considering policies and practices that ensure that the healthier choice is the easier choice.

## Food and Beverage Environments

A typical hospital serves an average of 1.7 million meals to inpatients, outpatients, visitors, and employees every year.<sup>13</sup> However, researchers have reported that hospitals, in general, do not systematically support healthy food and beverage environments for patients, visitors, or employees.<sup>14–18</sup> For example, healthier options may not be available or may not be promoted effectively.

For example, hospitals can use pricing and point-of-purchase strategies to promote healthier choices.<sup>19–22</sup> Interventions that included pricing strategies for healthier foods have been found to increase healthier food sales for 9 months.<sup>19</sup>

A healthy vending environment change consisting of point-of-purchase information in 14 vending machines in 2 hospitals resulted in reductions of 24% in calories, 33% in fat, and 30% in sugar purchased per 100g of product.<sup>21</sup>

## Physical Activity Environments

A recent focus group study reported that among employees of a large urban hospital, more than half of the respondents did not meet recommended levels of physical activity.<sup>23</sup> Many employees indicated that allotment of time and safe places for physical activity, including stairwells and walking trails, could help them increase their physical activity. A brief incentive-based walking program in a large clinical setting demonstrated an increase in the proportion of employees engaging in 30 minutes of physical activity increasing from 24% to 50%.<sup>24</sup> Finally, one study assessed health outcomes associated with a comprehensive hospital employee wellness program.<sup>25</sup> In this investigation, access and media strategies promoting the use of stairwells and walking trails, in addition to those targeting healthy food behaviors, was associated with a reduction of 0.012 kg/m<sup>2</sup> in body mass index (BMI) at 24 months in the intervention group compared with the control group.



# A step- by-step approach

to implementing  
policy and  
environment  
changes.

Improvements in hospital food and beverage policy and environments can be made by using a planned series of steps, including engaging stakeholders, forming a team, assessing current policies and environments, assessing needs and identifying goals, developing an implementation and maintenance plan, and then evaluating the effects of those changes. This section outlines this series of steps designed to help implement change. These steps are similar to those proposed in other CDC documents,<sup>24</sup> and are best done incrementally. For example, begin by engaging stakeholders and partners before forming a team or conducting initial assessments.

# Step 1

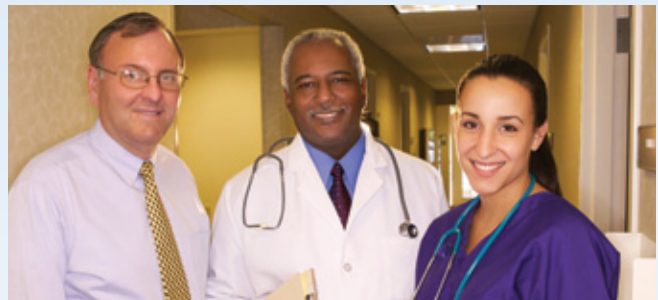
## Engage stakeholders and partners.

Engaging stakeholders in improving environments is a critical first step. These stakeholders may include, but are not limited to, the following:

- Hospital leadership team and executives.
- Human resources.
- Food and nutrition services personnel.
- Clinical staff.
- Support services staff (e.g., clerical, environmental, engineering) representatives.
- Community coalitions working on nutrition, wellness, or obesity.
- Food, beverage, and vending purchasers or contractors.

Stakeholders provide critical input into the development of your program and efforts to promote healthier choices. They are also essential to (a) leverage resources for future change, and (b) disseminate and share with other groups who can promote your efforts. Stakeholders play an important role in the evaluation of your work (see Step 6).

Developing a business case to establish the importance of using policy and environmental strategies to promote healthier choices and behaviors may help gather buy-in from certain groups of stakeholders. For example, outlining how healthy food and beverage policies can influence



behaviors and improve employee health may help engage stakeholders who are interested in reducing employee health care-related costs. Similar business cases can be made to promote physical activity.

Identify champions or highly motivated individuals from these groups who are willing to raise awareness and implement change. These champions could be senior personnel or directors or other non-leadership staff. In hospitals where the staff is unionized, engaging union leadership is an important consideration. Finally, consider state or city-level hospital associations, public health departments, and *nontraditional* community partners, such as food policy councils, community coalitions, or nonprofit organizations. By engaging stakeholders and finding partners across a spectrum of settings and experiences, you can begin the process of policy and environment change.

# Step 2

## Form a team.

Once stakeholders and other partners have been engaged and champions have been identified, a team should be formed. Stakeholders with critical roles in promoting choices in the food, beverage, and physical activity environments, (e.g., nutrition services, employee health), should have representation on this team. This team should also include members of groups that may be affected by any changes. Finally, depending on the goals of your team and leadership, you may wish to consider designating a sustainability officer. This person would be responsible for assisting in the development of strategies to sustain the changes over time. An inclusive team that also reaches out to other groups depending on the situation can be invaluable.



The team members should share information among one another, and report developments to their parent organizations. Team members also serve other important roles. For example, champions can gather support from staff; human resources, or executive leaders who can leverage their organizational resources to implement change; and members who have the capacity can help in disseminating information.



# Step 3

## Conduct a policy and environment assessment.

Your hospital may already have policies for food and beverage procurement and the nutritional standards to which those foods and beverage must adhere. There may also be policies for promoting physical activity by using break times or structured programs. You will have to conduct a policy assessment of what policies are currently available to support healthier choices. These policies may vary by the degree to which they are implemented and monitored. The degree to which healthy choices are actually promoted in different environments may also vary by venue. To understand what healthy options are actually available in your hospital's food, beverage, and physical activity environments, you will need to conduct an environment assessment.

There are several food and beverage assessment tools available for a variety of settings,<sup>26–30</sup> including those in hospitals.<sup>29,30</sup> There is also a tool for assessing physical activity environments.<sup>31</sup> CDC has adapted a selection of these scans for several hospital venues, including cafeterias, vending machines, and physical activity settings

(e.g., stairwells, walking trails).<sup>32</sup> Using these tools will require personnel training that can be done online<sup>26</sup> or by identifying partners within hospitals or public health departments who have experience in conducting these assessments. Conducting these assessments takes 10–45 minutes per venue, depending on the exact venue and size. It is important to consider the resources of team members to conduct the scans.

When deciding which environments to assess, it may be important to consider which venues have the most impact on employee or visitor health. Questions to consider include, but are not limited to, the following:

- What is the reach of the venues? In other words, does a large proportion of hospital staff or visitors use the venue for food?
- Who monitors adherence to policies in the venue?
- Who has oversight over the venues?
- What are the unique barriers or priorities of the group who has oversight over the venue?
- How feasible will it be to implement policy and environment change in the venue?

Once your team has conducted an environment assessment, you will need to review the results to identify where improvements can be made. You can then review your hospital's food, beverage, and physical activity policies. This will help identify where policies have been adequately implemented and how changes may be able to improve healthier food, beverage, and physical activity environments and options.

## Change scenario: water promotion

Now let's look at an example of how your team might gather information about a hospital's policies and environments that support healthier choices by conducting assessments.

Your team works with hospital leadership and staff to review the current policies that support healthier food, beverage, and physical activity choices. Your team also conducts an environment scan to determine what practices are being implemented where, (e.g., cafeterias, vending machines, stairwells). By conducting these policy and environment assessments, your team identifies several opportunities to promote healthier food, beverage, and physical activity options.

These include the findings that hospital policy (a) does not specify water availability in vending machines to the vending contractor; and (b) does not call for promotion of drinking water in the cafeteria or on any floors.

Similarly, the environment scan at your hospital determines that (a) drinking water was not promoted in any form, including tap water, water jets, or coolers; (b) bottled



water was not available in vending machines; (c) free water was available in the cafeteria only in the form of a tap on the fountain drink bay; and (d) that there were no water jets or coolers available on other floors.

Comparing the findings from the policy scan with the environment scans highlights important strategies to promote drinking water consumption in future discussions with stakeholders and leadership. Your team may consider water promotion as an important goal, but first you have to conduct a needs assessment.



# Step 4

## Assess needs, and identify goals.

Once you have documented the policies and environments in your hospital, you can use that information to complete a needs assessment. Each hospital will be unique in its spectrum of opportunities and barriers to changing the food, beverage, and physical activity environments. The members of the team formed in Step 2 can use information gathered from the policy and environment scans as part of a needs assessment.

It is important to assess the immediate needs of the hospital staff. Identifying what the staff would like to see improved, and implementing those changes first, may build rapport with staff and result in sustained buy-in for future efforts to be achieved. A well-conducted needs assessment can lay the groundwork for an effective environment change effort and identification of goals for immediate action.

In addition, you should gather the input of hospital visitors and nearby community members because they often play important roles in supporting the hospital's efforts to promote health. Input from these groups can be collected by anonymous surveys. After gathering information from staff, visitors, and the hospital community at large, the team and key stakeholders

can identify goals they would like to achieve in the future. After identifying a specific goal, key questions that need to be asked include

- Which person(s) or group(s) will be responsible for achieving the goal?
- What policy, or set of policies, needs to be developed and set to achieve the goal?
- What environmental changes need to be in place for the goal to be successfully implemented?

Once you have considered these questions, you should specify how your objectives will be achieved. One way to do this is by using the SMART (Specific, Measurable, Achievable, Realistic, Timely) objectives format.<sup>33</sup> SMART objectives provide an opportunity to operationalize your stated goals and identify concrete actions that you can take to accomplish your goals. You should develop short, intermediate, and long-term outcomes that you wish to achieve. Information gathered from the needs assessment, policy review, and environment scan allow you to specify actions and benchmark changes and improvements towards reaching the goals over time.

## Change scenario: water promotion

Let's continue with the water promotion example started above in Step 3. After conducting the policy and environment assessment, you are now ready to engage staff, stakeholders, and other team members in a needs assessment discussion. The needs assessment can take various forms, including paper or online surveys, interviews, and discussions.

In this scenario, you begin a needs assessment by conducting a survey that seeks to elicit the top priorities for improving food, beverage, and physical activity environments. The survey is given to general employee staff, human resource staff, nutrition service staff, and members from hospital leadership. In reviewing the survey results, you identify several common priorities for promoting healthier choices.

You then conduct in-person interviews with individuals who completed the survey and agreed to participate in a follow-up interview. You ask the interviewees to rank specific strategies for improving healthy food, beverage, and physical activity environments, including specific opportunities that were highlighted by comparing the policy assessments and environment scans, such as water promotion.

A goal that emerges from your needs assessment, and that was highlighted by your work in Step 3, is promoting drinking water by increasing access to water jets and fountains. Currently, there is no free drinking water available in the hospital apart from the soda station in the cafeteria. You and your team members agree to drinking water as a specific goal over the next few years. You agree to use promotion strategies, and



increase the availability of water jets and fountains in the cafeteria and on the floors. You also develop a SMART<sup>33</sup> goal strategy to track your progress. In this scenario a short term outcome might be engagement of engineering staff to start planning water jet installation; an intermediate outcome would be promotion of the upcoming water jets with your stakeholders and employees; and the long term outcome would be the final installation of the water jets and ongoing assessment of their usage and reception by employees and visitors, including water consumption in liters. An example of such a SMART goal strategy for water jets could be:

- Specific: Increase the availability of water jets in the main lobby, cafeteria and patient floors.
- Measurable: The number of water jets on each of the above mentioned floors.
- Achievable: Have at least 1 water jet installed on each the above mentioned floors.
- Realistic: Engineering will work with your team and stakeholders to have at least 1 water jet installed on each floor.
- Timely: Complete installation and promotion of water jets within 12 months.

# Step 5

## Develop implementation and maintenance plans.

Now that the team has been formed, policies and environments have been scanned, a needs assessment has been conducted, and short, intermediate, and long-term objectives have been determined, you will need to develop implementation and maintenance plans. These plans should be responsive to the unique opportunities, barriers, and needs of the hospital.

The implementation plan should identify specific activities that your team needs to accomplish to meet your stated goals. These activities should align with the short, intermediate, and long-term outcomes that you have chosen with your team. For each of these activities, you should determine the following: a timeline, the accountable person or group for that activity identified, a list of partners, a measure that will help determine whether you are making progress toward your goal, and action steps, including resource

identification, that need to be taken to fulfill the activity. Suggestions for developing implementation plans and templates are available online.<sup>34,35</sup> This process will help you and your team develop a logic model, which, in conjunction with your implementation plan, will allow you to track and monitor progress, implementation fidelity, and the accomplishment of outcomes. The logic model you develop will help you and your team visualize the process by which you seek to accomplish your goals, and help you explain your plan to stakeholders. For an example of how a logic model would look and how it could help you see the *Change Scenario* under Step 6. Finally, the maintenance plan should also list, in a logical sequence, how each of the goals you have successfully implemented will be sustained over time. If you have a sustainability officer, this would be a critical area for that individual's input. In your maintenance plan, similar to your implementation plan, you will identify accountable individuals or groups.

## Change scenario: water promotion

Now that your team has identified increasing water consumption as a goal by increasing access and by using promotion policies, it is time to develop implementation and maintenance plans.

Your team and collaborators will identify the implementation steps (e.g., acquisition and installation of any new equipment, such as filters) that will be needed to provide free water sources, including water jets and fountains. You will also identify who will be responsible for each of these steps.

Understanding the time frame required for these steps will help you set the appropriate time points to assess their completion.

The team may decide to include engineering because of their potential role in understanding the feasibility and costs, timelines, and infrastructure needed to set up and maintain water jets. Collaboration among engineering, human resources, and hospital leadership can then develop and set the appropriate policy or policies. A template for an implementation plan with examples of activities is provided next:

Activity	Timeline (include baseline, interim and completion dates)	Financial Resources Required	Lead Person	Partners and Stakeholders	Measure: Indicating activity has been achieved (e.g., assessments, surveys)	Action Steps (including identification of resource needs)
Adopt New Policy: e.g., Free water availability						
Implement Environment Changes: e.g., 3 water jets in cafeteria						
Develop Educational Campaign: e.g., staff newsletters, emails, and intranet web page						
Monitor Policy and Environment Changes: e.g., use scans, employee uptake surveys						
Monitor Promotion Efforts: e.g., awareness surveys						
Report Back to Stakeholders, Partners and Staff: e.g., quarterly updates						

When planning maintenance of the newly implemented changes, you should also determine the timing of routine maintenance checks for the water jets. As part of your maintenance plan, your team will determine

the responsible group(s) who will share information and ensure that policies are periodically reviewed and updated to continue meeting your goal of free water provision.

# Step 6

## Evaluation.

The determination of whether policy and environment strategies have resulted in change requires evaluation. A summary of steps from the *CDC's Framework for Program Evaluation in Public Health* is provided.<sup>36</sup> This is a brief description of evaluation, and you may need assistance from partners experienced in evaluation, such as your local public health department.

The first step in any evaluation is to engage your team in designing the evaluation of your effort to improve the hospital's food, beverage, and physical activity environments. Equally important is to engage stakeholders and partners in designing the evaluation. Stakeholders and partners include those who might be involved in the operational aspects of your effort (e.g., nutrition services or human resources), or may be affected by any changes your team creates (e.g., visitors), or those who might use your evaluation results (e.g., leadership). Including multiple stakeholders with varying interests in the project increases the likelihood that the evaluation will be used.<sup>37</sup> Therefore, it is critical that the evaluation plan be developed at the start of the project as part of the implementation plan.

The second step in the evaluation is to describe the effort to improve the hospital food, beverage, and physical activity environments in enough detail that anyone can understand your specific goals and strategies. The CDC Evaluation Framework identifies several components that will allow you to describe your program in sufficient detail: (1) outline the program; (2) explain the effects of the program on the problem you are addressing

and why it is important to do so; (3) describe all program activities; (4) define the resources that the program will require; (5) provide a full depiction of the level of development of a program (i.e., understanding where your program is in its maturity will help determine what you are evaluating and what outcomes you will focus on); (6) depict an understanding of the context in which the program will operate; (7) provide a logic model that outlines the inputs, activities, expected outcomes and overall goal of the program. As mentioned previously, the logic model is a critical component of this step and should reflect the goals and objectives of your program, describe your program activities and expected outcomes, and reflect the context of the program. The logic model will allow you to determine the developmental level of your program and thus, the evaluation questions you should ask.

In the third step, you will focus the evaluation by using the following important considerations with your team, stakeholders, and partners:

- What is the purpose of the evaluation?
- What are the evaluation questions?
- How do the evaluation questions relate to the program outcomes?



Evaluation questions are prioritized on the basis of the importance of users and uses of the evaluation. The evaluation group can prioritize all evaluation questions on the basis of what the most critical users want to know.

In the fourth step, you will gather credible evidence to answer the evaluation questions. Identifying and using several different sources of information will provide the most accurate view of the project's success and shortcomings.

In the fifth step, you will analyze the data and evidence you have gathered. You will frame your analyses in the context of related studies and the objectives of your program. You will also

ensure that you have synthesized information from your evaluation in a way that is relevant, accessible and useful to your stakeholders.

Lastly, efforts must be made so that the evaluation findings are disseminated effectively to all intended audiences. Some audiences may need summary reports and others may need a presentation with an open comment or town hall approach to allow for best distribution. The CDC's *Developing an Effective Evaluation Plan* is another resource for developing an effective evaluation plan.<sup>38</sup>

## Change scenario: water promotion

To evaluate your goal to improve policies and environments that support free drinking water, including water jets, you will have to determine the purpose of the evaluation and the questions, methods, and metrics you will employ to complete the evaluation. Specifically, periodic assessments to monitor policy implementation could be used to assess that your free drinking water goal has been met and maintained. Environment scans can also be used to determine the accessibility and availability of the free drinking water stations. Information about how staff, outpatients, and visitors use the water stations can be gathered by using observational data or self-report surveys.

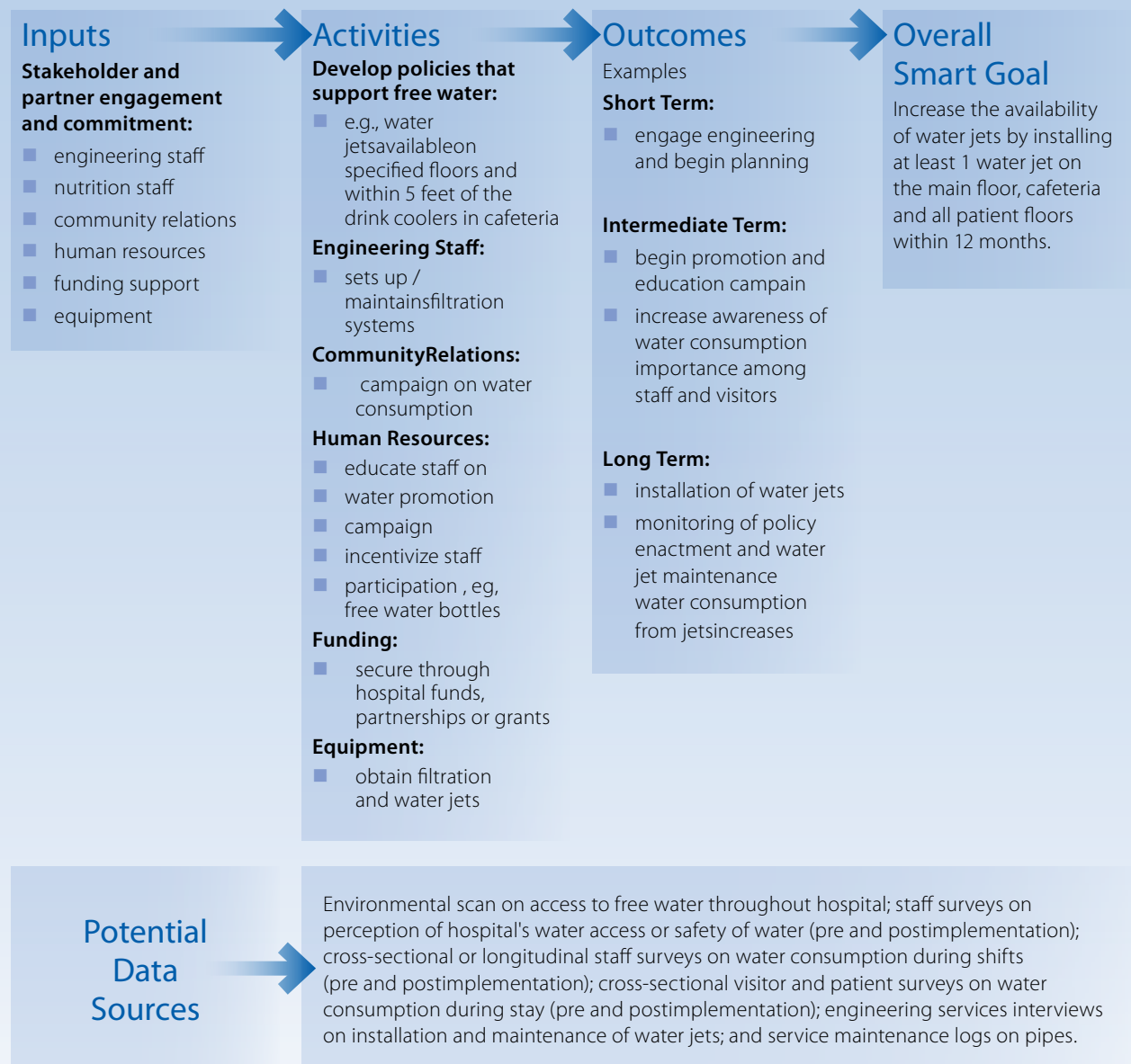
As part of your evaluation plan you will develop a logic model that describes the events and processes that will lead to



your goal of using water jets to promote free drinking water. The figure below is an example logic model depicting the pathway from inputs to activities to free drinking water outcomes.



**Figure 1. Example Logic Model for Evaluation of Hospital Policy and Environment Change to Promote Drinking Water**



# Conclusion

This document provides an overview of key considerations when changing policies and practices for hospital food, beverage, and physical activity environments. With the tool kits<sup>1-4</sup> on procurement; food standards for concessions, vending, and sustainability; increasing physical activity; the accompanying environment scans;<sup>32</sup>

and a practice-to-practice series describing successful stories and strategies,<sup>39</sup> this document may help promote healthier food, beverage, and physical activity choices and behaviors for hospital employees, patients, and visitors.



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