HOSPITAL SURVEY ON PATIENT SAFETY CULTURE

Surveys on Patient Safety Culture™

USER'S GUIDE

AHRQ Agency for Healthcare Research and Quality

PATIENT SAFETY

AHRQ Hospital Survey on Patient Safety Culture: User's Guide

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Agency for Healthcare Research and Quality
U.S. Department of Health and Human Services
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Prepared by:
Westat, Rockville, MD

Joann Sorra, Ph.D.
Laura Gray, M.P.H.
Suzanne Streagle, M.A.
Theresa Famolaro, M.P.S.
Naomi Yount, Ph.D.
Jessica Behm, M.A.

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AHRQ is the lead Federal agency charged with supporting research designed to improve the quality of health care, reduce its cost, address patient safety and medical errors, and broaden access to essential services. AHRQ sponsors and conducts research that provides evidence-based information on health care outcomes; quality; and cost, use, and access. The information helps health care decisionmakers—patients and clinicians, health system leaders, and policymakers—make more informed decisions and improve the quality of health care services.

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Contents of This Survey User's Guide

The AHRQ *Hospital Survey on Patient Safety Culture*, this User's Guide, and other toolkit materials are available on the AHRQ Web site (http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/index.html). These materials are designed to provide hospitals with the basic knowledge and tools needed to conduct a patient safety culture assessment, along with ideas for using the data. This guide provides a general overview of the issues and major decisions involved in conducting a survey and reporting the results.

Part One: Survey User's Guide

List of Figures

List of Tables

Chapter 1. Introduction

As hospitals continually strive to improve patient safety and quality, hospital leadership increasingly recognizes the importance of establishing a culture of safety. Achieving such a culture requires leadership, physicians, and staff to understand their organizational values, beliefs, and norms about what is important and what attitudes and behaviors are expected and appropriate. A definition of safety culture applicable to all health care settings is provided below.

Safety Culture Definition

The safety culture of an organization is the product of individual and group values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization's health and safety management. Organizations with a positive safety culture are characterized by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventive measures.

Study Group on Human Factors. Organising for safety: third report of the ACSNI (Advisory Committee on the Safety of Nuclear Installations). Sudbury, England: HSE Books; 1993.

Development of the Hospital Survey on Patient Safety Culture

Purpose

The Agency for Healthcare Research and Quality (AHRQ) and Medical Errors Workgroup of the Quality Interagency Coordination Task Force (QuIC) sponsored the development of the *Hospital Survey on Patient Safety Culture.* The hospital survey is designed specifically for hospital staff and asks for their opinions about the culture of patient safety at their hospitals.

The survey can be used to:

- Raise staff awareness about patient safety,
- Assess the current status of patient safety culture,
- Identify strengths and areas for patient safety culture improvement,
- Examine trends in patient safety culture change over time,
- Evaluate the cultural impact of patient safety initiatives and interventions, and
- Conduct comparisons within and across organizations.

Survey Development and Pilot Test

Under contract to AHRQ, a survey design team from Westat conducted the following activities to identify key composites of hospital safety culture, relevant background questions about staff and hospital characteristics, and appropriate terms and words to use in the survey:

- Reviewed the literature, including existing surveys, pertaining to patient safety, hospital medical errors and quality-related events, error reporting, safety climate and culture, and organizational climate and culture.

- Conducted background interviews with experts in the field of patient safety and with hospital staff.

Based on these activities, the design team developed draft survey items to measure the identified key composites and conducted cognitive interviews with hospital staff. Cognitive interview participants included clinical staff, such as physicians, nurses, and other allied health professionals, and nonclinical staff, including administrators and unit clerks. The design team also received input on the draft survey from the Joint Commission, additional patient safety researchers, hospital systems administration, and professional associations.

The draft survey was pilot tested with more than 1,400 hospital employees from 21 hospitals across the United States. The design team examined the reliability and factor structure of the patient safety culture composites. Based on these analyses, the final items and composites in the *Hospital Survey on Patient Safety Culture* were determined to have sound psychometric properties (Sorra and Nieva, 2003).

Hospital Definition

The purpose of the *Hospital Survey on Patient Safety Culture* is to measure the culture of patient safety at a **single** hospital in a specific location. We therefore consider each unique facility to be a separate site for the purposes of survey administration and providing hospital-specific feedback. When you administer the survey at multiple hospitals, you should identify each hospital as a separate site so that each site can receive its own results in addition to overall results across sites.

We also recommend that there be at least 10 respondents from a hospital for a survey feedback report to be provided to the site, to protect respondent anonymity. Hospitals that are part of a health system can have their data aggregated with others for feedback purposes.

Identification of Survey Participants

The survey examines patient safety culture from a hospital staff perspective. All staff asked to complete the survey should have enough knowledge about your hospital and its operations to provide informed answers to the survey questions. Overall, when considering who should complete the survey, ask yourself:

- Does this person know about *day-to-day* activities in this hospital?
- Does this person interact regularly with staff working in this hospital?

Types of Staff

The survey can be completed by all types of hospital staff—from housekeeping and security to nurses and physicians. However, the survey is best suited for the following:

- Hospital staff who have direct contact or interaction with patients (clinical staff, such as nurses, or nonclinical staff, such as unit clerks);

- Hospital staff who may not have direct contact or interaction with patients but whose work directly affects patient care (e.g., staff in units such as pharmacy, laboratory/ pathology);
- Hospital-employed physicians or contract physicians who spend most of their work hours in the hospital (e.g., emergency department physicians, hospitalists, pathologists); and
- Hospital supervisors, managers, and administrators.

Hospital-based physicians or physicians in outpatient settings with hospital privileges can be asked to respond to the survey. They should respond about the hospital unit where they spend most of their work time or provide most of their clinical services, or they can simply select "Many different hospital units/No specific unit" when responding to the survey.

Patient Safety Culture Composites

The *Hospital Survey on Patient Safety Culture* emphasizes patient safety and error and event reporting. There are 42 items grouped into 12 composite measures, or composites. In addition to the composites, the survey includes two questions that ask respondents to provide an overall grade on patient safety for their work area/unit and to indicate the number of events they reported over the past 12 months. In addition, respondents are asked to provide limited background demographic information about themselves (their work area/unit, staff position, whether they have direct interaction with patients, tenure in their work area/unit, etc.).

Table 1 provides the patient safety culture composites included in the survey and their definitions.

Table 1. Patient Safety Culture Composites and Definitions

Patient Safety Culture Composite	Definition: *The extent to which…*
Communication Openness	Staff freely speak up if they see something that may negatively affect a patient and feel free to question those with more authority.
Feedback and Communication About Error	Staff are informed about errors that happen, are given feedback about changes implemented, and discuss ways to prevent errors.
Frequency of Events Reported	Mistakes of the following types are reported: (1) mistakes caught and corrected before affecting the patient, (2) mistakes with no potential to harm the patient, and (3) mistakes that could harm the patient but do not.
Handoffs and Transitions	Important patient care information is transferred across hospital units and during shift changes.
Management Support for Patient Safety	Hospital management provides a work climate that promotes patient safety and shows that patient safety is a top priority.
Nonpunitive Response to Error	Staff feel that their mistakes and event reports are not held against them and that mistakes are not kept in their personnel file.
Organizational Learning—Continuous Improvement	Mistakes have led to positive changes and changes are evaluated for effectiveness.
Overall Perceptions of Patient Safety	Procedures and systems are good at preventing errors and there is a lack of patient safety problems.

Patient Safety Culture Composite	Definition: *The extent to which…*
Staffing	There are enough staff to handle the workload and work hours are appropriate to provide the best care for patients.
Supervisor/Manager Expectations and Actions Promoting Patient Safety	Supervisors/managers consider staff suggestions for improving patient safety, praise staff for following patient safety procedures, and do not overlook patient safety problems.
Teamwork Across Units	Hospital units cooperate and coordinate with one another to provide the best care for patients.
Teamwork Within Units	Staff support each other, treat each other with respect, and work together as a team.

Modifications to the Survey

We recommend making changes to the survey *only when absolutely necessary* because any changes may affect the reliability and validity of the survey and make comparisons with other hospitals difficult.

Changing Background Items

The survey begins with a background question about the respondent's primary work area or unit. The survey ends with some additional background questions on staff position, tenure in the organization, and work hours. Your hospital may wish to modify the responses to these background questions so they are tailored to reflect the names of your staff position titles and work units.

Modifying Work Areas or Staff Positions

If you modify the work areas or staff positions in your survey and plan to submit to the AHRQ *Hospital Survey on Patient Safety Culture Comparative Database*, create a crosswalk to recode your modified work areas or staff positions to the original survey's work areas or staff positions.

Adding Items

If your hospital adds items to the survey, add these items toward the end of the survey (just before the Background Questions section).

Removing Items

You may decide you want to administer a shorter survey with fewer items. If so, identify specific composites that your hospital does *not* want to assess, and delete *all* items in those composites (see Part 2 on page 40 for a list of items within composites). We do *not* recommend removing items from different composites across the entire surveys because your hospital's composite measure scores will not be comparable with other hospitals if any items are missing.

Chapter 2. Getting Started

Before you begin, it is important to understand the tasks involved in collecting survey data and decide who will manage the project. This chapter is designed to guide you through the planning and decisionmaking stages of your project.

Determine Available Resources and Project Scope

Two of the most important elements of an effective project are a clear budget to determine the scope of your data collection effort and a realistic schedule. Think about your available resources:

- How much money and/or resources are available to conduct this project?
- Who within the hospital is available to work on this project?
- When do we need to have the survey results completed and available?
- Do we have the technical capabilities to conduct this project in the hospital, or do we need to consider using an outside company or vendor for some or all of the tasks?

Decide on Your Data Collection Method

The decision to use a paper survey, a Web survey (either via the Internet or through your organization's intranet), or mixed mode should be based on several important factors. Comparative data for the hospital survey shows that more hospitals are administering the survey via Web even though the average response rates are slightly higher with paper surveys (Sorra, et al., 2014). To help you decide which data collection method is most appropriate for your hospital, consider the following:

1. **Response rates.** Response rates are important because low rates may limit your ability to generalize results to your entire hospital. When response rates are low, there is a danger that the large number of staff who did **not** respond to the survey would have answered very differently from those who did respond. The higher the response rate, the more confident you can be that you have an adequate representation of staff views. Comparative data for the hospital survey (Sorra, et al., 2014) show that response rates are slightly higher with paper surveys (69 percent; range: 15-100 percent) compared with Web only (54 percent; range 7-100 percent).
2. **Your Hospital's experience with Web surveys.** You should also consider the following factors when thinking about the possible use of Web surveys:

    - **Access to computers or email.** If staff have limited access to computers or do not have hospital established email addresses, this may lead to low response rates or difficulty administering successful Web surveys. Staff may also be concerned about the privacy of their responses if they share computers and may decide not to take the survey at work.
    - **Hospital experience conducting Web surveys.** If you have had previous success surveying hospital staff online and achieved high response rates, you may prefer to administer a Web survey.

3. **Logistics.** In small hospitals, the logistics of administering paper surveys may be manageable. However, if you plan to administer the survey in a large hospital, Web surveys offer several advantages:

    - There are no surveys or cover letters to print, survey packets to assemble, postage and mailing envelopes to arrange, or completed paper surveys to manage.
    - The responses are automatically entered into a database, so the need for separate data entry is eliminated.
    - The task of data cleaning is reduced because of programmed validation checks.

4. **Costs and your hospital resources.** If you plan to administer the survey in a large hospital, a Web survey may be more cost effective than a paper survey.
5. **Survey preparation and testing time.** If you are using a Web survey and plan to program it, allow sufficient time and resources to:

    - Ensure that the Web survey meets acceptable standards for functionality, usability, and log-in passwords (if you use passwords) and allows respondents to save their responses and return later to finish the survey,
    - Format the survey appropriately to reduce respondent error,
    - Put security safeguards in place to protect the data, and
    - Test it thoroughly to ensure that the resulting dataset has captured the data correctly.

Decide Whether To Use Survey Identifiers

You need to decide whether you will use individual survey identifiers and, if you are surveying multiple hospitals, how you will identify responses from each hospital.

Individual Identifiers

Staff are usually concerned about the confidentiality of their responses, so we recommend that you conduct an *individually anonymous* survey. This means you should *not* use identifiers to track individuals. Also, *do not* ask respondents to provide their names. You want to ensure that respondents feel comfortable reporting their true perceptions and confident that their answers cannot be traced back to them.

Hospital Identifiers

If you are surveying multiple hospitals, you *will* need to use *hospital-level* identifiers to track surveys from each hospital. Doing so will allow you to produce feedback reports for each hospital. We offer a few ways of using identifiers for paper and Web surveys.

Paper Surveys

Vary survey color. Consider printing surveys on different-colored paper for each center.

Print a hospital identifier on the survey. You can print a hospital identifier on the surveys by giving each hospital a unique form number (e.g., Form 1, Form 2, Form 3) to identify different hospitals. Print the identifier on the survey (e.g., lower left corner of the back page). Be aware,

however, that some staff members will be so concerned about the confidentiality of their responses that they might mark out the site identifier or form number.

Web Surveys

You can include a hospital identifier as part of the password used to access the survey. The password would be linked to a particular site. Alternatively, you can use a customized hyperlink for staff within a hospital that differs across sites.

Decide Whether To Use an Outside Vendor

You may want to use an outside company or vendor to handle some or all of your data collection, analysis, and report preparation. Hiring a vendor may be a good idea for several reasons:

- Working with an outside vendor may help ensure neutrality and the credibility of your results.
- Staff may feel their responses will be more confidential when their surveys are returned to an outside vendor.
- Vendors typically also have experienced staff to perform all the necessary activities and the facilities and equipment to handle the tasks. A professional and experienced firm may be able to provide your hospital with better quality results faster than if you were to do the tasks yourself.

If you plan to hire a vendor, the following guidelines may help you to select the right one:

- Look for a vendor with expertise in survey research.
- Determine whether the vendor can handle all the project components. Some vendors will be able to handle your data analysis and feedback report needs; others will not.
- Provide potential vendors with a written, clear outline of work requirements. Make tasks, expectations, deadlines, and deliverables clear and specific. Then, ask each vendor to submit a short proposal describing the work they plan to complete, the qualifications of their company and staff, and details regarding methods and costs.
- Meet with the vendor to make sure you will be able to work well together and they understand your expectations.
- After choosing a vendor, institute monitoring and problem-resolution procedures.

Plan Your Project Schedule

The sample timeline in Figure 1 can be used as a guideline for administering a paper or Web survey. Plan for **at least** 10 weeks from the beginning of the project to the end.

Figure 1. Task Timeline for Project Planning for a Single Hospital

Task Timeline for Project Planning	Planning	Sample Selection & Preparation			Data Collection				Analysis & Reports		
Week		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Getting Started – Ch. 2											
Determine Available Resources and Project Scope	✓										
Decide on Your Data Collection Method	✓										
Decide Whether To Use Survey Identifiers	✓										
Decide Whether To Use an Outside Vendor	✓										
Plan Your Project Schedule	✓										
Form a Project Team	✓										
Establish Points of Contact Within the Hospital	✓										
Selecting Your Survey Population – Ch. 3											
Determine Whom To Survey	✓										
Determine Your Sample Size	✓										
Compile Your Sample List		↔	↔								
Mode of Survey Administration											
Paper Surveys – Ch. 4											
Decide How Surveys Will Be Distributed and Returned	✓										
Publicize and Promote the Survey		↔	↔	↔	↔	↔	↔	↔			
Develop, Print, and Assemble Survey Materials			↔	↔							
Distribute First Survey					✓						
Track Responses and Preliminary Response Rates					↔	↔	↔	↔			
Distribute Second Survey							✓				
Close Out Data Collection								✓			
Web Surveys – Ch. 5											
Design and Pretest Web Survey		↔	↔	↔							
Publicize and Promote the Survey		↔	↔	↔	↔	↔	↔	↔			
Send Prenotification Email				✓							
Send Survey Invitation Email					✓						
Track Responses and Preliminary Response Rates					↔	↔	↔	↔			
Send Reminder Survey Invitation Email(s)						✓	✓				
Close Out Data Collection								✓			
Analyzing Data and Producing Reports – Ch. 6											
Identify Incomplete and Ineligible Surveys									✓		
Calculate the Final Response Rate									✓		
Prepare the Data File									✓		
Analyze the Data and Produce Reports of the Results									↔	↔	↔

If you plan to survey multiple hospitals, you may need to adjust the timeline:

- Establish a system-level point of contact (POC) as well as a POC in each hospital.
- Allow more time to assemble survey materials and/or develop a Web survey (e.g., 4 weeks instead of 2 weeks for paper or 3 weeks for Web).
- Add a week or more to the data collection period.
- Add a week or more to the data analysis period.

Form a Project Team

Whether you conduct the survey in-house or through an outside vendor, you will need to establish a project team responsible for planning and managing the project. Your team may consist of one or more individuals from your own hospital staff, outsourced vendor staff, or a combination. Their responsibilities will include the following:

- **Planning and budgeting**—Determine the scope of the project given available resources, plan project tasks, and monitor the budget.
- **Establishing contact persons**—Assign a POC in the hospital to support survey administration, maintain open communication throughout the project, and provide assistance.
- **Preparing publicity materials**—Create flyers, posters, and email and intranet messages to announce and promote the survey in the hospital.
- **Preparing paper survey materials**—Print surveys, prepare postage-paid return envelopes and labels, and assemble these components for your survey distribution.
- **Developing a Web survey instrument** (if conducting a Web survey)—Design the instrument, program the survey, and pretest the instrument.
- **Distributing and receiving paper survey materials** (if conducting a paper survey)—Distribute surveys and reminder notices and handle receipt of completed surveys.
- **Tracking survey responses and calculating preliminary response rates**—Monitor survey returns and calculate preliminary response rates; if individual identification numbers are used on the surveys to track nonrespondents (though we do not recommend this), identify the nonrespondents who should receive followup materials.
- **Handling data entry, analysis, and report preparation**—Review survey data for respondent errors and data entry errors in electronic data files, conduct data analysis, and prepare a report of the results.
- **Distributing and discussing feedback results with staff**—Disseminate results broadly to increase their usefulness.
- **Coordinating with and monitoring an outside vendor (optional)**—Outline the requirements of the project to solicit bids from outside vendors, select a vendor, coordinate tasks to be completed in-house versus by the vendor, and monitor progress to ensure that the necessary work is completed and deadlines are met.

Establish Points of Contact Within the Hospital

You will need to establish people in the hospital to serve as points of contact for the survey. Decide how many points of contact are needed by taking into account the number of staff and

hospital areas or units taking the survey. We recommend using at least two types of points of contact.

Main Hospital Point of Contact

At least one main hospital point of contact should be appointed from the project team. We recommend including contact information for the main hospital point of contact in all survey materials in case respondents have questions about the survey. The main hospital point of contact has several duties, including:

- Answering questions about survey items, instructions, or processes,
- Responding to staff comments and concerns,
- Helping to coordinate survey mailing and receipt of completed surveys,
- Communicating with outside vendors as needed, and
- Communicating with other points of contact as needed.

Additional Points of Contact

You may decide to recruit points of contact for each hospital work area/unit or staffing category included in your sample. A unit-level point of contact is responsible for promoting and administering the survey within his/her unit and for reminding unit staff to complete the survey. Unit-level contacts typically are at the management or supervisory level, such as nurse managers, department managers, or shift supervisors.

Chapter 3. Selecting Your Survey Population

The population from which you select your sample will be staff in your hospital or hospital system. You either can administer surveys to everyone in your population of hospital physicians and staff (i.e., a census), or you can administer surveys to a subset or sample of your population. You may want to conduct a census because you are administering the survey as an educational tool to raise staff awareness about value and efficiency. However, if you administer to a large hospital, the additional time and resources required may make conducting a census more difficult, particularly if you administer a paper survey.

When you select a sample, you select a group of people who closely represents the population so that you can generalize your sample's results to the broader population. To select your sample, you need to determine which hospital physicians and staff you want to survey and the number who need to be surveyed.

Determine Whether To Conduct a Census or Sample

If you administer the survey in a small hospital (i.e., fewer than 500 physicians and staff), you should conduct a census and survey all physicians and staff. Even if you administer the survey in a system with multiple hospitals, the size of the individual hospital will drive this decision.

Determine Whom To Survey

All physicians and staff in your hospital or hospital system represent your population. From this population, you may want to survey physicians and staff from every area of the hospital, or you may want to focus on specific units, staffing categories, or staffing levels. You can select a sample from a population in several ways. Several types of samples are described below. Select the type that best matches your needs, taking into account what is practical given your available resources.

- **Staff in particular categories.** You may be interested only in surveying staff in specific staffing categories, such as nursing. With this approach, you may select all staff within a staffing category or select a subset of the staff. This approach alone, however, may not be sufficient to represent the views of all staff in the hospital.
- **Staff in particular areas/units.** You may want to survey staff in particular hospital areas or units, such as OB/GYN, Emergency, or Pharmacy. The list below presents three examples of ways staff can be selected using this approach, listed in order from **most** to **least** representative of the entire hospital population:

    - A **subset** of staff from **all** areas/units (most representative).
    - **All** staff from **some** areas/units.
    - A **subset** of staff from **some** areas/units (least representative).
    - **A combined approach**. If possible, we recommend surveying staff using a combination of the two sample types just described. For example, you may be interested in surveying **all** nurses (a staffing category) but only a **subset** of staff from every hospital area (excluding nursing). Using a combination of sample types allows you either to oversample or selectively sample certain types of staff in an attempt to thoroughly represent the diversity of hospital staff.

Keep in mind that if you wish to report results for specific units or staff positions, we recommend conducting a census of physicians and staff within these units or staff positions.

Determine Your Sample Size

The size of your sample will depend on whom you want to survey and your available resources. While your resources may limit the number of staff you can survey, the more staff you survey, the more likely you are to adequately represent your population.

Because not everyone will respond, you can expect to receive completed surveys from about 30 percent to 50 percent of your sample. See Table 2 for recommended minimum sample sizes given the numbers of providers and staff in your hospital as well as the expected response assuming a 50 percent response rate.

Table 2. Minimum Sample Sizes by Numbers of Physicians and Staff

Population of Physicians and Staff	Minimum Sample Size*	Expected Response (Assuming 50% Response Rate)
500 or fewer	Census (all providers and staff)	At least 50%
501-999	500	250
1,000 -2,999	600	300
3,000 or more	800	400

*The target sample size is based on three assumptions: simple random or systematic random sampling, a response rate of 50 percent, and a confidence interval of +/− 5 percent. See http://www.gifted.uconn.edu/siegle/research/Samples/samsize.html.

Your budget may determine the number of staff you can sample, particularly if you administer a paper survey. To reach an adequate number of responses, you will need to send initial surveys as well as followup surveys to those who do not respond to the first survey. Your budget also should take into consideration additional costs for materials such as envelopes and postage, if you are mailing surveys.

Compile Your Sample List

After you determine whom you want to survey and your sample size, compile a list of the staff from which to select your sample. When compiling your sample list, include several items of information for each staff member:

- First and last name,
- Internal hospital mailing address, or home or office address if surveys will be mailed,
- Email address (if conducting a Web-based survey or using email to send prenotification letters, Web survey hyperlinks, or reminders),
- Hospital area/unit, and
- Staffing category or job title.

If you select ALL staff in a particular staffing category, hospital area, or unit, no sampling is needed; simply compile a list of all these staff. If you select a subset or sample of staff from a

particular staffing category, hospital area, or unit, you will need to use a method such as simple random sampling or systematic sampling.

Simple Random vs. Systematic Sampling

Simple random sampling involves selecting staff randomly so that each staff member has an equal chance of being selected. Systematic sampling essentially involves selecting every N^{th} person from a population list. For example, if you have a list of 100 names in a particular group and need to select 25 to include in your sample, you would begin at a random point on the list and then select every 4th staff member to compile your sample list. Thus, if you began with the first person on the list, you would select the 4th, 8th, 12th, 16th, etc., staff member, up to the 100th staff member, compiling a total of 25 names in your sample list.

Review and Fine-Tune Your Sample

Once you have compiled your sample list, review the list to make sure it is appropriate to survey each staff member on the list. To the extent possible, ensure that this information is complete, up to date, and accurate. Points to check include:

- Staff on administrative or extended sick leave,
- Staff who appear in more than one staffing category or hospital area/unit,
- Staff who have moved to another hospital area/unit,
- Staff who no longer work at the hospital, and
- Other changes that may affect the accuracy of your list of names or mailing addresses.

If you believe certain staff should not receive the survey or that your records are not complete, selectively remove people from the list. If you remove someone from the list, add another staff member in his or her place.

Selecting a Sample—An Example

Suppose you work in a 300-bed hospital with 1,600 staff members. Nursing is the single largest staffing category, with 1,200 staff. Smaller hospital areas or units have a combined total of 100 nonnursing staff, and larger hospital areas or units have a combined total of 300 nonnursing staff.

- **Determine Whom To Survey.** You decide to survey a sample of nurses, all nonnursing staff from smaller hospital areas or units, and all nonnursing staff from larger hospital areas or units. You therefore choose a combination approach to select your sample.
- **Determine Your Sample Size.** You are only sampling nurses and have a population of 1,200 nurses so according to Table 2, your minimum sample size should be 600 nurses.
- **Compile Your Sample List.** Your final sample list of 1,000 staff members consists of:

    1. Nursing—From the total of 1,200 nurses, a sample of 600 nurses is selected. The sample was selected as follows:

        - A list of the 1,200 nurses was produced.
        - Using systematic sampling from a random start point on the list, every other nurse on the list was selected to be included in the sample until 600 names were selected (1,200 total nurses divided by 600 nurses needed = every 2nd nurse).

    2. Smaller hospital areas or units—All 100 nonnursing staff.
    3. Larger hospital areas or units—All 300 nonnursing staff.

- **Review and Fine-Tune Your Sample.** When verifying the contact information for the initial sample of 1,000 staff, you found that 25 staff no longer worked for the hospital and needed to be dropped from the list. You may or may not want to replace these names. To replace the names, randomly select additional staff from the same staffing categories or hospital areas as the staff who were dropped.

Chapter 4. Paper Surveys

In this chapter, we present information to help you decide how your paper surveys will be distributed and returned, suggest ways to promote and publicize your survey, describe survey administration steps, and provide a detailed description of how to develop and assemble the survey materials.

Distributing Surveys

We recommend that designated points of contact distribute the surveys to hospital staff. To promote participation, you can distribute the surveys at staff meetings and serve refreshments, following these guidelines for distributing surveys:

- Provide explicit instructions for completing the survey.
- Inform staff that completing the survey is voluntary.
- Assure them that their responses will be kept confidential. Emphasize that reports of findings will include only summary data and will not identify individuals.
- Caution them (especially if they complete the survey during a meeting) not to discuss the survey with other staff while answering the survey.
- Permit staff to complete the survey **during work time** to emphasize that hospital administration supports the data collection effort.

Returning Surveys

There are several options for respondents to return completed paper surveys:

- **Drop-boxes:** Surveys can be returned to locked drop-boxes placed throughout your hospital.
- **Interoffice mail:** Surveys can be returned via interoffice mail to a designated POC within your hospital office or to a corporate headquarters address.
- **Mail:** If you use a vendor or do not have an interoffice mail system, staff can also mail their completed surveys to the outside vendor or designated POC. If surveys are returned through the mail, you will need to account for return postage in your budget.

Whatever process you decide, it should help reassure staff that no one at their hospital will see the completed surveys.

Publicizing and Promoting the Survey

We strongly recommend publicizing the survey before and during data collection. Be sure to advertise that hospital leadership supports the survey. Publicity activities may include:

- Posting flyers or posters at the hospital, sending staff emails, and posting information about the survey on the hospital intranet,
- Promoting the survey during staff meetings, and
- Having a senior leader or executive send a supportive email or letter of support for the data collection effort.

Publicity materials can help legitimize the survey effort and increase your response rate by including some or all of the following types of information:

- Endorsements of the survey from your leadership
- Clear statements about the purpose of the survey, which is to assess staff attitudes and opinions about the culture of patient safety in your hospital
- Description of how the collected data will be used to identify ways to improve patient safety culture
- Assurances that only summary (aggregated) data will be reported, thus keeping individual responses confidential
- Assurance of individual anonymity (if no individual identifiers are used) or confidentiality of response (if individual identifiers are used)
- Introductions to the survey vendor, if you have chosen to use a vendor
- Contact information for the designated points of contact

Following Survey Administration Steps

We recommend the following basic data collection steps to achieve high response rates:

1. **Optional prenotification letter for paper surveys.** If you have publicized your survey well and your survey cover letter explains the purposes of the survey, distributing a prenotification letter announcing the upcoming survey is optional. If you obtained a letter of support from your leadership, you can use this as your prenotification letter.
2. **First paper survey.** About 1 week after publicizing the survey, distribute a survey packet to each staff member that includes the survey, a supporting cover letter, and a return envelope. If you want staff to return their surveys by mail, include a preaddressed postage-paid envelope.
3. **Second survey.** To promote a higher response, 2 weeks after the first survey is distributed, distribute a second survey to everyone at your hospital (it has to go to everyone if you are conducting an individually anonymous survey because you do not know who responded). Include a cover letter thanking those who have already responded and reminding others to please complete the second survey. If you used individual identifiers on your surveys (although not recommended), you can distribute second surveys only to nonrespondents.
4. **Calculate preliminary response rates.** Calculate a preliminary response rate at least once a week to track your response progress. Divide the number of returned surveys (numerator) by the number of eligible staff who received the survey (denominator).

$$\frac{Number\ of\ surveys\ returned}{Number\ of\ eligible\ staff\ who\ received\ a\ survey}$$

   If staff members' employment ends *during* data collection, they are still considered eligible and should be included in the denominator even if they did not complete and return the survey. See Chapter 6 for a discussion of how to calculate the final official response rate for your hospital.

5. **Close out data collection.** Keep in mind that your goal is to achieve a high response rate. If your response rate is still too low after distributing the second survey, add another week to the data collection period or consider sending a followup reminder notice.

Consider Using Incentives To Maximize Response Rates

Offering incentives can be a good way to increase responses to a survey because respondents often ask, "What's in it for me?" You may want to offer individual incentives, such as a raffle for cash prizes or gift certificates, or you can offer group incentives, such as catered lunches for hospital work areas/units with at least a 75 percent response rate. Be creative and think about what would motivate your physicians and staff to complete the survey.

Developing and Assembling Survey Materials

Estimate the number of surveys you need to print, and assemble the following materials for your paper survey data collection.

We suggest the following printing guidelines:

- If you are conducting an anonymous survey and plan to send second surveys to everyone, print at least twice the number of surveys as staff in your sample. Include a few extra surveys in case some staff misplace theirs.
- If you are tracking responses and will send second surveys only to nonrespondents, you may print fewer surveys overall. For example, if you are administering the survey to 800 staff and your hospital typically experiences a 40 percent response to the first survey packet, print 800 first surveys and 480 second surveys (800 staff x 60% nonrespondents = 480), for a total of 1,280 printed surveys. Add a few extra surveys in case some staff misplace theirs.

Points-of-Contact Letters and Instructions

Send a letter to each unit-level contact person describing the purposes of the survey and explaining his or her role in the survey effort. The letter should be printed on official hospital letterhead, signed by the hospital chief executive officer. Provide the points of contact with the data collection protocol that describes their tasks, along with a proposed timeline. (See a sample data collection protocol in Appendix A.)

Cover Letter in First Survey Packet

The cover letter should be on official hospital letterhead and signed by a senior hospital leader or executive. The cover letter should address the following points:

- Why the hospital is conducting the survey, how survey responses will be used, and why the staff member's response is important
- How much time is needed to complete the survey
- Assurances that the survey is voluntary and can be completed during work time

- Assurances of individual anonymity (if no individual identifiers are used) or confidentiality of response (if individual identifiers are used)
- How to return completed surveys
- Incentives for survey participation (optional)
- Contact information for the points of contact

Sample Cover Letter Text for Paper Survey

The enclosed survey is part of our hospital's efforts to better address patient safety. All hospital staff are being asked to complete this survey. Your participation is voluntary, but we encourage you to complete the survey to help us improve the way we do things at this hospital. It will take about 10 to 15 minutes to complete, and your individual responses will be kept anonymous [*say* confidential *if you are using respondent identifiers*]. Only group statistics, not individual responses, will be prepared and reported.

Please complete your survey WITHIN THE NEXT 7 DAYS. When you have completed your survey, please [*provide return instructions for paper surveys*]. [*Optional incentive text:* In appreciation for participation, staff who complete and return their surveys will receive (*describe incentive*).]

Please contact [*POC name and job position*] if you have any questions [*provide phone number and email address*]. Thank you in advance for your participation in this important effort.

Cover Letter in Second Paper Survey Packet

The contents of the second survey cover letter should be similar to the first cover letter but should have a different beginning. If you conduct an anonymous survey, you will have to distribute second surveys to everyone, so you might begin with: "About *X* days ago a copy of the *Hospital Survey on Patient Safety Culture* was distributed to you and other staff at your hospital. If you have already returned a completed survey, thank you very much and please disregard this second survey packet." If you use individual identifiers, you can send the second survey to nonrespondents only.

Followup Reminder Notices

If needed to improve response, distribute reminder notices after the second survey administration. The notices, which can be on a half-page of cardstock, should ask staff to please complete and return their surveys and should include a thank you to those who have done so already. If you use individual identifiers to track responses, you can distribute the reminders to nonrespondents only.

Labels and Envelopes for Paper Survey Packets

Outer envelope labels with staff names are a good idea even if the survey itself is completed anonymously to ensure that every staff member receives a survey. Return labels should be used on return envelopes. Labels may also be used to place hospital identifiers onto surveys.

Use a slightly larger outer envelope to keep from bending or folding the survey or return envelope contained in the survey packet. Use your estimate of the number of surveys to print to estimate the numbers of outer and return envelopes you will need.

Postage for Returning Paper Surveys

If staff will return their surveys by mail, weigh the survey and the return envelope to ensure you have adequate postage on the envelopes. When calculating the total cost of postage, be sure to base the amount on your estimated number of any initial **and** followup surveys that need to be mailed.

Chapter 5. Web-Only and Mixed-Mode Surveys

In this chapter, we suggest ways to publicize your survey, describe survey administration steps for Web-only and mixed-mode surveys, describe materials that need to be developed, and highlight important best practices in Web survey design and pretesting.

Publicize and Promote the Survey

As with paper surveys, we strongly recommend publicizing the survey before and during data collection. Be sure to advertise that hospital leaders support the survey. Publicity activities may include:

- Posting flyers or posters in the hospital, sending staff emails, and posting information about the survey on a hospital intranet,
- Promoting the survey during staff meetings, and
- Having a senior leader or executive send a supportive email during data collection, thanking staff if they have completed the survey and encouraging others to do so.

Publicity materials can help legitimize the survey effort and increase your response rate by including some or all of the following types of information:

- Endorsements of the survey from your leadership
- Clear statements about the purpose of the survey, which is to assess staff attitudes and opinions about the culture of patient safety in your hospital
- Description of how the collected data will be used to identify ways to improve patient safety culture
- Assurances that only summary (aggregated) data will be reported, thus keeping individual responses confidential
- Assurance of individual anonymity (if no individual identifiers are used) or confidentiality of response (if individual identifiers are used)
- Introductions to the survey vendor, if you have chosen to use a vendor
- Contact information for the designated POCs

Following Survey Administration Steps

We recommend the following basic data collection steps to achieve high response rates:

1. **Prenotification email.** Email staff a prenotification letter telling them about the upcoming survey and alerting them that they will soon receive an invitation to complete the Web survey. You will need an up-to-date list of staff email addresses. If you obtained a letter of support from your leadership, you can use this as your prenotification email.
2. **Survey invitation email.** Send the survey invitation email a few days after sending the prenotification email. Include the hyperlink to the Web survey (or instructions for accessing the survey on the hospital intranet), along with the individual's password, if applicable. Provide instructions about whom to contact for help accessing and navigating the survey.

3. **Followup communications.** Send an email reminder one week after sending the survey invitation. In the message, thank those who have already completed the survey and encourage others to do so. Distribute a second reminder a week later. Consider sending a third email reminder to boost response as needed. Be sure to make the subject lines of followup email reminder messages slightly different to capture recipients' attention. Reminders should also include the original message and instructions for accessing the survey.

   If you use individual identifiers, you can send email reminders only to nonrespondents. Otherwise, reminders must be sent to everyone. Be sure to thank those who have already completed their surveys and ask them to disregard the reminder.
4. **Calculate preliminary response rates.** Calculate a preliminary response rate at least once a week to track your response progress. Divide the number of returned surveys (numerator) by the number of eligible staff who received the survey (denominator).

$$\frac{Number\ of\ surveys\ returned}{Number\ of\ eligible\ staff\ who\ received\ a\ survey}$$

   If any staff members' employment ends *during* data collection, they are still considered eligible and should be included in the denominator even if they did not complete and return the survey. See Chapter 6 for a discussion of how to calculate the final official response rate for your hospital.
5. **Close out data collection.** Keep in mind that your goal is to achieve a high response rate. If your response rate is still too low after distributing the second survey, add another week to the data collection period and consider sending another reminder email.

Survey Administration Steps for Mixed-Mode Surveys

Administer the Web survey first, followed by a paper survey.

- Week 1: Carry out Web survey administration steps for the first week of data collection.
- Week 2: Email or distribute a followup reminder.
- Week 3: Distribute survey packets to all staff (or to nonrespondents only if using identifiers to track response). In the cover letter, tell staff to disregard the paper survey if they completed and submitted the Web survey.
- Follow paper survey administration steps but continue the Web survey option. For followup reminders (if needed), you can use a mix of email and printed (or in-person) reminders.

Consider Using Incentives To Maximize Response Rates

Offering incentives can be a good way to increase responses to a survey because respondents often ask, "What's in it for me?" You may want to offer individual incentives, such as a raffle for cash prizes or gift certificates, or you can offer group incentives, such as catered lunches for hospital work areas/units with at least a 75 percent response rate. Be creative and think about what would motivate your providers and staff to complete the survey.

Develop Survey-Related Materials

The following materials will need to be developed in preparation for Web survey data collection.

Points-of-Contact Letters and Instructions

Send a letter to each POC describing the purpose of the survey and explaining his or her role in the survey effort. The letter should be on company letterhead, signed by a senior executive. We also recommend that you provide POCs with a data collection protocol that describes their tasks, along with a proposed timeline. (See sample data collection protocols in Appendixes B and C.)

Prenotification Email

We recommend the following for the prenotification email to help boost survey response:

- Have it signed by a senior hospital leader or executive.
- Use a name or email address in the "From" line that will be easily recognizable to staff to prevent them from mistaking your email for spam and deleting it.
- Include the following points in your message:
    - Statement that in a few days the person will receive an invitation from [XXX] to participate in a brief survey on patient safety in the hospital,
    - Statement about the purpose and intended use of the survey and the importance of responding,
    - Assurance of individual anonymity (if no individual identifiers are used) or confidentiality of response (if individual identifiers are used), and
    - Introduction to survey vendor (if applicable).

Survey Invitation

The survey invitation email should also be signed by a senior hospital leader or executive. We recommend providing hyperlinks to the Web survey in your invitation email and any followup email reminders. Respondents will be able to click directly on the hyperlink. You may also provide passwords for beginning the survey. If the survey is located on the hospital intranet, provide instructions for accessing the survey.

The survey invitation message should include the following information:

- Brief restatement of why the hospital is conducting the survey, how it will use the data, and why the staff member's response is important,
- How much time is needed to complete the survey,
- Assurances that the survey is voluntary and can be completed during work time,
- Assurance of individual anonymity (if no individual identifiers are used) or confidentiality of response (if individual identifiers are used),
- Incentives for survey participation (optional), and
- Contact information for the hospital POC (and system-level POC, if applicable).

If someone other than the POC will handle questions about possible technical problems with the survey, provide contact information for that person.

Sample Survey Invitation Email

You are invited to participate in an important survey that is part of our hospital's patient safety program. All staff are being asked to complete this survey. Your participation is voluntary, but we encourage you to complete the survey to help us improve the way we do things at this hospital. It will take about 10 to 15 minutes to complete and you may take it during work time. Your individual responses will be kept anonymous [*say* confidential *if you are using respondent identifiers*]. Only group statistics, not individual responses, will be prepared and reported.

To access the secure survey Web site, click on the following link: http://www... [*Optional, if using passwords:* Then enter the following password to begin the survey: xxxxxxxxxx]

[*Optional incentive text:* In appreciation for participation, staff will receive (*describe incentive*).]

Please contact [*POC name and job position*] if you have any questions about the survey [*provide phone number and email address*]. If you have a technical problem with the survey, please respond to this email with a description of your problem or contact [*Name, phone number*].

Thank you in advance for participating in this important patient safety effort.

Followup Reminder Notices

Send email reminder notices a few days after data collection begins and again a week after that. The contents of the reminder notices should be similar to the first invitation email but should have a different beginning. If you conduct an anonymous survey, you will have to send a reminder to everyone, so you might begin with: "About *X* days ago an invitation to participate in

the *Hospital Survey on Patient Safety* was emailed to you and other staff at your hospital. If you have already completed the survey, thank you very much and please disregard this reminder." If you use individual identifiers, you can send the reminders to nonrespondents only.

Design and Pretest Web Surveys

If you decide to conduct a Web survey, there are a number of Web survey design aspects to consider. Whether you use commercial off-the-shelf software or have a vendor conduct a Web survey, you should assess the various Web survey options available to you. Below we present a number of important features for designing a Web survey.

Web Survey Design Features

Although research on the best ways to design Web-administered surveys continues to evolve, current knowledge suggests that a good Web-based survey follows the principles below:

1. **Do not force respondents to answer every question.** There are several good reasons for allowing staff to not answer a particular question:

    - Forcing respondents to answer each question may annoy respondents and lessen their motivation to complete the survey.
    - Some respondents may have legitimate reasons for not answering an item. Forcing a response may cause them to make a wild guess, rather than provide an informed answer.
    - You will want the Web version to be similar to the paper version, which does not require an answer to every question.

2. **Display notifications for questions with missing answers before the respondent leaves the Web page.** To help prevent missing data, it is a good idea to display notifications for questions with missing answers before the respondent proceeds to the next Web page. Do not force the respondent to answer the question, but let the respondent see which questions are missing answers.
3. **Decide on the number of questions on each Web page.**

    - If possible, use one Web page for each section of the survey. Most Web survey applications have space for 6 or more questions on an individual page without scrolling, which will accommodate most of the sections. For larger sections of the survey (i.e., Section A and Section F), we recommend you display the questions in chunks of 5 or 6 questions per individual Web page. It is better to avoid vertical scrolling if possible since respondents can miss questions not visible on the Web page and just proceed to the next section.
    - We do not recommend that you format the survey with one item per page. This increases the time it takes to complete the survey.
    - Also, we do not recommend that you program the survey so that respondents must scroll horizontally to see parts of the survey. This can contribute to response error if respondents overlook parts of the survey, and it may annoy respondents.

4. **Make sure the response categories (e.g., Strongly disagree, Disagree) appear on every Web page.** Response errors may occur if the respondent cannot see the response categories when the question appears across more than one Web page. Be sure that the response categories are repeated as frequently as necessary so that respondents always see them when answering every question. Use a large screen resolution of 800 pixels by 600 pixels when testing the Web survey because this issue is more problematic the larger the screen resolution.
5. **Design for mobile devices.** It is important to test your Web survey on different types of mobile devices (e.g., tablet computers, smart phones) to ensure that it is viewable and can be taken on those devices.
6. **Do not indicate progress by Web page.** Current survey research also suggests that for short surveys, progress indicators (e.g., a progress bar) could be counterproductive since they often do not display progress accurately. Rather, it is recommended to tell the respondent that the survey takes about 10 to 15 minutes to complete. If you nonetheless want some indication of where the respondent is in the survey, you can have a section indicator that shows which section of the survey the respondent is currently completing.
7. **Save the survey.** It is important that the respondent's answers are saved automatically as the respondent moves from Web page to Web page. Sometimes the respondent will break off and complete the survey at a later time. You do not want to lose the respondent's answers due to a temporary breakoff.
8. **(Optional) Allow respondents to print a hard-copy version of the survey and complete it on paper.** Some respondents may prefer to complete a paper version of the survey, and providing this option may boost your response rate. It is possible to design your Web survey so it can be printed in paper form, but test this functionality thoroughly to ensure that the survey prints properly on different printers. Attention must be given to line lengths and page lengths in the design of the Web survey pages to be sure they print properly.

   Alternatively, you can include a link to a portable document file (PDF) version of the survey on the Web site. With either alternative, respondents will need instructions to know where to return the completed paper surveys. Designated personnel then must enter the responses into your dataset (paper survey data can be entered via the Web site). Also, if you use individual identifiers, there should be a way to include the identifier on the printed version of the survey or otherwise identify the paper response.

Thoroughly Test the Survey

It is essential to thoroughly test the survey. When testing:

- Use the same type of computer that will be available to staff taking the survey at your hospital. If you have more than one type of computer, be sure to test with a range of computer types and include the lower end type with slower Internet connections. You may also want to test the Web survey using mobile devices with small screens if you think some staff will complete the survey on a cell phone or tablet.
- Test the survey with various Internet browsers (e.g., with different iterations of Internet Explorer, Safari, Firefox, Chrome, Mozilla, Opera), different display settings (screen resolutions set at 800 x 600 pixels versus 1200 x 800 pixels), and so forth.

- After you have completed the first two testing steps, submit test survey responses to ensure that the Web survey is working properly and is easy to use.
- Check the Web survey data output. For example, check to make sure the responses (e.g., *Strongly disagree* through *Strongly agree*) have the correct 1 to 5 values. If the Web responses are miscoded, there is no way to correct the dataset after the survey has been administered.

Testing will help to ensure that the survey appears and performs as it should despite the different settings and personal preferences that staff may use. For more information on Web survey design principles and survey testing, see Couper (2008); Dillman, et al. (2009); and Tourangeau, et al. (2013).

Chapter 6. Analyzing Data and Producing Reports

You will need to prepare the collected survey data for analysis. If you decide to do your own data entry, analysis, and report preparation, use this chapter to guide you through the various decisions and steps. If you decide to hire a vendor for any of these tasks, use this chapter as a guide to establish data preparation procedures.

If you plan to conduct a Web survey, you can minimize data cleaning by programming the Web survey to perform some of these steps automatically. Also, if you plan to administer the survey at more than one hospital, you will need to report the results separately for each site.

Identify Incomplete and Ineligible Surveys

Examine each returned survey for possible problems before the survey responses are entered into the dataset. We recommend that you exclude returned surveys that:

- Are completely blank or contain responses only for the background demographic questions, or
- Contain the exact same answer to all the questions in the survey (since a few survey items are negatively worded, the same exact response to all items indicates the respondent probably did not pay careful attention and the responses are probably not valid).

Calculate the Final Response Rate

After you have identified which returned surveys will be included in the analysis data file, you can use the following formula to calculate the official response rate:

$$\frac{Number\ of\ surveys\ returned - incompletes}{Number\ of\ eligible\ staff\ who\ received\ a\ survey}$$

Note that the numerator may be smaller than in your last preliminary response rate calculation because, during your examination of all returned surveys, you may find that some of the returned surveys are incomplete or ineligible.

Edit the Data and Prepare the Data File

In this section we describe several data file preparation tasks.

Edit Illegible, Mismarked, and Double-Marked Responses (Paper Only)

Problematic responses may occur with paper surveys if some respondents write in an answer such as 3.5 when they have been instructed to mark only one numeric response. Or they may mark two answers for one item. Develop and document editing rules that address these problems and apply them consistently. Examples of such rules are to use the highest or most positive response when two responses are provided (e.g., a response with both 2 and 3 would convert to a 3) or to mark all of these types of inappropriate responses as missing.

Create and Clean Data File

Paper survey data files. After your paper surveys have been edited as needed, you can enter the data directly into an electronic file by using statistical software such as SAS®, SPSS®, or Microsoft Excel®, or you can create a text file that can be easily imported into a data analysis software program. AHRQ has developed a Hospital Data Entry and Analysis Tool that works with Microsoft Excel® and makes it easy to input your individual-level data from the survey. The tool then automatically creates tables and graphs to display your survey results. To request the tool, email DatabasesOnSafetyCulture@westat.com.

If you are not using the Hospital Data Entry and Analysis Tool, each row in your data file should represent one staff member's responses and each column should represent a different survey question. The next step is to check the data file for possible data entry errors. To do so, produce frequencies of responses for each item and look for out-of-range values or values that are not valid responses.

Most items in the survey require a response between 1 and 5. Check through the data file to ensure that all responses are within the valid range (e.g., that a response of 7 has not been entered). If you find out-of-range values, return to the original survey and determine the response that should have been entered.

Web surveys. Your pretesting should have ensured that responses would be coded and captured correctly in the data file, so the file should not contain invalid values. But you should verify this by again checking that all responses are within the valid range.

Include Individual Identifiers in Your Data File

If you used individual identifiers on your surveys, enter the identification number in the electronic data file and then destroy any information linking the identifiers to individual names. You want to eliminate the possibility of linking responses on the electronic file to individuals.

If you used paper surveys *without* individual identifiers, include some type of respondent identifier in the data file. Create an identification number for each completed paper survey and write it on the completed paper survey in addition to entering it into the electronic data file. This identifier can be as simple as numbering the returned surveys consecutively, beginning with the number 1. This number will enable you to check the electronic data file against a respondent's original answers if any values look like they were entered incorrectly.

If you used Web surveys without respondent identifiers, you can electronically generate and assign an identifier to each respondent in the data file.

Deidentify, Analyze, and Code Open-Ended Comments

Respondents are given the opportunity to provide written comments at the end of the survey. Comments can be used to obtain direct quotes for feedback purposes, but they should be carefully reviewed and deidentified first to ensure that they do not contain any information that could be used to identify who wrote the comment or individuals referred to in the comment.

You may also want to analyze the comments and identify common themes (e.g., communication, staffing, teamwork). You can then assign code numbers to match comments to themes and tally the number of comments per theme. Open-ended comments on paper surveys may be coded either before or after the data have been entered electronically.

Analyze the Data and Produce Reports of the Results

> **Minimum Number of Respondents to Produce Reports**
>
> To protect the confidentiality of individual respondents, **do not provide any type of survey feedback report for a hospital if fewer than 10 respondents have answered the survey**. Also, if fewer than three respondents answered a particular survey item, do not report percentages of positive, neutral, or negative response for that item—simply indicate there were not enough data to report results for the item.

Ideally, feedback should be provided broadly—to management, administrators, boards of directors, committees, and staff—either directly during meetings or through communication tools such as email, intranet sites, or newsletters. The more broadly the results are disseminated, the more useful the information is likely to become and the more likely respondents will feel that taking the survey was worthwhile.

Feedback reports can be customized for each audience, from one- or two-page executive summaries to more complete reports that use statistics to draw conclusions or make comparisons. In any feedback reports, include the following types of information:

- How the survey was conducted (paper, Web, survey administration period) and your response rate.
- Background characteristics of all respondents—their work area/unit, staff position, tenure with the hospital, tenure within unit, weekly hours, etc.—to help others understand who responded to the survey.
- Composite and item-level results. As noted in the callout box above, do not report results for an item if the total number of respondents is fewer than three.
- Breakouts of results by staff position, work area/unit, or other background characteristics. Do not report results for any background characteristic category (e.g., nurses) if there are fewer than five respondents in that category and if there are fewer than three respondents to an item in that category.

    - It is possible to still provide breakout results when you have fewer respondents by collapsing categories together. For example, if in a medical office, only two respondents are Physicians and four are Physician Assistants, you could collapse these categories for analysis and reporting purposes.

Calculate Frequencies of Response

One of the simplest ways to present results is to calculate the frequency of response for each survey item. To make the results easier to view in the report, you can combine the two lowest response categories (e.g., *Strongly disagree/Disagree* and *Never/Rarely*) and the two highest

response categories (e.g., *Strongly agree/Agree* and *Most of the time/Always*). The midpoints of the scales are reported as a separate category (*Neither* or *Sometimes*).

Each survey item will probably have some missing data from respondents who simply did not answer the question. Missing responses are *excluded* when displaying percentages of response to the survey items. An example of how to handle the missing response when calculating the survey results is shown in Table 3.

Table 3. Example of How To Compute Frequency Percentages

Item A1. People support one another in this unit.			
Response	**Frequency (Number of Responses)**	**Response Percentage**	**Combined Percentages**
1 = Strongly disagree	1	10%	30% Negative
2 = Disagree	2	20%	
3 = Neither	1	10%	10% Neutral
4 = Agree	4	40%	60% Positive
5 = Strongly agree	2	20%	
Total	10	100%	100%
Missing (did not answer)	3	-	-
Total Number of Responses	13	-	-

Calculate Item and Composite Percent Positive Scores

It can be useful to calculate an overall score for items within a composite. To calculate your hospital's score on a particular safety culture composite, average the percent positive responses on all items included in the composite.

To calculate percent positive scores, you will need to reverse code negatively worded items. Disagreeing or responding Never to a negatively worded item indicates a positive response. Negatively worded items are identified in the document *Hospital Survey on Patient Safety Culture: Composites and Items.*

Use the following guidelines for reverse coding negatively worded items:

- If respondents answer *Strongly disagree or Never* to a negatively worded item, answers should be recoded from 1 to 5.
- If respondents answer *Disagree or Rarely* to a negatively worded item, answers should be recoded from 2 to 4.
- The neutral response categories *Neither agree nor disagree* and *Sometimes* are not affected by negatively worded items and will always be coded as 3.
- If respondents answer *Most of the time* or *Agree* to a negatively worded item, answers should be recoded from 4 to 2.
- If respondents answer *Always* or *Strongly agree* to a negatively worded item, answers should be recoded from 5 to 1.

Here is an example of computing a percent positive composite score for the composite *Overall Perceptions of Safety*:

- There are four items in this composite—two are positively worded (A15) and (A18), and two are negatively worded (A10) and (A17). Keep in mind that DISAGREEING with a negatively worded item indicates a POSITIVE response.
- Calculate the percent positive response at the item level (see example in Table 4). In this example, averaging the item-level percent positive scores [(71% + 64% + 70% + 75%) / 4 = 70%] results in a composite score of 70 percent positive on *Overall Perceptions of Safety.*

Table 4. Example of How To Calculate Item and Composite Percent Positive Scores

Four Items Measuring Overall Perceptions of Safety	For Positively Worded Items, # of "Strongly agree" or "Agree" Responses	For Negatively Worded Items, # of "Strongly disagree" or "Disagree" Responses	Total # of Responses to Item (Excluding Missing Responses)	Percent Positive Response to Item
Item A15-positively worded: "Patient safety is never sacrificed to get more work done."	185	NA	260	185/260 = 71%
Item A18-positively worded: "Our procedures and systems are good at preventing errors from happening."	160	N/A	250	160/250 = 64%
Item A10-negatively worded: "It is just by chance that more serious mistakes don't happen around here."	N/A	168	240	168/240 = 70%
Item A17-negatively worded: "We have patient safety problems in this unit."	N/A	188	250	188/250 = 75%
N/A = Not applicable	**Average percent positive response across the 4 items = 70%**			

Compare Results Within Your Hospital and to Other Hospitals

Another way to understand your results is to compare results within your hospital. The Hospital Data Entry and Analysis Tool mentioned earlier in this chapter will produce comparisons by work area/unit, staff position, interaction with patients, and tenure at the hospital unit level.

Many hospitals using the survey have expressed interest in comparing their results to other hospitals. In response, AHRQ has established the *Hospital Survey on Patient Safety Culture Comparative Database.* This database is a central repository for survey data from hospitals that have administered the AHRQ patient safety culture survey instrument. If you choose to submit your data, you will be able to compare your hospital results with the overall hospital comparative data.

Submitting to the Comparative Database

If your hospital is interested in submitting its data to the Hospital Comparative Database, send an email to DatabasesOnSafetyCulture@westat.com or go to http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/hospital/resources/y2dbsubmission.html.

Technical Assistance

For free technical assistance on the *Hospital Survey on Patient Safety Culture*, email SafetyCultureSurveys@westat.com.

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PART TWO: SURVEY MATERIALS

1. Hospital Survey on Patient Safety Culture
2. Hospital Survey on Patient Safety Culture: Composites and Items

Hospital Survey on Patient Safety

Instructions

This survey asks for your opinions about patient safety issues, medical error, and event reporting in your hospital and will take about 10 to 15 minutes to complete.

If you do not wish to answer a question, or if a question does not apply to you, you may leave your answer blank.

- *An **"event"** is defined as any type of error, mistake, incident, accident, or deviation, regardless of whether or not it results in patient harm.*
- ***"Patient safety"** is defined as the avoidance and prevention of patient injuries or adverse events resulting from the processes of health care delivery.*

SECTION A: Your Work Area/Unit

In this survey, think of your "unit" as the work area, department, or clinical area of the hospital where you spend *most* of your work time or provide *most* of your clinical services.

What is your primary work area or unit in this hospital? Select ONE answer.

- ☐ a. Many different hospital units/No specific unit
- ☐ b. Medicine (non-surgical)
- ☐ c. Surgery
- ☐ d. Obstetrics
- ☐ e. Pediatrics
- ☐ f. Emergency department
- ☐ g. Intensive care unit (any type)
- ☐ h. Psychiatry/mental health
- ☐ i. Rehabilitation
- ☐ j. Pharmacy
- ☐ k. Laboratory
- ☐ l. Radiology
- ☐ m. Anesthesiology
- ☐ n. Other, please specify: _____

Please indicate your agreement or disagreement with the following statements about your work area/unit.

Think about your hospital work area/unit…	**Strongly Disagree** ▼	**Disagree** ▼	**Neither** ▼	**Agree** ▼	**Strongly Agree** ▼
1. People support one another in this unit	☐1	☐2	☐3	☐4	☐5
2. We have enough staff to handle the workload	☐1	☐2	☐3	☐4	☐5
3. When a lot of work needs to be done quickly, we work together as a team to get the work done	☐1	☐2	☐3	☐4	☐5
4. In this unit, people treat each other with respect	☐1	☐2	☐3	☐4	☐5
5. Staff in this unit work longer hours than is best for patient care	☐1	☐2	☐3	☐4	☐5

SECTION A: Your Work Area/Unit (continued)

Think about your hospital work area/unit…	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
6. We are actively doing things to improve patient safety	☐1	☐2	☐3	☐4	☐5
7. We use more agency/temporary staff than is best for patient care	☐1	☐2	☐3	☐4	☐5
8. Staff feel like their mistakes are held against them	☐1	☐2	☐3	☐4	☐5
9. Mistakes have led to positive changes here	☐1	☐2	☐3	☐4	☐5
10. It is just by chance that more serious mistakes don't happen around here	☐1	☐2	☐3	☐4	☐5
11. When one area in this unit gets really busy, others help out	☐1	☐2	☐3	☐4	☐5
12. When an event is reported, it feels like the person is being written up, not the problem	☐1	☐2	☐3	☐4	☐5
13. After we make changes to improve patient safety, we evaluate their effectiveness	☐1	☐2	☐3	☐4	☐5
14. We work in "crisis mode" trying to do too much, too quickly	☐1	☐2	☐3	☐4	☐5
15. Patient safety is never sacrificed to get more work done	☐1	☐2	☐3	☐4	☐5
16. Staff worry that mistakes they make are kept in their personnel file	☐1	☐2	☐3	☐4	☐5
17. We have patient safety problems in this unit	☐1	☐2	☐3	☐4	☐5
18. Our procedures and systems are good at preventing errors from happening	☐1	☐2	☐3	☐4	☐5

SECTION B: Your Supervisor/Manager

Please indicate your agreement or disagreement with the following statements about your immediate supervisor/manager or person to whom you directly report.

	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
1. My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures	☐1	☐2	☐3	☐4	☐5
2. My supervisor/manager seriously considers staff suggestions for improving patient safety	☐1	☐2	☐3	☐4	☐5
3. Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts	☐1	☐2	☐3	☐4	☐5
4. My supervisor/manager overlooks patient safety problems that happen over and over	☐1	☐2	☐3	☐4	☐5

SECTION C: Communications

How often do the following things happen in your work area/unit?

Think about your hospital work area/unit…	Never ▼	Rarely ▼	Some-times ▼	Most of the time ▼	Always ▼
1. We are given feedback about changes put into place based on event reports	☐1	☐2	☐3	☐4	☐5
2. Staff will freely speak up if they see something that may negatively affect patient care	☐1	☐2	☐3	☐4	☐5
3. We are informed about errors that happen in this unit	☐1	☐2	☐3	☐4	☐5
4. Staff feel free to question the decisions or actions of those with more authority	☐1	☐2	☐3	☐4	☐5
5. In this unit, we discuss ways to prevent errors from happening again	☐1	☐2	☐3	☐4	☐5
6. Staff are afraid to ask questions when something does not seem right	☐1	☐2	☐3	☐4	☐5

SECTION D: Frequency of Events Reported

In your hospital work area/unit, when the following mistakes happen, *how often are they reported?*

	Never ▼	Rarely ▼	Some-times ▼	Most of the time ▼	Always ▼
1. When a mistake is made, but is *caught and corrected before affecting the patient*, how often is this reported?	☐1	☐2	☐3	☐4	☐5
2. When a mistake is made, but has *no potential to harm the patient*, how often is this reported?	☐1	☐2	☐3	☐4	☐5
3. When a mistake is made that *could harm the patient*, but does not, how often is this reported?	☐1	☐2	☐3	☐4	☐5

SECTION E: Patient Safety Grade

Please give your work area/unit in this hospital an overall grade on patient safety.

☐	☐	☐	☐	☐
A	**B**	**C**	**D**	**E**
Excellent	Very Good	Acceptable	Poor	Failing

SECTION F: Your Hospital

Please indicate your agreement or disagreement with the following statements about your hospital.

Think about your hospital…	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
1. Hospital management provides a work climate that promotes patient safety	☐1	☐2	☐3	☐4	☐5
2. Hospital units do not coordinate well with each other	☐1	☐2	☐3	☐4	☐5
3. Things “fall between the cracks” when transferring patients from one unit to another	☐1	☐2	☐3	☐4	☐5
4. There is good cooperation among hospital units that need to work together	☐1	☐2	☐3	☐4	☐5

SECTION F: Your Hospital (continued)

Think about your hospital…	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
5. Important patient care information is often lost during shift changes	☐1	☐2	☐3	☐4	☐5
6. It is often unpleasant to work with staff from other hospital units	☐1	☐2	☐3	☐4	☐5
7. Problems often occur in the exchange of information across hospital units.....	☐1	☐2	☐3	☐4	☐5
8. The actions of hospital management show that patient safety is a top priority	☐1	☐2	☐3	☐4	☐5
9. Hospital management seems interested in patient safety only after an adverse event happens.....	☐1	☐2	☐3	☐4	☐5
10. Hospital units work well together to provide the best care for patients	☐1	☐2	☐3	☐4	☐5
11. Shift changes are problematic for patients in this hospital.....	☐1	☐2	☐3	☐4	☐5

SECTION G: Number of Events Reported

In the past 12 months, how many event reports have you filled out and submitted?

- ☐ a. No event reports
- ☐ b. 1 to 2 event reports
- ☐ c. 3 to 5 event reports
- ☐ d. 6 to 10 event reports
- ☐ e. 11 to 20 event reports
- ☐ f. 21 event reports or more

SECTION H: Background Information

This information will help in the analysis of the survey results.

1. How long have you worked in this hospital?

- ☐ a. Less than 1 year
- ☐ b. 1 to 5 years
- ☐ c. 6 to 10 years
- ☐ d. 11 to 15 years
- ☐ e. 16 to 20 years
- ☐ f. 21 years or more

2. How long have you worked in your current hospital work area/unit?

- ☐ a. Less than 1 year
- ☐ b. 1 to 5 years
- ☐ c. 6 to 10 years
- ☐ d. 11 to 15 years
- ☐ e. 16 to 20 years
- ☐ f. 21 years or more

3. Typically, how many hours per week do you work in this hospital?

- ☐ a. Less than 20 hours per week
- ☐ b. 20 to 39 hours per week
- ☐ c. 40 to 59 hours per week
- ☐ d. 60 to 79 hours per week
- ☐ e. 80 to 99 hours per week
- ☐ f. 100 hours per week or more

SECTION H: Background Information (continued)

4. What is your staff position in this hospital? Select ONE answer that best describes your staff position.

- ☐ a. Registered Nurse
- ☐ b. Physician Assistant/Nurse Practitioner
- ☐ c. LVN/LPN
- ☐ d. Patient Care Asst/Hospital Aide/Care Partner
- ☐ e. Attending/Staff Physician
- ☐ f. Resident Physician/Physician in Training
- ☐ g. Pharmacist
- ☐ h. Dietician
- ☐ i. Unit Assistant/Clerk/Secretary
- ☐ j. Respiratory Therapist
- ☐ k. Physical, Occupational, or Speech Therapist
- ☐ l. Technician (e.g., EKG, Lab, Radiology)
- ☐ m. Administration/Management
- ☐ n. Other, please specify:

5. In your staff position, do you typically have direct interaction or contact with patients?

- ☐ a. YES, I typically have direct interaction or contact with patients.
- ☐ b. NO, I typically do NOT have direct interaction or contact with patients.

6. How long have you worked in your current specialty or profession?

- ☐ a. Less than 1 year
- ☐ b. 1 to 5 years
- ☐ c. 6 to 10 years
- ☐ d. 11 to 15 years
- ☐ e. 16 to 20 years
- ☐ f. 21 years or more

SECTION I: Your Comments

Please feel free to write any comments about patient safety, error, or event reporting in your hospital.

THANK YOU FOR COMPLETING THIS SURVEY.

Hospital Survey on Patient Safety Culture: Composites and Items

In this document, the items in the *Hospital Survey on Patient Safety Culture* are grouped according to the safety culture composites they are intended to measure. The item's survey location is shown to the left of each item. Negatively worded items are indicated.

1. Teamwork Within Units

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

A1. People support one another in this unit.

A3. When a lot of work needs to be done quickly, we work together as a team to get the work done.

A4. In this unit, people treat each other with respect.

A11. When one area in this unit gets really busy, others help out.

2. Supervisor/Manager Expectations & Actions Promoting Patient Safety[1]

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

B1. My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures.

B2. My supervisor/manager seriously considers staff suggestions for improving patient safety.

B3. Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts. (negatively worded)

B4. My supervisor/manager overlooks patient safety problems that happen over and over. (negatively worded)

3. Organizational Learning—Continuous Improvement

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

A6. We are actively doing things to improve patient safety.

A9. Mistakes have led to positive changes here.

A13. After we make changes to improve patient safety, we evaluate their effectiveness.

4. Management Support for Patient Safety

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

F1. Hospital management provides a work climate that promotes patient safety.

F8. The actions of hospital management show that patient safety is a top priority.

F9. Hospital management seems interested in patient safety only after an adverse event happens. (negatively worded)

NOTE: Negatively worded questions should be reverse coded when calculating percent "positive" response, means, and composites.

[1] Adapted from Zohar D. A group-level model of safety climate: testing the effect of group climate on microaccidents in manufacturing jobs. J Appl Psychol 2000;85(4):587-96. http://psycnet.apa.org/journals/apl/85/4/587.html. Accessed January 15, 2015.

5. Overall Perceptions of Patient Safety

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

A15. Patient safety is never sacrificed to get more work done.
A18. Our procedures and systems are good at preventing errors from happening.
A10. It is just by chance that more serious mistakes don't happen around here. (negatively worded)
A17. We have patient safety problems in this unit. (negatively worded)

6. Feedback & Communication About Error

(Never, Rarely, Sometimes, Most of the time, Always)

C1. We are given feedback about changes put into place based on event reports.
C3. We are informed about errors that happen in this unit.
C5. In this unit, we discuss ways to prevent errors from happening again.

7. Communication Openness

(Never, Rarely, Sometimes, Most of the time, Always)

C2. Staff will freely speak up if they see something that may negatively affect patient care.
C4. Staff feel free to question the decisions or actions of those with more authority.
C6. Staff are afraid to ask questions when something does not seem right. (negatively worded)

8. Frequency of Events Reported

(Never, Rarely, Sometimes, Most of the time, Always)

D1. When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported?
D2. When a mistake is made, but has no potential to harm the patient, how often is this reported?
D3. When a mistake is made that could harm the patient, but does not, how often is this reported?

9. Teamwork Across Units

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

F4. There is good cooperation among hospital units that need to work together.
F10. Hospital units work well together to provide the best care for patients.
F2. Hospital units do not coordinate well with each other. (negatively worded)
F6. It is often unpleasant to work with staff from other hospital units. (negatively worded)

10. Staffing

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

A2. We have enough staff to handle the workload.
A5. Staff in this unit work longer hours than is best for patient care. (negatively worded)
A7. We use more agency/temporary staff than is best for patient care. (negatively worded)
A14. We work in "crisis mode" trying to do too much, too quickly. (negatively worded)

NOTE: Negatively worded questions should be reverse coded when calculating percent “positive” response, means, and composites.

11. Handoffs & Transitions

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

F3. Things "fall between the cracks" when transferring patients from one unit to another. (negatively worded)
F5. Important patient care information is often lost during shift changes. (negatively worded)
F7. Problems often occur in the exchange of information across hospital units. (negatively worded)
F11. Shift changes are problematic for patients in this hospital. (negatively worded)

12. Nonpunitive Response to Errors

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)

A8. Staff feel like their mistakes are held against them. (negatively worded)
A12. When an event is reported, it feels like the person is being written up, not the problem. (negatively worded)
A16. Staff worry that mistakes they make are kept in their personnel file. (negatively worded)

Patient Safety Grade

(Excellent, Very Good, Acceptable, Poor, Failing)

E1. Please give your work area/unit in this hospital an overall grade on patient safety.

Number of Events Reported

(No event reports, 1 to 2 event reports, 3 to 5 event report, 6 to 10 event reports, 11 to 20 event reports, 21 event reports or more)

G1. In the past 12 months, how many event reports have you filled out and submitted?

NOTE: Negatively worded questions should be reverse coded when calculating percent “positive” response, means, and composites.

Appendix A. Sample Data Collection Protocol for the Hospital Point of Contact: Paper Survey

Your Data Collection Tasks and Schedule for the *Hospital Survey on Patient Safety Culture*

Listed below are the schedule and tasks for administering the paper survey. Fill in the dates for your survey. Post this protocol in your office to remind you of the schedule.

Target Date	Activity
Three weeks before survey distribution Date: _____	**Print and post publicity materials.** Post survey flyers throughout the hospital (e.g., on bulletin boards, in work areas). Promote survey throughout the data collection period.
Beginning of Week 1 (Start of Survey Data Collection) Date: _____	**Distribute survey packets to all staff members on the survey distribution list.** Consider distributing the packets at staff meetings and encourage survey participation. Caution staff, however, not to discuss their answers if they complete their surveys during the meeting.
Beginning of Week 3 Date: _____	**Distribute a second survey packet.** If you are not using individual identifiers to track respondents, distribute second survey packets to all staff. If you are using identifiers to track respondents, distribute second survey packets only to nonrespondents.
Near End of Week 4 Closeout Date: _____	**Calculate preliminary response rate.** If the rate is high enough, **close out data collection at the end of Week 4.** To increase your response rate, extend data collection by a few days or a week. If your response rate is lower than 50 percent, consider distributing reminder cards to all staff (or only to nonrespondents if you are using identifiers). It may be sufficient to remind staff in person to complete the survey.
New Closeout Date: _____	**Close Out Extended Data Collection**

Appendix B. Sample Data Collection Protocol for the Hospital Point of Contact: Web Survey

Your Data Collection Tasks and Schedule for the *Hospital Survey on Patient Safety Culture*

Listed below are the schedule and tasks for administering the Web survey. Fill in the dates for your survey. Post this protocol in your office to remind you of the schedule.

Target Date	Activity
Three weeks before survey distribution Date: _____	**Print and post publicity materials.** Post survey flyers throughout the hospital (e.g., on bulletin boards, in work areas). Promote survey throughout the data collection period.
One week before starting data collection Date: _____	**Email the prenotification message about the survey.** Send the invitation to all staff with email access in the hospital. You can share the message with staff without email access.
Beginning of Week 1 (Start of Survey Data Collection) Date: _____	**Email the survey invitation (or announce the start of data collection).** If the survey is hosted on the World Wide Web, include a hyperlink (URL) and password in the email invitation. If the survey is hosted on the hospital intranet, provide instructions for locating and taking the survey.
Beginning of Week 2 Date: _____	**Distribute 1st reminder notice.** Email your prepared reminder notices and/or distribute reminder cards to all staff. If you are using identifiers to track respondents, email/distribute reminders only to nonrespondents. It may be sufficient to remind staff in person to complete the survey.
Beginning of Week 3 Date: _____	**Distribute 2nd reminder notice.** Email your 2nd reminder notice to all staff (or only to nonrespondents if you are using identifiers). It may be sufficient to remind staff in person to take the survey.
Near End of Week 4 Closeout Date: _____	**Calculate preliminary response rate.** If the rate is high enough, **close out data collection at the end of Week 4.** To increase your response rate, extend data collection by a few days or a week. If your response rate is lower than 50 percent, email or distribute 3rd reminders to all staff (or only to nonrespondents if you are using identifiers). It may be sufficient to remind staff in person to complete the survey.
New Closeout Date: _____	**Close Out Extended Data Collection**

Appendix C. Sample Data Collection Protocol for the Hospital Point of Contact: Mixed-Mode Survey

Your Data Collection Tasks and Schedule for the *Hospital Survey on Patient Safety Culture*

Listed below are the schedule and tasks for administering the survey when you are using both Web and paper surveys at the same hospital. Fill in the dates for your survey. Post this protocol in your office to remind you of the schedule.

Target Date	Activity
Three weeks before survey distribution Date: _____	**Print and post publicity materials.** Post survey flyers throughout the hospital (e.g., on bulletin boards, in work areas). Promote survey throughout the data collection period.
One week before starting data collection Date: _____	**Email the prenotification message about the Web survey.** Send the invitation to all staff with email access in the hospital. You can share the message with staff without email access.
Beginning of Week 1 (Start of Survey Data Collection) Date: _____	**Email the survey invitation (or announce the start of data collection).** If the survey is hosted on the World Wide Web, include a hyperlink (URL) and password in the email invitation. If the survey is hosted on the hospital intranet, provide instructions for locating and taking the survey.
Beginning of Week 2 Date: _____	**Distribute 1st reminder notice.** Email your prepared reminder notices and/or distribute reminder cards to all staff. If you are using identifiers to track respondents, email/distribute reminders only to nonrespondents. It may be sufficient to remind staff in person to take the survey.
Beginning of Week 3 Date: _____	**Distribute paper survey packets.** Distribute paper survey packets to all staff (or only to nonrespondents if you are using identifiers).
Near End of Week 4 Closeout Date: _____	**Calculate preliminary response rate**. If the rate is high enough, **close out data collection at the end of Week 4.** To increase your response rate, extend your data collection by a few days or a week and distribute 2nd reminders to all staff (or only to nonrespondents if you are using identifiers). It may be sufficient to do in-person reminders.
New Closeout Date: _____	**Close Out Extended Data Collection**

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