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Measuring Long-Term Care Work: A Guide to Selected Instruments to Examine Direct Care Worker Experiences and Outcomes

Executive Summary

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EXECUTIVE SUMMARY

Long-term care (LTC) providers face enormous challenges each day trying to provide high quality care to clients. One of the biggest challenges is staff retention among direct care workers (DCWs) -- the nursing assistants, personal care attendants and home health aides who provide hands-on care to clients.

High turnover rates among DCWs are costly. Both the direct costs (recruiting, training new employees, hiring temporary staff) and indirect costs (reduced productivity, deterioration in organizational culture and morale) associated with turnover can compromise the quality and continuity of residents' care.[1]

While doing nothing about turnover can be costly, doing something that does not address the real causes of turnover in an organization can also be expensive and frustrating. Surveys and research show that employees' feelings about various aspects of their jobs affect their commitment, overall job satisfaction, and the likelihood that they will remain with their employer (Kuokkanen & Katajisto; 2003; Laschinger, Finegan, & Shamian, 2001; Burke, 2003).

Employee surveys can help pinpoint what may improve staff satisfaction. They can help identify the key drivers of staff satisfaction, which can differ in each organization. They can quickly tell managers whether it is best to focus on supervision, skill development, or advancement opportunities. Quantitative findings from surveys or records-based data are a nice complement to qualitative data organizations often collect through focus groups or in-depth interviews with employees.

While there are some standard questions that organizations may regularly ask employees, most organizations have unique cultures or goals that influence the types of questions that should be asked of employees. Each organization's workforce goals, such as improved retention or enhanced skills in providing care, may determine which survey instruments are best.

This Guide was developed to help providers devise appropriate surveys for measuring DCWs' opinions about their jobs. This Guide can help organizations:

- Understand the importance of accurate measurement to guiding effective DCW retention efforts
- Develop a measurement plan to target DCW retention strategies
- Become a more informed user of survey-based and records-based data for monitoring and improving the work environment.

Benefits of the Guide

While this Guide may be helpful to many audiences -- providers, state agencies, workforce development groups, worker groups and researchers -- it is intended for providers in institutional, home care and other residential settings. Many different types of providers may find this Guide useful. Some may already be surveying employees using an in-house research center or an outside data collection vendor, but wish to enhance or supplement them in a number of areas. Others may not be conducting employee opinion surveys yet and want to know more before jumping in.

For providers already using measurement

If organizations are already conducting surveys or measuring turnover or retention rates in a systematic way, this Guide can provide additional ways to supplement workforce measurement efforts. This Guide provides a wealth of measures in 12 topic areas that have proven reliability and validity and are free of charge. Reliability is the degree to which an instrument can produce consistent results on different occasions. Validity is the degree to which an instrument measures what it is supposed to measure (CDC, 2002).

Chapter 3 provides definitions of the topic areas included in this Guide. It includes measures for each topic area that organizations may use to enhance the effort and resources already dedicated to using worker outcomes and experiences to inform organizational decisions.

For providers interested in measurement who would like more information

If organizations are not yet conducting surveys but are interested in learning more about how to do it, this Guide can help them understand the many ways that investing in measurement of outcomes could be beneficial. Chapter 2 provides examples of how other LTC providers use information collected from measurement instruments in a meaningful way. Measurement can help organizations make informed decisions about things that may specifically help given particular circumstances. For example, if an organization has noticed a lag in the energy levels of direct care staff, management may want to understand the cause. Do they feel monotony in their daily tasks? Do they feel their workload is too heavy?

For those concerned that they don't have the knowledge or skills to measure staff outcomes or survey employees, this Guide might make it easier to specify needs and concerns if an organization decides to engage local researchers or become a consumer of vendor services. It will also give basic tools to help administer surveys and/or participate in the data collection process with their guidance. Appendix C provides detailed information on issues to think about and discuss with researchers or consultants when planning and implementing a data collection and analysis process. Chapter 3 provides descriptions of the topic areas, measures and subscales organizations may consider using to address the issues most relevant to them.

Uses of the Guide

Employee opinion and outcome measurement can be done in different ways, depending on the purpose of the survey. Organizations might choose to use this Guide for certain purposes:

- Measure a single topic of interest using one of the instruments in Chapter 3
- Construct a multi-topic survey instrument, either with or without assistance of researchers/consultants, using several of the instruments in Chapter 3
- Gain access to existing survey instruments that encompass many topics in Appendix F

Measure a single topic of interest

For organizations that would like to understand how employees feel about a specific part of their job (e.g., the organizational culture, or perceptions of their job design, or their relationship with clients/residents), the use of a single measure might best meet this need. For example, if an organization recently implemented a participatory team approach where CNAs have input into a resident's care plan, it can measure CNAs' perceptions of the way their jobs are designed and find out if they have improved. Before implementation, a survey can establish a "baseline" of CNAs' feelings and subsequent surveys can be conducted after implementation at a specific time (e.g., 6 months or 12 months after implementation). In this case, the topic area titled "Job Design" in this Guide may help the organization identify measures that could capture CNAs' feelings. In Appendix A, a scenario is provided of how a nursing home may use this Guide to measure a single topic of interest (based on its organizational needs).

Construct a multi-topic survey instrument

Many organizations would find it more efficient to survey employees about numerous topics all at one time. In this case, the development of a survey instrument relevant to the organizational goals is more involved than simply using a one-dimensional measure or its subscales. A first key step is to select the topics and related measures or subscales from Chapter 3 that are most consistent with organizational goals. Next, the organization would likely opt to construct and pretest the questionnaire, develop strategies for administering it and discuss how the results will be analyzed, communicated back to staff and addressed. Many organizations have found it helpful to work with a consultant or researcher during this process. In Appendix A, a scenario of a continuing care retirement community (CCRC) that constructed its own multi-topic survey instrument is provided as an example.

Gain access to existing multi-topic survey instruments

Some organizations might prefer access to existing survey instruments that measure multiple topics. Appendix F includes two instruments that have already been developed for specific purposes and have not been tested for reliability and validity themselves, however.

Other Tools Available in the Guide

- sample scenarios for selecting and developing survey instruments
- overview charts of all measures and their properties
- discussion around data collection and analysis issues
- templates of letters to use when surveying employees
- copies of survey instruments ready for use
- additional workforce instruments that are not the focus of this Guide but may be useful
- names and affiliations of Key Informants and Technical Expert Panel members who helped develop the Guide

NOTES

1. Some estimates have shown that it costs nursing homes $3,000 to $4,000 to replace a nursing assistant who resigns or is fired (Noelker and Ejaz, 2001). These costs are likely underestiamted because they are generally based on direct care costs and do not account for indirect costs, which are more difficult to quantify (Seavie, 2004).

The Full Report is also available from the DALTCP website (http://aspe.hhs.gov/daltcp/home.shtml) or directly at http://aspe.hhs.gov/daltcp/reports/dcwguide.htm.

CHAPTER 3: READY TO USE INSTRUMENTS

Criteria for Inclusion of Instruments

Specific criteria were applied to each instrument under consideration for inclusion in this Guide.

The instruments included in the Guide (in Chapter 3 and Appendix G)….

- are quantitative in nature.
- have some evidence of reliability and/or validity, when possible. At a minimum, they have solid face validity (e.g., appear on the surface to be a reasonable measure of the concept of interest).
- have already been used in (or are able to be applied to) health care or LTC settings.

The instruments in Chapter 3 also….

- are practical and applicable to DCWs in LTC.
- are free to use or available for free when used for research purposes.[4]

Types of Instruments Included in this Guide

Chapter 3 contains two main categories of workforce topics:

1. Topics whose instruments use data organizations may already collect (i.e., use administrative records)
2. Topics whose instruments require new data collection (i.e., use worker questionnaires)

There are 4 topics that use data organizations may already collect and 8 topics that require new data collection.

The following 4 topics require the use of data organizations may already collect: injuries and illnesses, retention, turnover, and vacancies.[5] Instruments that use data that already may be collected are generally formulas in which calculations are made using factual information available from administrative records. Records used to calculate measures might include employee payroll records, cost reports, human resource records, employment records, or nurse aide registries. The data for some measures in this section come from surveys (also called questionnaires) completed by employer representatives (e.g., Human Resources staff, administrator). In these cases, the respondents are asked to complete the survey by using information from their employer records.

Employers can assess organizational factors that may be contributing to recruitment and retention problems by examining the feelings and perceptions of their employees. The following 8 topics require the use of newly collected information: empowerment, job design, job satisfaction, organizational commitment, organizational culture, worker-client relationships, worker-supervisor relationships, and workload.[6] Instruments that require new data collection are questionnaires (also called surveys) that collect information on respondents' attitudes and perceptions of their experiences.

Instruments for which new data are required have been divided into two groups in this Guide: (1) instruments that measure DCW job characteristics; and, (2) instruments that measure the organization. The instruments that measure DCW job characteristics are focused on DCWs specifically and assess their feelings and perceptions of various aspects of their jobs. The instruments that measure the organization are focused on employees at all levels in the organization (not just DCWs) and assess employees' feelings and perceptions about the organization by which they are employed.

Caveats about the Instruments in this Chapter

Chapter 3 presents a collection of instruments to consider in addressing workforce issues. Here are some caveats about these instruments.

- Not all instruments are applicable for use in all LTC settings.
- Many were not developed to be used with LTC DCWs specifically and have not been tested with DCWs. Rather, many have been used with employees (e.g., usually nurses) in hospital settings.
- There is a range of reliability and validity across instruments.
- Some instruments are simply a list of questions that need to be formatted into a survey questionnaire.
- Certain instruments in this chapter are ready for immediate use, while others need minor alteration. For example, minor wording changes may be needed to make them more applicable to a certain LTC setting, such as changing the word "hospital" to "nursing home." Or simplification of words used in questions asked of DCWs in surveys may be necessary. For these reasons, it is important to pre-test survey questionnaires with a small number of DCWs. This will provide a sense of whether the content and wording of questions in a survey are appropriate for DCWs or whether readability levels of the questions need to be adapted to be used with them.

Differences Between Chapter 3 and Appendix G

Certain subscales in some instruments are not applicable to the nature of DCWs' jobs so they have been included in Appendix G. It is important that, when using a subscale, all subscale questions are asked of DCWs because scoring, reliability and validity have been done on a subscale level. An example of a two-item subscale is the **Recognition subscale** from the *Job Role Quality Questionnaire*, where respondents are asked to rate the extent these two items are rewarding parts of their jobs (on a scale of 1 (not at all) to 4 (extremely)):

1. The recognition you get
2. The appreciation you get

The remainder of Chapter 3 introduces instruments and subscales of instruments that are currently ready (or nearly ready) for use. Appendix G includes instruments and subscales that require adaptation before they are ready for use and/or charge a fee for use. As mentioned, these instruments include the subscales considered irrelevant to DCWs, but that may be fruitful for future development and adaptation for use with DCWs. For two topics in this Guide -- organizational structure and peer-to-peer work relationships -- none of the instruments are considered ready for use because they are not geared towards DCWs and/or because they have associated costs. Therefore, the extant instruments and subscales we identified for these topics have been included only in Appendix G.

How the Instruments in this Chapter are Organized

The instruments and subscales in this Chapter were chosen because they are ready (or nearly ready) for providers to "take off the shelf" and apply in their settings, as appropriate. These instruments require no sophisticated software for scoring. Surveys (questionnaires) for which slight modification in wording (either through changing words to reflect the appropriate setting type or wording simplification for DCWs) were selected based on the fact that these alterations would enhance, not compromise (or change the meaning of) the instrument being used. Readability levels for surveys included in this Chapter appeared to be reasonable for DCWs, based on face validity and feedback from contributors to this Guide. Subscales of instruments that are relevant to DCWs are also included in this Chapter.

Each of the topics in Chapter 3 includes two main sections:

1. An introduction describing the topic and its relation to the DCW workforce; and,
2. A summary chart of the alternative instruments or subscales, where appropriate. These charts include a detailed description of the instrument or subscale. Survey item/instrument wording (for instruments that use surveys to gather information) follow these charts.

Overview charts for the instruments that use data already collected using information contained in records may differ from those based on administering surveys to collect information. These instruments are usually formulas calculated using information from employment records and do not contain subscales. When this is the case, a description and survey questionnaire are not included because they are not applicable. In a few cases where these instruments are based on a survey, descriptions of instruments are included.

Summary Chart for Instruments

As mentioned, a summary chart is included for each instrument or subscale. These charts contain information on the following features: description, measure, administration, scoring, availability, reliability and validity, and relevant contact information. An overview chart describing these features for instruments that use data already collected and for instruments that require new data collection is included on the two next pages.

Appendix B provides overview charts for all measures in a given topic if organizations are interested in making cross-comparisons as they decide which measure may be best to use for their purposes.

Overview of Features in Summary Chart for Each Instrument

	Topics whose instruments use data organizations may already collect (Based on administrative records or surveys completed by employer representatives)	Topics whose instruments require new data collection (Based on surveys, questionnaires of workers)
Description	Provides a brief description of the formula or survey instrument being discussed.	
Measure	Proposed formula or way to calculate a measure	Name of questionnaire and its subscale labels Subscale: A subscale usually contains multiple survey items intended to measure the same aspect or dimension of a topic (e.g., autonomy is a subscale of 5 items measuring one aspect of empowerment).
Administration	Specifies data source to be used. Data to make calculations for measures may come from sources such as: Employee payroll records Cost reports Human resource records Employment records Nurse aide registries Surveys of administrators or nurse aides	Survey administration (1) Whether survey is meant to be conducted using paper and pencil or in-person interviews and/or whether the survey can be adapted for administration in either way (2) Length of time required to complete the survey (3) Number of questions in the survey (4) The types of response scales given to people taking the survey, such as: 1=strongly disagree, 2=disagree, 3=not sure, 4=agree, and 5=strongly agree Readability = the reading level of the survey instrument *Flesch-Kincaid Grade Level Index* = readability test designed to show how easy or difficult a text is to read. The Index uses a formula based on the number of words in sentences and the number of syllables per word. The Index score rates text on a U.S. grade-school level. For example, a score of 8.0 means that an eighth grader can understand the document. This measure will be useful to providers in thinking about whether the reading levels in each survey are appropriate for their workers. Note: the Flesch-Kincaid Grade Level Index tends to underestimate the actual reading level; aim for 8^{th} grade or less and pretest with employees.
Scoring	Scoring = the method used to tally survey results or to make calculations (1) Whether scoring can be computed by hand, by using software, or either way (2) Method used for scoring of measure; range of possible scores (low – high) (3) Meaning of scores (what a low score indicates, what a high score indicates)	
Availability	Which category the instrument falls into for use: (1) Free (2) Free with permission from author -- email author to request permission to use (3) Fee or costs associated with use	
Reliability	To date, there is little evidence available on the reliability of the records-based measures. Reliability for these measures is designated as N/A.	Reliability *Internal consistency* (Cronbach's Alpha) = a measure of how well a set of items measures a single one dimensional construct consistently on different occasions For example, internal consistency might measure how well a set of questions measures job satisfaction. Internal consistency scores range from 0-1. A score of internal consistency that is .7 or higher shows that a measure is reliable.
Validity	To date, there is little evidence available on validity other than face validity for records-based measures. Validity for these measures is designated as N/A.	Validity = how close what is being measured is to what was intended to be measured. Answers the question "did you measure what you were supposed to measure?" Validity measure scores range from 0-1. The closer that the validity measure is to 1, the more valid the measure. There are multiple types of validity. The charts in this topic show the types of validity available for the selected measures. *Face validity* = when the quality of a measure appears on the surface to be a reasonable measure of the concept of interest. For example, a group of experts may not agree on what should be included in a retention measure, but they likely would agree

		that retention rates in a nursing facility have implications for workforce stability. *Criterion-related validity* (predictive validity) = the degree to which a measure relates to or predicts something. For example, the validity of a job satisfaction measure may be determined by the quality of a worker's relationship with his or her supervisor or fellow workers. *Construct validity* = the degree to which logical relationships exist between items (includes convergent and discriminate validity). For example, one might assert that retention relates to empowerment and job design. If an analysis shows that this relationship exists, then the measure has construct validity. *Content validity* = the degree to which a measure covers the range of meanings included in the concept. For example, a test of employee empowerment would not be limited to access to opportunity alone, but would also need to include support, information and resources (and so forth) in an individual's work setting.
Contact Information	Provides relevant contact information for more information on the formula or instrument being discussed.	

Instruments Which Use Data Organizations May Already Collect

Injuries and Illnesses

Introduction

Definition of Injuries and Illnesses

Occupational injuries and illnesses are those which occur as a result of an individual completing the tasks required of them in their job. Nursing aides, orderlies, and attendants rate second highest among occupations experiencing the most injuries and illnesses. They have some of the highest lost-worktime injuries and illnesses days away from work. In 2002, 79,000 injuries and illnesses requiring days away from work were reported among this occupational category (BLS, 2004). For example, DCWs in LTC often suffer from the strain and repetitive stress injuries that result from lifting or repositioning residents or clients.

Overview of Selected Instruments for Injuries and Illnesses

One instrument included in this Guide calculates injuries and illnesses:

1. Bureau of Labor Statistics (BLS) Instrument for Injuries and Illnesses

Issues to Consider When Selecting Instruments of Injuries and Illnesses

- Incidence rates cannot be calculated if worker’s compensation data (as opposed to the number of reportable injuries) are being used because it is not possible to obtain data on the denominator (hours worked) from worker’s compensation databases.

Alternatives for Measuring Injuries and Illnesses

Bureau of Labor Statistics (BLS) Instrument for Injuries and Illnesses

Description	This instrument calculates injuries and illnesses as “incidence rates” as used by the Bureau of Labor Statistics. The incidence rate is the number of nonfatal injuries and illnesses for the year divided by the number of all employee

	hours worked for the year. The numerator can be calculated by counting the number of recordable cases of occupational injuries and illnesses for the year, as reported from the Occupational Safety and Health's (OSHA) Log and Summary of Occupational Illnesses and Injuries. This form is required of employers covered by the Occupational Safety and Health (OSH) Act, except for those with ten or fewer employees. The 200,000 hours in the formula represents the equivalent of 100 employees working 40 hours per week, 50 weeks per year, and provides the standard base for incidence rates. The denominator can be determined through payroll or other time records.
Measure	Number of nonfatal injuries and illnesses X 200,000 Number of all employee hours worked (not including non-work time, such as vacation, sick leave, holidays, etc.)
Administration	Data collected from employers via survey and payroll records.
Scoring	Can be scored by hand.
Availability	Free.
Reliability	N/A
Validity	N/A
Contact Information	Not needed for use of this instrument.

Job Role Quality Questionnaire (JRQ)

Description	The Job Role Quality questionnaire was developed through a National Institute of Occupational Safety and Health (NIOSH)-funded project (Marshall et al., 1991). The Job Role Quality questionnaire was developed as a response to research findings from the widely used Job Content Questionnaire (JCQ).[12] This research has shown that satisfaction and health outcomes are impacted by the strain that results when jobs combine heavy demands and low decision latitude with little social support. This model has been applied in some health care settings and the occupation "nurse aide" is categorized as a high strain one, combining relatively high demands and low decision latitude. A major problem with the model underlying this approach, however, has been that it is based predominantly on data from male workers. The Job Role Quality Questionnaire was designed to adapt the JCQ to more accurately reflect women's psychosocial responses to service work. While it is derived from the Job Content Questionnaire and includes the same concepts, the Job Role Quality scales are not identical. Further, the Job Role Quality items of "helping others" and "discrimination" were added to assess their moderating role on job strain. These modifications suggest a good fit for studies of DCWs. The Job Role Quality questionnaire is intended to measure job strain that leads to negative psychological and physical health outcomes. It contains 5 Job Concern subscales -- overload, dead-end job, hazard exposure, poor supervision, and discrimination. It also contains 6 Job Reward subscales -- helping others, decision authority, challenge, supervisor support, recognition, and satisfaction with salary. Overall, decision authority, challenge and the opportunity to help others are each important buffers of heavy work demands. Supervisor support and helping others most consistently buffer the negative health effects of overload (Marshall & Barnett, 1993; Marshall et al., 1991).
Measure	Subscales Concern Factors: (1) Overload (2) Dead-end job (3) Hazard exposure (4) Supervision (5) Discrimination Reward factors: (1) Helping others (2) Decision authority (3) Challenge (4) Supervisor Support (5) Recognition

	(6) Satisfaction with salary
Administration	Survey Administration (1) Designed for face-to-face interview, but may be possible to adapt to paper and pencil, self-administered (2) Data on time not available (3) 36 questions (4) 4-item Likert scale (not at all (concerned/rewarding) to extremely (concerned/rewarding)) Readability Flesch-Kincaid: 5.9
Scoring	(1) Simple calculations. (2) Subscale score = Average of items on the subscale (Range 1 - 4) (3) Lower scores on Job Concern subscales indicate better job design features; Higher scores on Job Reward subscales indicate better job design features.
Availability	Free.
Reliability	Internal consistency ranges from .48 to .87 for the subscales.
Validity	Construct validity: • Subscales were confirmed using confirmatory factor analysis. • Logical variations in scores among social workers and LPNs. Criterion-related validity: • Hospital LPNs and nursing home LPNs report quite different job demands. Hospital LPNs reported more overload and less decision authority than those in nursing homes.
Contact Information	Not needed for use of the instrument.

Survey Items

Key to Which Questions Fall into Which Subscales

The 36 items are organized below into their respective 11 subscales (5 job concern subscales and 6 job reward subscales).

Job Concern Factors

Instructions. Think about your job right now and indicate on a scale of 1 (not at all) to 4 (extremely), to what extent, if at all, each of the following is of concern.

Overload

1. Having too much to do
2. The jobs taking too much out of you
3. Having to deal with emotionally difficult situations

Dead-End Job

1. Having little chance for the advancement you want or deserve
2. The jobs not using your skills
3. The jobs dullness, monotony, lack of variety
4. Limited opportunity for professional or career development

Hazard Exposure

1. Being exposed to illness or injury
2. The physical conditions on your job (noise, crowding, temperature, etc.)
3. The jobs being physically strenuous

Poor Supervision

1. Lack of support from your supervisor for what you need to do your job
2. Your supervisors lack of competence
3. Your supervisors lack of appreciation for your work
4. Your supervisors having unrealistic expectations for your work

Discrimination

1. Facing discrimination or harassment because of your race/ethnic background
2. Facing discrimination or harassment because youre a woman

Job Reward Factors

Instructions: Think about your job right now and indicate on a scale of 1 (not at all) to 4 (extremely) to what extent, if at all, each of the following is a rewarding part of your job.

Helping Others

1. Helping others
2. Being needed by others
3. Having an impact on other peoples lives

Decision Authority

1. Being able to make decisions on your own
2. Being able to work on your own
3. Having the authority you need to get your job done without having to go to someone else for permission
4. The freedom to decide how you do your work

Challenge

1. Challenging or stimulating work
2. Having a variety of tasks
3. The sense of accomplishment and competence you get from doing your job
4. The jobs fitting your interests and skills
5. The opportunity for learning new things

Supervisor Support

1. Your immediate supervisors respect for your abilities
2. Your supervisors concern about the welfare of those under him/her
3. Your supervisors encouragement of your professional development
4. Liking your immediate supervisor

Recognition

1. The recognition you get
2. The appreciation you get

Satisfaction with Salary

1. The income
2. Making good money compared to other people in your field

Job Satisfaction

Introduction

Definition of Job Satisfaction

Job satisfaction is generally defined as the degree to which individuals have a positive emotional response towards employment in an organization. It is not the same as morale, which includes other concepts such as commitment, discouragement, and loyalty.

Organizations care about job satisfaction because it is thought to be related to employees' emotional and behavioral responses to work. However, the evidence on these relationships is mixed. Extensive literature reviews, meta-analyses, and organizational studies conducted in the 1970s found that the relationship between job satisfaction and productivity, absence, and turnover is negligible (Landy, 1989; Steers & Rhoades, 1978; Mobley, Horner, & Hollingsworth, 1978; Locke, 1976). In contrast, more recent studies have found that job dissatisfaction is strongly associated with job stress and organizational commitment among nurses (Blegen, 1993; Cohen-Mansfield, 1997; Lundstrom et al., 2002; Upenieks, 2000).

Overview of Selected Measures of Job Satisfaction

Job satisfaction can be measured globally as a single measure of whether one is generally satisfied (or dissatisfied) with his or her job (Porter & Lawler, 1968). With this global approach, job satisfaction is measured as a general, overall emotional response to a persons current work situation. Three measures identified for this topic address overall job satisfaction:

1. General Job Satisfaction Scale (GJS, from the Job Diagnostic Survey or JDS)
2. Various single-item measures including the Visual Analog Satisfaction Scale
3. Visual Analog Satisfaction Scale (VAS)

In contrast to a global approach, some argue that job satisfaction should be assessed in terms of multiple dimensions such as in response to tasks, supervisor, coworkers, or pay (e.g., Smith, Kendall, & Hulin, 1969). This multi-dimensional or facet approach assumes that people have reactions to specific aspects of their work that a general measure fails to recognize. Satisfaction on different dimensions does not simply combine to produce a general or overall measure of satisfaction. Three measures identified for this topic use this multi-dimensional approach.

1. Benjamin Rose Nurse Assistant Job Satisfaction Scale
2. Grau Job Satisfaction Scale
3. Job Satisfaction Survey (JSS©)

Issues to Consider When Selecting Measures of Job Satisfaction

- For many years it has been assumed that multi-item measures of satisfaction were psychometrically superior to single items. Recent evidence (summarized in “Single Item Measures of Job Satisfaction” later in this topic) suggests that it is possible to construct one-item measures that have good measurement properties. This possibility may be significant to users with limited time and budget resources. Single item measures have proven popular in many studies of health care workers where job satisfaction is not the focus of the research, but one among many data points collected in a study.

Alternatives for Measuring Job Satisfaction

Benjamin Rose Nurse Assistant Job Satisfaction Scale

Description	The Benjamin Rose Nurse Assistant Job Satisfaction Scale is an 18-item scale that measures job satisfaction which was developed for use in surveys of state-tested nursing assistants working in nursing homes. It was developed by researchers at the Margaret Blenkner Research Institute. The Benjamin Rose Nurse Assistant Job Satisfaction Scale has been used with 338 nurse assistants for more than ten years and its psychometric properties established.
Measure	<u>Subscales</u> (1) Communication and recognition (2) Amount of time to do work (3) Available resources (4) Teamwork (5) Management practices
Administration	<u>Survey Administration</u> (1) Interview (2) 5 minutes or less (3) 18 questions (4) 4-point Likert scale (0=very dissatisfied to 3=very satisfied) <u>Readability</u> Flesch-Kincaid: 4.3
Scoring	(1) Simple calculations. (2) Total scale score = Sum of 18 items (Range 0-54) (3) Higher scores indicate higher job satisfaction.
Availability	This scale is copyrighted. Parties interested in using the measure must obtain written permission from Benjamin Roses Margaret Blenkner Research Institute and acknowledge the source in all publications and other documents.
Reliability	Internal consistency of scale is .92
Validity	Construct validity: • Lower levels of job satisfaction are related to on the job stress, such as having a low numbers of other nursing assistants that they consider friends (r = .16, p = .005), and having a low number of residents that they consider friends (r = .218, p = .000). • Higher levels of job satisfaction are significantly correlated with non-job related stress, such as having fewer financial worries (r = -.386, p = .000), and having lower depression scores (r = -.365, p = .000).
Contact Information	Permission to use this instrument can be obtained by contacting: Administrative Assistant Margaret Blenkner Research Institute Phone: 216-373-1604 Email: klutian@benrose.org

Survey Items

Key to Which Questions Fall into Which Subscales

CR = Communication and recognition subscale (5 items)

TO = Amount of time/organization subscale (2 items)
R = Resources subscale (2 items)
T = Teamwork subscale (2 items)
MP = Management practice and policy subscale (7 items)

THE NEXT STATEMENTS ARE ABOUT DIFFERENT ASPECTS OF YOUR JOB. AFTER I READ EACH STATEMENT, PLEASE TELL ME HOW SATISFIED ARE YOU WITH:

			Very Satisfied	**Satisfied**	**Dissatisfied**	**Very Dissatisfied**
MP	1.	the working conditions here?	3	2	1	0
T	2.	the way nurse assistants here pitch in and help one another?	3	2	1	0
CR	3.	the recognition you get for your work?	3	2	1	0
MP	4.	the amount of responsibility you have?	3	2	1	0
MP	5.	your rate of pay?	3	2	1	0
MP	6.	the way this nursing home is managed?	3	2	1	0
CR	7.	the attention paid to suggestions you make?	3	2	1	0
MP	8.	the amount of variety in your job?	3	2	1	0
MP	9.	your job security?	3	2	1	0
MP	10.	your fringe benefits?	3	2	1	0
TO	11.	the amount of time you have to get your job done?	3	2	1	0
T	12.	the teamwork between nurse assistants and other staff?	3	2	1	0
CR	13.	the attention paid to your observations or opinions?	3	2	1	0
R	14.	the information you get to do your job?	3	2	1	0
R	15.	the supplies you use on the job?	3	2	1	0
TO	16.	the pace or speed at which you have to work?	3	2	1	0
CR	17.	the way employee complaints are handled?	3	2	1	0
CR	18.	the feedback you get about how well you do your job?	3	2	1	0

General Job Satisfaction Scale (GJS, from Job Diagnostic Survey or JDS)

Description	The General Job Satisfaction Scale is a short 5-item measure of overall job satisfaction that is derived from the theoretical and conceptual work that resulted in the Job Diagnostic Survey (Hackman & Oldham, 1975, 1980). Job satisfaction is defined as an overall measure of the degree to which the employee is satisfied and happy with the job. As a component of the JDS, the scale has been used in a wide variety of jobs, including telephone companies, factory workers, clerical workers, supervisors, and nursing and technical staff. An example of the use of the JDS in a long-term care setting is Schaefers work on the effect of stressors and work climate on staff morale and functioning (1996).
Measure	(1) Overall (global) satisfaction.
Administration	Survey Administration (1) Paper and pencil or interview (2) < 5 minutes (3) 5 questions (4) 7-point Likert scaling (strongly disagree to strongly agree)

	Readability Flesch-Kincaid: 5.3
Scoring	(1) Simple calculations. (2) Overall score = Average of the 5 items after reverse coding the two negatively worded items (Range 1 - 7). (3) Higher scores indicate higher job satisfaction.
Availability	Free.
Reliability	Internal consistency of scale ranges from .74 - .80.
Validity	Construct validity: • GJS is negatively related to organizational size and positively related to job level, tenure, performance, and motivational fit between individuals and their work.
Contact Information	Not needed for use of this instrument.

Survey Items

Key to Which Questions Fall into Which Subscales

All 5 items go into the General Job Satisfaction scale.

Note that two items, marked ®, are reverse worded. Their responses must be recoded prior to scoring.

1. Generally speaking, I am very satisfied with this job.
2. I frequently think of quitting this job. ®
3. I am generally satisfied with the kind of work I do in this job.
4. Most people on this job are very satisfied with the job.
5. People on this job often think of quitting. ®

Each item is to be answered using the following 7-point response scale:

1. Disagree strongly
2. Disagree
3. Disagree slightly
4. Neutral
5. Agree slightly
6. Agree
7. Agree strongly

Grau Job Satisfaction Scale

Description	A two-dimension measure of job satisfaction was developed by Grau et al. for a study of nurse aides in nursing homes (1991). The instrument was based on earlier work by Cantor and Chichin for a study of homecare workers (1989). Although the instrument included items related to multiple job satisfaction dimensions (economic characteristics, sense of accomplishment, personal satisfaction, job responsibilities, supervision, and job convenience), factor analysis of the instrument provided evidence of only two dimensions (Grau et al., 1991). These two dimensions are general job satisfaction and job benefits. The instrument has been used in a study of home health aides who cared for AIDS patients (Grau, Colombotos, & Gorman, 1992) and nurse aides in a long term care facility (Grau, Chandler, Burton, & Kilditz, 1991).
Measure	Subscales (1) Intrinsic job satisfaction

	(2) Satisfaction with benefits
Administration	Survey Administration (1) Paper and pencil or interview (2) 5 minutes (3) 14 questions (4) 4-point Likert scaling (very true to not true at all) Readability Flesch-Kincaid: 3.2
Scoring	(1) Simple calculations. (2) Subscale score = Sum of items on the subscale (Range 4 52, depending on subscale). (3) Lower scores indicate higher job satisfaction.
Availability	Free.
Reliability	Internal consistency is .84 for intrinsic satisfaction scale and .72 for job benefits scale.
Validity	No published information is available.
Contact Information	Not needed for use of this instrument.

Survey Items (Exact wording below)

Key to Which Questions Fall into Which Subscales

The survey items are grouped as shown below into the two respective subscales (13 items in Intrinsic Job Satisfaction subscale and 4 items in Job Benefits subscale).

The 4-point response scale is: 1. very true; 2. somewhat true; 3. not too true; 4. not true at all

Intrinsic Job Satisfaction

1. See the result of my work.
2. Chances to make friends.
3. Sense of accomplishment.
4. My job prepares me for better jobs in health care.
5. Get to do a variety of things on the job.
6. Responsibilities are clearly defined.
7. Have enough authority to do my job.
8. I am given a chance to do the things I do best.
9. I get a chance to be helpful to others.
10. I am given a chance to be helpful to others.
11. I am given freedom to decide how I do my work.
12. The work is interesting.
13. The people I work with are friendly.

Job Benefits

1. The fringe benefits are good.
2. The security is good.
3. The pay is good.
4. The chances for promotion are good.

Job Satisfaction Survey (JSS)©

Description	The Job Satisfaction Survey (JSS)© -- a 36 item, nine subscale measure -- was developed by Spector to assess employee attitudes about certain aspects of their job (1985). The nine subscales include pay, promotion, supervision, fringe benefits, contingent rewards (performance-based rewards), operating procedures (required rules and procedures), coworkers, nature of work, and communication. Each subscale includes four items, and a total score is computed from all items. While the JSS© was originally developed for use in human service organizations, it is applicable to all organizations, both in the public and private sectors.
Measure	Subscales (1) Pay (2) Promotion (3) Supervision (4) Fringe benefits (5) Contingent rewards (6) Operating conditions (7) Coworkers (8) Nature of work (9) Communication
Administration	Survey Administration (1) Paper and pencil or interview (2) 10 minutes (3) 36 questions (4) 6-point Likert scaling (strongly agree to strongly disagree) Readability: Flesch-Kincaid: No published data at this time.
Scoring	(1) Simple calculations. (2) Subscale score = Sum of items on the subscale (Range 4 - 24, depending on subscale) Overall score = Sum of all 36 items (Range 36 - 216) (3) Higher scores indicate higher job satisfaction.
Availability	Free for research or non-commercial use with permission from the author.
Reliability	Internal consistency ranges from .60 .91 for subscales.
Validity	Validity correlations between equivalent scales from another tested instrument (JDI) and the JSS© were significantly larger than zero and of reasonable magnitude.
Contact Information	This instrument is available on-line at http://chuma.cas.usf.edu/~spector. Permission to use it can be obtained by contacting: Paul Spector, PhD Department of Psychology PCD4118G University of South Florida Tampa, FL 33620 (813) 974-0357 spector@chuma.cas.usf.edu

Survey Items (Exact wording below)

Key to Which Questions Fall into Which Subscales

P = Pay subscale (4 items)
PR = Promotion subscale (4 items)
S = Supervision subscale (4 items)
F = Fringe benefits subscale (4 items)
C = Contingent rewards subscale (4 items)
O = Operating procedures subscale (4 items)
CO = Coworkers subscale (4 items)
N = Nature of work subscale (4 items)
CM = Communication subscale (4 items)

Note that 19 items, marked ®, are reverse worded. Their responses must be recoded prior to scoring.

7-point response scale, ranging from very strongly agree to very strongly disagree

PLEASE CIRCLE THE ONE NUMBER FOR EACH QUESTION THAT COMES CLOSEST TO REFLECTING YOUR OPINION.		
P	1.	I feel I am being paid a fair amount for the work I do.
PR	2.	There is really too little chance for promotion on my job. ®
S	3.	My supervisor is quite competent in doing his/her job.
F	4.	I am not satisfied with the benefits I receive. ®
C	5.	When I do a good job, I receive the recognition for it that I should receive.
O	6.	Many of our rules and procedures make doing a good job difficult. ®
CO	7.	I like the people I work with.
N	8.	I sometimes feel my job is meaningless. ®
CM	9.	Communications seem good within this organization.
P	10.	Raises are too few and far between. ®
PR	11.	Those who do well on the job stand a fair chance of being promoted.
S	12.	My supervisor is unfair to me. ®
F	13.	The benefits we receive are as good as most other organizations offer.
C	14.	I do not feel that the work I do is appreciated. ®
O	15.	My efforts to do a good job are seldom blocked by red tape.
CO	16.	I find I have to work harder at my job because of the incompetence of people I work with. ®
N	17.	I like doing the things I do at work.
CM	18.	The goals of this organization are not clear to me. ®
P	19.	I feel unappreciated by the organization when I think about what they pay me. ®
PR	20.	People get ahead as fast here as they do in other places.
S	21.	My supervisor shows too little interest in the feelings of subordinates. ®
F	22.	The benefit package we have is equitable.
C	23.	There are few rewards for those who work here. ®
O	24.	I have too much to do at work. ®
CO	25.	I enjoy my coworkers.
CM	26.	I often feel that I do not know what is going on with the organization. ®
N	27.	I feel a sense of pride in doing my job.
P	28.	I feel satisfied with my chances for salary increases.
F	29.	There are benefits we do not have which we should have. ®
S	30.	I like my supervisor.
O	31.	I have too much paperwork. ®
C	32.	I don't feel my efforts are rewarded the way they should be. ®
PR	33.	I am satisfied with my chances for promotion.

CO	34.	There is too much bickering and fighting at work. ®
N	35.	My job is enjoyable.
CM	36.	Work assignments are not fully explained. ®

APPENDIX A: FROM START TO FINISH -- SAMPLE SCENARIOS OF USING AND/OR CONSTRUCTING SURVEY INSTRUMENTS

This appendix is also available as a separate PDF File.

Appendix A includes two examples of how providers may use the survey instruments and/or their subscales included in this Guide. One example shows how a nursing home decided to measure one topic of interest (Job Design) among CNAs. The other illustrates how a continuing care retirement community (CCRC) constructed a multi-topic survey instrument from among the scales/subscales in the Guide. Both scenarios follow the steps laid out in Appendix C on data collection planning and implementation issues.

Measuring a Single Topic of Interest

Step #1: Purpose of data collection effort

A nursing home is experiencing high turnover among its CNAs. The Administrator wants to identify the parts of their jobs that CNAs are most concerned about and those that are least rewarding. Using this information, she would like to decide what actions management can take to try to address some of these problems.

Step #2: Specify the target population for data collection

CNAs in nursing home

Step #3: Determine project team, budget and schedule

The Administrator has started to call the nursing departments at local universities in an attempt to identify potential researchers with whom she can collaborate. She has also asked her Director of Human Resources to obtain price quotes from data collection vendors for conducting an employee survey of all 40 CNAs. Lastly, she has asked her Director of Finance to assess what kind of budget the organization has for staff development as she realizes she will have to act on the survey findings in order to maintain credibility among her CNAs. The survey fielding/data collection period will last for three weeks.

Step #4: Decide whether to include all members of the population or a sample

All 40 CNAs will be surveyed (a census).

Step #5: Decide the topics, subscales, and/or formulas on which to collect data

The nursing home Administrator has heard rumors about tension between CNAs and certain charge nurses. While she knows for certain that this topic area is one that her CNAs will be asked about, she really wants to keep the employee survey broad so she can really get at what may be causing the high CNA turnover she is experiencing.

Step #6: Decide how the questionnaire will be administered and set the response rate goal

The Administrator was able to form a relationship with a local researcher who will oversee the data collection process. Each CNA will receive an advance letter informing them of the survey and its goals. After the letters are distributed, a CNA staff meeting will be held to allow a question-and-answer period focused on the survey. The project team has determined that the survey will be administered by the researcher at pre-appointed times for each employee on each shift in a common area. Free food will be available in this common area during these times. A lock box will be placed in this room so that employees will feel comfortable responding. The goal is to have a 100 percent response rate among CNAs.

Step #7: Design and pretest the questionnaire

Together, the Administrator and researcher examined the instruments in the Guide around the topic areas of job satisfaction, job design and worker-supervisor relationships. Using the advice of her research collaborator, the Administrator has decided to keep the survey broad and use subscales of the Job Role Quality Questionnaire. She is particularly interested in assessing the degree to which her CNAs are concerned about the workplace environment and the degree to which they find certain aspects of their jobs rewarding in order to inform an appropriate organizational response. The JRQ includes five items to measure “job concern factors” and six items to measure “job reward factors.”

The Director of Nursing has recruited CNAs on each shift with whom the research collaborator, an objective outside source, will hold focus groups to get feedback on the length and content of the questionnaire.

Step #8: Monitor data collection

The researcher has agreed to provide frequent reports on response rates among the CNAs via email and phone calls with the Administrator, Director of Nursing, and Director of Human Resources. The survey will be conducted over a three-week period.

Step #9: Analyze data and present findings

Scores for each item in the eleven subscales were added across the 40 CNAs and then averaged. The results for each item are as follows:

Subscale averages for job concern factors (N = 40 CNAs)

-- Overload	2.8
-- Dead-end job	2.5
-- Hazard exposure	1.1
-- Poor supervision	3.4
-- Discrimination	1.4

For job concern factors, a lower score reflects better job design.

Subscale averages for job reward factors (N = 40 CNAs)

-- Helping others	3.8
-- Decision authority	3.0
-- Challenge	2.9
-- Supervisor support	1.8
-- Recognition	1.9

-- Satisfaction with salary 2.2

**** For job reward factors, a lower score represents poorer job design.***

The results of the survey show that the Administrator's suspicion that the employee-supervisor relationships may need to be strengthened has been reinforced. Based on survey results, it appears that CNAs seem most concerned about the poor supervision they receive. They report the least rewarding parts of their jobs to be supervisor support and recognition they receive.

The Administrator and Director of Nursing are putting together a presentation for the next CNA staff meeting to report the survey results. At that time, they will solicit CNAs who would like to work on a team to develop a strategic plan for improving employee supervisor relationships and the overall work environment of the nursing home.

Constructing a Multi-Topic Survey Instrument

Step #1: Purpose of data collection effort

A CCRC wants to see how committed its employees are, how empowered they feel, and whether those who feel more empowered are more likely to be committed to their employer. The Administrator would like to see how employees' perceptions in these areas differ across department so that an informed organizational response can be developed.

Step #2: Specify the target population for data collection

A random sample of employees in all departments of a CCRC.

Step #3: Determine project team, budget and schedule

This CCRC has a research unit on campus, so the Administrator will work with the Director of Research on campus to develop a reasonable schedule. The Administrator will also coordinate with the Director of Finance so the appropriate distribution of resources across the CCRC and its research unit is clearly spelled out among all parties.

The team determined ahead of time that the survey will be administered in-person, since many of the employees are Spanish-speaking. Added expenses the team has already considered include the hiring of outside interpreters, time staff spends on completing surveys (and the overhead costs associated with a lengthy survey process as a result), and efforts to increase response rate. The survey fielding/data collection period will last six weeks, including survey administration and follow-up to improve response rate.

Step #4: Decide whether to include all members of the population or a sample

Given the cost of doing in-person interviews and the number of staff members at the CCRC, the Administrator and Director of Research decided to draw a random sample of the 1,100 employees at the CCRC. Employees from all departments, on all shifts will be included in the random sample. The research unit will ensure that enough employees are drawn from each department to make appropriate comparisons and to ensure confidentiality.

Step #5: Decide the topics, subscales, and/or formulas on which to collect data

The Administrator and department heads determined that organizational commitment and empowerment among employees were the topic areas most appropriate to focus on for this first employee survey. After looking at these topic areas in the Guide, the team narrowed their choices to the following scales and subscales: Intent to Turnover measure (behavioral intent to leave job) from the *Michigan Organizational Assessment Questionnaire* and three items from the opportunity subscale of the *Conditions for Work Effectiveness Questionnaire (CWEQ I) and (CWEQ II Short Form)*. A total of 6 items were chosen to keep the in-person survey short.

The specific items selected, which include entire subscales,[1] are:

Items from the *Michigan Organizational Assessment Questionnaire -- Intent to Turnover measure* (3 items):

Here are some statements about you and your job. How much do you agree or disagree with each? (Likert Scale ranging from 1-7, where 1 = strongly disagree and 7 = strongly agree.)

Item #1. I will probably look for a new job in the next year.

Item #2. I often think about quitting.

Please answer the following question.

Item #3. How likely is it that you could find a job with another employer with about the same pay and benefits you now have? (Likert Scale ranging from 1-7, where 1 = not likely at all and 7 = extremely likely)

Items from the *Conditions for Work Effectiveness Questionnaire (CWEQ I) and (CWEQ II Short Form) -- Opportunity subscale* (3 items):

Items #1-#3. How much of each kind of opportunity do you have in your present job? (Likert Scale ranging from 1-5, where 1 = None and 5 = A Lot)

- Challenging work.
- The chance to gain new skills and knowledge on the job.
- Tasks that use all of your own skills and knowledge.

Step #6: Decide how the questionnaire will be administered and set the response rate goal

The team determined that it would like a 70-percent response rate across the CCRC. The questionnaire will be administered in-person. The Director of Human Resources will work with each department head to schedule times for employee surveys. At least 2 interviewers will be available per shift. Survey interviews will be conducted on campus, in areas away from the departments in which interviewed employees work. Advance letters and reminder postcards will be mailed to selected staff at their residence, flyers will be posted throughout the campus and a "*Share your Voice!*" kick-off meeting will be held the week survey administration begins where refreshments will be served and door prizes given out.

Step #7: Design and pretest the questionnaire

Because this CCRC has many Spanish-speaking employees, cognitive testing will be done on the survey item translation. Pretesting will also be conducted with 10 English-speaking employees.

Step #8: Monitor data collection

Survey fielding will be conducted over a six-week period. The research unit on the CCRC campus and the department heads will meet weekly to discuss the progress of data collection. That way, the team is updated on the survey response rate and can, subsequently, strategize on what types of efforts are needed to increase the response rate (if any).

Step #9: Analyze data and present findings

Below is an illustrative example of the scores that correspond to answers three workers gave to the six questionnaire items. The CCRC will tabulate the results of **all** responding employees (of the random sample) using this same scoring process.

Worker ID	Intent to Turnover Items (response scale ranges from 1 to 7)			Conditions for Work Effectiveness Questionnaire II Items (response scale ranges from 1 to 5)		
	Item #1	*Item #2*	*Item #3*	*Item #1*	*Item #2*	*Item #3*
Worker #1	2	3	3	4	3	3
Worker #2	6	4	2	4	2	2
Worker #3	3	3	4	5	4	3

To calculate the score for each employee for the behavioral intent to leave job subscale, **sum** the scores given for all three items. In this example, below are the scores for each worker on this organizational commitment measure.

Worker #1: 8 = (2 + 3 + 3)
Worker #2: 12 = (6 + 4 + 2)
Worker #3: 10 = (3 + 3 + 4)

Lower scores on this measure indicate greater organizational commitment, with possible scores on this 3-item measure ranging from 3 to 21. At the individual worker level, worker #1 shows the highest commitment (score of 8) followed by worker #3 (score of 10), with worker #2 (score of 12) showing the least commitment.

To calculate the score for each employee for the opportunity subscale of the "Conditions for Work Effectiveness Questionnaire II," **average** the scores given for all three items. In this example, below are the scores for each worker on this empowerment measure.

Worker #1: 3.3 = [(4 + 3 + 3)/3] = 10/3 items
Worker #2: 2.7 = [(4 + 2 + 2)/3] = 8/3 items
Worker #3: 4.0 = [(5 + 4 + 3)/3] = 12/3 items

Higher scores on this measure indicate greater empowerment in the form of more perceived opportunity, with possible scores on this 3-item measure ranging from 1 to 5. At the individual worker level, worker #3 shows the greatest level of empowerment (score of 4.0) followed by worker #1 (score of 3.3), with worker #2 (score of 2.7) showing the least empowerment.

The average is usually the statistic used to indicate the summary score on a measure across all respondents when using Likert-type response scales. Using the empowerment measure above as an example, here is how to calculate the average empowerment score for all respondents.

$$\frac{\text{Worker \#1 total score + Worker \#2 total score + Worker \#3 total score}}{\text{3 (number of respondents)}}$$

Working through this formula we get these figures below, for an average of 3.3 among all three workers:

$3.3 + 2.7 + 4.0 = 10/3 = 3.3$

So, on average, this sample of workers at this CCRC tend to feel that they have “some” opportunities at work. However, based on the score of 3.3, there is room for improvement toward a score of 4 or 5.

Management believes the needs of each department may differ and has decided to put together employee focus groups for each department. The goal of these focus groups is to get a sense of the types of things needed to make employees feel more empowered in their jobs. All employees will be given the opportunity to be part of the focus groups. After examining each department’s focus group findings and comparing across departments, management will work with teams of staff members (across all departments and titles) to determine how to allocate resources across all staff in the best manner. The ultimate goal is to increase satisfaction with the working environment and to improve retention of staff. Results of each stage in the process will be shared at all-staff meetings.

Notes

1. It is important to include all items in a subscale because our review and the findings on the properties of the instruments reported in this Guide are based on the entire subscales (not individual items within each subscale). If you choose to take only some items from a subscale, the properties we reported (e.g., reading level, reliability, validity) do not apply to the individual items.

APPENDIX C: DATA COLLECTION PLANNING AND IMPLEMENTATION ISSUES

This appendix is also available as a separate PDF File.

Introduction

Appendix C is intended to help organizations become more informed consumers of survey- and records-based data collection. It is meant mainly for providers who have not yet collected information on their DCWs using a questionnaire or records-based data. However, it may also be valuable for providers who have been collecting data (either themselves or working with researchers) to enhance their data collection efforts or understanding of these activities.

As noted previously, this Guide is not a “how to” manual that will enable organizations to conduct a data collection effort from start to finish. Organizations may opt to partner with a reputable researcher (consultant, in-house if organizations have such services, or university-based) and/or data collection vendor to collaborate in data collection, analysis, and use of the data to inform workforce improvement efforts. Working with a third party viewed as independent and impartial can also help convey to employees that it is safe to provide honest answers to survey questions.

Having a better understanding of standardized measurement approaches can help organizations collaborate more productively with researchers[1] they work with in data collection efforts. Appendix C provides an introduction to a variety of issues that organizations and the researcher(s) will need to decide as they plan their work. A number of issues in this chapter are relevant to both questionnaires and records-based data collection. Where there are differences (e.g., particularly in how data are collected), some differences are highlighted.

Issues to Consider in Planning the Data Collection Effort

Specify the purpose for the data collection effort

As noted in Chapter 2, data collection can be a useful tool to help organizations address a variety of workforce-related purposes and problems. Focusing on the key purpose for doing data collection and a short list of the problems or questions organizations want to address with the data will become invaluable to the team as it moves forward in its efforts. Since everyone works in an environment of limited resources, organizations will likely find that they need to make numerous trade-offs as they plan for and collect data. Having developed a clear sense of the key problem/purpose and short set of questions to answer will enable organizations to make these trade-offs more easily because they will have set the boundaries for what they will (and will not) do. At a minimum, the key purpose and questions will drive what topics organizations measure and what measures they include.

Answering these questions will help organizations to specify their main purpose for the data collection effort:

- Why are you collecting the information?
- What do you want to learn from the information collected?
- How do you intend to use the information you gain?
- Who are the intended audiences for the results?
- What changes, if any, do you hope to bring about as a result of what you learn?

Answering these questions should help organizations be able to focus on key goals for the effort. Examples of possible goals include:

- To help the organization's management team understand how employees feel about their jobs and about the organization.
- To help the organization's management team see areas where employees may not be satisfied or areas where employees are having problems with the work environment.
- To help the organization's management team see how well a new workplace initiative is doing in improving employees' work experiences and retention.
- To enable HR staff to share information with the employees on a regular basis about employee satisfaction and work experiences.
- To help potential residents/clients and their families see how well the organization does at keeping employees, as a measure of the positive environment it supports.
- To help potential workers see how well the organization does at keeping employees, as a measure of the positive work environment it supports.

Specify the target population for data collection

As noted in Chapter 1, this Guide focuses on DCWs in a variety of settings, including nursing assistants (NAs, CNAs), home health and home care aides, personal care workers and personal care attendants. In many cases, the target population for questionnaires or records-based data collection is an entire group of CNAs, for example.

However, there may be times, depending on an organization's purpose, when it may want to focus on a subset of DCWs. For instance, if an organization wants to see how well a new peer mentoring program is doing in helping keep new CNAs longer, the target population would be new CNAs, rather than all CNAs employed. Organizations may want to track retention rates among the new CNAs. Another target population of interest may be the experienced CNAs who were mentors, and organizations may want to track their retention before and after the program started as well.

Within an organization's target population, it may want to be able to compare between subgroups of workers. For example, it may want to understand whether younger workers differ from older workers in their satisfaction and commitment, or whether workers on different units or at different locations differ in their responses. Organizations will need to see whether they have enough workers in each subgroup to make meaningful comparisons between them. Determining the minimum number of people needed to make appropriate comparisons (while ensuring confidentiality) depends on a number of factors, including the measures used, how big a difference an organization expects there to be between groups, how confident organizations want to be that they will see a subgroup difference in the results if it really exists and having a large enough number of workers to ensure confidentiality. A researcher well-trained in statistics and survey design may help organizations make these decisions.

Once organizations define a target population for data collection, it is important to try to ensure that results that are representative of the larger target population. For example, if the population for a worker questionnaire is all CNAs, then when it is administered in an organization, CNAs on all shifts should know about the questionnaire and the importance of completing it.

Determine project team, budget, and schedule

A data collection effort usually requires a team effort, at a minimum including representatives from the provider organization and persons with research skills to design, implement, and analyze the results. As an organization plans for the data collection effort, it should determine what is available, including staff resources with relevant expertise, financial resources to conduct the data collection, and time to complete the work. All three types of resources may determine what can realistically be done in the data collection effort.

Designing and managing a data collection effort is not simple. To ensure that data collection efforts run smoothly and that organizations are able to handle unexpected problems, it is important to establish a project management strategy early in the effort. This strategy might include specifying what needs to be done, who needs to do it (assignments), and the timing of each task/step. It is also important to address how team members will communicate, clarify expectations for costs and timing, and, perhaps, opt to develop a good working relationship with a researcher and/or data collection vendor.

Two key parts of an effective data collection effort are a clear budget and a realistic schedule. Both will evolve as organizations go beyond the planning phase into the implementation phase. However, keeping the budget and schedule in mind as organizations develop their data collection design may help ensure that plans are feasible within the time and resources organizations have. One way to begin may be to list out the key set of activities involved; each set of activities has budget and schedule implications. Organizations might start with a budget and schedule that they would ideally like to carry out and then adjust as needed. They may also include a cushion for unanticipated costs and build in some time for activities that might take longer than expected.

For budgeting and scheduling purposes, organizations may consider grouping activities into these categories:[2]

- Project planning and coordination
- Consulting with researcher(s)/data collection and analysis vendors
- Instrument design and pretesting
- Developing list of workers on whom to collect information
- Determining strategies to increase awareness about upcoming survey
- Data collection (typically conducted through researcher/vendor)
- Data preparation and analysis (typically conducted through researcher/vendor)
- Dissemination of results to key audiences, including employees
- Developing and implementing ways to use the results to inform workforce improvements (this step contains multiple activities whose cost and budget will depend on what is done)

Examples of the variety of design decisions that will affect schedule and budget include: how many workers organizations will collect information for; how large the audience is for receiving the results; and, whether there is in-house expertise (in-kind contribution) that may be able to conduct some activities versus having to hire a researcher/vendor. If organizations will conduct a survey, additional considerations might include: whether questionnaires will be collected by mail, telephone, or in-person; how long the questionnaire will be; and, how much follow-up effort will be done to increase the number of responses to the questionnaire.

If organizations are collecting records-based information, an additional consideration may be how many measures are to be collected from records (which will affect how much time it will take to collect the information and how much staffing effort is needed to collect the information). Another issue that will affect budget and schedule for records-based data collection is whether records are computerized or paper only. If records are in a computer-readable form, there may be ways to create an electronic data set from the relevant information in records that can be analyzed using either a basic spreadsheet software package (e.g., Excel) or statistical package (e.g., SAS, SPSS). Organizations may choose to talk with their research partner about these issues, preferably someone who has some experience working with records-based information.

Decide whether to include all members of the population or a sample

When collecting data through a survey or records collection, organizations may either collect it from all members of the target population (a census) or from a systematically chosen sample drawn from the full population. Either way, organizations will work with a list of eligible target population members, often called a "frame." When generating a frame, it is important to review it carefully to ensure that the frame is inclusive of all employees who meet an organization's definition of eligible members of the target population while excluding those (e.g., agency staff) who may not meet the definition. It is also important to avoid duplication of the same employee (which can happen if an employee leaves and returns and employment records system counts these changes as two separate records).

Many data collection efforts used today employ a sample because the full population is too large to pursue given the resources available. However, with an employee survey, there may be a real benefit in giving every employee a chance to be heard. Conducting a census conveys an important message to staff -- no one should feel like their employer does not care what they think because they were not surveyed. This is especially true if organizations conduct a periodic staff survey (e.g., yearly), report the results back to staff, and use the results to inform management and work environment changes.

Another benefit of using a census rather than a sample is that organizations do not need to be concerned about "sampling error," a type of error that occurs because the sample drawn does not accurately reflect the target population. There are various types of error that can occur in the process of going from framing the purpose and questions to developing the instrument to developing the frame to drawing the sample to collecting the data to analyzing the data. An "error" in data collection is anything that lessens the ability of a data collection effort to provide an accurate reflection of the population on the measures of interest.

If organizations use a sample, it is important not to use a "convenience" sample, for example giving an employee questionnaire only to those workers on a certain shift or those who happen to be around on a certain day. Organizations can never know whether the findings from a convenience sample represent the larger employee population or not. In contrast, a systematic random sample that gives each member of the population an equal chance of being included in the sample enables organizations to draw a sample that is representative of the target population.[3]

Not having to be concerned with sampling error as one form of error is helpful. However, organizations still need to be concerned about error introduced because the workers who complete the questionnaire are somehow different from the workers who do not. That is why, regardless of whether a sample or census is used, it is critical that management emphasizes the importance of completing the questionnaire and that every effort is made to facilitate workers completing the questionnaire. This will be addressed further in the section below on "For a questionnaire, decide how it will be administered and set the response rate goal."

If organizations have records-based data collection using paper rather than computer records, error can be introduced if the staff collecting relevant information from the records (called "records abstraction") do not do so consistently. Training is an important step for this process.

If organizations have 300 or fewer DCWs in their target population, they might consider using a census. However, if there are more than 300 employees in the frame, organizations may consider using a sample. Organizations may choose to talk with a research partner about the comparative benefits of a sample versus a census and which better fits their situation.

Issues to Consider in Designing the Data Collection Instrument

Decide the topics, subscales, and/or formulas on which to collect information

There are 34 instruments covering 12 topics in this Guide. Nine of these instruments measure four worker outcomes topics based on records-based data collection (i.e., using data organizations may already collect). Twenty-five of these instruments measure eight job characteristics or organizational characteristics topics based on worker questionnaire-based data collection (i.e., requiring new data collection). Given constraints on budget, staffing, and time, and the need to minimize burden on employee respondents to a questionnaire, organizations are unlikely to measure all of these topics.

Using an organization's purpose and key questions or problems to steer them, they may review the topics in Chapter 3 of this Guide with an eye toward which are most relevant to addressing the organization's specific needs for this data collection effort. Once organizations have narrowed down the topics to a subset, they might look at the instruments and measures (subscales or formulas) in selected topics to see which are most relevant to address information needs. Using a team approach can be very valuable in this narrowing down process, since the different perspectives can help clarify core needs and which topics and measures are most appropriate. Especially when creating a questionnaire, it is not uncommon for a team to develop an initial list of measures then realize it needs to be shortened because the questionnaire is too long (burdensome) to ensure that workers will complete it.

For a questionnaire, decide how it will be administered and set the response rate goal

A questionnaire of workers can be administered in a variety of ways (or "modes of data collection"), including self-administered (by mail or in a small group setting), by telephone, in-person, or on-line via the Internet. Organizations may use one mode or multiple modes. For example, it is a common approach when using a mail questionnaire to follow-up with telephone interviews with non-responders, to increase the percentage of people completing the questionnaire (the "response rate"). The choice of mode to use depends on a number of factors including schedule, budget, the reading level and complexity of the questionnaire, and employees' reading and writing skills. There are numerous differences among the modes, but these are some key ones organizations might consider:[4]

Mail mode tends to take longer to complete than telephone, on-line, or group administration modes. In-person (one-on-one) interviews can tend to take longer than telephone, on-line, or group administration, depending on staffing available to conduct the interviews.

- In-person interviewing tends to cost more than the other modes, followed by telephone, mail, and on-line approaches.
- If organizations have workers for whom English is a second language or have concerns about their ability to understand and complete a questionnaire, in-person interviewing or telephone interviewing enables the interviewer to help clarify questions (placing less burden on the worker's reading and

writing skills). However, it is important that interviewers convey the questions as intended, so as to minimize error introduced because of interviewer behavior.

- In-person and group administration modes tend to get higher response rates, followed by telephone, mail, and on-line approaches.
- Workers may feel more obliged to give more positive responses (called "socially desirable" responses) when they are talking with someone, as occurs in interviewer-administered modes of telephone and in-person data collection.

The questionnaire items in Chapter 3 can be used in a self-administered format, where a worker completes the questionnaire on her own. These questionnaire items generally tend to be simple and straightforward with a readability level that is generally within range for someone who has completed high school. Organizations may find different results with their employees. That is one of the reasons why it is important to pretest a questionnaire before administering it to employees larger scale. Workers are the best experts to let organizations know if the questionnaire is understandable or not, as well as in what mode(s) they would prefer to complete the questionnaire.

Another administration issue to consider is whether the survey will be anonymous. That is, workers will not put their names on the questionnaire and there will be no way to link a person's answers with her/him. Some employers do this with their periodic surveys, so that instead of tracking change over time in individual workers, they track change among their workers in general.

One administration approach to consider, especially if the questionnaire will be administered anonymously at a facility, is to administer the questionnaire in a common area over a day or a couple of days. Each worker gets a questionnaire when they get in (across all shifts), they complete the questionnaire at a pre-appointed time in a common area, and then place the questionnaire in a locked box or mail bag (so it does not go to another employee). Providing light refreshments might make the experience more inviting. Employers using this approach tend to have high response rates (nearly 100%), with non-response usually due to absenteeism or scheduling (out sick, days off). One issue to consider in using this approach is whether, even if done anonymously, employees will feel comfortable being completely honest in their responses if required to complete the questionnaire at work in a group setting. Having the locked box or other neutral repository for returning the completed questionnaire might help address this concern.

Response rate is a concern for a well-designed survey because it can affect how representative findings are of a target population. The response rate for a survey is the total number of completed questionnaires (or interviews) divided by the total number of respondents who were selected to be surveyed. The more people who respond from among those whom are surveyed, the more representative findings will be. The more representative the findings, the more confidence organizations may have in using them to inform workforce initiatives.

There are steps organizations can take to help improve response rate. For example, if organizations use mail to administer a questionnaire, here are some steps they may opt to take that have been found to help increase response rates:

- sending an advance letter (this can also work well with a telephone survey)
- following up with a postcard reminder about a week after sending the questionnaire
- sending a second questionnaire packet to non-responders sometime after the initial questionnaire package
- having telephone follow-up to non-responders.

These additional actions obviously have associated costs, so it is important to be clear about the trade-offs being made between cost and response rate. For an employer survey, announcing that the survey is being conducting and having the management team convey the importance of completing the survey can help increase response rate.

Organizations may decide to talk with a research partner about the trade-offs of different modes, realistic and acceptable response rates for their purposes, how they calculate response rate, and what data collection and response rate enhancement approach(es) make most sense for their needs.

Design and pretest the questionnaire

Chapter 3 includes 25 instruments across 8 topics that look at DCW job and organizational characteristics. These instruments contain question wording for many separate subscales among which organizations can choose to include in their own worker questionnaire. While they may choose to use an entire instrument that measures one main topic, organizations need not do so. Organizations might want to review the instruments within the topics they chose earlier (see "Decide the topics, subscales, and/or formulas on which to collect information") and carefully select those subscales that they believe best meet their needs.

Organizations may need to balance their desire to measure a variety of topics with the need to create a questionnaire short enough to be completed by respondents. It is important to include all items in a subscale because the findings on the properties of the instruments reported in this Guide are based on the entire subscales (not individual items within each subscale). If organizations choose to take only some items from a subscale, the properties reported in this Guide (e.g., reading level, reliability, validity) do not apply to the individual items.

Once organizations have chosen subscales, they will need to decide in what order to include them in the questionnaire. Because many of the instruments included in Chapter 3 were simply item wording and response scale wording (rather than a complete ready-to-administer questionnaire), organizations may wish to work with a research partner to ensure that the questionnaire has the following elements:

- an appropriate, brief introduction that is meaningful and understandable to workers and explains how to complete the questionnaire (if self-administered)
- transitional text, as needed, to lead from one section of the questionnaire to others
- correct and understandable skip instructions,[5] if not all respondents are intended to answer all questions
- appropriate formatting of question wording and response scale wording
- correct sequential numbering of questions
- a brief yet compelling cover letter (if self-administered) or interviewer script (if in-person or telephone) conveying the importance of completing the survey and how its results will benefit workers (having the letter come from the CEO/Director or person who is most influential to workers can be beneficial). (Examples of cover letters used by others and other resources for employees considering using survey questionnaires can be found in Appendix D.)

All of the questionnaire items in the Guide are in English only. If organizations will need to translate their questionnaire into another language, they might consider using professional translators who are native speakers of that language. Organizations should make sure that the translation is both culturally and linguistically relevant as well as a true and accurate translation of the English questionnaire. Organizations may ask translators to produce colloquial translations that will be understood by the general public. At the same time, the meaning of the translated questions should be the same as that of the English questions. After the questionnaire has been translated, it is recommended that organizations back-translate it into English. The back-translation is a control mechanism that allows organizations to judge if the translated version is true to the original English questionnaire. One source for professional translation is the American Translation Association directory, which can help organizations identify a translator in their city or county.

Producing culturally and linguistically appropriate research instruments should be viewed as a process. Ensuring an adequate translation is only the first step. Ideally, the translated instrument should be subject to testing to analyze the reliability, validity, and equivalence of the instrument in measuring workers' perceptions.[6] However, such extensive testing is not always possible. Even if organizations cannot conduct testing to examine the reliability and validity of their translated instrument, pretesting the instrument with some workers who speak the language will provide helpful information on how they interpret the questions and whether the translated version of questions has the same meaning as the original English version. Organizations may choose to talk with a research partner about translation issues and how they recommend to proceed, if a questionnaire needs to be translated for workers.

While pretesting requires additional time and resources to conduct, it need not be cumbersome and can provide tremendous benefits in creating a questionnaire that is understandable and likely to be completed by workers. Pretesting is one of the least expensive ways to reduce error in measurement and results.[7] If time is short, organizations can conduct 1 or 2 small focus groups (ideally 6 - 8 workers, but less is okay if that is what is available) with workers. It is better to conduct a couple of small rounds with questionnaire improvements between rounds than one larger round without being able to test changes. Organizations may have workers complete the questionnaire first and then discuss their experiences. They might focus on finding out what workers thought about the questionnaire, what they thought of specific questions, any comments they had about particular questions or words used, the appropriateness of the response scales used for questions, and any thoughts they have on how best to administer the questionnaire.

If organizations have more time, they might consider conducting some one-on-one pretest interviews (sometimes called “cognitive testing”). A one-on-one interview allows organizations to probe on each question and get some more in-depth information on how well individual items are interpreted by workers. When possible, organizations might try to pretest using the mode in which they plan to administer the questionnaire during the full-scale data collection.

For records-based data collection, determine what information organizations need to include in their data set and how it will be obtained

The benefit of using records organizations already maintain (or have another entity maintain, for example as some providers do with payroll records) is that organizations will not have to spend resources on new data collection. However, organizations need to keep in mind that the records are kept to meet a purpose other than their own. Therefore, the information organizations need from the records may not appear in exactly the form needed. In addition, records can contain a good deal of missing information. It is important to understand how good the data in records are for the information organizations need and to think through (perhaps with a research partner, records vendor, and/or data collection vendor) how to get the information needed from the records.

Obtaining the appropriate information from records will be easier if the records are computerized. If they are only available in print form, then staff will need to review the print records and transfer the needed information from the records into a form (often called an “abstraction form”) that can then be used to enter the information into a computerized data set. For both print and computerized records, an important step is to learn which type of information that is needed for the employees is available in the records. For example, for measures of retention and turnover, organizations will want to know the start date for every employee, the type of position they hold (e.g., CNA, LPN, RN), and their status (part-time, full-time).

Teams from the organization will also need to decide what reference period will be used for measuring work outcomes topics. Measures of turnover, retention, vacancies, and illnesses/injuries are all defined in terms of a specific time frame. Such measures often use the calendar as a starting point, but that not need be the case, as long as a consistent reference period is used. For example, if comparing turnover from 2001 to turnover in 2002, organizations will want to use the same 12 month period for each year.

Other issues for organizations to talk about when using records-based data that have been collected for another purpose (e.g., payroll, human resources) include:

- how to handle DCWs who quit and are rehired during your reference period
- how to handle temporary staff
- how to handle staff on a leave of absence
- ensuring that staff who get married and change names are still considered the same person in the records
- deciding how to handle cases (which can often occur in home care) where aides may declare a leave of absence but then never return to work
- deciding to handle situations where home care aides can refuse work for several weeks or pay periods without actually resigning.

Issues to Consider in Collecting Data

Monitor data collection

For the purposes of this Guide, it is assumed that someone other than organizational teams will be collecting the questionnaires and/or the data from records (i.e., the researcher or data collection vendor). In this case, organizations will want to monitor the progress of the vendor. The following tools are especially helpful if the data collection will take place over an extended period (such as with a mail, in-person interview, or telephone survey). This approach is generally used for questionnaire data collection but may also be applied to records-based data collection. These tools can help organizations oversee the monitoring process:

- a project timeline from the vendor that organizations can monitor for adherence to ensure the data collection is proceeding on time
- weekly data collection reports from the vendor (number of completions, including by key subgroups of workers if any, e.g., mentors versus mentees)
- if the data collection runs for over a month, monthly progress reports, which include status of data collection, a cost report to date, and a report of any deviation from the project's response rate goals
- weekly conference calls with the team and the vendor/researcher to discuss the project's status, next steps, problems, and plans to resolve them. This will help keep organizations updated and bring early attention to any potential problems.

Maintaining confidentiality

Just as it is important to protect the private information of residents/clients, it is vital to ensure that individual employees' survey answers do not get linked to their names or work records. Organizations should let employees know that they will protect their confidentiality and that what they say in the survey will never be used against them at work. Clearly explaining how organizations will keep their answers confidential may help increase their likelihood of giving honest responses. Organizations may opt to talk with a research partner/vender to determine how this will be accomplished for the data collection effort.

Issues to Consider in Data Preparation, Analysis, and Use

Identify ineligible questionnaires, code, clean, and enter collected data

If using a data collection vendor or research partner, they will need to conduct several steps to prepare the data received from completed questionnaires from worker surveys or abstraction forms from records-based data collection. These steps include identifying and excluding ineligible cases, coding, data entry, data cleaning (e.g., check for out-of-range values, check for skip pattern problems), and handling missing data. Organizations may talk with a vendor/research partner about all of these steps, how they will handle them given the choice of data collection mode or source of records-based data (i.e., computerized versus print records), and what questions organizations may have about them.

Analyze data and present findings

Questionnaires

All questionnaire items in Chapter 3 that measure DCW job characteristics use a type of response scale called a "Likert scale."[8] The Likert scale is the most common form of an intensity question, where a respondent is asked to rate a concept, event, experience, or situation on a single dimension of quantity or intensity ranging from less to more. Here are examples of the Likert response scales used among the questionnaire items in Chapter 3:

- strongly disagree to strongly agree
- extremely concerned to not at all concerned
- no knowledge to know a lot
- none to a lot
- no confidence to complete confidence
- rarely to very often
- not at all true to extremely true
- very little to very much.

The Likert scales used in these instruments have either five, seven, or 11 points in their response scale. For example, the Role Overload Scale from the Michigan Organizational Assessment Questionnaire (MOAQ) (to measure workload) uses a 7-point Likert response scale, where strongly disagree is assigned a "1" and strongly agree is assigned a "7." Each of the five points in between has its own label.

All subscales in Chapter 3 that measure DCW job characteristics are created in one of two ways -- taking either an **average** or a **sum** of the scores of everyone on the items in the subscale. Appendix A provides simple scenarios that provide examples of how to score results from employee surveys. One example includes a single topic questionnaire and the other shows how to score across different subscales.

When using different subscales, it may be sufficient to only look at how workers score on each of the subscales of interest. However, organizations may also want to look at whether there is a relationship between measures. For example, do empowered workers show greater commitment? There are a number of ways that this can be examined, depending on the skills and resources of the team member(s) doing the analysis. For example, with Likert response scales organizations can look at a measure of association statistic such as a correlation.

The "Pearson product-moment correlation" (or "Pearson's R") is the most commonly used measure of correlation. It ranges from -1.0 (strong negative relationship where the value of one measure goes up as the other goes down) to + 1.0 (strong positive relationship where the value of one measure goes up as the other goes up). A correlation of .55 indicates a stronger relationship than a correlation of .25. A value of 0 means that there is no relationship between the two measures. In the example given, this would mean that an employee's sense of empowerment has no relationship to their sense of commitment to their employer. Organizations may choose to talk with a research partner about which statistics would be appropriate to analyze results.

If organizations have subgroups of interest (e.g., new workers and experienced workers, different units of a facility, different facilities within a multi-facility provider), it may be valuable to compare their scores on selected measures to see the extent to which there are differences.

Records

Just as worker questionnaires are used to collect information at the worker level, so records-based information can be collected at the worker level. In both cases, information at the worker level can be examined at the organizational level (i.e., "aggregated"). For example, organizations can find out from employee records when each DCW started with the organization. This can be used to develop a measure that shows how long each employee has been with the organization as of a certain date. Organizations can then average (summarize across) DCWs to find out what percentage of workers in the organization have been with them less than three months as of a certain date. Alternatively, organizations can see what the average length of time is for DCWs in them. This can be helpful if organizations decide that one of their goals is to increase the average length of employment among DCWs (as a measure of retention).

An advantage of obtaining both survey results and records-based information at the individual worker level is that both types of data can be included in the same data set. That way, organizations can look at the relationship between records-based and survey-based measures (e.g., empowerment and turnover).

The analysis discussion above for questionnaires applies also for analyzing records-based data. Organizations may decide to talk with a research partner about which statistics would be appropriate to analyze results.

Most of the results organizations report to their team (both survey- and records-based) will likely be in the form of frequencies and percentages, arranged by measure or subscale. If organizations are using data collection as a tool to benchmark performance or to evaluate a particular initiative, it can be helpful to display this information over time in the form of bar or line graphs. Organizations may opt to consult with their team on the best way to present the findings in a way that is easy for the audience(s) to understand and use for decision making. Organizations may also include a brief methods section describing any issues the team should be aware of on how the date were collected, prepared, or analyzed.

Decide how to use the data to answer questions and next steps

Return to the organization's key purpose, goals, and problem/questions. As a team, organizations may think about how the results can help answer questions or begin to develop an action plan to address the problem. If organizations are benchmarking, they may look at the direction of the measures -- are they improving, maintaining the course, or is it time to take some action (and what will that be)? If they are trying to understand what DCWs think about their jobs, their supervisors, and/or their employer, what have organizations found? Is there room for improvement? Do the findings suggest that there are particular aspects of the workplace or jobs that could be targeted for change? What type of change might be needed?

If organizations are evaluating the effect of a new way of doing things to improve the workplace, how well did it do? Did it result in improvements in the outcomes they selected to measure (e.g., reduced turnover, increased retention) or workers' perceptions of their jobs that they surveyed (e.g., empowerment, satisfaction, commitment)? If so, organizations should gain greater confidence that the initiative they are pursuing is worthwhile and worth investing in (or worth repeating in other locations). If not or, if often occurs, the results are mixed, organizations might see if can figure out what happened.[9] Are there aspects that should be tweaked or is this initiative just not worth pursuing further?

While the data cannot tell organizations what steps to take in response to the findings, data collection is a valuable tool in helping them see where they are and how they are doing along their path toward workforce improvement in the organization.

Notes

1. The terms "researchers" and "data collection vendors" are used throughout this chapter because it is assumed that most providers will work with such partners in their data collection and use efforts.
2. This section on budgeting and scheduling is excerpted from "Chapter 2: Preparing for a CAHPS® Health Plan Survey," from the *CAHPS Survey and Reporting Kit 2.0*, developed by Westat, Rockville, MD.

3. For more information on sampling, Chapter 2 of *Survey Research Methods*, 2nd edition, by Floyd J. Fowler, Jr. (Sage Publications, Newbury Park, CA; 1993), provides a good overview of a variety of sampling issues and the relationship between sample size and the precision of results.
4. Chapter 4 (pages 64 – 67) of *Survey Research Methods*, 2nd edition, by Floyd J. Fowler, Jr. (Sage Publications, Newbury Park, CA; 1993), provides a nice summary comparison of the potential advantages and disadvantages of in-person interviewing, telephone interviewing, mail questionnaires, and group administration.
5. Skip instructions are directions used in self-administered questionnaires to direct respondents where to go next in the questionnaire. Skip instructions are used when, based on a particular response, not all respondents should go to a subsequent set of questions. For example, say one has a questionnaire for DCWs and they want to ask workers who have been with them for at least three months the main reason why they have stayed while they do not ask that of workers who have been with them less than three months. Those DCWs who answer question #1 about how long they have been with them by choosing "less than 3 months" should follow the direction (usually written to the right of the response category) to "GO TO QUESTION 3" because they should not answer question 2 asking why they have stayed this long. Part of data cleaning is to determine whether a respondent should have skipped but did not or should not have skipped but did, and correct for this in the data where possible.
6. This section on questionnaire translation into other languages is excerpted from "Article 6: Guidelines for Translating CAHPS® into Other Languages," from the *CAHPS Survey and Reporting Kit 2.0*, developed by Westat, Rockville, MD. If you have any questions about this section, please contact their SUN Help Line at 800-492-9261 or via e-mail at cahps1@westat.com.
7. *Survey Research Methods*, 2nd edition, by Floyd J. Fowler, Jr. (Sage Publications, Newbury Park, CA; 1993).
8. The Nursing Home Adaptation of the Competing Values Framework (CVF) Organizational Culture Assessment, an instrument in Chapter 3 that measures organizational culture, does not use a Likert scale and is not analyzed in the same way as the other instruments. Respondents assign a total of 100 points among four types of nursing homes in each of six sets of questions. The summary chart for this instrument in Chapter 3 describes how the results are to be analyzed.
9. Using focus groups or in-depth interviews with staff may help shed light on how an initiative was implemented. This qualitative information can be a good complement to the quantitative findings from surveys or records-based data.

APPENDIX F: READY MADE MULTI-TOPIC SURVEY INSTRUMENTS

This appendix is also available as a separate PDF File.

Appendix F contains multi-topic survey instruments developed expressly for LTC DCWs from many tested survey instruments (such as those included in Chapter 3). These instruments do not meet criteria for inclusion in Chapter 3, however, because they have not yet been tested for reliability and validity. The multi-topic survey instruments included in this Appendix are:

1. Better Jobs Better Care Survey of Direct Care Workers
2. National Nursing Assistant Survey (NNAS) Nursing Assistant Questionnaire

Better Jobs Better Care Survey of Direct Care Workers

Better Jobs, Better Care (BJBC) is a 4-year, $15.5 million program funded by The Robert Wood Johnson Foundation and The Atlantic Philanthropies, and is managed by a national program office at the Institute for the Future of Aging Services/AAHSA. The goal of the program is to promote changes in policy and workplace practices that will improve recruitment and retention of direct care workers -- nursing assistants, home health aides and personal care attendants -- in the long-term care field.

Five demonstration grants were awarded under the program to lead agencies in five states, on behalf of coalitions of long term care providers, consumers and workers. Each grantee is undertaking a variety of policy and workplace change initiatives designed to improve the recruitment and retention of direct care workers in their state. To maximize what can be learned from these demonstration programs, the Foundations have committed funds for a three-and-a-half year evaluation by researchers at Penn State University. The evaluation is designed to:

1. document and analyze the implementation of Demonstration activities across the five states, articulate the successes and challenges encountered, and provide formative feedback to the lead agencies; and,
2. assess the impacts of policy and practice changes on job turnover and retention, quality of DCWs' jobs, and workers' perceptions of quality of care.

The evaluation is intended to draw lessons on successful implementation for the benefit of states and provider organizations that want to improve DCW's jobs through policy and practice changes. In addition, it will provide evidence on the effectiveness of the provider practice changes that will be tested by the demonstration. The evaluation will rely on information from a variety of sources, including: site visit and telephone interviews with coalition members and provider organizations; employee hiring and termination MIS data; and surveys of DCWs and managers of clinical services (e.g., the Director of Nursing in a nursing facility) of provider organizations.

The self-administered survey included in this Appendix is the instrument to be given to DCWs through BJBC program evaluations to get their perceptions of their jobs and work environment. Please note that this instrument is a Microsoft Word version of the scannable instrument being used for the BJBC evaluation; thus, instructions within the survey instrument are relevant to a scannable form (e.g., "fill in the appropriate circle, etc.). If organizations use subscales from this instrument, they will need to reformat the items for their purposes. For example, organizations can change instructions currently relevant for the scannable instrument to meet their needs (e.g., "circle the appropriate response").

For more information on the Better Jobs Better Care program, visit www.bjbc.org.

Survey Items

1a. How long have you worked as a direct care worker?

__________ years _____________months

1b. How long have you worked as a direct care worker for this employer?

__________ years _____________months

2. Overall, how satisfied are you with your job?

1-Extremely satisfied
2-Somewhat satisfied
3-Somewhat dissatisfied
4-Extremely dissatisfied
5-Don't know

3. Think about your job right now. Fill in the circle that best indicates how much, if at all, each of the following is a rewarding part of your job. Is it not at all rewarding, somewhat rewarding, very rewarding, or extremely rewarding?

	Does not apply to my job	**Not at all rewarding**	**Somewhat rewarding**	**Very rewarding**	**Extremely rewarding**
a. Helping others is...		1	2	3	4
b. Being able to work on your own is ..		1	2	3	4
c. Getting credit for your work is...		1	2	3	4
d. Finding your work interesting is...		1	2	3	4
e. Liking your coworkers is...		1	2	3	4
f. Making a difference in other people’s lives is...		1	2	3	4
g. Feeling a sense of accomplishment and competence from doing your job is...		1	2	3	4
h. Having your job fit your skills is...		1	2	3	4
i. Having the chance to learn new things is...		1	2	3	4
j. Being valued by supervisors and management is...		1	2	3	4
k. Being needed by others is...		1	2	3	4
l. Having the power you need to get your job done without getting permission from someone else is...		1	2	3	4
m. Having a lot of different things to do is...		1	2	3	4
n. Getting support from coworkers is...		1	2	3	4
o. Having your job fit your interests is...		1	2	3	4
p. The income you earn is...		1	2	3	4
q. Being valued by residents or clients and their families is...		1	2	3	4
r. Having the freedom to decide how to do your work is...		1	2	3	4
s. The team spirit in your work group is...		1	2	3	4

4. Continue thinking about your job right now. Indicate how much, if at all, each of the following is a problem or concern in your job. Is it not at all a problem, somewhat a problem, a big problem, or an extremely big problem?

	Not at all a problem	**Somewhat a problem**	**A big problem**	**An extremely big problem**
a. Having too much work to do is…	1	2	3	4

b. Having to deal with emotionally hard situations is…	1	2	3	4
c. Not having support from your supervisor in your job is…	1	2	3	4
d. Finding your job boring or doing too much of the same thing is…	1	2	3	4
e. Having your job take too much out of you is…	1	2	3	4
f. Having little chance to get promoted is…	1	2	3	4
g. Dealing with unrealistic expectations from your supervisor for your work is…	1	2	3	4
h. Not having the job use your skills is…	1	2	3	4
i. Catching an illness is…	1	2	3	4
j. Not having the chance to develop job skills is…	1	2	3	4
k. Not being valued by your supervisor for your work is…	1	2	3	4
l. Being on your own too much is…	1	2	3	4
m. Getting hurt is…	1	2	3	4
o. The physical conditions (equipment, temperature, smell, etc.) at your job is…	1	2	3	4
p. Not having enough help when you need it is…	1	2	3	4
q. Facing difficulties because of your race or ethnic background is…	1	2	3	4
r. Facing difficulties because of your sex is…	1	2	3	4
s. That your supervisor is not good at her job is…	1	2	3	4
t. That the job is physically hard is…	1	2	3	4
u. The time it takes to get work is…	1	2	3	4

5. Please think about your direct supervisor. Indicate if you strongly disagree, somewhat disagree, somewhat agree, or strongly agree with each statement.

	My supervisor...	**Strongly disagree**	**Somewhat disagree**	**Somewhat agree**	**Strongly agree**
a.	provides clear instructions when assigning work.	01	02	03	04
c.	listens to me when I am worried about a resident's or client's care.	01	02	03	04
d.	supports direct care workers working in groups or teams with other health care workers such as physical therapists, dieticians, RNs, LPNs or other nurses	01	02	03	04
e.	disciplines or removes other direct care workers who do not do their jobs well or their share of the work.	01	02	03	04
f.	tells me when I am doing a good job.	01	02	03	04
g.	gives me useful criticism to help me improve my work	01	02	03	04
h.	is interested in my development in my job.	01	02	03	04

6. In general, are you encouraged by supervisors to discuss the care and well-being of residents and/or clients with their families?

Yes
No

7. Please indicate the degree to which you agree with the following statements by filling in the appropriate circle.

		Not at all agree	**Agree Somewhat**	**Agree a great deal**
a.	My supervisor respects me as part of the health care team?	01	02	03
b.	Residents or clients respects you as part of the health care team?	01	02	03
c.	Residents' or clients' families respects you as part of the health care	01	02	03

	team?			

8. For each statement, please indicate if you strongly disagree, somewhat disagree, somewhat agree, or strongly agree.

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
a.	I have learned the skills necessary to do my job well.	01	02	03	04
b.	I have the opportunity to work in teams	01	02	03	04
c.	I am confident in my ability to do my job	01	02	03	04
d.	I could get a job that paid more than this job.	01	02	03	04

9. The following is a list of training program topics that are sometimes offered by employers. Please indicate whether or not you have attended each of the following program topics in the past 2 years as part of an inservice or formal training program offered by your employer. If you attended the program, please indicate how useful the program was to you by filling in the appropriate circle.

	Offered at your workplace?		If yes, how useful was it??			
	Yes	No	Not at all useful	Somewhat useful	Very useful	Extremely useful
a. resident or client care skills such as helping with bathing, eating, dressing.						
b. specialized clinical training such as caring for bed sores, pain management, incontinence.						
c. communicating with residents or clients						
d. communicating with coworkers						
e. working with residents' or clients' family members						
f. working with supervisors						
g. recording residents' or clients' information						
h. organizing your work tasks.						
i. how to mentor other direct care workers?						
j. how to work in teams.						
k. Dealing with problems at work.						
l. Dealing with personal problems outside of work such as money management, parenting skills, etc.						
l. other (Please specify in the box below) ____________________						

10. How likely is it that you will leave this job in the next year?

    1. Very likely
    2. Somewhat likely
    3. Not at all likely

11. How often do you think about quitting?

    1. All of the time
    2. Some of the time
    3. Rarely
    4. Never

12. When you think about your job as a direct care worker, do you view it as:

A short-term job
A long-term career

13. Is your employer currently doing anything out of the ordinary to improve your job or to encourage direct care workers to keep working there?

Yes
No
Don't know

14. What is the single most important thing your employer could do to improve your job as a direct care worker?

____

15. If a friend or family member needed care and asked your advice about getting care from the place where you work, would you…

Definitely recommend it
Probably recommend it
Probably not recommend it
Definitely not recommend it

16. If a friend or family member asked your advice about taking a direct care worker job at the place where you work, would you…

Definitely recommend it
Probably recommend it
Probably not recommend it
Definitely not recommend it

17. In your current job with this employer, what is your hourly wage?

$________ per hour

18. Do you receive health insurance through this employer?

Yes, I receive health insurance through my employer
My employer offers health insurance to me, but I am not enrolled.
My employer does not offer health insurance to me

19. Do you currently work for pay at another job as a direct care worker?

Yes
No

20. What is your age?

Less than 25 years old
25-34
35-44
45-54
55-64
65 and older

21. What is your sex?

Female
Male

22. Did you earn a high school diploma or GED?

Yes
No

If yes, what is your highest level of education?

High School or GED
Some college/trade school
College graduate or post-college

23. Please indicate your race/ethnicity (choose all that apply)

White
Hispanic or Latina/Latino
African American or Black
American Indian or Alaska Native
Asian
Native Hawaiian or Pacific Islander
Other ___________________________

24. On your current job, have you ever been discriminated against because of your race or ethnic origin?

Yes
No

National Nursing Assistant Survey (NNAS) Nursing Assistant Questionnaire

The National Nursing Assistant Survey (NNAS) represents the first time the government -- through the Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation (ASPE) -- will collect data on a nationally representative sample of CNAs. The goal of the survey is to provide a “landscape” of CNAs and their perceptions on benefits, the impact of training and supervision, nature of their work, the work environment and employment history.

The NNAS was first fielded in June 2004 in conjunction with the National Center for Health Statistics (NCHS) National Nursing Home Survey. The goal is to survey a sample of 3,000 nursing assistants from approximately 700 participating nursing facilities. From this survey, ASPE hopes to get valuable information to improve the recruitment and retention of nursing assistants across the country.

Through pretesting, it was found that the survey instrument included here is difficult to self-administer. It was determined that the instrument be administered best via computer-assisted telephone interviewing (CATI); therefore, it is presented in the CATI format. *Survey Items*

Survey Items