Developing and Implementing a Survey to Determine Employer Satisfaction With Care Provided to Injured Workers

by Debbie F. Buck, DNP, RN, APN, C, and Ann L. Curley, PhD, RN

Satisfaction surveys have become the primary means of evaluating perceptions of quality in the health care industry, including occupational health services. In occupational health, nurses need to know not only if injured workers are satisfied with their care, but also if injured workers’ employers believe health care provided to their workers was satisfactory. One problem is the lack of published surveys addressing issues relevant to occupational health services. The authors describe how a satisfaction survey was developed to understand employers’ satisfaction with the care provided to injured workers. The Theory of Self-Administered Questionnaire Design, a previously used survey, and input from multiple sources were used to develop the survey tool.

Quality of care has become a central issue in occupational health services because of the rise of managed care and cost containment (Hulshof, Verbeek, van Dijk, van der Weide, & Braam, 1999; Kujala & Vaisanen, 1997; van der Weide, Verbeek, & van Dijk, 1999; van der Weide, Verbeek, van Dijk, & Hulshof, 1998). Satisfaction with services is a key component when measuring the value of services and quality of care (Avis, Bond, & Arthur, 1997; Cohen, Forbes, & Garraway, 1996; Forbes & Brown, 1995; Grogan, Conner, Norman, Willits, & Porter, 2000; Hjortdahl & Laerum, 1992; Rogers, Winslow, & Higgins, 1993; Sitzia & Wood, 1997; Spooner, 2003; Ware, Wright, Snyder, & Chu, 1975; Williams, 1994).

Occupational health is a unique form of care delivery. Plomp (1999) identifies the roles of the occupational health provider as expert, counselor, and mediator. It is the mediator role that makes occupational health unique, as that role requires balancing what is best for workers with the interests of employers (Plomp, 1992; Pransky, Benjamin, & Dembe, 2001; Pransky & Himmelstein, 1996; Verbeek et al., 2001). Measurement of employers’ satisfaction with services has become a necessary indicator of success for the first author’s occupational health department to demonstrate the benefits of the department to the corporation and to maintain active contracts with outside companies. The survey that was previously used to assess employer satisfaction did not provide sufficient information and had poor return rates. Because no satisfaction surveys appropriate for employers of injured workers were identified during a literature review, it was determined that a new survey tool needed to be developed to adequately assess employer satisfaction with services. The ultimate goal was to use the information from the survey to improve services.

STATEMENT OF PURPOSE

The first author’s occupational health department (subsequently referred to as VAW) uses employee satisfaction surveys to evaluate injured workers’ perceived quality of care. However, this survey did not address employers’ satisfaction with care provided injured workers. A solution was found by offering satisfaction surveys not only to injured workers...
Studies that use concepts from the Theory of Self-Administered Questionnaire Design can be useful in guiding development of health care-related surveys (Beebe, Stoner, Anderson, & Williams, 2007; Hing, Schappert, Burt, & Shimizu, 2005; Jenkins & Dillman, 1995; Leece et al., 2004; McMahon et al., 2003; Mullner, Levy, Byrne, & Matthews, 1982; Norman, Friedman, Norman, & Stevenson, 2001; Peytchev, Couper, McCabe, & Crawford, 2006; Raziano, Jayadevappa, Valenzuela, Weiner, & Lavizzo-Mourey, 2001; Sanchez, 1992; Schaefer & Dillman, 1998; Tourangeau, Couper, & Conrad, 2004). These studies reveal that when developing a survey, it is beneficial to create short and easy-to-read questions, use a format that appears quick and easy to complete, keep the survey short, and make electronic surveys easy to access, navigate, and return. These concepts were applied in developing the survey tool for this project.

SURVEY TOOL Design
Several concepts from the Theory of Self-Administered Questionnaire Design were used to develop the survey for this project. Graphic language was incorporated through the use of short questions, in a logical order, with mutually exclusive answers. Visual concepts included limiting the number of questions, using a single page with a linear...
interrupted format common in English text, and providing a top-down progression. Motivational considerations included a survey that required little investment of time and effort, the use of check boxes, and the clear description of the contents and how the survey could benefit responders. Navigation was demonstrated by an easily accessed, electronically delivered hyperlink to the survey and check boxes for ease in answering. Moreover, the survey used a horizontal Likert scale to portray continuity in response choices.

Concepts from the Theory of Self-Administered Questionnaire Design also impacted wording and the order of the questions through eliminating health care jargon, using positively worded questions, and placing questions in a meaningful sequence. Multiple sources were used in determining question content; the primary source was the original five-question, paper-and-pencil survey. Employee and client satisfaction surveys found during the literature review also influenced question wording. Tentative questions were developed using these sources. Experts in survey design were then consulted and questions were modified based on their input. A final step was to have 10 potential responders review the questions. The comments from potential responders were favorable. Most stated that they felt the questions captured issues relevant to their satisfaction with occupational health services. The result was a single-page survey that included seven scaled check box questions and one open-ended question (Sidebar).

Validity

A survey tool is of little value without evidence of validity and reliability. For a survey to be valid, it must actually measure what it claims to measure (Boyonnt & Greenhalgh, 2004; Fitzpatrick, 1991; Grogan et al., 2000; Pransky et al., 2001). Validity is always a concern with satisfaction surveys because they attempt to measure opinions, which are susceptible to feelings, attitudes, and perceptions. Although opinions are indicators of quality (Blumenthal, 1996; Forbes & Brown, 1995), assigning a value to an opinion is difficult because responders may be reluctant to reveal their thoughts (Donabedian, 1988). Other factors, such as past experiences, communication skills, and simply having a bad day, can influence the opinions of responders. In addition to the subjectivity of opinions, response bias can also influence validity. Response biases can include a belief that positive responses are socially desirable, fear of unfavorable treatment in the future, self-interests, the Hawthorne effect, and poor return rates (Brathwaite, Emery, de Lusignan, & Sutton, 2003; Davies & Cleary, 2005; Eysenbach & Wyatt, 2002; Leece et al., 2004; Sitzia & Wood, 1997; Spooner, 2003). Validity of surveys should be examined because uncontrollable factors can affect survey validity, including subjectivity and other biases.

Two basic methods are used to evaluate validity (Etter & Perneger, 1997; Sitzia, 1999; Wensing & Elwyn, 2003). The first method, construct validity, aims to confirm that the survey items and format are appropriate. Construct validity uses a theoretical construct to test validity (Fitzpatrick, 1991; Grogan et al., 2000; Sitzia, 1999; Wilson, Hewitt, Matthews, Richards, & Shepperd, 2006). This study applied constructs from the Theory of Self-Administered Questionnaire Design in developing the survey tool. The second test of validity demonstrates the extent to which survey results are accurate. Accuracy of results can be tested using criterion validity or content validity. Criterion validity compares the results of the new survey with those from an existing survey that measures the same concept or content and has previously accepted validity. Criterion validity could not be assessed in this project because no surveys with previously accepted validity could be found. Another method of testing validity is content validity. In this project, content validity was demonstrated by using multiple sources to guide question selection and wording (Cohen et al., 1996; Dufrene, 2000; Kyes, Franklin, & Weaver, 1997; Plomp, 1992; Pransky et al., 2001; Verbeek et al., 2005). These sources included the previously used paper-and-pencil survey, potential users, and experts in the field. Using multiple sources to evaluate the survey questions provided content validity for the tool.

Reliability

Reliability is a measure of consistency, or that the questionnaire produces the same results on repeated use (Boyonnt & Greenhalgh, 2004; Grogan et al., 2000). One technique to evaluate reliability is called “test-retest” reliability (Fitzpatrick, 1991; Forbes & Brown, 1995; Pransky et al., 2001; Stone, 1993; Wensing & Elwyn, 2003; Wilson et al., 2006). Evaluating the results from the initial series of surveys in December, January, and February with the follow-up survey in June gives an indication of test-retest reliability. Examining variation in responses to each question in a survey can also be used as a measure of reliability (Grogan et al., 2000). For this project, a comparison of the means, standard deviations, and percent responding that they agreed with each question was made on a monthly basis (Tables 1 and 2). Reliability was further demonstrated in this study by using a reliability coefficient. Cronbach’s alpha compares the variance in responses to each question with the variance in the responses from each responder to demonstrate internal reliability of the survey questions. An alpha coefficient of 0.7 is generally accepted as demonstrating internal consistency of a tool (Boyd, Huang, Jiang, & Klein, 2007; Boyer, Francois, Doutre, Weil, & Labarere, 2006; Bredart et al., 2002; Cronbach, 1951; Etter & Perneger, 1997; Kyes et al., 1997; Verbeek et al., 2005). In this study, Cronbach’s alpha was calculated to be 0.78% in the December through February surveys and 0.76% in the June survey. Validity and reliability are necessary for the results of a survey tool to have credibility in the academic and pro-
Business and Leadership

Our records indicate that you recently had an employee use this clinic for the treatment of a work-related injury. We would like to know how you feel about the services we provided so we can make sure we are meeting your needs. Your responses are directly responsible for improving these services. All responses will be kept confidential. Thank you for taking the time to answer these questions for us.

Please answer the following by clicking in the box.

<table>
<thead>
<tr>
<th>Question</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>No Opinion</th>
<th>Somewhat Agree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Your employee was scheduled for his or her initial appointment in a timely manner.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. You received a copy of the duty restrictions after each office visit.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Any questions or concerns you had regarding your employee's work restriction were answered.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Your employee was returned to full duty within the time frame that you expected.</td>
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<tr>
<td>5. To the best of your knowledge, your employee was satisfied with the care he or she received.</td>
<td></td>
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<tr>
<td>6. Overall you are satisfied with the services provided to your employee.</td>
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<td></td>
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<tr>
<td>7. I like receiving an electronic survey more than receiving a paper survey.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Enter any comments in the box to the right.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

If you have any questions, please call:

Before implementing the survey, a benchmark was established against which results could be compared. No published studies on employer satisfaction were found, but studies on workers’ satisfaction with occupational health services reported satisfaction rates between 25% and 82% (Kujala & Vaisanen, 1997; Kyes et al., 1997; Plomp, 1999; Rogers et al., 1993; van der Weide et al., 1999; Verbeek et al., 2005). Based on these findings, it was determined that a benchmark satisfaction rate should be 80%. Administration and the researchers jointly decided that a benchmark of 80% was both reasonable and in alignment with the strategic goals of the organization. It was necessary to establish a benchmark prior to commencement of the survey to reduce potential bias in identifying areas for improvement. Because no established internal benchmark existed and no standard benchmark could be found, published results from studies on employee satisfaction with occupational health services were used to guide this decision. Survey questions with responses below 80% would be targeted for potential improvement. A minimum number of surveys necessary for results to be viewed without skepticism was also ascertained. A power analysis was calculated indicating that a sample size of 19 was required ($\alpha = 0.05$, $1-\beta = 0.90$). Because return rates were also a concern with satisfaction surveys and to increase confidence in the results, a return rate of 70% was set as the goal for this project (Eysenbach, 2004; Wensing, 2000). With the completion of the new survey tool, power analysis, and response benchmarks, the next step was to implement the survey.

After an injured worker’s final visit, the employer’s human resource or employee health representative was contacted to obtain an e-mail address. This person was identified as the survey responder, and is subsequently referred to as the responder. The survey was sent electronically to each responder after a worker completed treatment for an injury. Responders completed the survey using a hyperlink to SurveyMonkey (www.surveymonkey.com/Default.aspx). Surveys were faxed or sent by traditional mail if responders did not have access to electronic mail or if they requested an alternative method. Reminders with the survey attached were sent to responders who did not return the survey 1 week, 2 weeks, and 4 weeks after the initial survey was sent. At the end of the fourth week, if no response was received, the responder was consid-
ered a nonresponder. Surveys were offered to the employee representatives for all companies with worker injuries that were closed from December 2008 through February 2009. If an employer had more than one injured worker’s case closed in a single month, the survey was sent only after the first case was closed. If the employer had an injured worker’s case closed the next month, a second survey was sent. Similarly, if an injured worker’s case was closed in all 3 months, then the responder received a third survey. The survey was repeated in June 2009. Surveys were offered to all employers that had a worker’s injury closed in June 2009, including those that had been previously surveyed. All three clinics in this department were included in the study.

**Survey Responders**

To protect client confidentiality, no worker identifiers were attached to the surveys. A responder identification number was coded into each survey. The primary investigator generated a responder list to track which surveys were returned so that reminders could be sent. The primary investigator maintained this list in the health system database. This list contained the responder identifier number, the e-mail address of each responder, the dates when surveys and reminders were sent, and the date that a response was received. Only the investigator could access the list through a unique password.

Surveys were sent to 108 companies in December, 97 companies in January, 112 companies in February, and 107 companies in June. A total of 17 companies declined to receive a survey, reporting they were not familiar with either the employee or the services received. Survey responses were extracted from the returned surveys and entered into a spreadsheet. An operations research engineer assisted in statistical analysis of the data, but no worker or responder identifiers were attached to this information.

**RESULTS**

Sending the survey immediately after the injury, using an electronic format, and improving the survey content did result in improved return rates. Return rates for the past surveys were 20% and 30%. Return rates on electronic surveys in this study were 88% in December, 84% in January, 81% in February, and 82% in June. A one-tailed sampling distribution was calculated using a Z-test ($\alpha = 0.05$). A Z-test compares the $z$-score for the sample mean with the critical $z$-score. The critical $z$-score in this project was 1.645; the $z$-score was 15.6 for December, 13.99 for January, 13.83 for February, and 17.83 for June. Each of these $z$-scores was greater than the critical $z$-score, demonstrating a significant increase in response rates each month. Increasing return rates improved reliability and confidence in the results.

Satisfaction with services was assessed using a 5-point Likert scale. Responses were calculated as percent of responders reporting they highly agreed with the question. Mean satisfaction scores and standard deviations were calculated monthly for each question (Table 1). The difference in the mean satisfaction scores and standard deviations of each question was not statistically significant when compared by month. Nor was there a statistically significant difference in responses between the initial series of surveys and the follow-up survey in June (Table 1). This coupled with the Cronbach’s alpha of

<table>
<thead>
<tr>
<th>Question Number</th>
<th>December</th>
<th>January</th>
<th>February</th>
<th>June</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>SD</td>
<td>0.52783</td>
<td>0.75509</td>
<td>0.88855</td>
<td>1.0446</td>
</tr>
<tr>
<td>SD</td>
<td>0.68700</td>
<td>0.74469</td>
<td>0.48973</td>
<td>0.99191</td>
</tr>
<tr>
<td>SD</td>
<td>0.24043</td>
<td>0.86488</td>
<td>0.90014</td>
<td>0.91249</td>
</tr>
<tr>
<td>SD</td>
<td>0.09126</td>
<td>0.45687</td>
<td>0.32821</td>
<td>0.98408</td>
</tr>
</tbody>
</table>
0.76 demonstrated reliability of the survey tool.

Satisfaction scores were calculated based on the number of responders reporting that they highly agreed with the question (Table 2). Responders indicated being most satisfied with scheduling injured workers for their initial appointment in a timely manner. Responders indicated being least satisfied with returning injured workers to full duty within the time frame they expected. This was one of two questions that fell below the department benchmark of 80% satisfaction. The other question that fell below the benchmark was if the employer felt injured workers were satisfied with services provided to them. Responses to the remaining questions indicated greater than 80% satisfaction. Overall satisfaction with service scores were above the 80% goal. Other questions regarding scheduling appointments, receiving duty restriction, and having questions or concerns about duty restriction answered were also above the benchmark 80%. These scores are encouraging and indicate that outside companies that use VAW for management of injured workers are satisfied with the services they receive.

**DISCUSSION**

The goal of this portion of the project was to develop a survey that could be used to measure employer satisfaction with the care provided to injured workers by an outside group of clinics. The information gained from the surveys will be used to identify potential areas for service improvement. It was also determined that distributing the survey electronically would increase the response rate. A survey was developed using multiple sources and concepts from the Self-Administered Questionnaire Design model. The result was a seven-question survey accessed through an electronically delivered hyperlink. The goal was to develop a survey that would provide more meaningful data with sufficient return rates so the information could be used to improve the quality of services. Return rates were significantly improved, as evidenced by the higher z-score for each month than the critical z-score. In measuring satisfaction, a score of 80% was established as the benchmark for this project. Two questions fell below this benchmark: the responder believed the injured worker was not returned to full duty in the time frame the responder expected and the responder believed the injured worker was not satisfied with services. This department followed published guidelines in setting duty status for injured workers (Glass, 2004). It is a department priority to return injured workers to full duty as soon as safely possible. On the basis of department goals and the survey results, this department targeted returning injured workers to full duty within the time frame expected as an area for potential improvement. Efforts to improve services focused on better aligning return-to-work expectation with what is safe and therefore most beneficial to the injured worker, coworkers, and employers. This concern will be addressed by educating employers on return-to-work guidelines and the benefits of providing and adhering to modified duty status.

**IMPLICATIONS FOR PRACTICE**

In the past decade, occupational health has joined the healthcare industry in the quest for quality and cost containment (Hulshof et al., 1999; Pransky & Himmelstein, 1996). Despite some shortcomings, customer satisfaction surveys remain the primary means of evaluating quality of healthcare services. Wensing (2000) states, “Evidence-based medical care makes no sense if patients’ preferences are ignored” (p. 201). More specifically, occupational health clinicians can assess quality of care through satisfaction surveys. Results of satisfaction surveys reveal the level of the department’s success in meeting the needs of clients. These results can assist the organization in identifying areas in which services can be improved. Providers of occupational health services must understand the level of satisfaction of injured workers’ employers to identify if employers’ needs are being met and to secure their business in a competitive market. An additional benefit of survey results is their use in demonstrating the value of the occupational health department.
IN SUMMARY

Developing and Implementing a Survey to Determine Employer Satisfaction With Care Provided to Injured Workers

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1 A satisfaction survey that asks appropriate questions, is accessible electronically, and is quick and easy to complete can provide return rates that permit responses to be viewed with confidence. The validity and reliability of the survey must be established.

2 A valid and reliable survey with a response rate of at least 70% will enable an occupational health department to identify how services fall short of client needs and expectations.

3 Survey results can be used to improve quality and promote the occupational health department.

Relationships between occupational health services and outside companies can be strengthened by improving companies’ satisfaction with services. Understanding satisfaction is an indicator of quality. As a first step in improving the quality of services, this occupational health department sought to understand the level of satisfaction that employers had in the treatment of their injured workers. Blumenthal (1996) states, “the purpose of measuring quality, of course, is to lay the groundwork for improving it” (p. 891). Quality of care can be explicitly measured when one compares what is done with what should be done (Brook, McGlynn, & Cleary, 1996). For VAW, measuring employer satisfaction was a 4-year process. However, question content and poor return rates made early surveys of little value. Questions in the new survey were developed with the aim of eliciting a more accurate evaluation of satisfaction with occupational health care and with the intent of using those responses to improve services. In this project, it was established that quality of care could be measured against a benchmark response score of 80%. Items on the employer satisfaction survey that fell below that benchmark were targeted for improvement. Additionally, the high level of reported satisfaction assisted in demonstrating the benefits of this department to the corporation.

STUDY LIMITATIONS

Several limitations and uncontrolled variables were related to this project. The surveys were sent to each responder after completion of injured worker treatment. Some employers had more than one injured worker treated during the time frame of this project, whereas others did not have any injured workers. Some employer representatives were not willing to respond to the survey multiple times. The fact that a new process was implemented may also have impacted responses. Researchers refer to this as the Hawthorne effect, where responders may be inclined to respond differently due to attention inherent in change. Furthermore, responders may be encouraged or discouraged by the electronic form of the survey. Another limitation is that the responder may no longer be employed with the company or may be employed in a different capacity and therefore may not respond to the survey. A solution would be to contact responders each time before sending the survey to verify the responder’s name and e-mail address. The most significant limitation, however, is that this survey tool was piloted in only one occupational health department. Similar occupational health clinics should be enrolled in studies using this survey to test the reliability and validity of the tool in other settings.

CONCLUSION

Satisfaction is a concern for all health care services. The increasing demand for cost-effective care is fueling inclusion of occupational health services in this mix. Due to the unique characteristics of occupational health, existing satisfaction surveys do not answer the questions relevant to these services. Several studies have been published about satisfaction of injured workers with the care they received from occupational health services. Although these studies are important, it is equally important to evaluate the satisfaction of employers who pay for injury management. VAW did offer satisfaction surveys to employers of injured workers; however, question quality and poor return rates made them of little value. This project developed a survey appropriate to the occupational health setting that could provide more meaningful data about the satisfaction of companies that use this department for treatment of injured workers.

REFERENCES


