

THE VALIDITY AND RELIABILITY OF THE UIMS PHYSICIAN SATISFACTION SURVEY

Many studies in the medical literature have described patient satisfaction and physician satisfaction as independent concepts, but the relationship between the two is not well studied. In order to address the research question, "What is the relationship between physician satisfaction and patient satisfaction," two surveys have been conducted by the University Internal Medicine Specialist group (UIMS) in the academic, urban, outpatient setting. The patient survey contained questions focusing on the satisfaction of patients. The physician survey focused on questions regarding the satisfaction of physicians with their practice. Before each survey could be conducted, we wanted to determine if each survey was valid and reliable. Good reliability and validity of these surveys would ensure that accurate conclusions are drawn from their results. A pre-existing, validated instrument, Group-Level Consumer Assessment Health Plan Study, (G-CAHPS) was selected as the patient opinion survey. This report focuses on the validity and reliability of the physician opinion survey (POP) which was developed to suit the UIMS setting.

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INTRODUCTION

Patient and physician satisfaction have been well studied; however little is known about the relationship between these two phenomena. More specifically, what is the relationship of physician satisfaction with their practice environment and patient satisfaction with the care they receive in the same environment? To investigate this relationship, we conducted physician and patient satisfaction surveys in an academic, urban, outpatient setting.

To measure patient satisfaction 400 face-to-face interviews during 2004 and 2005 were conducted. A trained interviewer administered the G-CAHPS tool to the patients while they waited for their appointments. Developed by AHRQ (Agency for Healthcare Research and Policy), this survey has been widely tested nationally as a reliable and valid tool for assessing patient experiences with their medical groups.

We developed our own questionnaire tool for surveying physician satisfaction. This report summarizes the development and measurement of physician satisfaction using this newly constructed instrument. Data received from the first administration of this survey in June 2006 will help answer the research question: *Is the UIMS Physician Opinion Survey a valid and reliable tool to measure physician satisfaction?*

MATERIALS AND METHODS

We conducted a literature review for available physician satisfaction tools and obtained other questionnaires used by previous studies at Wayne State University. A Medline literature search provided comprehensive information

about elements of satisfaction that can be used in user-defined questionnaires, but the example tools were not specific enough for our needs. Other questionnaire tools used in our own ambulatory setting were too brief and general. Further, they had not been tested for reliability and validity. Therefore we chose to develop this new tool to measure physician satisfaction.

First, we identified items that were relevant to physician satisfaction. These were obtained from the literature, physicians in our practice setting, and instruments used in surveys conducted previously. We then categorized these items into 3 sub-sections or domains: 1) Practice and support staff; 2) consultation; and 3) organizational culture. We constructed positively worded questions (except 1 question) from these items with 5-point response options at two levels: agreement and importance. For the agreement scale the responses ranged from 1=Strongly Disagree to 5=Strongly Agree and for the importance scale 1=Not Important at All to 5=Extremely Important. An option 6=Not Applicable was also included. The importance level of responses was included to determine questions that could be eliminated when conducting the next survey. Finally, four demographic questions were also added. We then tested and retested the draft survey on a few physicians and included their suggestions to develop the final version. This final version of the "UIMS Physician Opinion Survey" (POP) consisted of 35 questions for the practice and support staff domain, 14 for consultation, and 15 for organizational culture domain. The survey was posted on the web from April 18–June 13, 2006 to obtain responses from 74 faculty physicians.

RESULTS

37 surveys were completed by 74 physicians for a response rate of 50%. In terms of importance level of responses, all questions were rated 4.26 or higher (maximum rating possible=5). Agreement level of responses were checked for reliability and validity. A Cronbach alpha test for the three domains found: practice and support staff=0.84; consultation=0.95; organizational culture: 0.93. Face validity, which refers to how the questions appear and whether they seem reasonable, and content validity, which reflects how well the contents of the questions represent the domain, was established via pilot testing on a small sample of physicians within the organization. The high ratings on the importance scale also support the content and face validity of this survey. Other forms of validity measures such as construct valid-

ity, which may show theoretical relationship of POP to other similar surveys, are not established at the present time.

DISCUSSION

As mentioned previously, survey quality is measured by its reliability and validity. If a survey is reliable, it yields consistent results and is a characteristic of the instrument itself. The statistical test, Cronbach alpha, is a reliability test used to determine how reliable a multi-item questionnaire like POP may be. Values ranging from 0.70 to 0.90 are considered good, and > 0.90 exceptionally high, indicating some redundancy in the number of questions being asked for the domain. POP survey results gave a high reliability for its domains, ie, physicians are responding consistently to the survey items. In the

next administration of the survey, the results will need to be re-evaluated in the consultation (Cronbach Alpha=0.95) and Organizational Culture (Cronbach Alpha=0.93) domains to determine whether elimination of a few redundant questions lower the value of Cronbach Alpha to the 0.80 to 0.90 range.

A survey is valid if it measures what it is supposed to measure and comes from the way the survey is used. By using multiple questions within each domain, as well as pre-testing during development, we ensured content and face validity of the POP survey. However, establishing survey validity usually requires evidence from several sources. Given that we have not found a validated and reliable physician survey in the context of our ambulatory clinic setting, we can establish the construct validity of the POP survey by designing appropriate validity studies in the future.