THE USEFULNESS OF PROXY REPORTING IN AN ECONOMIC SURVEY OF PHYSICIANS

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Introduction

The problem of response-burden is of particular concern to the survey researcher who conducts economic surveys of physicians. An increasing number of such social surveys in recent years has lead to a growing reluctance by physicians to participate. The American Medical Association cautions potential researchers that "physicians are plagued with surveys" and that "these feelings in turn are reflected in low response rates which can seriously impair the validity of survey results" (Martin, 1974:1). A study of physicians' reasons for non-participation on the Physicians' Practice Survey also concluded that "most physicians who refused to participate did so because they did not believe the survey merited an expenditure of their time" (Berk and Meyers, 1980:8).

One possible technique to lower the burden on physician respondents is to conduct interviews with knowledgeable proxies. The use of proxies has been adopted in several major surveys including the Health Interview Survey (Haase and Wilson, 1972), but its use has not been widely reported on surveys of the physician population. The potential use of proxy respondents was carefully considered in the design of the Physicians' Practice Survey (PPS). The PPS is a component of the National Medical Care Expenditure Survey (NMCES) which was funded by the National Center for Health Services Research and co-sponsored with the National Center for Health Statistics. The data were collected by Research Triangle Institute and the National Opinion Research Center. The National Medical Care Expenditure Survey actually consists of five separate surveys: a household survey, an insurance survey, a survey of employers and two surveys of medical providers. The NMCES household survey collected data on the 1977 health care experiences of 14,000 American families. During the household interview respondents were asked for the addresses of the physicians who provided them with care and a sample of these doctors were later selected for the PPS. A decision was made to conduct the interview directly with the physician whenever possible. If the physician refused to be interviewed directly, the interviewer could ask the doctor for permission to interview a proxy, designated by the physician, who was knowledgeable about the physician's practice. Usually the informant was an employee of the practice such as a nurse or receptionist. Approximately 34 percent of the interviews were completed in this manner.

Data

This paper compares the completeness of data obtained from physician and proxy respondents as well as interviewer assessments of cooperation during the interview. If the results show that the two collection strategies yield data of comparable quality, it may suggest that future physician studies should emphasize the use of proxies. Data collected from proxies can usually be obtained with fewer callbacks and therefore this procedure is of lower cost and higher efficiency than interviewing physicians directly. Conversely if the data collected from proxies is of unacceptable quality the use of informants in physician surveys should be strongly discouraged. In developing data collection strategies for the PPS it was predicted that, while the data from proxies would be acceptable, it was preferable to obtain the data directly with the physician.

Two measures of respondents' ability and willingness to participate are used in this investigation. The first is a subjective assessment made by the interviewer of the cooperation "received from the physician during the interview." At the conclusion of each interview the interviewer was to assess cooperation as being "excellent", "good", "fair", or "poor". Interviewers presumably based their assessments on the proxies' cooperation in cases where the physician was not interviewed directly, but it is possible that these evaluations also considered the interviewers' perception of the physicians' cooperation prior to designating a proxy. The second measure is based on item non-response rates for fourteen key questions on the PPS. The item non-response rate for each question includes all responses of "don't know," all cases in which the respondent refused to answer the question, and any other cases for which codeable responses were not obtained from eligible respondents. It should be emphasized that the data we examine in this report indicate only whether or not the respondent had the willingness and ability to answer the interviewer's questions. We cannot compare the validity of the responses obtained from physician and proxy respondents.

Findings

Interviewers clearly perceived cooperation to be better in interviews conducted directly with the physician. In cases in which the physician was interviewed directly over 70 percent of the respondents were said to have provided excellent cooperation whereas less than half of those interviews completed by proxies were so classified. It is possible that some interviewers gave negative cooperation evaluations whenever a physician declined direct participation even if the subsequent cooperation by the proxy was satisfactory. It is therefore

not clear whether the lower ranking for interviews conducted with the proxy reflects negative perceptions of the proxies themselves or of the physicians who declined to be interviewed directly. It is obvious, however, that at least from the perspective of the interviewers, greater cooperation was obtained when the physicians themselves responded.

The analysis of item non-response offers a more objective basis on which to compare the two strategies. Here again there appears to be definite advantages to interviewing the physician directly. Item non-response rates were higher for proxies on eleven of the fourteen questions considered and in eight of these eleven questions the difference in response rate was statistically significant. There were no questions on which reporting by proxies was significantly better than reporting by physicians. Physicians were better able or more willing to report the weeks they spent working in 1977 as well as the average number of hours spent on patient care and on adminstrative activities. They also had high reporting rates for the question on the number of operations performed during the preceeding week. These findings are not surprising since physicians would presumably know more about their work hours and behaviors than would a proxy. It was surprising, however, to find that physicians also had lower non-response for the question that asked about the number of patient visits that had occurred during the previous week. We had expected that the nurses and receptionists who were designated as proxies might be more knowledgeable about the doctor's patient load than would be the doctor.

Differences were also found in item non-response to questions about the physicians medical training, age and income. The high item non-response to the income question represents a serious problem since analysis of income data is often essential to the goals of economic surveys of the physician population. The results show that while income data could be obtained from about 85 percent of the physicians who were interviewed directly, only about half of the proxies were able or willing to give an estimate of the physician's earnings.

Conclusion

Our findings indicate that, whenever possible, the physician should be interviewed directly. In general the interviewers perceived that greater cooperation was obtained when physicians were interviewed. In addition the physician is more likely to provide information for a number of important data items. The high item non-response rate obtained from proxies for the income question is of particular concern.

The findings suggest, however, that while it may be preferable to interview the physician directly, proxies can provide estimates for most of the important variables in the survey. Item non-response rates for proxies were under 6 percent for ten of the fourteen questions examined and interviewers did consider cooperation to be "good" or "excellent" on about 78 percent of the interviews completed by proxies. We therefore suggest that future surveys of physicians consider the use of proxies whenever the physician cannot be interviewed directly.

References

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Haase, Kenneth W. and Wilson, Ronald W. "The Study Design of an Experiment to Measure the Effects of Using Proxy Respondents in the National Health Interview Survey," Proceedings of the Social Statistics Section, American Statistical Association, 1972, pp. 289-293.

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Table 1
Interviewer's Evaluation of Cooperation by Type of Respondent

	Physician respondents	Proxy respondents
% Excellent cooperation	70.5	48.2
% Good cooperation	19.2	29.9
% Fair cooperation	8.1	14.4
% Poor cooperation	2.3	7.5
Total (N)	100% (3038)	100% (1274)

(448 cases excluded - missing data)

$x^2 = 215.9$ df = 3 significance = .001

Table 2
Percent Item Non-Response by Type of Respondent

Item	Physician	Proxy
Number full-time physicians employed in practice	2.5	2.4
Weeks practiced in 1977*	1.0	3.3
Average weekly hours worked by physician*	1.2	3.0
Average weekly hours spent by physician on administrative activities*	1.7	5.3
# patient visits in office during previous week*	2.8	5.4
# operations during previous week*	1.4	6.1
Average number days new patient waits for appointment	0.6	1.0
Fee for initial office visit	4.5	5.4
Time spent with patient on office visit	2.9	3.9
Does physician accept new Medicaid patients?	2.4	1.6
Percentage of patients on Medicaid	13.0	12.9
Did physician graduate medical school in U.S.?**	0.7	1.5
Physician's age*	1.9	10.4
Physician's annual income*	15.1 (N = 3112)	48.6 (N = 1648)

*Difference in physician and proxy item non-response rate item significant at .01 when two tailed difference of proportion test is used.

**Difference is significant at .05.

All other differences were not significant at .05.