Author's response to reviews

Title: Postal Survey Methodology To Assess Patient Satisfaction in a Suburban Emergency Medical Services System: an observational study.

Authors:

Aaron W Bernard (aaronwbernard@yahoo.com)
Christopher J Lindsell (christopher.lindsell@uc.edu)
Daniel A Handel (dan.handel@lycos.com)
Lindsey Collett (lcollett@zoomtown.com)
Paul Gallo (pgallo@readingohio.org)
Kevin D Kaiser (kkaiser@readingohio.org)
Donald Locasto (LOCASTD@UCMAIL_UC.EDU)

Version: 2 Date: 6 February 2007

Author's response to reviews: see over
Dear Editor,

We would like to thank the reviewers for their thoughtful comments. Below is a point-by-point description of the changes made in regards to the comments. We feel the manuscript is improved from the original submission and hope you find the changes to your satisfaction.

Sincerely,

Aaron W. Bernard, MD

Response to Reviewers

MS 2072347313108658 - Postal Survey Methodology To Assess Patient Satisfaction in a Suburban Emergency Medical Services System: an observational study.

Reviewer: Jose M. Quintana

Major Compulsory Revisions:

1. It would be important to know the explicit exclusion reasons, and how many people were excluded by each one of those reasons.

We have revised the manuscript to include data on the number excluded, and reasons for exclusion. Text describing exclusions has been clarified:

Patients were not sent a survey if they were nursing home residents, were dead on arrival, had sustained cardiac arrest, had no mailing address or were known to be homeless. Patients with multiple runs during a single survey mailing period were sent only one satisfaction survey.

We have also expanded the table showing response and non response (now Table 2) to show the number and proportion of patients excluded for each reason during each year of the survey and overall.

2. It would be interesting that the authors included in a first table a descriptive statistics of the characteristics of the patients who were selected to participate in the survey (age, gender, reason for consultation…etc) as well some technical /quality indicators by year.
We have included a new table to show demographics, chief complaints, and response times, as requested by the reviewer (Table 1).

3. The five closed-ended questions of the questionnaire, were answered by all the responders? If the answer is no, as is expectable, they should include in Table 2 the number of answers to each question, and between parenthesis the percentage from the total on all the responders, and by year.

Very few questions were not answered, we have added the requested information to the table (now Table 3).

4. The authors of the study had to make a deep discussion on which would be the impact (in the rate of answer and the economic impact, among others) if they would apply some of the measures that they themselves mention will improve the answer rate (the use of colored inks, personalized questions, repeat mailings, or follow up telephone calls), with, quite likely, not a so important increase in cost. It seems evident that the answer rate they reached, mainly in the first year, is the expected in many types of surveys if only one mailing is made, and that the rate can be increased until around 70% if some of the techniques that the authors mentioned are used. Are they not worthwhile? Give some explanations.”

We have significantly expanded our discussion of the value and limitations of various techniques for maximizing response rates to postal surveys. In addition, we have also estimated the potential effect of implementing these techniques in our system, and weighed these effects against the resource requirements:

Many techniques are available to maximize postal survey response rates, although some of these require increase resource allocation. Recent systematic reviews of postal surveys have characterized the odds of response that can be expected when individual techniques are used [16,18]. We employed two techniques that have been shown to increase response rate: a short questionnaire and a stamped return envelope [18]. Other techniques that can improve response rates we have not implemented include the use of follow up telephone calls (1.5 times increased odds of response), use of colored inks, contact prior to delivery, or repeat mailings (1.4 times increased odds of response), and personalized questions (1.2 times increased odds of response) [18].

The decision to utilize these additional techniques is a balance of response rate, response bias, accuracy of responses and resource allocation. The response rate achieved by our methodology appears to be comparable to similar patient satisfaction surveys and likely represents a baseline rate, but this could be increased using some of the above techniques. For example, a 1.4 increased odds of response would increase our response to about 40%, while a 1.54 increase in odds would result in a response rate of about 58%. The addition of colored inks is
unlikely to contribute much to the overall resource burden, except in printing costs. Contact prior to delivery and follow up telephone calls would be more resource intensive; telephone satisfaction surveys are about 10%-20% more costly than postal satisfaction surveys, and postal surveys with telephone follow up are similar in cost to telephone surveys [11]. The use of personalized questions would not be possible under the current anonymous methodology.

5. The authors must make a deeper discussion in this section on what implies to have a so low response rate, as well as which one is the optimal one (that obviously does not have to be in a 40%), and have to explain a the end of that section what kind of possible future studies are necessary in this field.

We have expanded our discussion of response rates, and the implications of response rates. In particular, we discuss possible biases in our data, as well as compare our findings to those of others and indicate methods for improving upon our response rate.

The primary limitation is a low response rate, despite its similarity to satisfaction surveys, and the unknown response bias. To the best of our knowledge, no study has addressed the characteristics of non-responders to EMS patient satisfaction surveys. However, there is evidence to suggestion that in the United States, non-responders in patient satisfaction surveys tend to be minorities and have lower socioeconomic status than responders [22]; it is possible that the views of these vulnerable population are not captured in our data.

We have not presented an optimal response rate; understanding the optimal response is a matter of balancing resources and needs. We have discussed this balance in more detail (see above). With regard future directions, we have added a section on possible strategies for expanding upon this area of research in response to comment 7.

6. The authors had to discuss if they think that the survey they used was really measuring the satisfaction of their patients. A so high rate of satisfaction can be real or can be that the adequate questions that the patients would expect or may need to detect quality problems were not made or not in a form in which they could obtain more critic answers. For that reason, the fact that they found a so high satisfaction rates had to be a reason for reflection for the authors, mainly because they used a tool that seems not validated. In relation to this also discuss the subject of the missing responses. And, they had to compared their study and results with similar studies, not only as far as answer rates and level of satisfaction but also as methodology employed.
We have added a discussion of our results about satisfaction, and how they might be interpreted:

In addition to demonstrating the response rates to a postal satisfaction survey, our data show a high degree of patient satisfaction with the care received in (Table 3). The degree of patient satisfaction is sufficiently high to warrant concerns about the usefulness of the questions asked. The quantitative questions were not based on a previously validated questionnaire but were based on previous research in the field. Research on complaints against EMS systems has identified rude and unprofessional conduct by EMS professionals as the most common reason for complaint [7,8]. We expect that these complaints would have been reported in response to questions 1 and 2. Further, we elected the postal methodology to maximize honesty in reporting dissatisfaction or problems; satisfaction tends to be reported as higher in telephone or face-to-face surveys than in anonymous postal surveys due to a tendency to provide socially acceptable responses. Two EMS systems that have reported patient satisfaction by means of telephone interview reported high satisfaction [3,5]. A postal satisfaction survey done in a large EMS system found high satisfaction as well [4]. These consistent findings of high satisfaction support our results.

7. It would be good that the authors of the study will finish the manuscript with a series of recommendations how to improve its own methodology (the questionnaire and the collection of data fundamentally) in the near future to do a more robust study methodology and, so, to be able to obtain conclusions that allowed them to identify real problems and to introduce the opportune change in their daily work. That is the only way that a health quality program may work.

A ‘Recommendations’ section has been added as suggested:

This study is, to our knowledge, the first to report on the feasibility and response rates than might be expected in anonymous, postal patient satisfaction surveys for small, suburban EMS systems. Our findings are likely to be generalizable to similar systems, and replication of our methods might allow others to obtain satisfaction data and, more importantly, identify dissatisfiers that should be addressed within their system.

This study raises several important questions that must be answered in future research. First, the questions incorporated in the survey were not developed in a systematic manner but were designed to obtain information on specific factors known to affect satisfaction with EMS services. Development of a validated, EMS-specific patient satisfaction survey tool that captures all of the domains impacting patient satisfaction would greatly enhance the ability of EMS systems to measure and improve satisfaction. Secondly, the impact of low-resource methods for improving
response rates might be considered, such as the incorporation of colored inks. In the absence of this, understanding response bias might help the interpretation of data. Also, variation in satisfaction with run type, with type of responder, and with the decision to transport or not transport should be investigated. These questions will require non-anonymous methods and represent an area for future study.

Once appropriate methods are in place to measure and monitor satisfaction, and factors impacting satisfaction with EMS services are well elucidated, it will be possible to implement interventions aimed at improving satisfaction. We have already begun thus by incorporating training on interaction and communication within our system. The systematic study of such interventions could provide evidence for maximizing satisfaction with care.

Minor Essential Revisions

1. change in page 7, last paragraph: chi-square tests to the Chi-square test.
   The requested change was made.

2. Please, explain what corresponds to each one of the abbreviation of the first paragraph of page 6.
   The requested change was made.

3. Include references on our early response rate of 43% is similar to comparable reports.
   Page 9, 1st paragraph
   The requested change was made.

Reviewer: Isabelle Gasquet

Major Compulsory Revisions

1. “The results do not answer to the aim. The question of the feasibility of a study is a technical question and does not only depend on the response rate.”

   We have expanded the manuscript to include some discussion of resource and technical requirements as well as response rates. We recognize there are some limitations to our approach, and have addressed these in the limitations section.

   Finally, our assessment of feasibility is based on response rates and crude estimates of cost. The determination of whether or not a satisfaction survey is feasible requires a balance between achieving an acceptable response rate with acceptable expenditure. In our case, we achieved response rates similar to those of other satisfaction surveys, with a
'minimal' expenditure, and thus for our system we concluded the satisfaction was feasible.

2. Whatever the response rate is, another interesting question could be the representativeness of respondents. The representativeness of the sample is necessary to make an estimate of the average opinion of the whole population of patients. Moreover, a response bias may be suspected in this study when looking at the very high satisfaction level of the minority of patients who have given their opinion.

We agree with this reviewer completely. Unfortunately, the anonymous nature of the postal survey prevented us from determining who was a responder and who was a non-responder, and thus we cannot assess response bias. We have now explicitly stated this in our limitations, and suggest this as an area for future work. We have also noted that anonymity is a factor impacting both response rate and truthfulness of response to satisfaction questions, and that we elected to use anonymous responses to maximize response rates and also to obtain data unbiased by anonymity concerns.

3. No information is given on the questionnaire construction methodology.

The questionnaire was not formally constructed, but rather domains were selected based on prior research suggesting interaction and communication are the primary motivators of satisfaction in EMS transport. We have added discussion to this effect.

The survey instrument used is shown in Figure 1. The survey was designed to be brief and to assess two primary domains of satisfaction: interaction and communication, in addition to overall satisfaction. The emphasis on interactions and communication was based on previous EMS-based research highlighting problems in this area [7,8]. Five quantitative questions were included that used a standard 5-point Likert scale, anchored by ‘very satisfied’ and ‘very unsatisfied’. Two of the questions assessed personal interactions between EMS providers and patients, two assessed communication, and the fifth was a global satisfaction measure. (Figure 1). In addition, three qualitative questions were included to provide patients an opportunity to express concerns about care, suggestions for improvement, and to identify the most important factor affecting the how the patient felt. Open ended questions also allow assessment of domains incompletely captured by structured questions, and can result in higher reports of elements of care that are dissatisfiers [9].

AND

This study raises several important questions that must be answered in future research. First, the questions incorporated in the survey were not developed in a systematic manner but were designed to obtain information on specific factors known to affect satisfaction with EMS services.
Development of a validated, EMS-specific patient satisfaction survey tool that captures all of the domains impacting patient satisfaction would greatly enhance the ability of EMS systems to measure and improve satisfaction.

Minor Essential Revisions

Discretionary Revisions

1. It could be interesting to compare the population according to the response rate (first year v. other years, for example)

   Based on the anonymous methodology that was not possible, but we have expanded discussion on response bias and the advantages and disadvantages of using anonymous methodology.

2. It could be also interesting to explain the usefulness of the results to improve quality of care in the service.

   We have indicated how we have applied the results of these surveys to training and education of EMS personnel. Additionally, we have added discussion of future directions for this line of research that applies interventions based on survey findings and measures the success of those interventions.

   Our secondary results are limited but still provide enough information to implement change in our EMS system. Prior to reviewing these quality data, interpersonal communication was not emphasized in continued education. We now assign a portion of our continued education time to this topic. Through a variety of didactic lectures and simulation sessions, we are attempting to refine skills in this area to meet the needs of our patients.

AND

Once appropriate methods are in place to measure and monitor satisfaction, and factors impacting satisfaction with EMS services are well elucidated, it will be possible to implement interventions aimed at improving satisfaction. We have already begun thus by incorporating training on interaction and communication within our system. The systematic study of such interventions could provide evidence for maximizing satisfaction with care.

We also discuss this in our recommendations section.