Author's response to reviews

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

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

We would like to again thank the reviewers for their time and effort spent on our manuscript. Below is a point-by-point description of the changes made in regards to the comments. We 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. Background. Include a clear justification for the study (apart from previous studies). Why was necessary such research study?

   We added two sentences at the end of paragraph number two in the introduction section. We feel this adds clarity to the need for the study:

   Research that evaluates the feasibility of this approach is needed before any implementation can be recommended. To date, insufficient work has been completed on this topic.

2. Methods: Briefly, explain in the methods section how the estimation of the cost of the survey study was estimate. In the results section provide the specific results that follow that methodology.

   The information requested was added to the methods section and more specifics were given in the results section. Under the patient satisfaction subcategory of methods the following was added / edited.
Surveys were printed at a local shop in batches of 1000 as needed. The fire department lieutenant was responsible for getting the printing done. The lieutenant was also responsible for labeling and mailing of the surveys. This was done once every month. All patients or, for patients aged less than 18 years, their guardians, served by the EMS system during the previous month were identified from an electronic database that is used to capture run information. Names and addresses were printed on labels and mailed using the United States Postal Service. Neither the time from the run to the mailing, nor from the mailing to response was assessed. Completed surveys that were mailed back to the fire department were collated, interpreted, and reported by the lieutenant as needed for the purposes of the quality improvement program.

Under the data analysis subcategory of methods the following was added.

The fire department lieutenant was interviewed to determine man hours spent on the quality improvement program. He was questioned as to hours he spent per month printing, labeling and mailing the survey. He was also questioned as to the hours he spent collating, interpreting, and reporting the results of returned surveys. The physical cost of each survey was determined by a combination of postal rates during the time of the study and printing costs.

Under the secondary results subcategory of results the following was added / edited.

To assess resource requirements, we estimated the cost and time resources hours necessary to routinely implement the survey and collect survey returns. Surveys were printed in batches of 1000, at a cost of $240.00 per batch or $0.24 per postcard. When combined with an outgoing and return postage rate of $0.37 per postcard, the total cost per survey mailed was $0.98. About 60-80 surveys were mailed each month, with the lieutenant reporting 2 hours to print and label these postcards. About 20 to 30 postcards were returned each month, with the lieutenant reporting about 4 hours spent collating, interpreting, and reporting. Thus, the overall requirements on a monthly basis was about $70 and 6 hours.

3. Please, provide data on Table 2 with percentages (in brackets, for instance) for all categories included, by year. Also, provide the information related to the exclusion of patients by being a “Repeat customer” separate from those with “No mailing address”

The percentages were added as requested. The data could unfortunately not be broken into two categories as requested because it was not collected separately.
4. Through Table 4 try to show the interpretations of the open ended questions, as far as it now does not provide with valuable information. And, describe the main findings of the table in the text of the results section.

The table was edited to be more reader friendly and useful as requested. The following was added to the text of the results section. In addition, the minor revision requested (separating the kappa statistic) was made.

*Agreement between the two physicians coding the open ended questions was high (Kappa > 0.964). The results are shown in Table 4. Three percent of respondents reported that concerns they had were not addressed by our personnel. Interpersonal communication was the single most important action that made patients feel better, followed by response time and technical actions. Six percent of patients reported that something could have been done differently to make the experience more positive.*

5. What is the value or appropriateness of the short information collected by the survey for quality improvement strategies, taking into account also the non-response?

The value of the information is explained towards the end of the discussion section. This was expanded as below.

*Our secondary results are limited but their value to our quality improvement program is evident in the changes we have made to education of our EMS providers. For example, prior to reviewing these quality data, interpersonal communication was not emphasized in continued education yet this was found to be the most frequent factor impacting patients’ satisfaction. Thus, 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. Thus, while it is recognized only limited information can be provided in response to brief questions such as those used in our survey, the information can be used to identify factors impacting patient satisfaction, and thus guide the development of education that focuses on those domains important to patients. The overall high satisfaction achieved is taken with the limitations of the study, including the potential for responder bias, but still provides some reassurance of the quality of our daily work.*

6. ….My suggestion was on the direction to request to the authors of the study to make a judgment on the bias that implies the non-answer and how a low response rate can condition a study…..Their discussion must do in that direction and therefore judge they have got and how to improve it.

We have expanded our limitation section to indicate the most likely direction of bias resulting from non-response:
There is also evidence that non-responders show a systematic trend towards lower satisfaction than responders [23]. This would suggest that the high satisfaction reported in this study is likely an overestimate of true satisfaction.

We have also expanded our recommendation for future work as below.

Secondly, research to minimize response bias in satisfaction surveys of EMS services should be attempted. For example, further research is needed to determine if low-resource methods, such as the use of colored inks, can improve response. We would currently recommend that response rates similar to telephone surveys, about 50%, should be the goal of future work with postal surveys. In addition to research on methods for improving response rate, a greater understanding of the bias involved in non-response is needed. For example, we demonstrated that response rate might decrease after the first year of measuring satisfaction. The reasons for this might uncover new biases not previously considered.

Future research should also examine variation in satisfaction with run type, with type of responder, and with the decision to transport or not transport. These questions will require non-anonymous methods and represent an area for future study.