Australasian Journal of Paramedicine

Volume 1 | Issue 3 Article 11

2012

Ambulance Satisfaction Surveys: Their Utility in Policy Development, System Change and Professional Practice

Peter O'Meara
pomeara@csu.edu.au

Recommended Citation
O'Meara, P. (2003). Ambulance Satisfaction Surveys: Their Utility in Policy Development, System Change and Professional Practice. *Australasian Journal of Paramedicine, 1*(3).
Retrieved from http://ro.ecu.edu.au/jephc/vol1/iss3/11

This Journal Article is posted at Research Online.
http://ro.ecu.edu.au/jephc/vol1/iss3/11

Journal of Emergency Primary Health Care (JEPHC), Vol.1, Issue3-4, 2003

Journal of Emergency Primary Health Care
An International eJournal of Prehospital Care Research, Education, Clinical Practice, Policy and Service Delivery
ISSN 1447-4999

POLICY AND SERVICE DELIVERY

AMBULANCE SATISFACTION SURVEYS: THEIR UTILITY IN POLICY DEVELOPMENT, SYSTEM CHANGE AND PROFESSIONAL PRACTICE

Article No. 990047

Dr. Peter O'Meara

Abstract

This study surveyed general practitioners, registered nurses, ambulance officers and members of the public to determine satisfaction levels in rural ambulance services in the Australian State of Victoria. It was part of a larger study developing rural models of ambulance service delivery.

Respondents were asked to complete a survey about their satisfaction with their local ambulance services and their confidence in local emergency medical systems. Satisfaction levels were very high and associated with direct experience as patients or as immediate family members of patients.

Focusing on specific elements of the ambulance system in future satisfaction surveys may improve the capacity of managers and policy makers to develop appropriate policies and implement changes in system design and professional practice.

Keywords: ambulance; satisfaction; rural; surveys; professional practice; policy

Introduction

Ambulance services throughout the world measure their performance through the use of performance indicators such as response times, on scene times and satisfaction.[1] The Australian Convention of Ambulance Authorities has established a working group to improve the standardisation of definitions and to develop a common set of core indicators to enable more meaningful comparative analysis of ambulance service performance to be undertaken.[2] Currently the only performance indicator that is considered to be comparable across the States and Territories is user (hospitals, health professionals and funding bodies) and patient satisfaction.[3] This performance indicator is important as positive satisfaction levels have been associated with the likelihood of patients seeking assistance from the health practitioner or service. At another level, satisfaction surveys are a means of giving consumer demands and preferences a role in shaping health care delivery.[4]

Despite concerns about subjectivity and utility, the use of satisfaction as a key performance indicator for ambulance services is well accepted throughout the world. It has been defined as being when the expectations of patients and families are met by the services provided.[5,6] It can also be used interchangeably with the dimension of acceptability. This is met when the care or service provided meets the expectations of clients, community, providers and paying organisations.[3,7] These expectations include the extent to which ambulance services are: accessible, in the face of financial, geographic, organizational and cultural barriers; clinically effective; appropriate to need; timely; in line with agreed standards; and delivered by appropriately trained and educated staff.[8] The influence of expectations needs to be considered when undertaking studies of satisfaction with service delivery.[9] In all Australian states and territories, positive satisfaction levels amongst those who have used ambulance services are reported at over 90 per cent, while non-users satisfaction levels range from 63 percent to 77 percent.[3] While these results are good for public relations purposes and in the encouragement of staff, the lack of sensitivity to variations in the quality of service provided is of potential concern to managers and policy makers who need to know what is wrong, not what is right.[4]

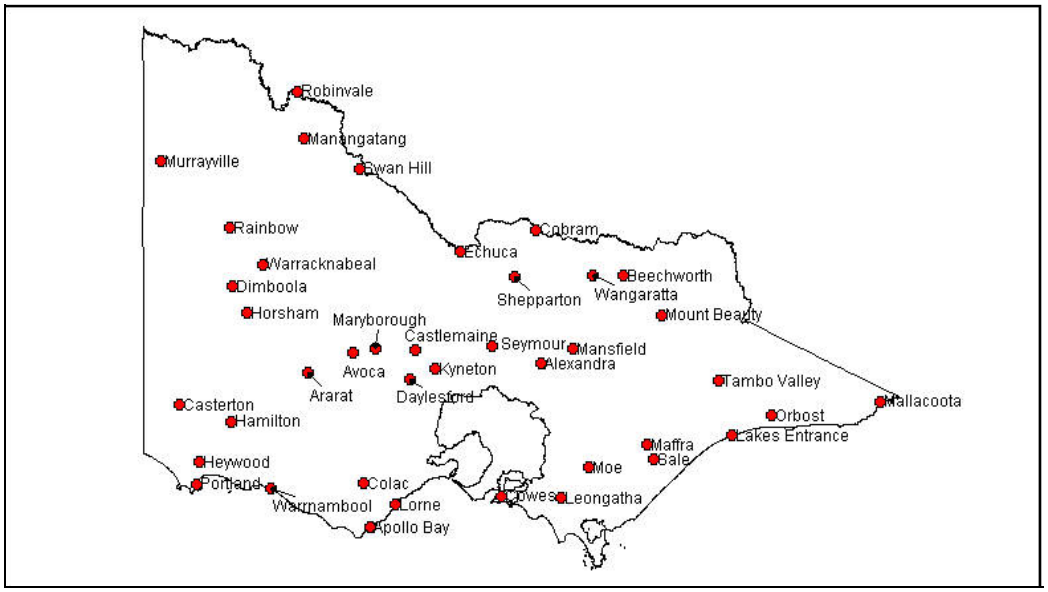
Methods

This study was completed in rural Victoria during the transition from regionally based ambulance services to a single rural ambulance service covering all but a small area of rural Victoria. Rural Ambulance Victoria (RAV) serves a population of 1.3 million people. At the time of the study it employed 700 full time equivalent staff plus 350 volunteer Community Ambulance Officers at 113 branches locates throughout rural Victoria, covering 215,000 square kilometres.[10] The Alexandra and District Ambulance Service operated the other two ambulance stations in the Central Highlands of Victoria.

The objective was to determine stakeholder satisfaction with rural ambulance services. In this case, the main stakeholders were identified as general practitioners, registered nurses, ambulance officers and members of the public. The study found that satisfaction with rural ambulance services in the Australian State of Victoria was very high. As part of the analysis, satisfaction was stratified according to the level of rurality, stakeholder category and the level of respondents' direct contact with ambulance services to determine if this satisfaction level varied.

Forty of the 115 rural ambulance catchments in Victoria were selected for the study based on their geographic spread in an effort to obtain a representative sample. Figure 1 shows the locations of the forty stations included in the study. These ranged in size from very small communities with catchment populations of less than 1,000 to others approaching 40,000.

Fig. 1: Sample Towns and Stations



In order to preserve the confidentiality of the responses and to improve the validity of the conclusions, the stations were grouped into five bands according to population size and their level of isolation from major centres of population. The classification system adopted was an adaptation of the Australian Rural, Remote and Metropolitan Areas Classification (RRMA) system.[11]

Table 1 provides an overview of the sample localities and the way in which they were grouped. The variation from the RRMA classification system was the separation of the Other Rural Areas into those of less than or greater than 2,500 people in Statistical Local Areas (SLAs) and renamed Small Towns and Little Townships. The catchment populations for individual stations were then calculated from information supplied by ambulance services, examination of maps, and the matching of the 1996 Australian Bureau of Statistics Census data. While this resulted in some anomalies in classification due to the impact of isolation indices, the overall classification of communities proved useful.

Table 1 Rurality Classification of Ambulance Stations in Sample

Station Classification	SLAs Pop. Range	No. Towns	Mean Catchment Populations
Large Rural Centres	25,000 -99,000	2	39,133
Small Rural Centres	10,000 -24,999	7	18,954
Small Towns	2,500 -10,000	15	10,149
Little Townships	Less than 2,500	12	3,596
Remote Areas	Less than 5,000	4	1,674

A questionnaire was developed following a pilot study, with a mixture of question types, including yes/no questions, Likert scales and short-answer questions. Nine hundred questionnaires were sent to potential respondents, who were described as ambulance paramedics (professional and volunteer), general practitioners (GPs), registered nurses and members of the public. Five questionnaires were distributed to ambulance paramedics at each of the 40 stations through their Officer-in-Charge. Three hundred general practitioners were directly approached by mail, using an existing mailing list. The recruitment of nursing participants was conducted through Directors of Nursing Services in health institutions within each catchment area. Five questionnaires were sent, irrespective of the potential number of nurses employed at institutions that ranged from large regional hospitals to Bush Nursing Services. Members of the public were recruited through local municipal councils. Again five questionnaires were targeted for each catchment area, irrespective of size. The overall response rate was 32 percent.

Respondents were asked to rate their satisfaction levels with their local ambulance service and their community's overall capacity to cope with medical emergencies on a five-point scale. The expressed satisfaction levels were analysed for common themes and then cross-tabulated against participant category, community rurality, and their previous contact with their ambulance service. The cross-tabulation of satisfaction levels with the characteristics of the study participants and the size of the communities enabled the question of satisfaction to be addressed in a way that tested its relationship to rurality, respondent category and previous contact with ambulance services. Respondents also had the opportunity to make suggestions for improvement and to make any other comments they wished. Comments in the short-answer questions were considered as part of the overall picture of how the respondents saw the performance of the ambulance service.

Results

These data were collected in the period prior to and shortly after the formation of Rural Ambulance Victoria in 1999. While it is clearly recognised that many policies and processes have changed as a result of this major organisational change, using these data to analyse satisfaction remained a valuable exercise in light of the continuing difficulty ambulance authorities and researchers have with existing data collection methods and performance measurement.[1,12]

The satisfaction findings reported in Tables 2 and 3 are based on questionnaires returned from the four groups of key stakeholders distributed across the study towns. The findings are broadly consistent with the Steering Committee for the Review of Commonwealth/State Service Provision findings and the experience of state and territory ambulance authorities who have conducted satisfaction surveys of their own through the auspices of the Convention of Ambulance Authorities.

Table 2 suggests that the respondents to this study had a higher level of confidence in the capacity of their local ambulance service than they had in the overall emergency medical system in their community. This may indicate that the whole urgent care system needs to be examined, rather than considering the ambulance system in isolation from the other components. The results are positive and support the findings of other ambulance service satisfaction surveys that have been reported throughout Australia.[3] It appears from these data that there is a relationship between respondents having confidence in the performance of ambulance services and expressing confidence in the capacity of the local emergency medical system to respond to their needs. To come to any definitive

conclusion about this suggestion, the other components of urgent care systems would need to be explored further.

Table 2 Perceived Performance

	Emergency Medical Capacity	Ambulance Capacity
Excellent	46 (16%)	117 (41%)
Very Good	131 (46%)	123 (44%)
Satisfactory	87 (31%)	37 (13%)
Poor	16 (6%)	4 (2%)
Very Poor	2 (1%)	0 (0%)
Total	282 (100%)	281 (100%)

Missing data = 7, Percentage values are rounded.
NB. Poor and Very Poor categories collapsed to carry out X^2 test.
X^2 = 60.25, df = 3, p ≤ 0.001, **The distribution is significant.**
Table 3 reports on the perceived performance (satisfaction) of rural ambulance services according to rurality. There are no statistically significant differences in satisfaction across perceived rurality descriptions.

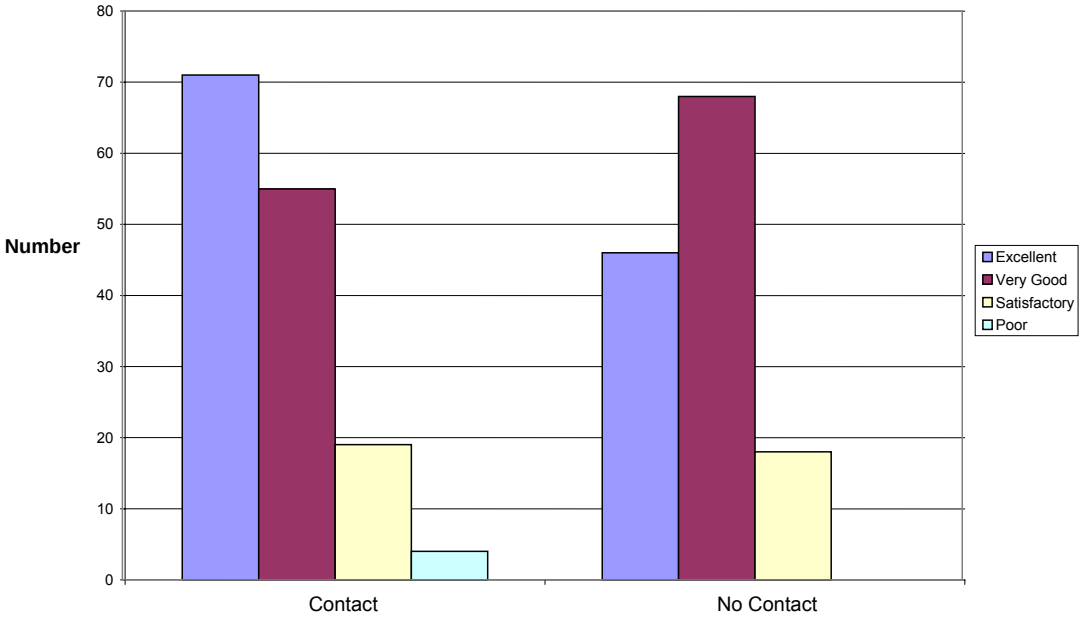
Table 3 Perceived Performance (satisfaction) by Rurality (modified RRMA)

	Excellent	Very Good	Satisfactory	Poor	Total
Large Rural Centres	12 (48%)	11 (44%)	2 (8%)	0 (0%)	25
Small Rural Centres	18 (35%)	25 (48%)	8 (15%)	1 (2%)	52
Small Towns	54 (47%)	43 (37%)	18 (15%)	1 (1%)	116
Little Townships	21 (38%)	28 (51%)	5 (9%)	1 (2%)	55
Remote Areas	12 (37%)	16 (48%)	4 (13%)	1 (3%)	33
Total	117 (42%)	123 (44%)	37 (13%)	4 (1%)	281

Missing data = 4, Percentage values are rounded.
NB. Satisfactory and Poor categories collapsed to carry out X^2 test.
X^2 = 5.66, df = 8, p ≤ 1, **The distribution is not significant.**

Respondent knowledge was a statistically significant factor in the level of satisfaction expressed (X^2 = 11.66, df = 2, p ≤ 0.01). This is illustrated in Figure 2, with those having direct personal or family experience more likely to consider the service excellent than those without direct experience. This finding is consistent with the satisfaction surveys completed in all state and territory ambulance services.[3] It is apparent that direct exposure to the ambulance services offered has a positive impact on satisfaction levels, with respondents more likely to describe the service received as excellent when they have a personal experience to draw upon.

Figure 2 Performance by Personal or Family Experience



In contrast to direct personal experience, frequency of contact amongst the respondents appeared to have little impact on satisfaction levels (X^2 = 6.82, df = 6, p ≤ 1). Nor, were there any statistically significant differences between the satisfaction levels of the four respondent groups.

The findings support claims that the general community is satisfied with their ambulance services. They also demonstrate that those who use ambulance services as patients or carers are more satisfied than those who do not.

Discussion

While Rural Ambulance Victoria and those associated with the former regional ambulance in Victoria can be well satisfied with these findings, we need to question what these high levels of satisfaction really indicate. Are they directly related to the normative expectations of respondents, or are they responding to the idealized expectations of what respondents would like to receive or the level of service they hope for as a result of media images or advertising?[9]

As those with direct experiences of the services offered had a higher level of satisfaction than other respondents, it is probably reasonable to assume that their satisfaction was linked to their normative expectations. Rural stakeholders expect adequately resourced ambulance services that are able to respond quickly to their needs with well-trained staff who behave in a professional manner.[8] This latter statement can be reduced to the five generic expectations of:

- Service availability;
- Speed of response;
- Competence and skills of staff;
- Communication and teamwork with health and emergency services; and
- Professional and ethical behaviour of staff.[8]

Of these expectations, the first three are amenable to quantitative measurement, through data such as utilization rates, response times, and audits of staff qualifications and skills. Using these empirical performance measures in combination with satisfaction surveys would be an effective way to validate and better understand the reported satisfaction levels of stakeholders.

The two remaining expectations are more difficult to measure empirically in the absence of any reliable performance indicators related to them. Problems in communication and teamwork are likely to manifest themselves when disaster strikes and the emergency response system is under more strain than is normally the case. However, it is important to discover these problems before they impact on operational performance and individual patient outcomes. To that end, multidisciplinary training activities such as disaster planning exercises are a valuable means of identifying problems and improving teamwork.

Ethical issues will arise from time-to-time when individual ambulance staff act in an inappropriate manner. The problem with waiting for ethical problems to surface is that it elicits a reactive response to what could be a systemic problem. Ambulance service and professional expectations may be unclear or unexpressed, in the assumption that everyone understands their professional and ethical obligations. In the absence of a professional registration body for ambulance professionals in Australia, the responsibility for the management of unprofessional or unethical conduct falls on the employer.

While the use of satisfaction as a performance indicator is prone to uncertainty, it can make a positive contribution toward improved health service delivery when used in combination with other measures of performance.[13] The value of ambulance satisfaction surveys to managers and policy makers could be improved if they were focused on specific elements of the service delivery system. This greater specificity would improve the capacity of ambulance authorities and the emergency medical system to develop appropriate policies and implement changes in system design and professional practice.

References

1. MacFarlane C & Benn CA. 'Evaluation of emergency medical services systems: a classification to assist in determination of indicators'. *Emergency Medicine Journal*, 2003, vol 20, pp 188-191.

2. Audit Office of New South Wales. *Performance Audit Report: Ambulance Service of New South Wales: readiness to respond*. The Audit Office of New South Wales. 2001.

3. Steering Committee for the Review of Commonwealth/State Service Provision, *Report on Government Services 2000*, AusInfo, Canberra.

4. Carr-Hill RA. 'The measurement of patient satisfaction'. *Journal of Public Health Medicine*, 1992, vol 14 no 3, pp 238-249.

5. Maio RF, Garrison HG, Spaite DW, et al. 'Emergency medical services outcomes project 1 (EMSOP 1): prioritizing conditions for outcomes research'. *Annals of Emergency Medicine*, 1999, vol 33 no 4, pp 423-32.

6. Spaite DW, Maio R, Garrison HG, et al. 'Emergency Medical Services Outcomes Project (EMSOP) II: Developing the Foundation and Conceptual Models for Out-of-Hospital Outcomes Research'. *Annals of Emergency Medicine*, 2001, vol 37 no 6, pp 657-663.

7. National Health Performance Committee. *Measuring performance in the Australian health system: towards a national performance assessment framework. Discussion Paper*. Sydney. 2000.

8. O'Meara P. 'Professional and community expectations of rural ambulance services in Australia', *Pre-hospital Immediate Care*, 2001, vol 5 no 1, pp 27-30.

9. McKinley RK, Stevenson K, Adams S, et al. 'Meeting patient expectations of care: the major determinant of satisfaction with out-of-hours primary medical care?' *Family Practice*, 2002, vol 19 no 4, pp 333-338.

10. Rural Ambulance Victoria. 2003. www.rav.vic.gov.au [accessed 15/09/03].

11. Strong K, Trickett P, Titulaer I, et al. *Health in rural and remote Australia: the first report of the Australian Institute of Health and Welfare on rural health. 1998, Canberra*, Australian Institute of Health and Welfare.

12. Stewart S. *Customer Satisfaction in the Metropolitan Ambulance Service*, Thesis for Master of Business, Victoria University of Technology, Melbourne. 2001. http://wallaby.vu.edu.au/adt-VVUT/public/adt-VVUT20020829.141301/ [accessed 15/09/03].

13. McKinley RK, Manku-Scott T, Hastings AM, et al. 'Reliability and validity of a new measure of patient satisfaction with out of hours primary medical care in the United Kingdom: development of a patient questionnaire'. *BMJ*, 1997, vol 314, pp 193-198.

This article was peer reviewed for the Journal of Emergency Primary Health Care Vol. 1 (3-4), 2003