

How well do we monitor patient satisfaction? Problems with the nation-wide patient survey

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Abstract

Aim. To outline and assess the accuracy and usefulness of the quarterly nation-wide patient survey of all New Zealand hospitals.

Method. Data generated by an improved patient survey at South Auckland Health (SAH) was used to examine some of the problems and issues pertaining to this survey: i.e. the format of the questionnaire; unintended consequences of the specific methodology employed and the usefulness of the obtained information.

Results. Evidence is provided to show that the inpatient sample is not representative of the SAH patient population and that patients across different socio-demographic groups have different satisfaction rates. Additional research projects undertaken by the authors at SAH suggest that different methods of completing the questionnaire can significantly influence the results.

Conclusion. The nation-wide patient survey is in need of revision, if it is to be used as an effective management tool within hospitals and for the sector as a whole.

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As part of the performance measures introduced by the Crown Company Monitoring and Advisory Unit (CCMAU) in 1993, all New Zealand hospitals are required to implement a patient satisfaction survey. This survey was developed in consultation with the sector at the time and incorporated empirical data obtained from a survey of hospital patients. Each quarter, each hospital sends a questionnaire in regular intervals to a random sample of 400 inpatients drawn from the monthly discharge list. Based on an expected return rate of 50%, each hospital thus records the opinions of 200 patients. The questionnaire asks 26 core, prescribed questions. An additional 24 items can be selected by the hospital. The questions cover the usual topics also included in overseas patient satisfaction surveys: patient perceptions of the admission process, the availability of staff, the manner in which they were treated by staff (did they receive enough information, were the staff courteous and culturally sensitive?), their opinion of the hospital's facilities (access, parking, signs, cleanliness, food), and the adequacy of communication between different departments involved in their care and discharge procedures. The response category used is the standard Likert 5 point scale that ranges from "very good" to "very poor". Patients are also asked whether they would recommend the hospital or, if they had a choice, whether they would come back. Each quarter, hospitals report to CCMAU the average percentage of responses recorded in the "very good" and "very poor" for all 26 questions. Subsequently, CCMAU produces a "league table" in which all hospitals are ranked on the average of their average "very good" for that quarter. In addition, the average "very good" and "very poor" for each item across the entire country are distributed to all hospitals.

According to CCMAU officials, the purpose of the nation-wide survey was to "send a signal" to hospital managers that patient satisfaction is as important as financial performance. Be that as it may, the survey suffers a number of methodological and procedural shortcomings which limit its usefulness for managers and clinicians in identifying problem areas and improving service delivery. Also, the manner in

which CCMAU processes and reports the results of the survey does not provide reliable inter-hospital comparisons. This paper identifies these methodological and procedural shortcomings and the problems with using the survey for inter-hospital comparisons. It also proposes how the survey can be improved to become a more effective management and reporting tool within hospitals and for the sector as a whole.

Nation-wide Patient Survey shortcomings

The questionnaire. A number of questions are "double barreled" or lump together various professional groups so that responses are ambiguous and difficult to interpret. Several questions use words that would not be used in common parlance in some of the socioeconomic groups- e.g. words like "access" and "alternative". Asking patients "...If you had an alternative when you next needed hospital care, would you come back to <our hospital>?" is not applicable to acute cases. Finally, the questionnaire does not cater for patients for whom English is a second language.

The prescribed methodology. Restricting the sampling to discharged inpatients (excluding out- or day-patients) leads necessarily to an under-representation of services where discharges are less frequent. This means that surgery and medical services patients, with a relatively fast turnaround, are over-represented and longer staying rehabilitation patients are under-represented. The postal survey is also not the most appropriate methodology for mental health patients. Consideration ought to be given to a separate survey for this group of patients, using for instance, face-to-face interview methodology or incorporating the attitudes and opinions of family and/or significant others.

Variation in the implementation of the methodology. While some hospitals stick closely to the details of the prescribed methodology and mail the questionnaires out on the specified days of the week, others personally hand the questionnaires to the patients upon discharge. Any such deviation from the agreed-upon data collection methodology is likely to affect results.

CCMAU's use of the patient survey data. It is perfectly acceptable to average responses to a set of questions which all attempt to measure the same construct.¹ However, CCMAU's routine procedure to combine items which have little in common compromises the integrity of the "league tables". CCMAU's practice of mixing response categories (i.e. mixing responses to Yes/No questions with answers to 5-point Likert scale questions) is recognised as a technical error which is presently being corrected.

Inappropriate comparisons between hospitals may be drawn if the survey fails to take into account variations in response rate and in the demographic characteristics of the various patient populations. No information is available on response rates achieved by New Zealand hospitals but the literature suggests that the absence of follow-up procedures is likely to result in low response rates. Since low response rates tend to elicit more extreme responses, comparisons between hospitals with different response rates are inappropriate. Comparisons between big city hospitals and small country hospitals may also be invalid. (Big city hospitals are known to have lower satisfaction rates.²)

Improvements at South Auckland Health

Partly in response to the above, a number of improvements were made to the way the Patient Survey is carried out at SAH:

- The questionnaire was made more user-friendly by the addition of more appropriate items. Patients were given the opportunity to comment in their own words on what they were most impressed/disappointed with;
- The number of selected patients was increased to allow for more detailed analysis;
- A follow-up procedure was implemented so that an analysis of non-respondents became possible;
- The patients' age, gender, ethnicity and domicile were appended to the database, as was the hospital, type of service received and ward in which they stayed;
- A separate questionnaire for out-patients, day-patients and community patients was developed.

These improvements allowed us to research whether or not our sample was representative of the SAH patient population and possible differences in satisfaction rates between patients of different socio-demographic groups. Using separate samples, we also investigated the possibility that a non-response error could have biased the results and whether or not the use of different methods of completing the questionnaire could affect results. A "non-response error" is an error caused by a difference in opinion between those who respond to a survey and those who do not. Research suggests that non-respondents can differ from respondents on a variety of demographic, socio-economic and behavioural dimensions.

Method

Standard survey. The study participants comprise those inpatients participating during January to June 1998 in the South Auckland Health Patient Survey. A random selection process based on the total number of inpatient discharges per fortnight generated 4,007 inpatients who were each sent the standard SAH inpatient questionnaire which incorporates the improvements described above. All selected patients had been inpatients in Medical, Surgical, Women's and Child Health Services provided by Middlemore and other SAH hospitals. Data from completed survey questionnaires were coded and entered into a database. Analysis was undertaken using the software package "ESPRI".

Additional surveys. Several additional research projects investigated specific issues:

- (1) An attempt was made to assess the non-response error by making telephone contact with Maori and Pacific Island non-respondents (both ethnic groups have low response rates) and requesting them to respond verbally to the questions posed in the SAH questionnaire;
- (2) The method of administering the survey was investigated by collecting the same information (a) by means of a structured, face-to-face, interviewer-administered questionnaire and (b) by handing patients the questionnaire in person and asking them to complete it as soon as they arrived home;
- (3) To identify the issues that have the greatest impact on satisfaction the standard SAH questionnaire was adapted to elicit responses concerning the perceived importance of the items listed in the questionnaire.

Results

Standard Survey. Over the period January-June 1998, a total of 4007 inpatients were sent a questionnaire, of which 1248 were returned. The response rate was therefore 31.1%. The sample of inpatients consisted of 44.7% male and 55.3% female patients. In terms of age bands, 33.5% were under 15 years old while 31.4% were over 50 years old. Not counting the "other" group, 65.8% are European, 14.6% are Maori, 14.3% are Pacific Island and 5.2% are Asian patients.

Representativeness. The degree of representativeness of the sample was investigated by comparing response rates in terms of the sex, age, ethnic group and domicile of the patient. The overall response rate of 31.1% is lower than previously achieved but still on a par with response rates achieved elsewhere.^{3,4} The response rate from male and female patients is much the same ($p < 0.05$). However, age plays a role in whether or not the patient decides to participate in the survey: the older the patient, the more likely (s)he is to return the completed questionnaire (Figure 1). Patients 0-1 year old refer to newly born babies: the questionnaire is sent to the women just having given birth.

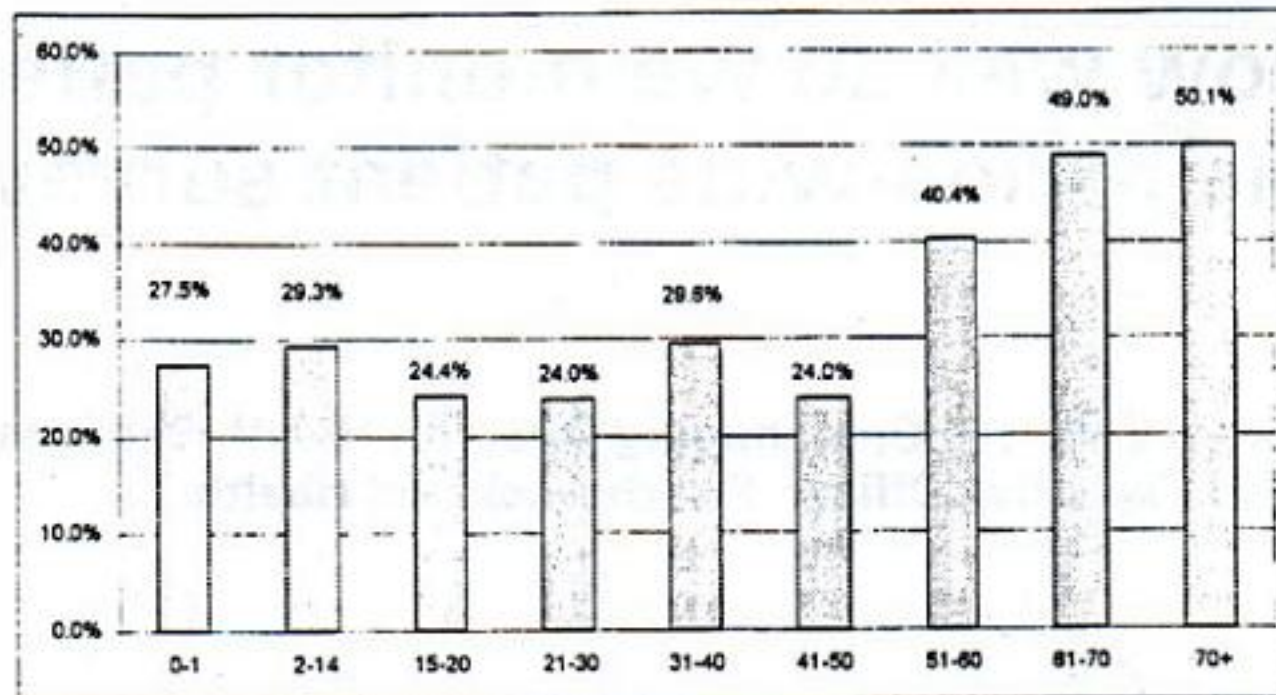


Figure 1. Response rate by age group

This tendency for older patients to participate more often results in an under-representation of younger patients and an over-representation of older patients in our sample.

Similarly, the likelihood of responding varies significantly for the various ethnic groups: European patients are almost twice as likely to take part in the survey than Maori patients and more than twice as likely as Pacific Island patients (Figure 2).

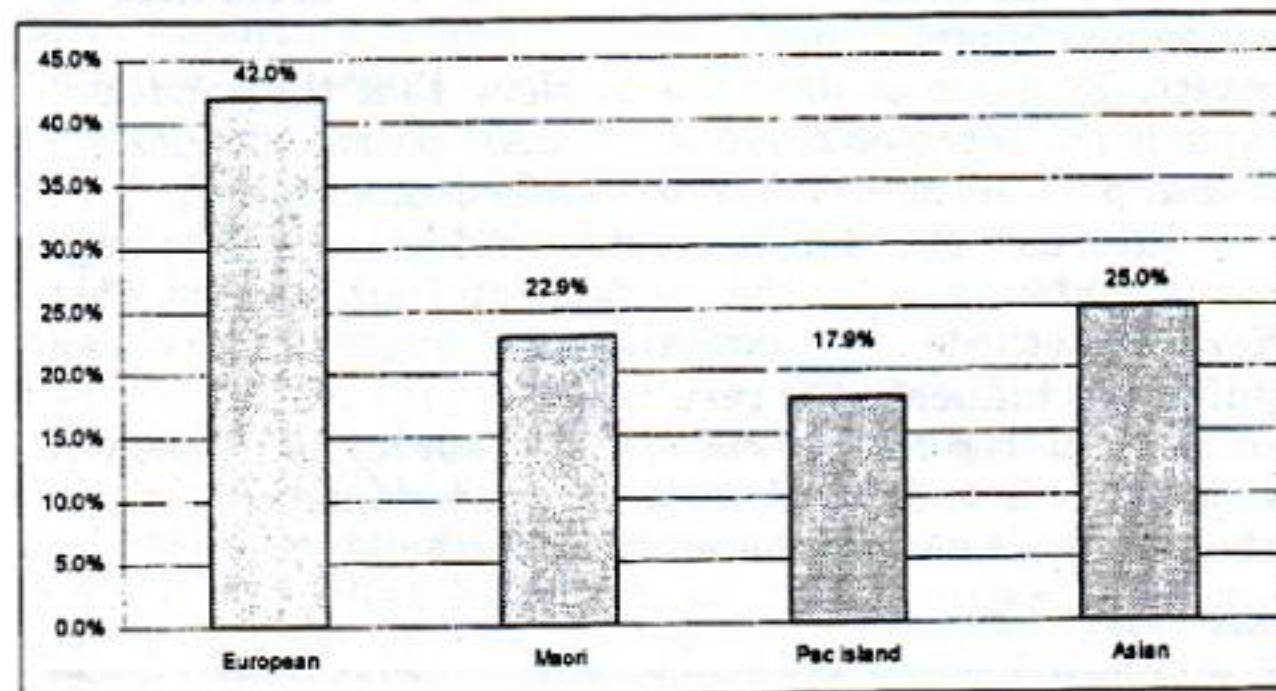


Figure 2. Response rate by ethnic group

This difference in the tendency to participate results in an under-representation of Maori and Pacific Island patients in the final sample. Also, patients from specific geographic areas are more likely to take part in the survey than are others. Our response rates are particularly high in the East Urban area, while low in Central Urban and Otara. The conclusion is that age, ethnicity and domicile correlate with the patients' tendency to respond.

Satisfaction varies with socio-demographic group. The significance of this non-response error is highlighted by the different satisfaction rates among various socio-demographic groups. Figure 3 shows that patient satisfaction tends to increase with age.⁵ An over-representation of older patients implies that satisfaction levels must necessarily be over-estimated.

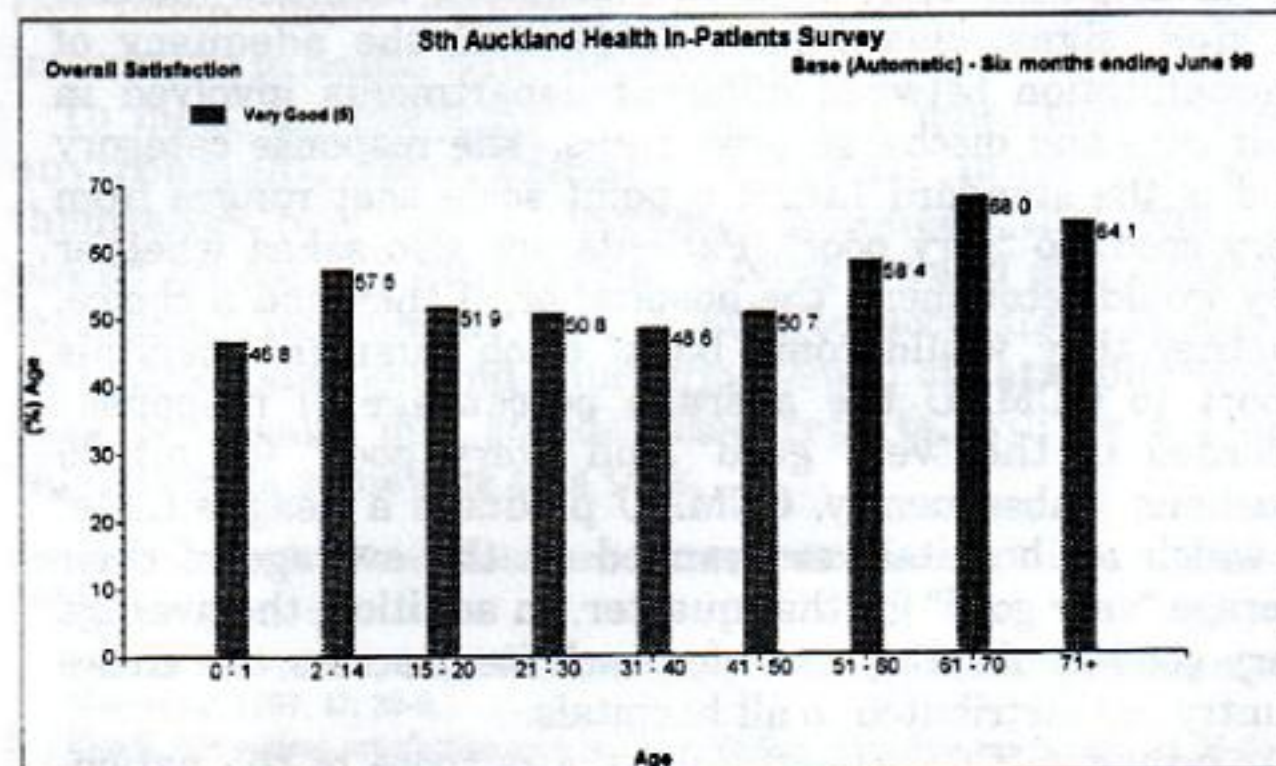


Figure 3. Overall satisfaction by age group.

Asian patients are less likely than Europeans, Maori and Pacific Island patients to indicate "very good" in response to the question about their overall level of satisfaction ($p < 0.01$); (Figure 4).

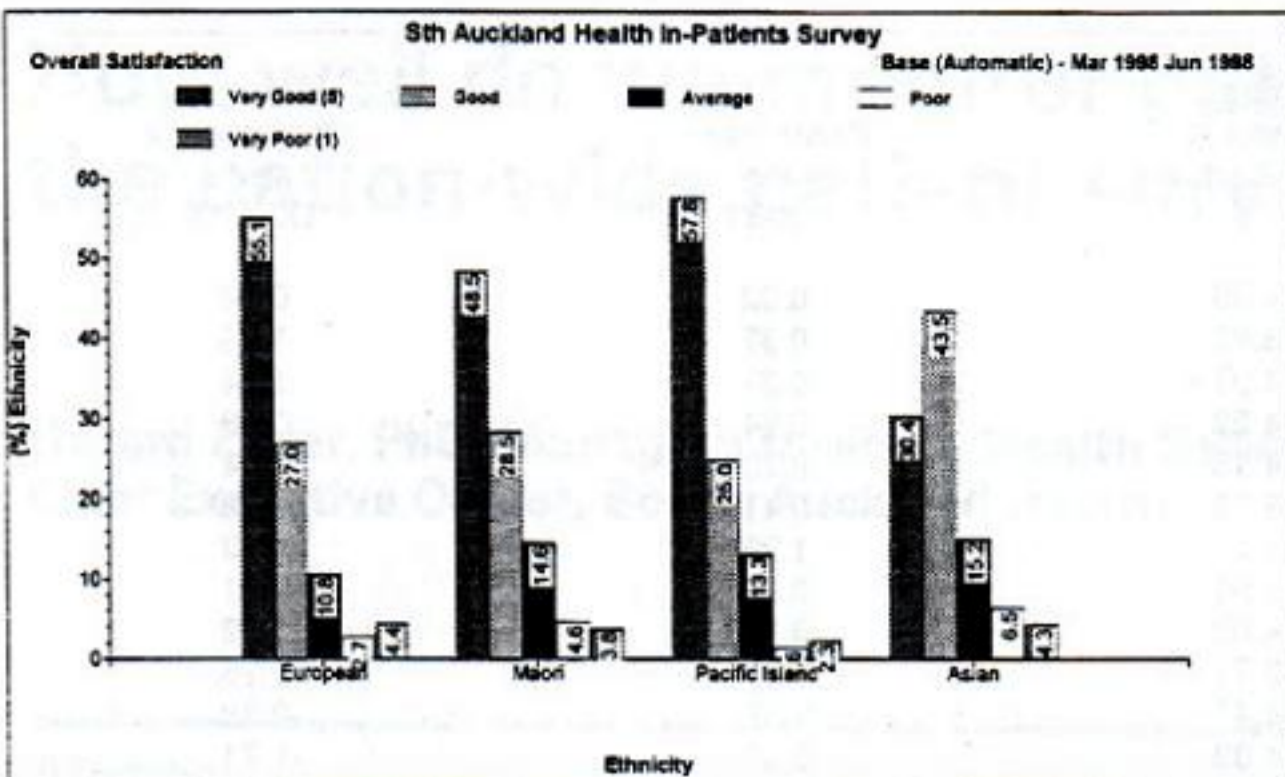


Figure 4. Overall satisfaction by ethnic group

Further analyses show that Maori patients (n=130) are less likely to be satisfied ($p < 0.05$) than are European patients (n=586) with the courtesy they receive from clinical staff (specialists and nurses). Pacific Island patients (n=128) are less likely than European patients to be satisfied with cultural and spiritual aspects and with the quality of the food, although they are more likely to be satisfied with parking facilities. Asian patients (n=46) are less likely to be satisfied with the availability (specialists) and cultural sensitivity of our staff. When this decreased level of satisfaction among Maori and Pacific Island patients is linked to their lower response rates it becomes clear that the overall satisfaction level of the entire patient base is over-estimated.

Finally, overall patient satisfaction is highest in East and South Rural areas (as well as for patients coming from outside the South Auckland area) and lowest in the South Urban area and Otara. To the extent that these areas represent respectively higher and lower socioeconomic class populations, this finding provides further evidence for the US finding that lower patient satisfaction is associated with higher number of Medicaid patients.⁶

Of course it is no coincidence that precisely those socio-demographic factors that are associated with low satisfaction ratings are the same factors that are associated with low response rates. After all, patients who are less satisfied with the service they received from a hospital are also less likely to take the trouble to complete and return the questionnaire.

Additional Projects

Non-response error. With help from volunteers working with the Maori Cultural Resource Unit, all 181 Maori non-responding inpatients who had been randomly selected in the first quarter 1998 were contacted and asked to answer the questions in a shortened version of the SAH inpatient questionnaire. Many attempts to contact these 181 patients failed because they had moved on, or the phone number was non-existent or disconnected, or it was the wrong number. A few declined outright to participate. In the end, only 55 patients could be found who were willing to reply to the questions in the questionnaire. Staff from the Pacific Island Cultural Resource Unit had similar difficulty contacting the 256 patients they had been provided with. However, they succeeded in recording the opinions of 100 Pacific Island discharged inpatients.

When the answers from the respondents in the postal survey are compared to the answers from participating non-respondents in the telephone survey, we find that there is very little difference between the Maori respondents and non-respondents. However, the same is not true in the Pacific Island group: patients participating in the postal survey by returning their completed questionnaire are more positive than those not participating - on all items. Fig 5 shows that these non-respondents prefer to answer "good" instead of "very good" - in fact, twice as often ($p < 0.01$).

This means that, if no adjustment is made, the level of satisfaction rates of Pacific Island patients is overestimated in the current survey.

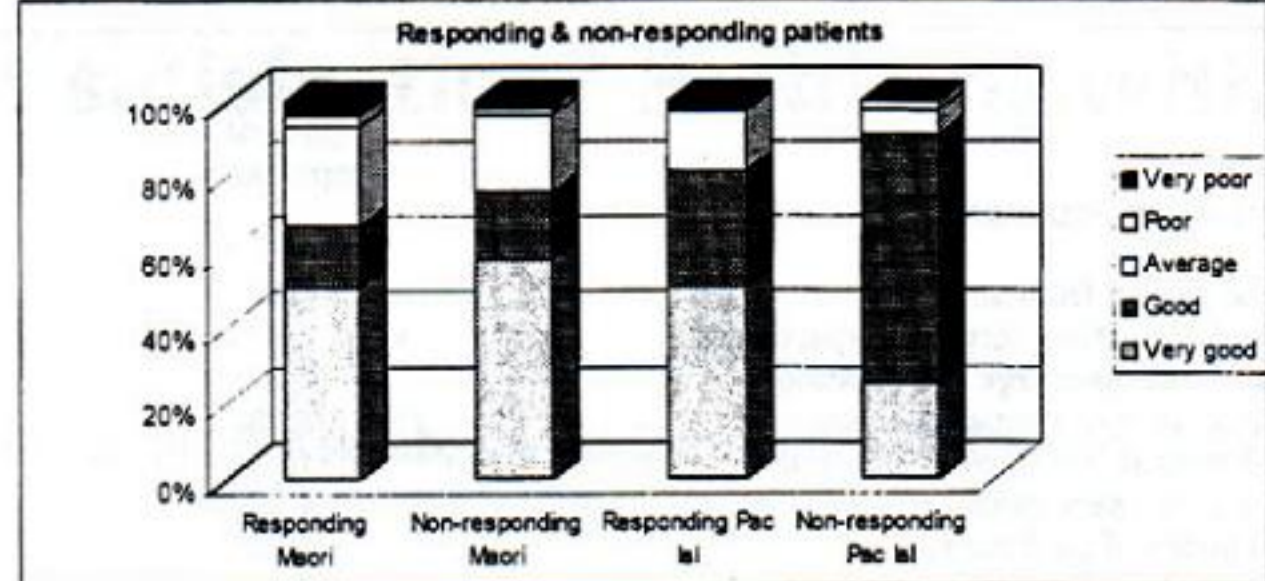


Figure 5. Satisfaction among responding and non-responding ethnic groups

The method of administering the survey.

(a) Interviewing patients at their bedside. In order to ascertain whether patients would respond differently to being interviewed while still in hospital (as opposed to being at home a few weeks after their discharge), 120 patients were surveyed at their bedside by a Bureau Nurse. Very few patients declined outright to co-operate. When the results of this study were compared with the results of the standard patient survey, we found that, while the percentage "very good" responses decreased by some 12%, the overall satisfaction, measured by the percentage "very good" plus "good" responses increased by 6%. The reason for this less extreme but more positive response overall is likely to be due to demand characteristics; that is, by asking patients the questions in person, they tend to express opinions that are likely to meet with approval.

(b) Handing the questionnaire to the patient upon leaving hospital. In a second survey, the questionnaires were handed out to the patient on the day of their discharge. The purpose of the survey was explained and patients were encouraged in person to complete the questionnaire as soon as they arrived home. The questionnaire was handed out to 211 patients and, as 82 responded by due date, the response rate was 38.9%. The analysis shows that the difference in the average level of satisfaction between the standard survey and this survey was statistically not significant.

The importance of the various components of care.

Another in-house survey of 95 patients was carried out to research the importance patients attached to each of the items in the standard questionnaire. To ensure that the task was not too laborious, the items relating to information, availability and courtesy of staff were combined and patients were asked to score these and each of the remaining items in terms of importance. The results were then ranked in terms of their mean importance and compared to the mean satisfaction ratings of the usual survey. In addition, a "performance gap" (which is the difference between the two means) and an "opportunity score" (the performance gap weighted by the importance score) were calculated (Table 1).

The analysis shows that the items patients considered to be most important were related to the information they received from staff, communication between departments, attendance during admission and cleanliness. It is also apparent that by making more car parking facilities available, we maximise the opportunity to improve our services.

Discussion

The analysis of the SAH sample revealed a systematic non-response bias. The under-representation of younger patients and an over-representation of older patients linked with the finding that patient satisfaction increases with age implies that satisfaction levels must necessarily be over-estimated. Moreover, since hospitals have different proportions of the various age groups, depending on the kind of services they provide, any comparison between hospitals with a relatively low proportion of older patients with hospitals that have a higher proportion of such patients will necessarily be more a reflection of the make-up of the patient population than it is of the respective satisfaction rates.

Table 1. Means of responses to questions on importance and satisfaction.

Item Ranked on importance:	Mean patient importance X	Mean patient satisfaction Y	Performance gap (X-Y)	Opportunity score (X-Y)*X
Information from staff	4.35	4.33	0.02	0.08
Communication between departments	4.30	3.93	0.37	1.58
Clarity of discharge information	4.28	4.01	0.27	1.14
Attendance during admission	4.26	4.22	0.04	0.18
The cleanliness of room or ward	4.25	4.15	0.10	0.44
Info about services after discharge	4.13	3.72	0.41	1.68
Adequacy of parking space	4.02	2.73	1.29	5.19
Information for family and friends	3.98	3.95	0.03	0.11
Availability of staff	3.91	4.09	-0.18	-0.72
Adequacy of signs	3.91	3.71	0.20	0.76
Care shown by clinical staff	3.88	4.47	-0.59	-2.28
Access into your room or ward	3.87	4.32	-0.45	-1.74
Quality of your meals	3.85	3.90	-0.05	-0.18
Courtesy of staff	3.84	4.46	-0.62	-2.37
Personal needs	3.79	4.13	-0.34	-1.30
Confidentiality	3.32	4.31	-0.99	-3.30
Care shown by hotel staff	3.30	4.24	-0.94	-3.11
Cultural sensitivity	3.11	4.01	-0.90	-2.81

Similarly, we have shown that the likelihood of responding varies significantly for the various ethnic groups with European patients being much more likely to respond than Maori and Pacific Island patients. However, while the non-response of these specific ethnic groups may lead to a general overestimation of patient satisfaction, hospitals that have a greater proportion of these ethnic groups are likely to be disadvantaged by lower satisfaction on specific issues. Likewise, the under-representation of specific socio-demographic groups and their greater dissatisfaction also tend to cancel each other out. It is ironic that hospitals like SAH, which attempt to increase representativeness of these groups, are rewarded with a decrease in recorded patient satisfaction.

In addition to the above described problems of representativeness, this study has also provided support for the contention that patient satisfaction levels can be influenced by the methodology used to measure it. While handing the questionnaire to the patient upon leaving the hospital appears not to affect satisfaction rates, sitting down with the patient and together completing the questionnaire has been shown to lead to an increase in overall satisfaction. Finally, by understanding what, from the patient's perspective, is the most important part of care,⁷ we can identify those areas that have the greatest impact on satisfaction and thus where the opportunity to improve our services is greatest.

From the foregoing it is clear that the nation-wide patient survey is in urgent need of review and improvement: (a) the issues of representativeness and systematic non-response bias must be addressed; (b) the usefulness of its data needs to be increased and (c) the implementation ought to be standardised across the country.

To make the survey more representative of the patient population, it is proposed here that a stratified random sampling methodology based on service, age, sex and ethnicity is implemented. This stratification would exclude mental health services which ought to have their own service-specific patient survey. The number of patients selected must be based on the number of patients using the services during a specific period. Hospitals need to record response rates in terms of these variables so that the degree of achieved representativeness can be properly assessed. Both inpatients' and outpatients' satisfaction must be monitored. Increasing the respondents' motivation to reply can reduce the level of non-response. This can be achieved by making the questionnaire and the accompanying letter more user-friendly and more relevant, and by reminding respondents through repeated mailings or other contact.

In order to ensure that the patient survey generates more meaningful and useful information, hospitals are advised to increase the sample size and to supplement the standard

set of demographic variables with other information such as which ward the patient stayed in, or which clinic (s)he was treated at, so that we know what his/her comments refer to. Most important is to ask the patient to describe in his/her own words, what (s)he was particularly impressed/disappointed by. These verbatim comments will provide a rich source of qualitative information that can be used to ameliorate unacceptable conditions or situations.

The best way in which we can ensure that the required standardisation and uniformity of methodology is implemented throughout the country would be to centralise this function within an independent body. After all, CCMAU does not consider it to be its responsibility to collect and process survey information. Similar to what happens in other industries, and assuming that the secondary care sector is willing to accept ownership of the patient survey, someone could be appointed to collect and process the data, analyse the results and report on the findings. Not only will this strategy reduce costs due to economies of scale, but it will also contribute to greater reliability and validity, lead to more useful analyses and comparisons and, as a result, benefit the sector as a whole. At the same time, the move to centralise does not prevent hospitals from including questions or addressing issues that are specific to their services.

Conclusion

Although at present acute patients have little choice in what hospital they will be treated, this is set to change in the near future.

The ongoing integration between primary care and secondary care (and the resulting increase in outpatient/inpatient ratio) and a more widespread acceptance of a capitated environment, is likely to intensify competition for the patient's business. In this environment, patient satisfaction will become of vital importance to health care organisations.

To meet the challenges inherent in a more competitive environment, New Zealand hospitals must prepare themselves now for the increased emphasis that will be placed on patient satisfaction. Having a valid and reliable measuring instrument that is able to accurately monitor patient satisfaction and a uniform system of data collection, data processing and standardised reports, will go a long way towards achieving this task.

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