

Assessing patient satisfaction: implications for South Australian public hospitals

Ann-Louise Hordacre, Anne Taylor, Christy Pirone and Robert J Adams

Abstract

This paper reports on the results from 2620 South Australians who participated in the 2003 Patient Evaluation of Hospital Services. Patients were found to be generally satisfied with the care, services and amenities provided, with a statewide overall score of 86.3. Satisfaction was lowest in the patients' assessment of their involvement in their own care and treatment. Three demographic factors (younger age, female sex or tertiary education) predicted lower levels of satisfaction in the multivariate analysis, whereas living with others, non-emergency admission or admission to smaller hospitals were found to predict higher satisfaction. Despite administrative and organisational difficulties, and limited current evidence of increased quality or satisfaction, it is considered important to continue satisfaction research with the goal of encouraging the development of action plans for improvement of care, services and amenities.

Aust Health Rev 2005; 29(4): 439–446

Ann-Louise Hordacre, PhD, Research Fellow
Primary Health Care Research and Information Unit,
Flinders University, Adelaide, SA.

Anne Taylor, BA, MPH, Manager, Population Research and
Outcome Studies Unit

Christy Pirone, MClinSc BSN RN, Principal Consultant
Safety and Quality

South Australian Department of Health, Adelaide, SA.

Robert J Adams, MB BS MD, Senior Lecturer

Department of Medicine, The Queen Elizabeth Hospital
Campus, University of Adelaide, SA.

Correspondence: Dr Ann-Louise Hordacre, Primary Health
Care Research and Information Unit, Flinders University,
GPO Box 2100, Adelaide, SA 5001.

annlouise.hordacre@flinders.edu.au

What is known about the topic?

Patient satisfaction surveys have been gaining popularity as a mechanism to measure patient perceptions of care, service and amenities.

What does this paper add?

This paper reports on the findings of the 2003 South Australian Patient Evaluation of Hospital Services. The results suggested a high level of patient satisfaction and, consistent with other studies, identified younger age, female sex, higher education level, living alone, emergency admission and admission to larger hospitals were associated with lower overall satisfaction scores.

What are the implications for practitioners?

Practitioners should consider the predictors identified in this study in future efforts to measure patient satisfaction, and in health system planning and policy developments.

FOR OVER TWENTY YEARS, satisfaction surveys have been employed by hospital systems to measure patient perceptions of care, service and amenities. However, much of the early research in this field failed to clearly define the construct. Most researchers¹⁻⁴ agreed that satisfaction is a multidimensional construct consisting of: patient perception regarding the level of staff interpersonal skill and technical competence; patient access to, the availability and outcome of care and services; continuity of care; and assessment of the hospital's residential environment. Satisfaction levels do not always equate to quality of care, as they are moderated by a combination of interpersonal factors, current and former experiences, expectations, and personal and societal values.^{4,5} Theories proposed in patient-satisfaction research suggest that there are direct relationships between satisfaction, expectations and outcomes.³

When assessing satisfaction survey results, consideration should be given to factors associated

with satisfaction scores. Research on socio-demographic characteristics has shown that most are generally considered to be poor predictors of inpatient satisfaction.^{6,7} However, the strongest and most consistent finding is for age, with a positive relationship between increasing age and higher levels of satisfaction.^{1,6-10} Lower educational level is also linked to higher satisfaction levels, however this relationship is weaker.^{1,7} Results for other demographic variables such as sex, income, marital status, and race tend to be inconsistent.^{1,4,8,9}

Individual health status and hospital characteristics have also been assessed to determine whether these contributed to higher or lower satisfaction levels. Positive relationships between health status and patient satisfaction levels have been reported.^{7,9,11} However, some have reported this relationship holds for women only,⁸ while others suggested this relationship existed for mental, but not for physical, health.¹² Increased hospital size was found to be negatively related to patient satisfaction.⁹ This finding is thought, at least in part, to be due to the differential casemix of these hospitals.¹³

We believe that given the lack of published literature on satisfaction in a cross-section of acute care patients in Australia, and with results from patient satisfaction surveys becoming more widely available to patients and health administrators on the Internet and other forms of media,^{14,15} it is important to understand the personal and institutional factors that influence satisfaction ratings. The South Australian Patient Evaluation of Hospital Services is ideally placed to inform this area of research. This paper measures satisfaction with hospital care, services and amenities in public hospitals in South Australia from the South Australian Patient Evaluation of Hospital Services. Further, it aims to identify personal, health and hospital characteristics that contribute independently to patient evaluations of hospital services in SA.

Method

Survey

In 2001, the South Australian Hospitals Safety and Quality Council initiated the South Austral-

ian Patient Evaluation of Hospital Services (PEHS) to identify key dimensions of hospital care and to measure patient satisfaction within these areas. The survey contents and collection methods follow the model developed by the Western Australian Health Department in 1996–97. Items for the survey were developed through an iterative process piloting issues identified by the Draper and Hill report,¹³ *Medicare public patients' hospital charter*,¹⁶ complaints to the Office of Health Review and incorporated results from a series of focus groups.

Questions included in the survey addressed patient demographic background and their satisfaction with hospital care, services and amenities. Statistical techniques including factor and reliability analyses were used to test satisfaction items, and identified seven independent factors: coordination and consistency of care; access to the hospital; availability of staff; information and communication between patients and service providers; patients' right to be involved in their care and treatment; residential aspects of the hospital; and the meeting of personal as well as clinical needs. Questions in each of the seven areas were coded to reflect the patients' level of satisfaction from zero (least satisfied/negative response) to 100 (most satisfied/positive response). The average of the responses to the questions in each of the seven areas provided an *area score*, while the *total score* is the average of the seven scores. From the Western Australian experience, areas with a reported level of 90 and above have achieved a high level of satisfaction, seen as the "gold standard". Those with scores around 80 have a reasonable satisfaction level (but could improve), while hospitals with area scores around 70 have a level of satisfaction that warrants urgent attention.

Design

Adult patients who were discharged after at least one night of care in the South Australian public hospital system between 1 June and 28 June, 2003 were identified for inclusion in this survey. Eligibility criteria required that identified patients were South Australian residents aged 16

I Flow chart of eligibility and participation rates for the 2003 South Australian Patient Evaluation of Hospital Services

Original sample
(*n* = 4093)



Ineligible sample
(*n* = 849 [20.7%])

Eligible sample
(*n* = 3244 [79.3%])

Non-participation
(*n* = 624 [19.2%])

Completed interviews
(*n* = 2620 [80.8%])

Ineligibility reasons

- 317 (37.3%), non-contact after six attempts
- 111 (13.1%), respondent unavailable
- 214 (25.2%), phone not connected
- 134 (15.8%), incorrect phone number
- 21 (2.5%), number for fax/modem
- 52 (6.1%), deceased

Non-participation reasons

- 217 (34.8%), refusal
- 90 (14.4%), non-English speaker
- 20 (3.2%), terminated
- 223 (35.7%), incapable/too ill
- 74 (11.9%), back in hospital

to 80 years who had been hospitalised for between 1 and 35 days. Patients were excluded from the survey if they were of Aboriginal or Torres Strait Islander descent, or if they were discharged to a nursing home or other institution. Patients with principal diagnoses related to maternity, psychiatric illness, substance abuse, chemotherapy or renal dialysis were also excluded a priori.

Patients from participating metropolitan and regional hospitals were identified for the survey; however, when numbers of eligible patients in a hospital exceeded 600, a random sample (*n* = 600) was drawn. Before telephone contact, all selected patients were sent an approach letter explaining and encouraging participation in the survey. Data were collected from August to September 2003 by the Computer Assisted Telephone Interview (CATI) technique. Professional interviewers were used to telephone each of the selected patients. Where necessary, at least six "call-backs" were made to the selected patient's telephone number at different times of the day and evening. If the patient was unable to be interviewed when contacted, appointments were scheduled at a time convenient to them.

Statistical analysis

The sample did not reflect the population of interest, and weighting was used to correct this disproportionality. The weights reflected unequal sample inclusion probabilities and compensated for differential non-response. The data were weighted by age and sex to the eligible sample of

2 Mean area and overall satisfaction scores for the 2003 South Australian Patient Evaluation of Hospital Services (*n* = 2620)

Area	Mean (SE)
Coordination and consistency of care	91.8 (0.24)
Information and communication between patient and service provider	90.8 (0.31)
Meeting personal as well as clinical needs	89.1 (0.26)
Availability of people caring for the patient	87.8 (0.40)
Access to the hospital	84.0 (0.43)
Residential aspects of the hospital	81.2 (0.30)
Patient's right to be involved in their care and treatment	79.0 (0.38)
Patient satisfaction (overall)	86.3 (0.24)

3 Satisfaction level by demographic, health and hospital characteristics (weighted) for the 2003 South Australian Patient Evaluation of Hospital Services

Characteristic	Group	Total satisfaction score [†]		
		<86 (no. [%])	≥ 86 (no. [%])	Total (no. [%])
Sex**	Men	408 (44.2%)	859 (50.6%)	1266 (48.3%)
	Women	515 (55.8%)	838 (49.4%)	1354 (51.7%)
Age***	16–24 years	108 (11.7%)	120 (7.1%)	228 (8.7%)
	25–34 years	158 (17.1%)	214 (12.6%)	372 (14.2%)
	35–44 years	138 (14.9%)	182 (10.7%)	320 (12.2%)
	45–54 years	143 (15.5%)	211 (12.4%)	354 (13.5%)
	55–64 years	130 (14.1%)	304 (17.9%)	433 (16.5%)
	65+ years	246 (26.7%)	666 (39.3%)	913 (34.8%)
Marital status***	Married/partner	530 (57.6%)	1094 (64.5%)	1624 (62.1%)
	Separated/divorced/widowed	225 (24.4%)	370 (21.8%)	595 (22.8%)
	Never married	166 (18.0%)	231 (13.6%)	397 (15.2%)
Usual place of residence***	Metropolitan area	693 (75.0%)	986 (58.1%)	1679 (64.1%)
	Non-metropolitan area	230 (25.0%)	711 (41.9%)	941 (35.9%)
Highest education level***	Never/primary	91 (9.8%)	254 (14.9%)	344 (13.1%)
	Some secondary	387 (42.0%)	769 (45.3%)	1156 (44.1%)
	Completed secondary	154 (16.7%)	272 (16.0%)	426 (16.3%)
	Tertiary	290 (31.5%)	402 (23.7%)	692 (26.4%)
Annual gross household income per annum***	Up to \$12 000	177 (19.1%)	308 (18.2%)	485 (18.5%)
	\$12 001–\$20 000	238 (25.8%)	553 (32.6%)	791 (30.2%)
	\$20 001–\$40 000	175 (18.9%)	350 (20.6%)	524 (20.0%)
	\$40 001–\$60 000	101 (10.9%)	177 (10.4%)	278 (10.6%)
	\$60 001–\$80 000	70 (7.6%)	103 (6.1%)	174 (6.6%)
	More than \$80 000	63 (6.8%)	79 (4.6%)	141 (5.4%)
	Not stated/refused/don't know	100 (10.8%)	128 (7.5%)	228 (8.7%)
Living arrangements	Live alone	201 (21.8%)	332 (19.6%)	534 (20.4%)
	Live with others	722 (78.2%)	1365 (80.4%)	2086 (79.6%)
Place of birth	Australia	649 (70.4%)	1213 (71.5%)	1862 (71.1%)
	English speaking overseas country	164 (17.8%)	304 (17.9%)	468 (17.9%)
	Non-English speaking overseas country	109 (11.8%)	180 (10.6%)	290 (11.1%)
Admission type***	Emergency	580 (62.9%)	917 (54.1%)	1498 (57.2%)
	Non-emergency	343 (37.1%)	780 (45.9%)	1122 (42.8%)
Hospital category***	Large metropolitan	547 (59.3%)	729 (43.0%)	1276 (48.7%)
	Medium metropolitan	223 (24.2%)	322 (19.0%)	545 (20.8%)
	Community/small metropolitan/regional	102 (11.1%)	328 (19.4%)	431 (16.4%)
	Sub-regional	22 (2.3%)	99 (5.8%)	121 (4.6%)
	Aggregated/small country	29 (3.1%)	219 (12.9%)	248 (9.4%)
Length of stay	1 day	320 (34.8%)	601 (35.5%)	921 (35.3%)
	2–3 days	302 (32.9%)	533 (31.5%)	835 (32.0%)
	4–7 days	217 (23.7%)	367 (21.7%)	585 (22.4%)
	Over 1 week	79 (8.6%)	190 (11.2%)	269 (10.3%)
Private hospital cover*	Private hospital cover	154 (16.8%)	323 (19.1%)	477 (18.3%)
	Repatriation Gold Card [‡]	13 (1.4%)	44 (2.6%)	57 (2.2%)
	No private hospital cover	753 (81.8%)	1320 (78.3%)	2072 (79.5%)

Significance level: * = $P < 0.05$; ** = $P < 0.01$; *** = $P < 0.001$.

[†] Total satisfaction levels were identified by dichotomising the mean score (low satisfaction, < 86; high satisfaction ≥ 86)

[‡] Repatriation Gold Card provides the holder access to a comprehensive range of health care and related services for all health care needs.

Bold values indicate greater than expected numbers, based on chi-square analyses. The Bonferroni correction is used to adjust for all pairwise comparisons. Due to rounding, proportions may not always equal 100%.

4 Prediction of low satisfaction level: multivariate results for the 2003 South Australian Patient Evaluation of Hospital Services

Characteristic	Odds ratio (95% CI)	P
Age group		
16–24 years	2.484 (1.788 – 3.450)	0.000
25–34 years	1.901 (1.435 – 2.518)	0.000
35–44 years	2.258 (1.685 – 3.026)	0.000
45–54 years	1.847 (1.398 – 2.439)	0.000
55–64 years	1.201 (0.920 – 1.569)	0.179
65+ years (reference)	1.0	
Female	1.383 (1.161 – 1.647)	0.000
Male (reference)	1.0	
Highest education level		
Some secondary	1.039 (0.771 – 1.400)	0.800
Completed secondary	1.052 (0.745 – 1.484)	0.775
Tertiary	1.565 (1.141 – 2.147)	0.005
Primary or lower (reference)	1.0	
Living arrangements		
Live with others	0.711 (0.573 – 0.882)	0.002
Live alone (reference)	1.0	
Admission type		
Emergency	1.542 (1.295 – 1.836)	0.000
Non-emergency (reference)	1.0	
Hospital category		
Medium metropolitan	0.878 (0.711 – 1.084)	0.226
Community/ small metropolitan/ regional	0.384 (0.297 – 0.496)	0.000
Sub-regional	0.252 (0.154 – 0.411)	0.000
Small country	0.148 (0.098 – 0.223)	0.000
Large metropolitan (reference)	1.0	

Bold values indicate significant ORs.

adult inpatients. This state weight was based on the weighted factor used for all eligible patients in all participating hospitals.

Statistical analyses were conducted using SPSS for Windows (Version 12.0.1. Chicago: SPSS Inc., 2003.). Satisfaction levels were identified by dichotomising the mean score (low satisfaction, <86; high satisfaction, ≥86). To examine independent predictors of low levels of satisfaction with hospital care and services, 12 socio-demographic, health and institutional variables were initially tested in univariate logistic regression models using the χ^2 statistic to

examine the odds ratios (OR). Eleven variables fitted significance criteria at $P < 0.25$,¹⁷ and were tested in the multivariate logistic regression analyses. Employing stepwise regression techniques, variables with the largest P values were individually removed, with the model assessed (using the G statistic for difference between the log likelihood ratio tests) at each step for significant change. When no further variables could be removed at $P < 0.05$, diagnostic plots (residual, deviance, leverage, and Cook SD) were assessed to determine the fit of the model.

Results

A flow chart of eligibility and participation rates is shown in Box 1. Mean satisfaction scores for 2620 participating hospital inpatients are presented in Box 2. Satisfaction with overall care, services and amenities was generally high, with a statewide score of 86.3. However, area scores varied between a high of 91.8 for coordination and consistency of care, to a low of 79.0 for patient perception of their involvement in their care and treatment. Box 3 presents results from the univariate analysis of demographic, health status and hospital characteristics. Lower levels of satisfaction were reported by women, patients aged 16 to 54 years, those who had not been married, and those who lived in the metropolitan area, had a tertiary education, or earned more than \$80 000 per annum. Further, patients admitted through the emergency system, those without private health insurance, or those who were admitted to either large or medium-sized metropolitan hospitals were also less satisfied with the care, amenities and services they received.

Of the variables presented in Box 3, only "Place of birth" was excluded from the multivariate model as it failed to reach criteria in the univariate logistic regression analyses. Eleven variables were therefore tested as predictors of low satisfaction; six of these were found to contribute significantly to the final model presented in Box 4. A lower level of satisfaction was independently predicted by age (with patients younger than 55 years less satisfied than those who were over 64 years), in women, and in patients with a tertiary education (compared with those educated to a primary level or lower). High levels of satisfaction were predicted by the patient living with others, a non-emergency admission, or admission to smaller or non-metropolitan hospitals.

Discussion

The findings reported here add considerable support to the results from other patient satisfaction studies, but more importantly contribute to the literature from an Australian setting. It is of interest that the socio-demographic variables

found here to be independent predictors of lower levels of satisfaction reinforce those most commonly reported in other patient satisfaction surveys. Higher age and lower education have consistently been found to predict higher patient satisfaction, however, gender results are equivocal.⁶ It has been proposed that the generational difference in satisfaction levels may result from older patients having more exposure to the health system and therefore having more pragmatic expectations of their care, or expecting a paternalistic model of care, in contrast to younger patients who expect to be included in the decision-making process.¹¹ Previous studies have also reported that hospital size has an influence on patient satisfaction,⁹ however, this variable is not usually assessed in conjunction with demographic variables. It is suggested that the higher satisfaction levels found in smaller hospitals may result from their more personal nature, or may be due to the fact that smaller hospitals are less likely to accommodate patients with severe illness or high care needs. We also found that patients who usually lived alone were less satisfied with hospital care, as were those patients who experienced emergency admission.

The 2620 patients completing this survey provided information on satisfaction levels in public hospitals across South Australian metropolitan and country areas. Of the patients identified as eligible in this survey, 81% completed the interviews, representing 64% of patients from the original sample. This participation rate compares favourably with hospital satisfaction surveys conducted in other Australian states, with a 47%, 42% and 44% response rate in recently reported Western Australian, Victorian and Queensland postal surveys, respectively.^{18,19} However, differing methodologies make specific comparisons difficult. In our survey, 7% of eligible patients indicated that they did not wish to participate in the survey but did not state a reason, whereas 9.2% were too ill or had returned to hospital (suggesting that the survey methodology may be excluding patients who are more severely ill). Although the CATI interviews were offered in English, Italian, Greek and Vietnamese, a further

2.8% of the eligible sample did not participate due to language difficulties. It is difficult to determine how these patients' perceptions of care, services and amenities may differ from those who did complete the survey. However, research looking at possible non-response bias suggests differences are likely to be small and are affected by the dimension of satisfaction being assessed.²⁰ It is of note that our survey excluded patients from specific demographic groups (eg, Indigenous patients, patients aged less than 16 years) and those with specific clinical characteristics (eg, mental health or renal dialysis patients) a priori. This was to enable the development of surveys and methodologies tailored to the specific requirements of these "special" patient groups.

The survey reported here was designed to assess satisfaction with hospital care, services and amenities. Williams²¹ suggested that patients tended to express dissatisfaction only when they experienced something negative, while Carr-Hill⁴ reported that there may be a response bias in favour of satisfaction. Further, the wording of survey items may also obscure identification of areas of dissatisfaction, as patients appear to be less likely to agree with an item stating that an unfavourable event has occurred than to disagree that a favourable event has.²² Satisfaction with overall care is likely to obscure dissatisfaction with specific areas of care or services. Although this survey assesses seven dimensions of care, amenities, and services, the logistic regression was conducted using the overall satisfaction score to ensure consistency with other analyses of satisfaction levels. However, future analysis should consider whether these findings are consistent across the seven dimensions contributing to overall patient satisfaction.

The Commonwealth and South Australian governments are committed to the development and implementation of quality improvement and enhancement practices that encourage and promote high standards in the delivery of public hospital services.^{23,24} However, Draper and Hill²⁵ suggest that Australian benchmarking for patient satisfaction as a measure of hospital performance is problematic due to lack of shared understand-

ing about the construct. This is further complicated by the structure of Australian health funding whereby both state and federal governments have responsibility for the nation's hospitals.

Conclusions

Satisfaction with medical or hospital care has implications beyond contributing to the patient's individual sense of wellbeing, as satisfied patients are more inclined to comply with medical advice.^{26,27} Further, hospitals with higher levels of patient satisfaction also have higher ratings of quality from health and care workers,¹¹ therefore, it would seem that increases in levels of patient satisfaction will benefit staff as well as patients. Despite the recent proliferation of patient satisfaction surveys, reports suggest they have not resulted in the anticipated increased action or quality improvement.^{13,28} However, the feedback loop, from researcher to hospital and back to researcher, is not always explicated in reports on patient satisfaction, and it is not clear whether similar levels of satisfaction over time are due to inadequate hospital action or the survey's inability to detect change. Rather than "throw the baby out with the bath water" and discard satisfaction surveys, our experience suggests that hospitals should be encouraged to develop action plans based on their results. Further, we plan to assess in the 2005 South Australian Overnight PEHS survey the impact of action plans on satisfaction levels reported in 2003. This is part of a program of surveys used in South Australia to enable hospitals to record and respond to both positive and negative changes over time. Attention should also be given to ensure that patient surveys receive the support of those who can influence the organisational or resource issues that need to be addressed.

Until recently, the quality of health care services was almost exclusively measured by health professionals and determined by clinical outcome. Today, with increasingly active and prominent health consumer groups, patient perceptions are influencing the type and quality of health care.²⁹⁻³¹

While hospital satisfaction data have not yet been used in Australia as a tool for patients to facilitate hospital choice, if this is to be considered, it is important to look at the predictors identified in this study, while continuing to evaluate patient perceptions of care in the public hospital system.

Competing interests

The authors declare that they have no competing interests.

References

- Sitzia J, Wood N. Patient satisfaction: a review of issues and concepts. *Soc Sci Med* 1997; 45: 1829-43.
- Ware JE Jr, Snyder MK, Wright WR, Davies AR. Defining and measuring patient satisfaction with medical care. *Eval Program Plann* 1983; 6(3-4): 247-63.
- Campbell J. Exemplary practices for measuring consumer satisfaction: a review of the literature. St Louis, Missouri: Missouri Institute of Mental Health, 1999.
- Carr-Hill RA. The measurement of patient satisfaction. *J Public Health Med* 1992; 14(3): 236-49.
- Linder-Pelz SU. Toward a theory of patient satisfaction. *Soc Sci Med* 1982; 16: 577-82.
- Hall JA, Dornan MC. Patient sociodemographic characteristics as predictors of satisfaction with medical care: a meta-analysis. *Soc Sci Med* 1990; 30: 811-18.
- Tucker JL. The moderators of patient satisfaction. *J Manag Med* 2002; 16: 48-66.
- Kressin NR, Skinner K, Sullivan L, et al. Patient satisfaction with Department of Veterans Affairs health care: do women differ from men? *Mil Med* 1999; 164: 283-8.
- Young GJ, Meterko M, Desai KR. Patient satisfaction with hospital care: effects of demographic and institutional characteristics. *Med Care* 2000; 38: 325-34.
- Jenkinson C, Coulter A, Bruster S, et al. Patients' experiences and satisfaction with health care: results of a questionnaire study of specific aspects of care. *Qual Saf Health Care* 2002; 11: 335-9.
- Jaipaul CK, Rosenthal GE. Are older patients more satisfied with hospital care than younger patients? *J Gen Intern Med* 2003; 18: 23-30.
- Marshall GN, Hays RD, Mazel R. Health status and satisfaction with health care: results from the medical outcomes study. *J Consult Clin Psychol* 1996; 64: 380-90.
- Draper M, Hill S. The role of patient satisfaction surveys in a national approach to hospital quality management. Canberra: Australian Government Publishing Service, 1995.
- California HealthCare Foundation, California Institute for Health Systems Performance. What patients think of Californian hospitals. Oakland, Calif: CHF and CIHSP, 2004. Available at: <<http://www.chcf.org/documents/calhospitals/guide/CAHospitalExpSurvey04Guide.pdf>> (accessed Sep 2005).
- Healthcare Commission, Picker Institute Europe. NHSSurveys.org. Oxford, UK: 2004. Available at: <<http://www.nhssurveys.org>> (accessed Sep 2005).
- Government of Western Australia Department of Health. The Western Australian Public Patients' Hospital Charter. 2002. Available at: <http://www.health.wa.gov.au/bhs/brochures/Hospital_Charter-English.pdf> (accessed Sep 2005).
- Hosmer DW, Lemeshow S. Applied logistic regression. 2nd ed. New York: John Wiley & Sons Inc., 2000.
- Peacock G, Easton E. Patient satisfaction in Queensland Health acute care public hospitals: state summary report. Sandringham, Vic. TQA Research Pty Ltd., 2002.
- Steering Committee for the Review of Government Service Provision. Report on government services 2005. Canberra: Productivity Commission, 2005.
- Lasek RJ, Barkley W, Harper DL, Rosenthal GE. An evaluation of the impact of nonresponse bias on patient satisfaction surveys. *Med Care* 1997; 35: 646-52.
- Williams B. Patient satisfaction: a valid concept? *Soc Sci Med* 1994; 38: 509-16.
- Cohen G, Forbes J, Garraway M. Can different patient satisfaction survey methods yield consistent results? Comparison of three surveys. *BMJ* 1996; 313: 841-4.
- Australian Council for Safety and Quality in Health Care. *Safety and quality and the health reform agenda*. Canberra: Safety and Quality Council, 2003.
- Australian Council for Safety and Quality in Health Care. State and Territory action to improve patient safety: a report on achievements and activity for safety and quality. Canberra: Safety and Quality Council, 2004.
- Draper M, Hill S. Feasibility of national benchmarking of patient satisfaction with Australian hospitals. *Int J Qual Health Care* 1996; 8: 457-66.
- Parhiscar A, Rosenfeld RM. Can patient satisfaction with decisions predict compliance with surgery? *Otolaryngol Head Neck Surg* 2002; 126: 365-70.
- Renzi C, Picardi A, Abeni D, et al. Association of dissatisfaction with care and psychiatric morbidity with poor treatment compliance [see comment]. *Arch Dermatol* 2002; 138: 337-42.
- Cleary PD. The increasing importance of patient surveys. *BMJ* 1999; 319: 720-1.
- Australian Council for Safety and Quality in Health Care. A consumer vision for a safer health care system: report of a consumer workshop sponsored by the Australian Council for Safety and Quality in Health Care. Canberra: Safety and Quality Council, 2001.
- Cleary PD, Edgman-Levitan S. Health care quality. incorporating consumer perspectives. *JAMA* 1997; 278: 1608-12.
- Kizer KW. Establishing health care performance standards in an era of consumerism. *JAMA* 2001; 286: 1213-17.

(Received 13 Feb 2005, accepted 30 Aug 2005)

□