

# Review of the Nationwide Patient Survey

A discussion paper submitted to:  
DDG, Sector Accountability and Funding  
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## Introduction

A small number of Quality Managers from various DHBs have over the last few years expressed serious misgivings about the use and value of the nationwide patient survey. Also the Quality Improvement Committee has stated that the survey should be discontinued because “it doesn’t measure clinical quality ... <and> ... it does not reflect well enough on clinical care nor does it give enough information for DHBs to work on”.<sup>1</sup>

This conclusion is to some extent understandable given that, without any improvements to the data collection methodology and in the absence of a useful analysis of nationwide statistics by the Sector Accountability and Funding within the Ministry of Health, the information that can be derived from the present survey is indeed rather poor.

But not all DHBs are disenchanted with the patient survey as it stands.

DHBs such as Counties Manukau, Auckland, Bay of Plenty and Lakes, have improved the value of patient survey data by implementing measures such as:

- (1) ensuring the quarterly sample is sufficiently large to enable analysis
- (2) improving the response rate with follow ups, either postal or by phone
- (3) adding to the dataset the Inpatient or Outpatient Service and Department or Unit providing the treatment
- (4) reporting comments made by patients in a timely (monthly) manner and contributing to the complaints process by forwarding any complaint in which the patient requests a follow up so they can be actioned immediately and
- (5) carrying out regular quarterly sophisticated analyses of the results

Also the “Hospital Benchmark Information Review” produced by the Quality and Patient Satisfaction (patient) sub team in a report to the Steering committee in August 2005 did not have patient survey data other than that supplied by the Ministry, which many would agree is scanty at best. Were this committee given access to a database which would have allowed them to investigate data and trends in greater detail, their conclusion and subsequent recommendations might have been quite different

It is our opinion that if the Ministry did allow the redevelopment of a new nationwide patient survey, an enormous amount of extremely useful and pertinent information would be lost, and millions of dollars, literally, would have been wasted during the last ten years by New Zealand District Health Boards.

The failure to learn from the data that DHBs have worked so hard for would amount to a huge disaster, not only in financial terms but also in terms of what could have been achieved, if only DHBs had been able and willing to discuss the effect, or lack of effect, of the various quality initiatives on perceived patient satisfaction – both with each other and with the Ministry.

In this discussion paper I would like to address some of the issues raised in that report and suggest strongly that, before we throw the baby out with the bathwater, we need to be absolutely convinced that continuing the survey as it presently stands is a waste of time and effort.

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<sup>1</sup> see Mary Seddon’s comments in the Quality Improvement Committee minutes 30 November 2007

## **The Patient Survey Database**

Health Services Consumer Research Limited (HSCR, see [www.hscr.co.nz](http://www.hscr.co.nz)) was incorporated under the Companies Act on 23<sup>rd</sup> of April 1999. The company employs and works in partnership with trained data collection staff, supervised by the data processing coordinator, analysts and reports writers. A set of policy documents ensures that all communication between colleagues is confidential and all processes conform to required standards.

HSCR has gained substantial experience in survey research in the healthcare sector and now exclusively specialises in monitoring patient and hospital/clinic staff satisfaction. It provides all kinds of healthcare service providers (DHBs, PHOs, IPAs, private organisations) with expert advice on how to best monitor attitudes and opinions.

Having contributed to the discussions surrounding the creation of the current Patient Survey back in 1999, which resulted in the development of the Patient Survey Guidelines in 2000, I was personally eager to ensure that the patient survey data was captured in such a way to allow easy access and the possibility of both simple and sophisticated analysis.

To this end, I requested the Ministry in 2001, using the Official Information Act, to provide HSCR with a copy of the dataset. At first there was great opposition to this request and only after the intervention of the Ombudsman Health was the data provided regularly and on a quarterly basis. At present there exists a good understanding between the Sector Accountability and Funding and HSCR on this issue.

## **Development and use of the New Zealand Patient Satisfaction Index (NZPSI)**

This quarterly report, which HSCR started producing back in the year 2004, both in electronic (.pdf) format and as a hard copy report, contains an analysis of patient satisfaction ratings in *all* New Zealand DHBs. Reports show satisfaction ratings of inpatients and outpatients on each individual item, using demographics to throw more light on differences between the various DHBs.

In addition to increasing the accuracy of the nationwide dataset by “cleaning” the data (e.g. by replacing invalid codes with valid ones) HSCR also calculated the weighting factors for each DHB on the basis of the distribution of age, gender and ethnicity and applied the weights to every record in the dataset over the last 32 quarterly periods (i.e. since Oct-Dec 2001). As there are approximately 14,000 records each quarter, this is quite an enormous task.

The reason for weighting the data lies in the need to take into account differences in age and ethnicity distributions among DHBs. For instance, it is well known that older patients are more likely to express satisfaction with services received, than are younger patients.

Thus, a DHB which has a patient profile that is much older than other DHBs may achieve a higher level of patient satisfaction, irrespective of actual differences in the quality of service received. Using weighted data will therefore increase the accuracy

of the results and avoid the possibility of interpreting variances due to demographic make-up as real differences.

Furthermore, to facilitate detailed analysis, all data has been uploaded into “ESPRI” software. This locally developed software is used by multinational companies such as Sony, Cadbury, Microsoft, Telstra, Telecom, BNZ, ANZ/National, ASB, Westpac, all New Zealand car companies and most of the larger Market Research agencies. Also New Zealand Government Agencies such as Television NZ, Ministry of Tourism, NZ Transport Agency and Statistics NZ use this software to analyse their data. At HSCR we utilise ESPRI on behalf of Counties Manukau DHB and Auckland DHB.

As a result of the efforts made by New Zealand District Health Boards in implementing a nationwide Patient Survey, and using the Patient Survey Guidelines established back in June 2000, DHBs around New Zealand can now access a national database which presently consist of some 533,580 patient records and 8.5 million ratings from inpatients and outpatients in 21 District Health Boards.

## Accuracy and validity of the data

An interest in the accuracy and validity of the data and a comparison of performance measures between District Health Boards both before and after the development of the Patient Survey Guidelines led to a number of publications which attempted to investigate and report on these issues.

In an article published in the New Zealand Medical Journal in 1999 we asked how well we monitor patient satisfaction in New Zealand and criticised the lack of a standardised methodology<sup>(2)</sup>. We showed that the then current patient survey was in urgent need of review and improvement, specifically with respect to the issue of representativeness and systematic non-response. We proposed that DHBs employ a stratified random sampling methodology based on age, sex, ethnicity and the type of service used.

Congruent with our misgivings about the Patient Survey, CCMAU convened a working party that set itself the task to write the guidelines for the new Patient Survey. In the year that followed we published two more articles in the New Zealand Health & Hospital journal which queried the relevance of benchmarking DHBs without any adjustment for their size or patient profile<sup>(3)</sup>

Last year, we examined the present nationwide patient survey data for its validity and reliability<sup>4</sup>. To determine the reliability of the instrument, the “Cronbach alpha” statistic was calculated. It was shown that despite the fact that many of the DHBs do not implement the survey as required by Patient Survey Guidelines, the survey

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<sup>2</sup> Zwier, A.G. and Clarke, D. (1999) How well do we monitor patient satisfaction? Problems with the nation-wide patient survey. *New Zealand Medical Journal*, Vol 112 No 1097, Pp 371-5

<sup>3</sup> Zwier, A.G. and Clarke, D. (2001) Benchmarking patient satisfaction: do we have a level playing field? *New Zealand Health and Hospital*, January-February, Pp 21-4

Zwier, A.G. and Clarke, D. (2001) Benchmarking patient satisfaction (2): Time to take stock. *New Zealand Health and Hospital*, July-August, Pp 25-9

<sup>4</sup> Zwier, A.G. (2009) Patient Satisfaction in New Zealand. *New Zealand Medical Journal*, Vol 122 No 1300, Pp 79-90

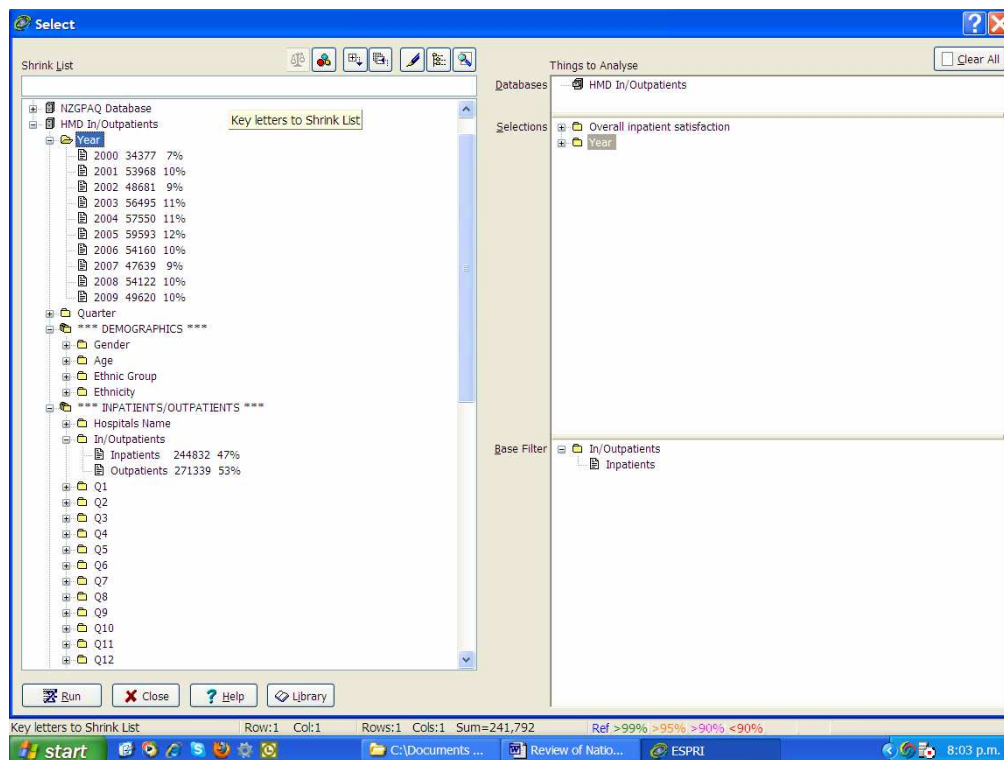
demonstrated high levels of reliability for patient satisfaction measures of “communication”, a “personal approach” and “organising patient care”. Assessment of convergent validity showed that the highest correlations were found between items that measured closely related aspects of patient care and, conversely, discriminant validity was demonstrated by the very low correlations between items that measured unrelated aspects of patient care.

## Survey results

Whether or not the present survey generates worthwhile data is an empirical question that can be answered by interrogating the database. There are numerous questions that can be asked – on a national level, at DHB level, or as a comparison between DHBs. Because we have uploaded the data into a sophisticated data analysis system, we can even ask questions that involve multivariate regressions e.g. such as what aspects of patient care are related to a perception of patient satisfaction.

The ESPRI software which contains the data allows us to select inpatients or outpatients in its “base filter” (in the screenshot “inpatients”) and a cross-tabulation with any other variable (in the screenshot “year”).

Figure 1 Screenshot of ESPRI main selection menu



This example asks what percentage of inpatients is satisfied with the quality of care they receive from hospitals operated by New Zealand District Health Boards.

The results show that, across the board, of the 242,000 inpatients who were asked this question over the last nine years, 88% say they had a good hospital experience. Only eight percent say that their satisfaction is only “average” while four percent of inpatients express overall dissatisfaction. Similarly, of the 273,000 outpatients who answered this same question about their overall satisfaction with outpatient services and facilities, 67% indicate that their satisfaction is “very good” and an additional 24% reply with “good”. This means that more than nine out of ten outpatients are positive about their treatment by the outpatient services. Yet seven percent rate their satisfaction as “average” and now only three percent are dissatisfied.

Investigating whether these percentages have increased or decreased over time, it is found that, while overall inpatient satisfaction has not changed much over time, there has been a large and significant improvement over the last eight years in terms of outpatient satisfaction. (The Ministry of Health combines the two measures claiming that overall patient satisfaction has increased<sup>6</sup>).

Table 1 shows this increase from 89% in 2000 and 2001 to 92% in the most recent 12 month period. The key below the table shows that the difference between 2009 (the reference column) and 2005 is statistically significant at 99%, i.e.  $p < .01$

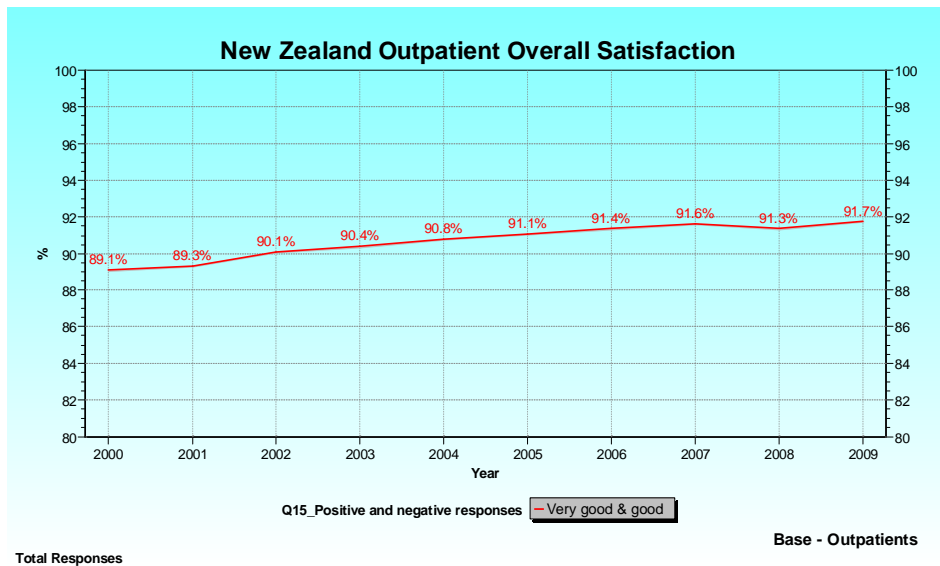
Table 1 Annual change in overall outpatient satisfaction

Overall outpatient satisfaction	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total	17,530	27,444	25,671	31,194	31,896	31,000	28,490	25,408	28,432	26,306
Very good & good	15,616	24,514	23,122	28,193	28,953	28,230	26,027	23,283	25,970	24,134
%	89%	89%	90%	90%	91%	91%	91%	92%	91%	92%
Average	1,370	2,147	1,839	2,135	2,126	1,939	1,797	1,515	1,772	1,552
%	8%	8%	7%	7%	7%	6%	6%	6%	6%	6%
Poor & very poor	544	783	710	866	817	831	666	610	690	621
%	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%

Ref	>99%	>95%	>90%	<90%
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The increase in outpatient satisfaction is further illustrated in Figure 2.

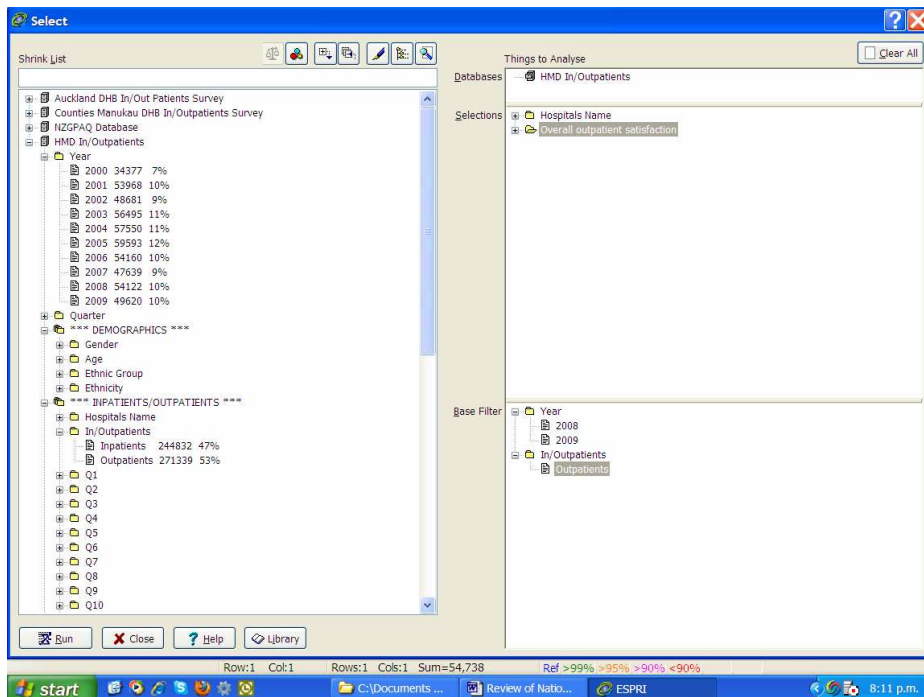
Figure 2 Graph showing overall outpatient satisfaction in New Zealand



This growth in outpatient satisfaction has been particularly evident in the smaller DHBs such as Hawke's Bay, Lakes, South Canterbury, Tairāwhiti, Taranaki and Wairarapa.

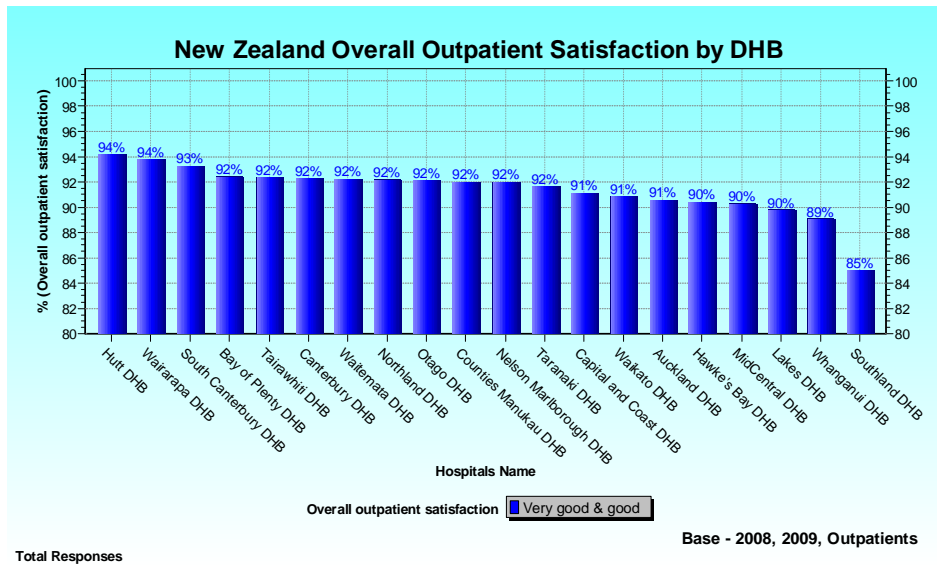
But how do DHBs compare when their results are weighted to take into account their patient profiles?

Figure 3 Screenshot of a comparison between DHBs on overall outpatient satisfaction



The result show that, with the exception of Southland DHB, the range of satisfied outpatients lies between 89% and 94% (see Figure 4)

Figure 4 Overall outpatient satisfaction DHBs comparison

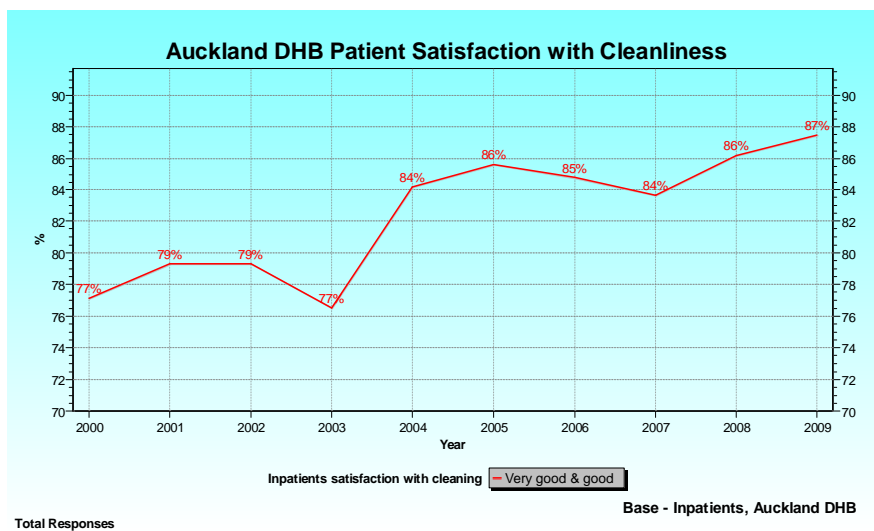


But if the patient survey was only able to show general satisfaction rates, any analysis would be rather limited and would not be able to show progress on specific aspects of care or identify which issues should be addressed.

Having data available that stretches back to Sept 2000 allows us to ask questions such as “What was the impact on patient satisfaction when new facilities were built for inpatients?” For example, what happened to satisfaction with cleanliness of facilities at Auckland Hospital when the new city hospital was opened in October 2003?

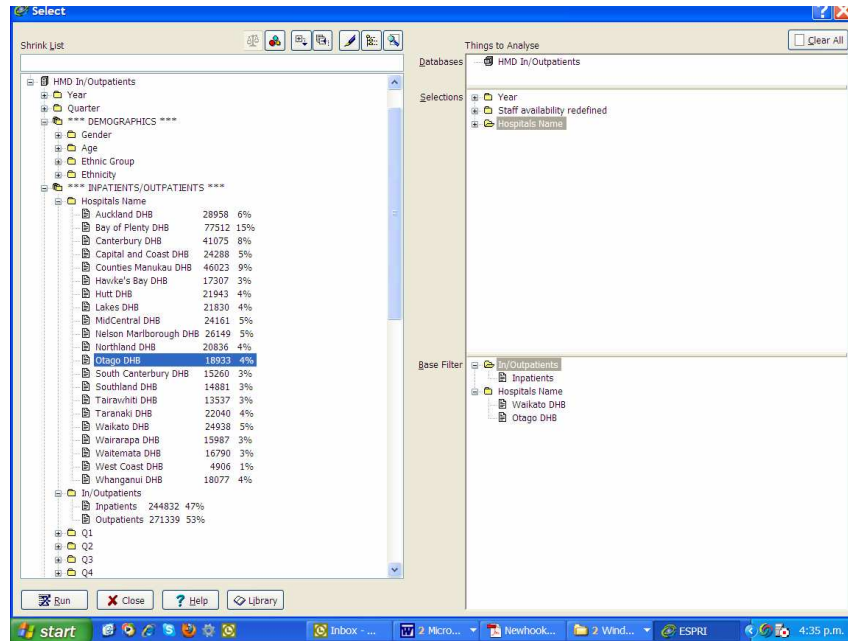
Figure 5 shows that there was a substantial and statistically significant ( $p < .01$ ) increase in satisfaction with cleanliness in the years following the use of the new facilities.

Figure 5 Inpatient satisfaction with cleaning at ADHB



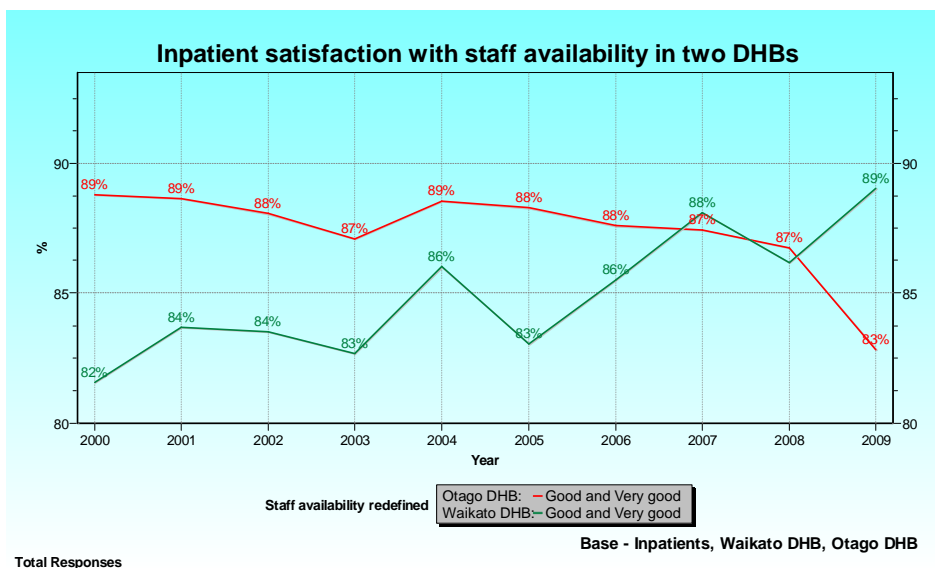
Or, instead of the inadequate comparative data provided in the Ministry's DHB's Hospital Benchmark Report which combines inpatient data with outpatient data, we can examine whether particular DHBs have been successful or unsuccessful in improving a specific aspect of patient care. The below screenshot compares staff availability in Waikato DHB and Otago DHB.

Figure 6 Screenshot of a comparison between DHBs on staff availability



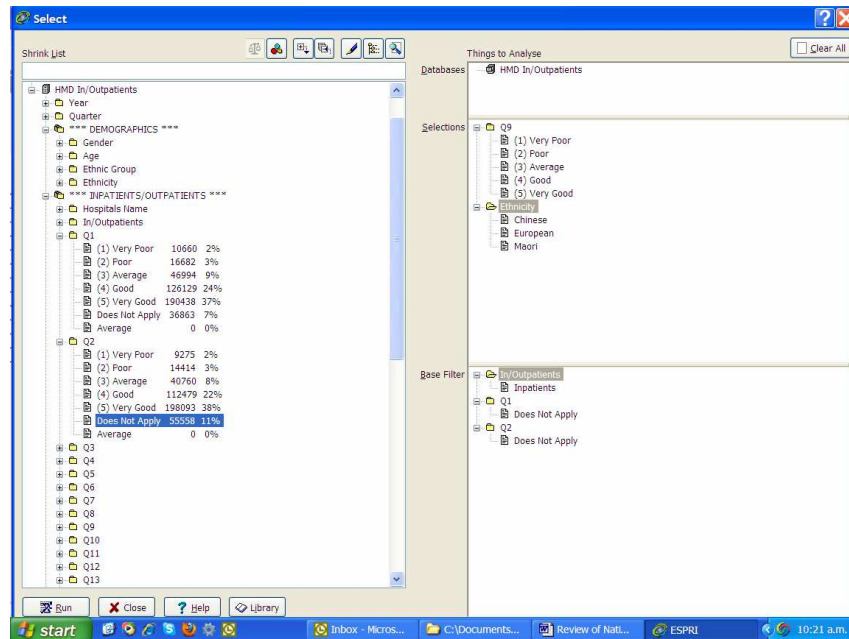
The graph shows that, at least in terms of patient satisfaction, Waikato has made good progress on increasing patient satisfaction with the availability of hospital staff whereas Otago has been much less successful, in particular during the most recent 12 months (see Figure 7)

Figure 7 Inpatient satisfaction with staff availability



We can also limit the base to exclude acute admissions. Because patients are instructed to only answer the first two questions in the inpatient questionnaire if they were admitted to the ward from ED – and not to answer them if they were not – we can select only those patients who responded with “does not apply”. In this example we ask elective patients whether they have been treated with “dignity and respect”

Figure 8 Screenshot of selecting a base filter of patient type and ethnicity



The results make it clear that European patients are much more likely than Maori patients - and in particular Chinese patients - to respond with “very good” when asked to rate staff on treating patients with dignity ( $p < .01$ ; see Table 2).

Table 2 Patient satisfaction with being treated with dignity and respect

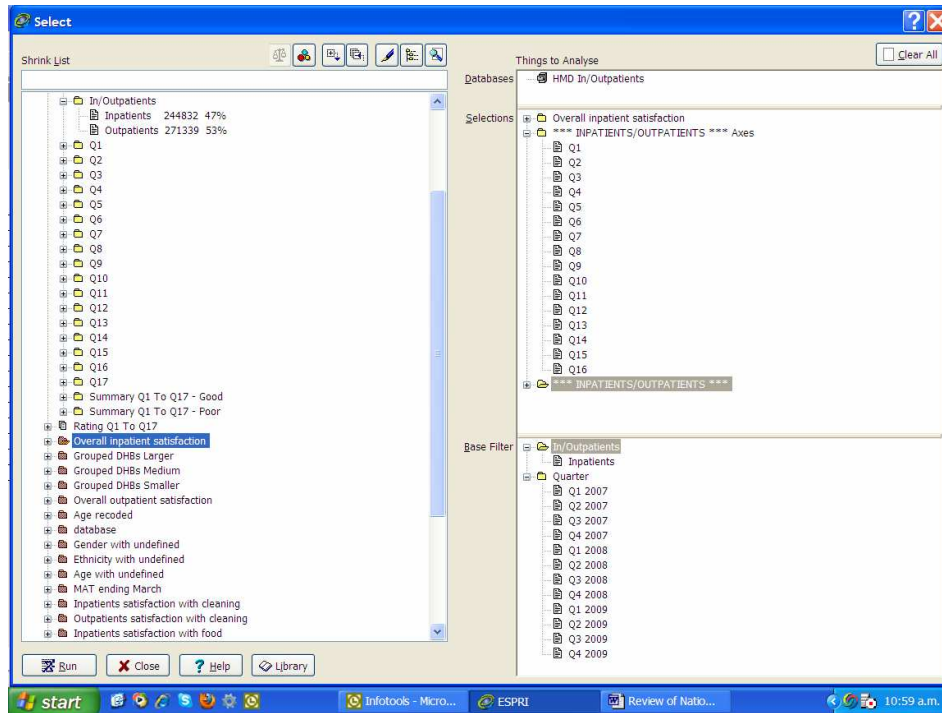
Q9. Please rate our staff on treating you with dignity and respect	Chinese	European	Maori
Total	63	16,353	1,860
Very Poor	0	148	28
%	0%	1%	2%
Poor	0	177	23
%	0%	1%	1%
Average	3	778	149
%	4%	5%	8%
Good	34	3,344	381
%	53%	20%	21%
Very Good	27	11,906	1,278
%	43%	73%	69%

Ref	>99%	>95%	>90%	<90%
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At a more theoretical level, we can inquire about the factors that influence patient satisfaction – either for the whole country, or within a DHB, or for a specific demographic group.

For instance, in the example below, we have set question 17 (which asks about the patient’s overall satisfaction) as the Independent Variable and the remaining inpatient questions (Q1 to Q16) as Dependent Variables (see Figure 9)

Figure 9 Screenshot of selecting correlations



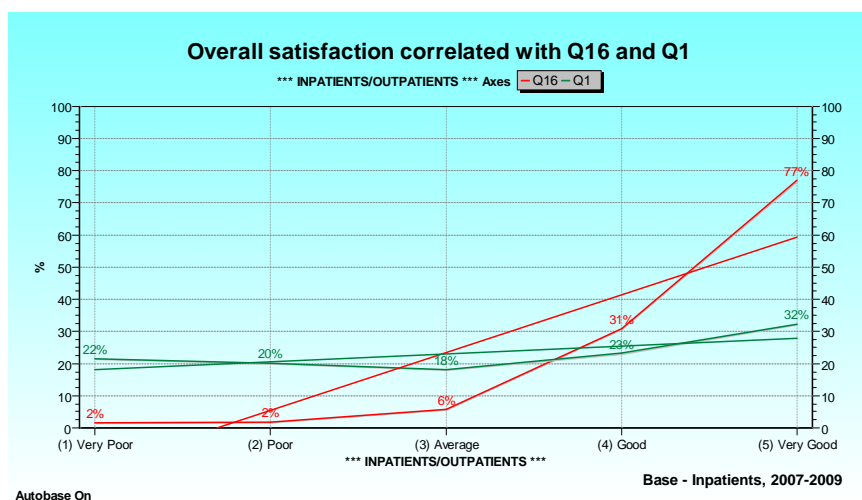
Once the analysis has been produced we rank the results in terms of slope and find that it is question 16 which asks about safety and security which has the highest correlation with overall satisfaction. The next highest correlation is question 9 which rates staff on treating the patient with “dignity and respect” (see Table 3)

Table 3 Items correlating with overall satisfaction

Question item no	Very Poor	Poor	Average	Good	Very Good
Q16	2%	2%	6%	31%	77%
Q9	1%	1%	4%	25%	74%
Q13	2%	6%	15%	38%	65%
Q6	2%	3%	9%	34%	64%
Q14	7%	10%	16%	35%	66%
Q5	4%	5%	8%	30%	58%
Q3	3%	5%	10%	33%	56%
Q10	3%	4%	7%	25%	55%
Q7	4%	4%	8%	26%	54%
Q11	11%	14%	19%	33%	54%
Q4	5%	7%	13%	30%	45%
Q12	7%	8%	11%	25%	46%
Q2	10%	11%	13%	24%	37%
Q8	4%	4%	6%	16%	26%
Q15	48%	37%	46%	39%	32%
Q1	22%	20%	18%	23%	32%

Graphically this can be represented as follows:

Figure 10 Overall inpatient satisfaction correlated with two items



It must now be clear that this analysis can be repeated for any given time period, any DHB, any demographic group (age, sex, ethnicity) and, most importantly, with any item listed in the inpatients and outpatients questionnaire.

So, once we have satisfied ourselves that the current patient satisfaction survey data is indeed both reliable and valid, we believe that it has the potential to generate extremely valuable information that can be employed to increase patient satisfaction throughout New Zealand by providing answers to such questions as:

- Which DHBs have experienced an increase and which DHBs have experienced a decrease in overall patient satisfaction?
- In what area(s) of patient care have the increases/decreases been most salient?
- What strategies to improve patient satisfaction have proved to be effective and which have proved to be relatively ineffective?
- What factors appear to determine patient satisfaction in a particular DHB? Does it vary for each demographic group? Does it change over time? What factors are related to patient satisfaction with a specific aspect of care?

Both the Sector Accountability & Funding Directorate and the DHBs have a responsibility to ensure that the Patient Survey Guidelines developed specifically for this purpose are implemented properly.

We believe that it is only when the Sector Accountability & Funding Directorate and the DHBs work together on this project will patients benefit from the huge investment in resources that has been made over the last ten years.

The HSCR ESPRI database which, as mentioned before, contains some 533,580 patient records and 8.5 million ratings from inpatients and outpatients in 21 District Health Boards, is available for analysis, either on an individual ad hoc basis or, if so required by the Ministry of Health, as a national database much like the Ministry of Tourism uses ESPRI (see [www.tourismresearch.govt.nz/](http://www.tourismresearch.govt.nz/)).