



Comparison of DHB Elective Activity by Specialty using Standardised Discharge Ratios

Waitemata DHB

Introduction

Within a publicly funded health system, there is an expectation that each DHB will deliver similar levels of elective services to their population. Over the period July – December 2006, work was undertaken to explore the extent to which this goal was being achieved. Thirteen working parties (see Table 1 below) – consisting of clinicians from the relevant specialty - were charged with the task of identifying a “core” group of common, predominantly elective operations that presently are only able to be delivered to some of the patients who would benefit from such treatment.

The rationale for this approach and the process used are detailed in the appendix to the letter sent to all Chief Executives on 8 January 2007, and is attached here as Appendix 1.

Results

General Findings

Every specialty group confirmed that they were able to treat all patients requiring acute or urgent treatment, though not always as promptly as best clinical practice would indicate. Conversely as noted below, in some DHBs changing clinical practice has led to some operations being undertaken on an acute basis where historically they were delivered electively.

All groups were also able to agree on a “core” group of operations that they believed would reflect relative access within their specialty. A list of these operations, by specialty, is listed in Appendix 2.

Using data supplied by your DHB to NZHIS (held in NMDS), Standardised Discharge Ratios were calculated for each group of “core” operations. The results for your DHB are shown in Table 1 below. Detailed results for all DHBs are contained in Appendix 3.

There are a number of points that need to be made about the data:

- NMDS is the only national data set available. The reliability of the information is dependent on a number of factors. These include:
 - The accuracy of the admission code. There was wide variation both between DHBs and between specialties within DHBs as to how these admission codes were used. In particular, the category of Arranged Admission is not used in a consistent manner
 - The level of detail extracted from patient records for the coding of diagnoses and operations
 - The use of correct Health Specialty Codes (HSC). There were a number of instances where activity data was initially excluded because of a DHB's continued use of retired codes. In other instances the HSC used did not match the specialty of the clinician undertaking the operation. This created an impression of under-activity in that specialty.
 - The completeness with which all publicly funded, privately provided activity is reported.

- It only includes patients who have been "admitted". There are instances where, in one DHB, a patient may be admitted for an operation which in other DHBs is undertaken on a non-admitted basis. Therefore not all patients receiving these operations are recorded in NMDS. While every endeavour was made to exclude such operations from the "core" group for each specialty, there may have been instances where the participating clinicians were not aware of particular practices in an individual DHB.

- In some DHBs changing clinical practice has led to some operations being undertaken on an acute basis where historically they were delivered electively. Therefore calculations based on the "core" operations included all admission types.¹

Standardised Discharge Ratios

The following are the results for your DHB.

Please note that this information is by DHB of domicile i.e. it represents access for your DHB's population to the "core" group of operations, irrespective of where these were delivered.

In order to reflect both volume and complexity of activity, SDRs have been provided for numbers of operations and their caseweights.

¹ For ENT, Orthopaedics and Ophthalmology, the clinicians chose to only include elective operations. For Dental / Oral Maxillofacial, the clinicians chose to only include elective and "as arranged" operations.

Table 1: Standardised Discharge Ratios (SDRs) by Specialty

Standardised Discharge Ratios (SDRs)	2005/06			
	Numbers of operations (1)		Caseweighted discharges	
Specialty	SDR – discharged from relevant specialty	SDR – discharged from any specialty	SDR – discharged from relevant specialty	SDR – discharged from any specialty
Cardiology	1.11	1.04	0.96	0.80
Cardiothoracic Surgery	0.87	0.85	0.84	0.80
Dental / Oral Maxillofacial	0.83	0.80	0.81	0.66
ENT	1.20	1.13	1.13	1.07
General Surgery	0.82	0.86	0.95	1.00
Gynaecology	0.72	0.74	0.72	0.77
Neurosurgery **	0.94	1.16	1.25	1.51
Ophthalmology	1.03	1.01	1.02	1.01
Orthopaedics	0.86	0.85	0.98	0.97
Paediatric Surgery	1.22	1.03	1.24	1.04
Plastics	0.57	0.80	0.51	0.77
Urology	1.16	1.12	1.19	1.12
Vascular **	0.40	0.95	0.50	1.10

** Due to the low numbers of events in the “core” group of operations chosen for these specialties, the SDRs have been calculated for three years data (2003/04 – 2005/06) Highlighted SDRs are those where the UCL is below 1.0 in both the number of operations and caseweighted discharges.

(1) For the purposes of this report, the term operation is used if a patient has received any of the procedures covered by the codes listed in Appendix 1. If a patient had two or more of the **same** operation in one admission, they are only counted once in this data. Conversely if a patient receives two **different** operations during the same admission, they are counted twice.

Specialty versus Overall SDR

There are a number of reasons why SDRs have been provided at both a specialty and an overall level.

In some instances, even though a operation made up a significant component of the “core” work of a specific specialty, the data revealed that the same operation was also undertaken within one or more other specialties within the DHB.

Patients are not always discharged from the specialty in which they received the operation.

Where a specialist provides a visiting tertiary service, the patient will be discharged from a local specialty.

Interpreting SDRs

The SDRs above only reflect **public** provision of the “core” operations. The impact of private provision has not been considered.

An SDR is the ratio between the number of observed cases and the number of expected cases. The number of expected cases is calculated by taking the national rate and applying it to the DHB’s population taking into account age, sex, social deprivation and ethnicity.

If all DHBs were providing services at the same level, they would all be at 1.0. A rate higher than 1.0 indicates that the DHB is providing more than the national rate in New Zealand, and a rate lower than 1.0 indicates that the DHB is providing less than the national rate in New Zealand. A rate of 1.0 indicates that the DHB is providing the New Zealand national rate.

There are a number of reasons why an SDR may be low and may not indicate “inadequate” provision. A DHB will need to assess the reasons for a low SDR and therefore whether an increase in provision is required.

SDRs only provide an indication of one DHB’s level of service relative to all other DHBs’. It is not possible to determine the “right” level of service from the data.

Furthermore, any DHB increases in service delivery will impact on all other DHBs’ SDRs. Therefore a DHB’s SDR in any particular specialty will decrease, even if it maintains current activity levels, if there are increases in activity (in that specialty) in other DHBs.

Neither SDRs, nor their underlying volumes / caseweights, give an indication of relative efficiency of services. Clinicians will also be providing resources to patients discharged from other specialties e.g. a plastic surgeon working on a head and neck case discharged from ENT.

Relatively small numbers of events influence the accuracy of any given SDR. Accordingly we have provided in Appendix 3 the 99% Upper and Lower Confidence levels for each overall SDR. If the Upper Confidence level is higher than 1.0 and the Lower Confidence level is below 1.0 it indicates that the level of service is not significantly different from the national rate. If both the Upper and Lower Confidence levels are above 1.0 this indicates that the DHB is providing more than the national rate in New Zealand. If both the Upper and Lower Confidence level are below 1.0 this indicates that the DHB is providing less than the national rate in New Zealand.

DHB Specific Findings

Number of operations

The SDRs (discharged from any specialty) for Number of operations with Upper Confidence levels less than 1.00 are: Dental Oral / Maxillofacial at 0.89; General Surgery at 0.93; Gynaecology at 0.84 (despite a small increase in numbers over the last two years); Orthopaedics at 0.92; and Plastics at 0.91.

Regarding Cardiothoracic Surgery, despite an Upper Confidence level above 1.00 for 05/06, the number of operations has decreased from 03/04 and this is also reflected in the caseweighted discharges.

Regarding General Surgery, the number of operations delivered decreased 13% from 04/05 to 05/06.

Caseweighted discharges

The SDRs (discharged from any specialty) for Caseweighted discharges with Upper Confidence levels less than 1.00 are: Cardiology at 0.84; Cardiothoracic Surgery at 0.86 (decreasing); Dental Oral / Maxillofacial at 0.77; Gynaecology at 0.85 (despite an increase over the last two years); and Plastics at 0.84.

Other

Admission Coding

Within Neurosurgery, there has been variable use of the “as arranged” category over the three years with a consequential impact on elective numbers.

Within Plastics, there has been an increase in the numbers of patients admitted “as arranged”. While the total numbers in 05/06 are similar to the total in 03/04, the number of “elective” admissions has dropped.