

Methods

This report summarises all cardiac surgery for acquired conditions performed in 1999. Statistics from previous years (for acquired conditions) are also included, because changes over time in the numbers, rates and associated mortality of operations are of interest. Information about the rate of reoperations for coronary artery bypass grafts and valve surgery is also presented. Cardiac surgery units operating in 1999 are listed in Appendix A. The list of units is reviewed each year, and new units are invited to join the National Cardiac Surgery Register and submit their data.

Data collection and reporting

Generally, data collection forms are sent to all cardiac surgery units at the beginning of each year for procedures done in the previous calendar year. Units are asked to complete the forms with aggregate results (i.e. not individual patient details) and submit them within eight weeks. Reports are provided by each unit under the condition that results will be presented in aggregate form only, and that results from individual units will not be released unless the head of the unit agrees in writing.

Data are collected via a form presented here in Appendix B. This form is reviewed and updated by the Cardiac Surgery Advisory Committee each year to reflect changes in practice. Units' responses are reviewed, data are checked for consistency, any discrepancies are referred to the relevant unit, and data are then entered into a dedicated database at the Australian Institute of Health and Welfare (AIHW). Results are analysed and the annual report compiled and reviewed by members of the Advisory Committee before its publication.

Coverage

There were 52 cardiac surgery units operating in Australia in 1999; however, 6 units did not supply data to the Register for inclusion in this report (table below). Of the missing units, 5 units do mostly cardiac surgery for acquired conditions and the remaining unit does congenital cardiac surgery. Based on previous years data the missing congenital unit's procedures accounted for nearly 25% of the total congenital data. Thus, in the interests of presenting representative data the congenital section of this report has been omitted.

The Register has details from 44 units that were doing cardiac surgery for acquired conditions and their data are presented here.

State	Number of units not contributing to the register in 1999
Australian Capital Territory	1
New South Wales	4
Queensland	1

To provide a better national picture of cardiac surgery performed in 1999 (despite the above limitation), these data from the Register have been complemented with information from the National Hospital Morbidity Database held by the AIHW. This database contains demographic, diagnostic, procedural and duration-of-stay information on episodes of care for patients admitted to hospital. The collection is based on data on hospitalisations compiled by state and territory health authorities and supplied to the AIHW. A record is included for each separation, not for each patient, so patients who were hospitalised more than once in the year have more than one record in the database.

Data from the National Hospital Morbidity Database were found to correspond well with those reported directly to the Register by participating units.

Estimates for the total number of CABG procedures nationally and for each state, as well as the age and sex of patients undergoing CABG, were obtained from the National Hospital Morbidity Database. The premise is that this procedure is generally done to treat coronary artery disease which is an acquired condition, so where patient's ages were reported as less than 20 years they were included, as it was assumed they had an acquired condition. Records included were those for separations with procedure codes for CABG (Table 1) as principal or additional procedure, and with separation dates between 1 January and 31 December 1999. For the vast majority of CABG procedures, the Register supplied detailed information on associated mortality, number of anastomoses, the type of graft used, concomitant procedures, and reoperations.

The total number of operations for acquired valvular heart defects nationally was estimated from National Hospital Morbidity Database records for separations with certain procedure codes (Table 1) as principal or additional procedure, and with separation dates between 1 January and 31 December 1999. For most of these operations, the Register provided details on the type of valve operated on, the type of surgical procedure performed, associated mortality, and reoperations.

The Register has full coverage of surgical procedures for transplants for 1999 as all the hospitals identified as dedicated transplant units send data to the Register so it was not necessary to access information from the National Hospital Morbidity Database.

For operations on the aorta and for miscellaneous acquired heart conditions, the information presented in this report is incomplete. However, as there are relatively few such operations performed each year, the missing data would have only a small effect on overall surgery totals and mortality rates.

To allow a more accurate estimate of trends for acquired cardiac surgery than that possible from information held in the Register alone, figures for previous years were revised using data from the National Hospital Morbidity Database and similar methods to those described above.

Table 1: International Classification of Diseases codes used in this report

Procedure	ICD-10-AM code
Coronary artery bypass graft	Blocks [672–679]: codes 38497, 38500, 38503, 90201
Valvular heart defects	Blocks [621–23, 625–26, 628, 631–32, 634, 637]: codes 38456-01, 38456-10, 38456-11, 38480-00, 38480-01, 38480-02, 38481-00, 38481-01, 38481-02, 38487-00, 38488-00, 38488-01, 38488-02, 38488-03, 38488-04, 38488-05, 38488-06, 38488-07, 38489-00, 38489-01, 38489-02, 38489-03, 38489-04, 38489-05

ICD-10-AM = International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification.

Definitions

Acquired heart condition refers to disease that is neither genetic nor present at birth.

Congenital heart defect refers to heart disorder present at birth.

'Mortality' refers throughout the report to death during the post-operative period (that is, death within 30 days of the operation).

Surgery rates are calculated as the number of operations per million people in the Australian population. Death rates are given as percentages of those receiving the surgery.

The rates for bypass graft surgery have been calculated to include the Australian Capital Territory (ACT) population with that of New South Wales (NSW), and the Northern Territory (NT) population with that of South Australia (SA). It is known from hospital morbidity data that the vast majority of NT residents are treated in SA and that nearly half of those treated in the ACT are NSW residents.

Age-standardised rates, which take account of differences in the age structure of populations being compared, have been included to provide a valid comparison of procedure rates across the states.