



**Australian Government**

**Australian Institute of  
Health and Welfare**

*Better information and statistics  
for better health and wellbeing*

# **The coding workforce shortfall**

**November 2010**

Australian Institute of Health and Welfare  
Canberra

Cat. no. HWL 46

**The Australian Institute of Health and Welfare is Australia's national health and welfare statistics and information agency. The Institute's mission is *better information and statistics for better health and wellbeing.***

© Australian Institute of Health and Welfare 2010

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced without prior written permission from the Australian Institute of Health and Welfare. Requests and enquiries concerning reproduction and rights should be directed to the Head of the Communications, Media and Marketing Unit, Australian Institute of Health and Welfare, GPO Box 570, Canberra ACT 2601.

A complete list of the Institute's publications is available from the Institute's website <[www.aihw.gov.au](http://www.aihw.gov.au)>.

ISBN 978-1-74249-090-8

### **Suggested citation**

Australian Institute of Health and Welfare 2010. The coding workforce shortfall. Cat. no. HWL 46. Canberra: AIHW.

### **Australian Institute of Health and Welfare**

Board Chair

Hon. Peter Collins, AM, QC

Director

Penny Allbon

Any enquiries about or comments on this publication should be directed to:

Vicki Bennett

Australian Institute of Health and Welfare

GPO Box 570

Canberra ACT 2601

Phone: (02) 6249 5082

Email: [vicki.bennett@aihw.gov.au](mailto:vicki.bennett@aihw.gov.au)

Published by the Australian Institute of Health and Welfare

**Please note that there is the potential for minor revisions of data in this report. Please check the online version at <[www.aihw.gov.au](http://www.aihw.gov.au)> for any amendments.**

# Contents

Acknowledgments.....	v
Glossary/abbreviations .....	vi
Symbols used .....	ix
Executive summary .....	x
<b>1 Introduction.....</b>	<b>1</b>
Scope of information.....	2
<b>2 History .....</b>	<b>4</b>
The evolution of the coding workforce .....	4
The change in the role of coded data.....	5
<b>3 Environment.....</b>	<b>6</b>
National change.....	6
International.....	9
Jurisdictional activities and initiatives .....	14
Case studies.....	25
<b>4 The current workforce .....</b>	<b>31</b>
Coding workforce information prior to the 2010 survey.....	31
2010 Clinical Coder and HIM survey results .....	37
Developments over time .....	49
Educational outputs.....	52
<b>5 The future workforce needs .....</b>	<b>57</b>
Approach to projections .....	57
Workforce stocks and flows.....	58
Workforce needs based on workloads .....	59
Other workforce issues and implications .....	60
<b>6 Recommendations.....</b>	<b>61</b>
Immediate actions .....	63
Short-term actions .....	64
Longer-term actions.....	67
<b>Appendix 1 - List of consultations .....</b>	<b>71</b>
<b>Appendix 2 - Project scope and objectives.....</b>	<b>74</b>
<b>Appendix 3 - Survey methodology.....</b>	<b>75</b>
<b>Appendix 4 - Future workforce projection calculations.....</b>	<b>97</b>
<b>Appendix 5 - Existing education and training courses .....</b>	<b>106</b>
<b>Appendix 6 - American academic pathways examples.....</b>	<b>110</b>

**Appendix 7 - Apprenticeship information .....111**  
**Appendix 8 - Draft international curriculum for HIMs .....115**  
**References .....119**  
**List of tables .....123**  
**List of figures .....125**

# Acknowledgments

This report was prepared by Vicki Bennett, David Braddock, Pam Lee and Laura Smith of the Australian Institute of Health and Welfare, with support and assistance from Sue Walker, Director of the National Centre for Health Information Research and Training, Queensland University of Technology.

Thanks are extended to:

- Queensland Health for their previous work on the Queensland coding workforce, which provided useful background information for the calculations of projections in this report
- Coding companies for their valuable comments and information on their use of services supplied through interviews
- Coding managers, coding contractors and coder educators in hospitals across the countries for their input to the survey
- Health Information Managers (HIMs) and Coding Course coordinators for supplying graduate numbers
- National Centre for Health Information Research and Training (NCHIRT) for sharing knowledge and expertise regarding the coding workforce
- the following state and territory departments for contributing essential information: ACT Health, NSW Health Department, NT Department of Health and Families, SA Department of Health, Tasmanian Department of Health and Human Services, Victorian Department of Health, WA Health and Queensland Health
- international contacts in Ireland, Canada, New Zealand and the United Kingdom, who provided valuable information on relevant projects and practices in their countries.

We also acknowledge the financial support for the project from the Department of Health and Ageing (DoHA), without which the report could not have been produced.

# Glossary/abbreviations

ABF	Activity Based Funding
ABS	Australian Bureau of Statistics
ACBA	Australian Coding Benchmark Audit
ACCM	Area Clinical Coding Manager
ACHI	Australian Classification of Health Interventions
ACS	Australian Coding Standards
ACT	Australian Capital Territory
AGSC	Australian Geographic Standard Classification
AHIMA	American Health Information Management Association
AHS	Area Health Service
AIHW	Australian Institute of Health and Welfare
AN-DRGs	Australian National Diagnosis Related Groups
ANZSCO	Australian and New Zealand Standard Classification of Occupations
APC	Admitted Patient Care
AQF	Australian Qualifications Framework
AR-DRGs	Australian Refined Diagnosis Related Groups
ASCO	Australian Standard Classification of Occupations
BADS	Business Analysis and Decision Support Unit
CAHIIM	Commission on Accreditation for Health Informatics and Information Management Education
CC	Clinical Coder
CCSA	Clinical Coders Society of Australia
CCSAA	Clinical Costing Standards Association of Australia
CHIMA	Canadian Health Information Management Association
CIHI	Canadian Institute for Health Information
COAG	Council of Australian Governments
CQHSD	Central Queensland Health Service District
CS	Costing Specialist
CSAC	Coding Standards Advisory Committee
DEEWR	Department of Education, Employment and Workplace Relations
DEST	Department of Education Science and Training

DoHA	Department of Health and Ageing
DRG	Diagnosis Related Group
ESRI	Economic and Social Research Institute
FTE	Full time equivalent
GCHSD	Gold Coast Health Service District
GCUH	Gold Coast University Hospital
GCSEs	General Certificates of Secondary Education
GTOs	Group Training Organisations
GWASHS	Greater Western Area Health Service
HIM	Health Information Manager
HIMAA	Health Information Management Association of Australia
HIPE	Hospital In-Patient Enquiry
HMDB	Hospital Morbidity Database
HSD	Health Service District
HWA	Health Workforce Australia
ICD-10-AM	International Statistical Classification of Diseases and Related Health Problems, tenth revision, Australian modification
IFHRO	International Federation of Health Records Organizations
IHRIM	Institute for Health Records and Information Management
LHN	Local Hospital Network
MoH	Ministry of Health
MRA	Medical Record Administrator
MRAU	Medical Record Advisory Unit
NCCH	National Centre for Classification in Health
NCCQ	National Clinical Coding Qualification
NCHIRT	National Centre for Health Information Research and Training
NHISSC	National Health Information Standards and Statistics Committee
NHS	National Health Service
NPA	National Partnership Agreement
NSNL	National Skills Needs List
NSW	New South Wales
NT	Northern Territory
NZ	New Zealand
OTEN	Open Training and Education Network
PICQ	Performance Indicators for Coding Quality

QCC	Queensland Coding Committee
QUT	Queensland University of Technology
RBH	Rockhampton Base Hospital
RPL	Recognition of Prior Learning
RTO	Registered Training Organisation
SA	South Australia
SACC	South Australian Coding Committee
SNOMED-CT	Systematised Nomenclature of Medicine - Clinical Terms
SOL	Skilled Occupation List
TAFE	Technical and Further Education
TERC	Training and Employment Recognition Council
TESQA	Tertiary Education Quality and Standards Agency
UK	United Kingdom
USA/US	United States of America
VET	Vocational Educational Training
WA	Western Australia
WHO	World Health Organization
WHO-FIC	WHO Family of International Classifications
WIES	Weighted Inlier Equivalent Separation



# Symbols used

<i>Italics</i>	within a table denotes a subtotal
™	trademark
– em dash	rounded to zero, (for example, the statistics is less than 0.5) including null cells
..	not applicable (that category, data item does not apply)
n.a.	not available
n.p.	not published (data cannot be released due to quality issues, confidentiality, or permission not granted)
n.e.c.	not elsewhere classified
n.f.d.	not further defined
<	less than
>	greater than

# Executive summary

Concern about the shortfall in the coding workforce in Australia has been raised in a number of national fora. This report seeks to quantify the scope of the existing shortfall, to project future numbers required to cover increasing demands, and to provide a consolidated set of recommendations to address the issues identified. For the purposes of this report, the coding workforce has been described as comprising Health Information Managers (HIMs), Clinical Coders (CCs) and Costing Specialists (CSs).

## Background

Coding has been undertaken in Australian hospitals for over 60 years for the purposes of public health measurement, health services management, planning, performance and activity monitoring and epidemiological studies. However, with the introduction of casemix management in Australia in the early 1990s, different drivers for the quality and completeness of coding emerged. The first state to implement a case based funding mechanism was Victoria in 1993–94, followed by several other states and territories whose implementation of casemix was variously for management or funding purposes.

In 2010, in light of increasing pressures to deliver quality services to an ageing population which is experiencing increasing rates of chronic diseases, greater reliance on technology, increased consumer expectations and growing workforce shortages, the National Performance Agreement on Hospital and Healthcare Reform has proposed the introduction of an Activity Based Funding (ABF) model. This will be for an increased range of services, particularly in the case of outpatient services, and is based on the need for more and better health information to support public accountability and efficiency of hospital based services. The implementation of ABF and other aspects of the National Partnership Agreement (NPA) will require a larger and more productive coding workforce as coded data provides the source of many of the performance reporting and measurement targets.

## The current coding workforce

There is a recognised shortfall in the coding workforce in Australia, as has been articulated in two previous national surveys (HIMAA 1995; McKenzie & Walker 2003). This report identifies changes in the workforce across the period since 1994, including an ageing workforce, general dissatisfaction with employment conditions and salaries, a greater number of part-time workers, an increasingly flexible and mobile CC population often working across multiple facilities, increased reliance on contract coding companies and the use of shared and 'roving' HIMs and CCs. These latter workers often have to travel great distances in order to manage the coding in rural and remote hospitals. Despite the greater reliance on complete and accurate coded data, there is evidence that the coding workforce continues to be required to undertake many other tasks as well as their coding roles.

In addition the inclusion, for the purposes of this report, of CSs within the definition of the coder workforce has created some issues, as this group is currently not a recognised specialist workforce. Thus further work is required to define these workers if their numbers are to be measured, and therefore no comparison over time is made.

The current coding workforce, as reported by respondents to the 2010 AIHW Coding Workforce Survey compared with the previous surveys, has the following broad characteristics:

- increasingly educated through the VET sector and not universities
- 65.3% CCs and not HIMs (except in Victoria, where the majority of the workforce is represented by HIMs who have graduated from an undergraduate program)
- increasing duration of coding experience
- predominantly female (92.8%)
- more than 50% aged 45 years or over
- around 50% working part-time
- two-thirds employed in public sector facilities
- 177.4 FTE vacant positions reported in respondent facilities, with the highest percentages reported in New South Wales, Queensland and Western Australia
- nearly 1 in 5 facilities employed contract coding companies to manage their coding workloads.

Other responses to the survey indicated issues relating to education, including the cost and duration of training, accessibility and the need to provide individualised support for new coders at facilities, regardless of how they have obtained their initial coding education. This issue was noted as difficult to manage because it also reduces the productivity of the supervisor.

The identified workforce deficit is anticipated to become more acute as the proposed government initiatives are implemented. A similar workforce shortage has been identified in a number of other countries that have also implemented case-based funding mechanisms. Australian state and territory health departments have also recognised the shortfall, and most have conducted their own studies to identify and count the workforce and to develop strategies and opportunities to improve its productivity. Common strategies identified across the states and territories include:

- use of a state-wide licence for the use of the 3M™ Codefinder™
- use of the Performance Indicators for Coding Quality (PICQ) tool
- creation of Coding Auditor and Educator positions
- state coding committees and coder websites for improved communication with coders.

This report explores past and current mechanisms for educating the coding workforce and makes recommendations for the future. Coders have been educated through undergraduate and postgraduate HIM programs conducted in four Australian universities, as well as for CCs through the Health Information Management Association of Australia (HIMAA), TAFE sector and through on-the-job training. Little is known about the CS workforce or about how they are educated. However, the universities report lack of enrolments into HIM programs and because of this, half of the previously offered undergraduate programs have been discontinued in recent years. The reported 'invisibility' of the coding workforce and the HIM and CC professions have affected enrolment numbers, and targeted marketing strategies are required. The announcement of the creation of Health Workforce Australia (HWA) is anticipated to provide the vehicle for engaging with the universities and other organisations that offer (or previously offered) coder training. This will assist them to identify strategies for recruitment, to better facilitate articulation between tertiary education sectors and to provide a variety of educational pathways for the workforce.

## The future workforce needs

There is no way to determine exact figures for the supply and demand of coding workforce, but some attempts have been made in this report to estimate the numbers required. More importantly, this report provides a method for calculating the impact of various policy changes, so that as the details of the health reform become clearer, these calculations could be modified to test these or other hypotheses.

No attempt has been made in this section to estimate the number of CSs required for the future as, until this workforce can be more clearly defined, there are no baseline data on which to base projections. However, it can reasonably be assumed that more are needed than are currently employed, and that this need will increase due to the same factors that are affecting the HIM and CC workforce.

One significant difficulty in undertaking these calculations is that the inflows to the workforce are only able to be calculated by the number of people trained, and the workload implications are only able to be calculated by the number of full time equivalents (FTEs) required to perform the function. Given the large proportion of part-time workers in this industry and the geographical challenges of delivering coding services in some areas of the country, the number of people required to meet the FTE calculations below is assumed to be much greater than the number of FTE coders estimated.

Following are the main calculations able to be derived from the data available and assumptions made for the proceeding 5-year period:

- the net gain from HIM and CC training programs, less the anticipated retirements from the workforce, is estimated as **1,476 people**
- the results of the survey undertaken demonstrate a current national coder vacancy rate of **>175 FTEs**
- to code the current volume of annual separations, **1,265 FTE** coders are required
- to keep up with the projected growth in separations, Australia will require an additional **193 FTE** coders over the next 5 years
- to code all non-admitted hospital services, an additional **1,493** coders will be required, or as few as **149** if only 10% require coder validation following some automated coding process
- e-health and other reform initiatives are expected to require an addition of **150 FTEs**, as a low end projection
- the implementation of ABF to all states may not mean additional numbers of staff, but may require more qualified staff, as per the Victorian experience.

These calculations indicate that an HIM and CC workforce of between 3,101 and 1,757 FTEs will be required within 5 years (2010 to 2015).

## Recommendations

All the recommendations are based on the basic premise that there are three key ways to deal with workforce shortfalls in any area, which are:

- increase workforce numbers and hours worked
- retain the existing workforce
- increase output of the existing workforce.

It is also critical to note that these recommendations are not sequential, and that it is essential that many of these are undertaken concurrently.

It is recommended that the first thing required is the establishment of a Coder Workforce Taskforce under the auspices of HWA to undertake proper workforce planning. This will include assessment of where coding workforce staff are needed, how many and at what level of skill, etc. The outcome of the work of the taskforce will be an integrated plan to address workforce shortages and to determine actions based on the recommendations and action strategies noted below.

### **Immediate**

1. Find non-working HIMs and CCs to fill current vacancies
2. Promote immediate improvement in current work arrangements for existing staff.

### **Short-term actions**

3. Support a more in-depth body of work on the Costing Specialist Workforce, with the aim of developing a set of competencies and training packages
4. Finalise the development of an Australian Qualifications Framework (AQF) qualification for Clinical Coding, and assist existing coders to obtain Recognition of Prior Learning (RPL)
5. Promote careers in Clinical Coding, HIM and Clinical Costing nationally
6. Seek to have these careers listed on skills shortage lists
7. Investigate the value of coding software for improving quality and speed
8. Enhance continuing professional development opportunities
9. Undertake a national review of salary and industrial conditions for CCs, HIMs and CSs.

### **Longer-term actions**

10. Provide scholarships, internships and training incentives
11. Establish Coding Workforce Units at the Local Hospital Network (LHN) level
12. Use technology to improve access to records to allow remote coding
13. Conduct national clinician training on diagnosis assignment and documentation
14. Establish a national coding auditing, education and support function
15. Define a career path for the coding workforce to integrate the existing workforce and create promotional pathway.

