Australian Institute of Health and Welfare
Submission
Productivity Commission Health Workforce Study

Recognising that the health workforce is a high priority for Australian Health Ministers, the Australian Health Workforce Officials' Committee (AHWOC) commenced development in 2003 of a national strategic framework to guide health workforce action. The resulting *National Health Workforce Strategic Framework*, released in 2004, contains:

- a vision of Australia's future health workforce
- guiding principles for health workforce policy
- health workforce priorities for the next 5–10 years
- recommendations for strategic actions.

One of the guiding principles (Principle 6) is that 'Health workforce policy and planning should be…informed by the best available evidence'. And the recommended strategic actions include 'Continually improv[ing] health workforce data collections, putting in place common language, minimum datasets and consistent collection and processing arrangements'.

The bulk of this submission addresses section 4(b) Terms of Reference:

> **'ongoing data needs to provide for future workforce planning, including measures to improve the transparency and reliability of data on health workforce expenditure and participation, and its composite parts'.**

It discusses the information that is available to support analyses of the Australian health workforce and to provide an evidence base for policy design and evaluation. In particular, the submission discusses the quality and timeliness of the AIHW's health workforce data collections that rely on professional registration processes, and explains what would be required to enhance the value of those data collections.

The information base about the Australian health workforce

(a) Key sources of data on the health workforce

Health workforce monitoring and planning is informed by a variety of data sources.

Data collections managed by the Australian Institute of Health and Welfare (AIHW)

Health workforce collections

. collated from detailed auxiliary collections conducted in association with professional registration processes

. the most detailed and comprehensive data on the numbers and characteristics of health professionals -- medical; nursing and midwifery; pharmacy; dentistry; and selected allied health professions (podiatry, physiotherapy and occupational therapy)

. the data for most allied health professions are out of date

. the collections provide limited support for analyses by small geographic areas

. the information about Indigenous health workers (and health workers serving Indigenous people) is inadequate

. the collections do not provide information on earnings

National Public Hospital Establishments database

. collated from administrative collections covering hospitals (public acute, psychiatric, drug and alcohol, and dental hospitals)

. includes data on hospital resources (beds, staff and specialised services) and expenditure

Bettering the Evaluation and Care of Health (BEACH) database

. collated from a large national rolling sample of general practitioners

. includes data on doctor-patient encounters (reasons for encounter)

. includes data on the demographics and work characteristics of GPs

. includes data on patients' demographic characteristics (including Indigenous status) and health characteristics (health problems managed, risk factors, medications, investigations, referrals, changes over time)

. at present, the collection has inadequate coverage of remote areas and Indigenous patients

Data collections managed by the Australian Bureau of Statistics (ABS)

National Census of Population and Housing

. comprehensive coverage of all occupations (including health occupations) based on self-description, although the categories reported can be too broad for some applications (e.g., detailed analyses of allied health professions)

. supports analyses at virtually every level of geographical details

. provides a good coverage of the Indigenous population

. provides data on total income, but not on the earnings component

. conducted five-yearly

Labour Force Survey

. provides broad data covering all occupations (including health occupations) based on self-description, but may not support some detailed analyses

. subject to sampling error

Employee Earnings and Hours Survey

. provides data on earnings by employees, but not on incomes of the self-employed

. subject to sampling error

Data collections managed by registration/licensing boards
. provide benchmarking data (numbers of registrants by age and sex) for the detailed auxiliary surveys

. a potentially valuable (but untapped source) for locational information

. reference/registration period is not always or suitable for all applications

. boards do not cover all health professions

. data access is dependent of the co-operation

Data collections managed by the Australian Government Department of Health and Ageing (DoHA)

Medicare Provider database
. provides numbers and characteristics (including 'whole patient equivalents' based on patient encounters billed to Medicare) of doctors and other practitioners who have a Medicare provider number

. data are available by type of service

. data are available by geographic region of consultation

Medical Training Review Panel
. reports annually on medical specialist vocational training positions and programs

. provides demographic data on trainees, including rural/remote location, dissected by College

Data collections managed by other Australian Government departments

Department of Education, Science and Training (DEST)
. provides information on student enrolments and completions in health courses at universities and VET institutions

Department of Immigration, Multicultural and Indigenous Affairs (DIMIA)
. a potentially valuable source of information on temporary and permanent migration of health workers

Department of Employment and Workplace Relations (DEWR)
. provides survey-based data on shortages of skilled workers, including health workers

. data are not available by small geographical area

Data collections managed by State/Territory health departments
. some data available from administrative databases, but coverage, content, timing and quality vary by jurisdiction

Data collections managed by specialist medical colleges
. numbers and some demographic data on particular specialists and vocationally registered general practitioners (VRGPs)

. numbers and some demographic data on specialists-in-training and vocationally registered GP trainees

Data collections managed by professional associations

Australian Medical Council
. numbers and some characteristics of AMC members

Australian Nursing Federation

. numbers and some characteristics of ANF members

. some data on pay rates

(b) Features of the health workforce that one would wish to measure

A comprehensive information base regarding Australia's health workforce would include measures such as:

- the demographic characteristics of the health workers – age, sex, birthplace, and so on
- qualifications – type, where obtained, when obtained, and so on
- workforce characteristics – labour force status, job tenure, specialty area, classification level, hours worked, hours spent in patient care, industry and sector of employment, earnings, and so on
- geographic location.

For analyses of changes in the health workforce, one would wish to have measures such as--

- entrants to the workforce (contemporary and projected)
  – student completions of health courses in higher education and VET institutions
  – migration data for health workers into and out of Australia (short- and long-term visitors; permanent and temporary migration)
- exits from the workforce (contemporary and projected)
  – retirement, death, career change
  – temporary leave for travel, family responsibilities, training, sabbatical, and so on.

And for analyses of the supply of and demand for services provided by health workers, one would wish to have measures such as–

- demography, including geographical distribution of the subpopulations who need various health services
- health needs, dissected by subpopulation and geographical area
- the characteristics of service delivery entities, both public and private.

The inventory of data sources in (a) above provides information on many of these features. But the information base is far from ideal:

- it must be patched together from a variety of sources, which are not based on consistent concepts – so judgment or synthetic methods must be invoked to construct the data needed for policy design and evaluation.
- some key segments of the workforce are unmeasured or poorly measured or suffer from significant problems of data quality
- some data that are important for policy design and evaluation are available only with a long time lag.

(c) The AIHW's surveys of the health workforce – Sources and methods

In collaboration, the AIHW, State and Territory health departments and the regulatory authorities or registration boards conduct (or have from time to time conducted) surveys of health professionals–

- medical
- nursing and midwifery
- pharmacy
- dentistry
- selected allied health professions (podiatry, physiotherapy and occupational therapy).

Typically, the survey data are passed from the authority or board to the health department, which does the first stage of data assembly, and thence to the AIHW for editing, estimation, analysis and publication. The estimation process includes benchmarking the survey data to the numbers on the master registration file, to adjust for partial or non-response and to ensure that the survey estimates concord with the age-sex structure of the profession. This process has been automated for the annual surveys of the medical and nursing workforce.

For the dentistry and dental auxiliary collections, a good deal of data is collected via direct mailing managed by the Dental Statistics and Research Unit (DSRU), a collaborating unit of the AIHW based at the University of Adelaide.

These surveys work well, by and large. Associating the detailed data collection with the registration process is a cost-effective, reliable method to reach the whole population of workers in the professions concerned. And, provided there is good co-operation at each link of the chain (for passing both the benchmarks and the survey data), the information is of good quality and is fairly timely. But difficulties or delays affecting a single registration authority or a single State or Territory can jeopardise or delay the whole national collection, and undermine its usefulness to workforce policy design and evaluation.

There are issues of data quality and timeliness (see Attachment 1), most of which could be addressed through the commitment of the stakeholders to collaboration and a modest injection of resources. Specifically, work is still needed to:

- negotiate nationally agreed targets for the timely provision of data
- achieve nationally endorsed data standards through the information governance structures and ensure that the standards are applied consistently across the collections
- rationalise the professional registration processes and improve the quality and timeliness of benchmarking data that those processes generate
- raise response rates to the surveys
- exploit the opportunities presented by new technologies (such on-line registration, web-based surveys and other forms of electronic data capture).

Work of this kind would improve the quality and timeliness of the national workforce data, and would also deliver better data at lower levels of aggregation (say, for Indigenous people or smaller geographic areas).

A good deal of effort has already been invested in achieving a more efficient, nationally consistent approach to the collection of health workforce data, particularly through the AIHW's nursing and medical collections. Examples of improvements include:

> developing a draft national minimum data set for nursing and medical workforce data (to be submitted for endorsement); redesigning the nursing and the medical questionnaires (the latter is work in progress); introducing centralised collation of the nursing questionnaires (for greater consistency and economies of scale); and streamlining the editing and estimation processes.

More details are provided in Attachment 2.

(d) The information base on Australia's health workforce – Areas requiring further development

(i) Improvements to the coverage of the workforce information base

<u>Better data on the other segments of the health workforce</u>

In the main, good data are available for the medical, dental and nursing segments of the health workforce. Other segments such as the pharmacy and allied health professions are less well served.

The most comprehensive source at present is the Census of Population and Housing conducted each five years by the ABS. The power of the Census lies its detailed (small area) geographic coverage and the ability to provide reliable information about small populations, such as overseas-born and Indigenous populations. It does have some limitations, however, as an information base for health workforce policy and analysis:

- The Census is conducted only every five years and there is a substantial delay between the reference date and the publication date.
- There is little detail about the characteristics of health workers (for example, only broad field and level of highest qualification are provided) or their working patterns.
- Workers are classified to occupations through self-identification. For less-well-defined occupations (such as nurses aide), people's perceptions may not be consistent with their actual work (so some nurses aides may describe themselves as 'nurses', for example).

For some health professions, there is potential for gathering better information through collections conducted collaboratively with registration authorities:

- The AIHW tries to maintain annual collections for dentists and dental auxiliaries (dental therapists, dental hygienists and dental prosthetists), but due to a shortage of resources there is a large backlog of data processing.
- Likewise, the AIHW stores data on Pharmacy and some allied health workforce collections (Podiatry, Occupational Therapy, Physiotherapy, Clinical Psychology) as they are received from jurisdictions, but the processing backlog can be cleared only slowly.

In all these cases, a modest injection of resources would permit the construction of historical time series for these health professions and the continuation of the time series.

There is no ready vehicle for collecting detailed and reliable workforce data for allied health professions that do not have a registration board or regulatory authority – so obtaining information for these professions would demand more substantial statistical development work. Many of these have been reported as experiencing workforce shortages: examples are radiographers, medical physicists, physiotherapists and podiatrists.

(ii) Improvements to the content of the workforce information base

<u>Better information on multiple practices</u>

Some practitioners (particularly medical practitioners and nurses/midwives) work in locations in several states/territories, and have multiple registrations. At present the ability to estimate the degree of 'double counting' is limited – it is done by asking respondents to the survey in each jurisdiction whether they practise only or mainly in 'this state/territory' or 'another state or territory'. This could be improved if:

- The same registration number is used for a practitioner working in two or more jurisdictions
- Responding to the survey was required for registration

For medical practitioners, the introduction of the Australian Index of Medical Practitioners (AIMP, see Attachment 2) should allow tracking of doctors registered in more than one jurisdiction.

<u>Better data on specialty areas of practice through national consistency of classifications</u>

For the AIHW nursing/midwifery surveys, a nationally consistent set of categories for area of practice was developed as part of the review of the collection, and has been implemented. The categories match the currently-used Australian Standard Classification of Occupations (ASCO) only at a broader level, but an effort was made during the development stage for a closer compatibility with the new Australian and New Zealand Standard Classification of Occupations (ANZSCO) which will be in use in time for the 2006 Census.

For medical practitioners, there are a number of classifications currently in use nationally and internationally: the set that has been redeveloped for the AIHW surveys; ASCO (and its ultimate replacement, ANZSCO); a list of EU specialties; and another list of specialties developed by experts in Finland is currently before the EU membership for their consideration. There isn't an exact compatibility between any of these.

The specialty areas for the pharmacy and allied health professions will be redeveloped in the near future.

It is to be expected that specialty areas across professions will not exactly match. At the same time, however, it is desirable that where similar areas do exist they can be easily identified. This would be advantageous when analysing workforce supply for a particular health disease or condition (such as diabetes, for example), where a multidisciplinary group of health professions (including GPs, renal specialists, cardiologists, optometrists, nurses and/or podiatrists) may be involved in the care of patients.

<u>Better data on international movements of health workers</u>
Between 1995-96 and 2002-03, the then Commonwealth Department of Immigration and Ethnic Affairs (DIMEA), as a member of AMWAC, provided data on the permanent and temporary migration of health workers. These data are no longer readily available, and less detailed information must be used in analyses of overall workforce supply.

<u>Better data to support small area analyses</u>
The AHWOC framework includes the principle that 'Distribution of the health workforce should optimise equitable access to health care for all Australians, and recognise the specific requirements of people and communities with greatest need.' It is desirable to have reliable data for workforce both at and below the State or Territory level.

At present, the existing health workforce surveys can only provide geographical breakdowns to a certain degree, depending on response rates. For example, data below the state/territory level (say, for urban Vs rural areas) relies on consistency of response across those areas. When overall response is very high, this is a reasonable assumption.

Workforce analyses at a much finer level of geography would be greatly improved if:
- Postcode data could be obtained from the registration files to improve benchmarking to a finer geographic area level and/or to provide information on the characteristics of non-responders by geographic area
- Responding to the survey was required for registration
- For the BEACH survey of general practice activity, there was over-sampling in remote areas and in Indigenous health services.

For medical practitioners, the introduction of the Australian Index of Medical Practitioners (AIMP, see Attachment 2) should allow more accurate benchmarking at the national and jurisdictional levels, provided that summary data are made available to the AIHW to support its estimation processes. The AIMP would also be valuable if it were to provide more comprehensive data than are available at present on practice locations, structures and services provided.

Better data on health workers' earnings
Information on earnings must be pieced together from several less-than-ideal sources.

Data from the Census is for total income (from all sources). This makes it difficult to know whether the earnings component of income has changed over time (or has, for example, been affected by policy or other changes), whether it varies across geographical areas, or how it differs between specialties.

The ABS's Survey of Employee Earnings and Hours provides some data on earnings, but does not cover self-employed workers.

Some information on earnings could be obtained through Medicare data, but those data do not cover non-Medicare sources of income which may vary in importance across specialties and regions.

Another possible alternative would be to tap into ATO data, but this source is unlikely to provide data on the earnings gained from employment, distinguished from other sources of income.

(iii) Improvements to the processes for compiling the workforce information base

More consistent professional registration processes across Australia
As noted above, considerable improvements to the quality of workforce data could be easily achieved if, for each profession:

- registration were undertaken at the same time and in the same way in each jurisdiction

- there were nationally standard classifications for the occupation levels

- benchmarking data were provided in a timely manner and to agreed, nationally standard specifications

- completion of the workforce questionnaire were a required component of the professional registration processes. This would not only maximise response to provide reliable small-area data, but would also allow the benchmarking frame to include all registrations, rather than just those who are re-registering, which is currently the case.

Web-based questionnaires for workforce surveys
In some jurisdictions (notably Queensland and Victoria), nurses, midwives**,** doctors and some other professions are able to renew their professional registration on-line. This reduces their likelihood of completing a paper-based questionnaire – and, indeed, noticeable drops in nursing/midwifery survey response rates have already been observed in these jurisdictions. Similar on-line facilities will probably be provided by other boards and in other jurisdictions.

Prompt action should be taken to develop Web-based workforce questionnaires to take advantage of on-line registration (and to obviate the hazards that it poses to the quality of workforce data). Unless nationally consistent web-based surveys are developed soon, it is likely that a plethora of such surveys will be developed in each jurisdiction, bringing a return to the inconsistent, ad-hoc data collections that prevailed some years ago. The AIHW is investing some resources in developmental work of this kind.

A precedent is provided by the work of the DSRU (initiated in 2002) which established a Web-based questionnaire that operates in tandem with the online registration renewal process of dentists, therapists, dental hygienists and dental prosthetists in Victoria. A dispatch-and-collection-control identification system was developed to eliminate any response duplication with the paper-based survey. A key issue with establishing a similar system in other States/Territories is the inability/unwillingness of the boards to participate in the development of the questionnaires and the dispatch-and-collection-control system.

Extending the central survey processing model

Central processing of the nursing/midwifery questionnaires has demonstrated its value for improving the timeliness and consistency of data, and for reducing processing costs. That experience should be carried over to the surveys for the medical profession and some other health professions.

The AIHW's surveys of the health workforce –
Key issues affecting their quality and timeliness

(1) Data quality issues

Data provided by the professional registration boards

(a) Currently, the AIHW receives from the registration board in each jurisdiction, at best, a extract from the registration file containing numbers of re-registering professionals dissected by age and sex (and by type of registration, for nurses and midwives) for the jurisdiction as a whole. These data permit some underlined benchmarking of survey responses, to ensure that their characteristics are weighted up to reflect those 'marginal totals'. For some professions and in some jurisdictions, even these data are not provided – so benchmarking can be applied only to the total number of re-registrations.

(b) For most of the registered professions, the underlined registration period differs between jurisdictions.

- Perhaps the most extreme example is for the nursing/midwifery profession, where there is almost year-round registration in NSW; a 4- or 5-month period for Victoria, a 3-month period for Queensland, different 2-month periods in Tasmania, the ACT and the Northern Territory, four discrete periods in South Australia and optional 3- or 5-yearly registration in Western Australia.

- There are similar, if less severe, differences in the timing of registration for the other professions.

The quality of the national data set is affected by this lack of consistency, and estimation procedures can compensate only partially for the problem.

(c) Workforce questionnaires are not sent to underlined newly registered professionals until they are due for renewal (in the case of nurses/midwives in Western Australia, this could be up to five years). Similarly, questionnaires do not reach temporary registered doctors unless they have stayed in the country for over a year and receive a registration renewal form. This means that the benchmarking frame is limited to those who are re-registering.

(d) It is underlined not compulsory to respond to the workforce surveys. While response can be as high as 90% in some jurisdictions, it can be quite low in others. Response varies from year to year, and, in line with the experiences of most statistical agencies, has been steadily dropping over the last five years. Because they are not sample surveys, it is not possible to calculate confidence levels based on the response rate. In addition, response rates are not known below the jurisdictional level, which means that there are no reliable data suitable for small area analyses.

(e) For nursing/midwifery, the underlined classification of job level differs between jurisdictions. Moreover, they cannot be mapped to each other.

(f) Where primary data collection is undertaken, the inability to obtain identified data and immutable data/registration files from boards/health departments limits the capacity to examine/calculate underlined retention and wastage rates (as it is not possible to link annual data sets).

Data from the health authorities

The AIHW relies on the jurisdictions to send out the correct forms to the registration boards. The processes have sometimes gone awry, and national standards for the questionnaires are not always implemented.

(2) Timeliness issues

Data from the registration boards

The inconsistency between registration periods noted above also affects the timeliness of the national data set, which can be produced only after the slowest of the jurisdictions has supplied its data.

Data from the health authorities

The AIHW also relies on the jurisdictions to provide their raw data, and (once the estimations are completed) to grant authority to publish. Both steps can be subject to long delays.

Data collections on the health workforce—
Recent and forthcoming developments

(1) Toward a nationally consistent approach to the collection of health workforce data

Various pieces of work have been undertaken (some of which are still in train) to encourage the registration boards, the health authorities and the AIHW to adhere to agreed nationally consistent procedures and standards in providing and reporting on the medical and nursing workforces.

AHWOC has been actively pursuing national agreements concerning those procedures and timeliness in providing the data to the AIHW, but these negotiations were still in progress at the time of writing.

(2) The AIHW's surveys of the health workforce – Recent development work

Over the last 3-4 years, the AIHW has streamlined and improved its survey processing considerably, has been an active proponent of improving other aspects of the collections, and has either led, actively participated in, or provided advice to, various working parties to improve consistency and timeliness of the data.

Some of the achievements to date include:

- **Review of the nursing/midwifery collection**, resulting in:
  . a nationally consistent survey form in all jurisdictions, with the exception of the question on job classification (which is different in every jurisdiction) and some minor variations in some other questions.
  . central processing of survey forms. This was agreed to by AHWOC in 2002, and a contract was awarded through a competitive tender process. In 2004, forms in all jurisdictions were processed centrally. This has delivered much more timely and consistent data at lower cost.
  The procedure was evaluated by AHWOC members, and found to be successful. Central processing will re-commence for 2005 when the MOU has been signed.

- **Review of the medical collection,** resulting in
  . the development of a draft nationally consistent survey form for all jurisdictions. This was developed under the guidance of, and has been approved by, AMWAC, and is currently with AHWOC for its approval. It is likely to be implemented in some jurisdictions in 2005.

- **Development of draft national minimum data set and elements**
  The AIHW has prepared an advanced draft of a minimum data set (MDS) and elements for each of these professions concurrently, based on the redesigned nursing/midwifery and medical questionnaires. This is a fruitful way of mandating a nationally consistent data set capable of supporting drill-down analyses – and it would be valuable if the standards could be vetted and endorsed without delay.

(3) Related developments

On 23 April 2004 the Health Ministers agreed to a nationally consistent approach to medical registration to facilitate the mobility of the Australian medical workforce, making it easier for doctors to work across State or Territory boundaries. This approach included:

- The introduction of a multi-jurisdictional/national registration system under which a doctor registered in their jurisdiction of primary practice will generally also be eligible to practise in any other jurisdiction on the basis of that registration without having to lodge a separate registration application or pay a separate fee.

- The adoption of standard and consistent medical registration categories across all jurisdictions.

- The development of an online Australian Index of Medical Practitioners [AIMP], which will include all current registered practitioners in Australia.

- The adoption of a uniform set of medical practitioner information items that will be available to the public in all jurisdictions through the Australian Index of Medical Practitioners as well as through the medical boards in each State and Territory.

- A platform for a greater role for state and territory Medical Boards in assessing maintenance of professional competency.

The AIMP will assist medical workforce planning by providing better data on the number and distribution of doctors practising in Australia, which can be used for benchmarking the AIHW medical survey data. It may be possible to obtain registration data by postcode, and thereby support analyses below the State or Territory level.