03 Estimating Medical Workforce Requirements

July 2024

This information sheet outlines a method for estimating the medical workforce needed for a defined location. The method considers the size and health needs of the local community in estimating the medical workforce required to sustain both general practice and hospital and emergency service requirements.

1. Community needs analysis

Community needs can usually be obtained from HHS planning documents, the Primary Health Network's (PHN) community needs assessments, health plans prepared by any non-government healthcare providers, such as the Royal Flying Doctor Service or Aboriginal Community Controlled Health Organisations (ACCHOs) and through an analysis of the practice patient profile and local hospital attendances.

HHS planning staff will be available to provide further advice on population and health care trends. The Community Advisory Network (or similar) can also provide a source of insight into local community needs and concerns.

The analysis should enable the HHS to draw out areas for priority attention (Indigenous health, chronic disease management, geriatric/palliative care, mental health) where additional skills may be needed amongst the medical workforce. This can inform future recruitment action.

These analyses may already be undertaken by the HHS to consider the utilisation of the local hospital and the scope of clinical services being provided to better meet local community needs. This may include the need for step-down capacity, birthing services, renal care or virtual care models. This analysis is not considered further in this information sheet but would likely influence the calculation of workforce required in the hospital/MPHS.

In March 2024, the Queensland – Commonwealth Partnership (QCP) Steering Committee approved a Joint regional needs assessment (JRNA) framework and implementation toolkit[1] enabling one overarching joint needs assessment process to be conducted in each region by the relevant agencies working in partnership.

[1] Queensland Health: https://qheps.health.qld.gov.au/cpss/spb/html/joint-regional-needs-assessment

2. Estimating the Primary healthcare workforce

The seven Primary Health Networks (PHN) in Queensland were established by the Australian government to assess the needs of local communities and commission health services so that people in their region can get coordinated health care where and when they need it[2].

PHNs provide the best source of information regarding primary health workforce requirements and needs within their regions and the GP catchment areas they service. Joint planning and collaboration between the PHN and local HHS should provide insights into the requirements for the rural primary health workforce. The assessment should take into account:

- The population size and demographics (age, sex).
- Indigeneity and cultural diversity of the community.
- The extent of social and economic disadvantage.
- The prevalence of chronic diseases and related health and lifestyle factors.
- Access (and distances) to secondary care services.
- The profile and trends of presentations to hospitals

PHNs work closely with rural workforce agencies, general practitioners (GPs) and other health professionals to build the capacity of the health workforce capacity to deliver high-quality care.

PHNs have access to the Health Demand and Supply Utilisation Patterns Planning (HeaDS UPP) tool which provides an integrated source of health workforce and services data to inform workforce planning and analysis. HeaDS UPP brings health data together to visually highlight how the community uses and accesses health services and the health workforce, providing a single access point to workforce data drawn from a number of data sets such the Medicare Benefits Schedule, Australian General Practitioner Training, Royal Flying Doctor Service Program, National Health Workforce data set, National Health Service Directory and others.

The Queensland PHNs collectively also play a key role in the future distribution of the GP workforce having been appointed under the GP Workforce Planning and Prioritisation Program by the Australian Government to provide analysis and advice on priority locations for GP training placements for the Australian General Practice Training (AGPT).

PHNs will draw on population demographics, the national health workforce data set, local workforce vacancies and insights from local communities as part of their ongoing community needs analysis to evaluate local health workforce requirements and the capacity and potential for local areas to support GP training placements and build local workforce capacity.

[2] Queensland Health https://qheps.health.qld.gov.au/cpss/spb/html/joint-regional-needs-assessment grams/phn/what-phns-are"www.health.gov.au/initiatives-and-programs/phn/what-phns-are

3. Estimating the required hospital / MPHS medical workforce

The medical workforce complement of a rural hospital / MPHS should have regard to:

- The presentation profile of attendances at the hospital emergency department (number, time of day, day of week). This should be reviewed in line with changes in the availability of primary care services.
- Approved bed numbers, average occupancy and the acuity of patients to inform daily rounds, medication review and specialist follow-up.
- Medical attendance requirements of aged care residents, as necessary.
- The required mix of skills (emergency, internal medicine, paediatrics, mental health), based on community needs assessments.
- Birthing and visiting surgical and specialist service schedules, where endorsed by the Clinical Services Capability Framework.
- Leadership and clinical management functions, including clinical governance and education and training.

The following table can be used to estimate the amount of medical FTE required within the secondary service.

Table 1: Summary of estimated medical workforce for secondary care (hospital/MPHS)

Function	Mon-Fri (daily)	Sat (daily)	Sun (daily)	Total Weekly	FTE
Inpatient care					
General & specialised outpatients					
Emergency department					
Birthing and surgical support					
Leadership					
Totals					

When considering staffing levels at rural hospitals:

- General & specialised outpatients should be kept to a minimum and preferably be delivered in a primary care setting (private practice) - keeping community members well and out of hospital.

- Medical time for birthing services and visiting surgical support, where undertaken, will need to be averaged and considered further when preparing medical rosters in a shared workforce model.
- Outreach medical clinics to nurse-led primary health care centres in nearby towns should be excluded from the table if these will be provided through the general practice (as a branch practice).
- To ensure a work-life balance for doctors, after-hours on-call rosters should not be less than 1:3 (1:4 preferred) and will require a head count of at least 3 doctors.

4. Current medical workforce available

An inventory of the available medical workforce should be undertaken in collaboration with the local PHN and other healthcare providers to collect data. The information derived will inform future recruitment needs and so should include advanced skills currently held by the medical workforce.

The medical workforce may currently work in both public and private practice under various employment models and will require an estimate of the average or typical way in which these doctors engage in their work. It may also be the case that general practitioners regularly work more than 40 hours per week (on which a standard FTE is calculated). Whilst this is acknowledged, the resourcing model should not require doctors to work additional hours and accordingly each doctor will only be counted for a maximum of 40 hours.

The inventory should identify whether doctors have vocational registration or are currently on a training pathway. In some cases, an overseas trained doctor may have been engaged under a district of workforce shortage program and may seeking a training place in Australia.

When engaging with independent general practitioners, it would be ideal to discuss their interest in increased collaboration and participation in a shared medical workforce, noting the opportunities that present under the National Rural Generalist Program. Queensland Country Practice has been appointed as the jurisdictional coordination centre for the program and is available to assist HHSs and GPs to explore opportunities and arrangements to participate in the program.

To assist in informing recruitment for the future medical workforce model, it would further assist planning if medical practitioners were able to share their planned working intentions in the local community – such as planned retirement or desire to continue in a part-time capacity only. This should be canvased with care and sensitivity.

To complete the inventory, information should be collected regarding nurse practitioners engaged at the hospital and practice nurses working in the general practices. Nursing support optimises the delivery of care and care coordination for patients, whilst a nurse practitioner may be able to support the on-call roster or conduct private practice.

Table 2: Inventory of local medical workforce

Location	Doctors & Nurse Practitioners	Registration	Advanced Skill	Primary Care FTE	Hospital FTE	Total FTE
Town A	Doctor A	Vocational		0.80	0.20	1.00
	Doctor B	Vocational	Mental Health	0.80	0.00	0.80
	Doctor C	Non-VR		0.60	0.40	1.00
	Doctor D	RMO			1.00	1.00
	Nurse Practitioner	Emergency			1.00	1.00
				2.20	**2.60**	**4.80**

The data in the above table is illustrative only

5. The medical workforce gap

Combining the above sections, it is possible to estimate the medical workforce gap (or surplus) required to meet community health needs.

Table 3: Medical workforce gap analysis

		Medical FTE
(a)	Estimated General Practitioners required for primary care, based on PHN advice (Section 2)	
(b)	Estimated SMO/MPPP rural generalists required for acute hospital/MPHS services, based on inpatient and ambulatory attendance analysis (Section 3)	
(c)	Total estimated capacity of doctors required for the medical team servicing both primary and secondary care (a)+(b)	
(d)	Current independent private general practitioner workforce remaining independent	
(e)	Current independent private general practitioner workforce with rural generalist interest and skills	
(f)	Current hospital/MPHS medical workforce (including FTE engaged in private general practice or granted private practice)	
(g)	Total current medical workforce resources available (d)+(e)+ (f)	

(h)	**Gap in medical workforce required to service community needs (c)-(g)**	
(i)	Minimum headcount of rural generalists required to cover 24/7 rosters in secondary service (not less than 1 in 3, prefer 1 in 4)	
(j)	Headcount of currently available medical workforce able to participate in on-call emergency roster	

All workforce calculations should reflect the full-time equivalence of the role occupied, allowing for annual and professional development/conference leave. Whilst many general practitioners work long hours, the worksheet should assume a standard 40 hour working week, with any additional hours worked being reflected in the gap in item (h) above.

Ideally, all rural doctors should share the on-call roster to best manage the work-life impost of working in a smaller rural community. However, it is acknowledged that some independent general practitioners may decline. This will add to the medical workforce gap if there is insufficient headcount to maintain a fair and safe roster.

An inventory of the available medical workforce should be undertaken in collaboration with the local PHN and other healthcare providers to collect data. The information derived will inform future recruitment needs and so should include advanced skills currently held by the medical workforce.

6. Sustaining the medical workforce

In-house relief

With a larger medical workforce team, it becomes economic to include inhouse relief into the medical workforce establishment to replace the need for, or partly substitute, more expensive periodic locum or reliever services. Building in relief cover into the workforce enhances the sustainability of local services and optimises continuity of care for patients.

As a rule of thumb:

- Each medical FTE has a leave entitlement of 8.6 weeks (5 weeks recreation + 3.6 weeks professional leave).
- Each medical FTE therefore is available for 43.4 weeks each year (excluding unplanned leave).
- For every 5 medical FTE employed in the medical workforce team, one internal reliever could be employed to cover leave arrangements.

Care must be taken in leave planning to ensure cover is maintained with the additional reliever in the workforce.

Alternatively, junior doctors on a JDocs[3] term rotation can complement the workforce of senior doctors in both the hospital and general practice. The safety of patients and junior doctors alike during these rural generalist terms is assured by compliance with the standards of the Queensland Country jDocs Guidelines. Queensland Country jDocs is a 3GA Approved Workforce Program in which junior doctors are eligible to receive a Medicare Provider Number. This permits billing for non-admitted care in approved hospitals using section 19(2) exemptions, and in limited cases, billing for private patients within a private general practice. Unless the role back-filled is a Medical Officer Right of Private Practice, private practice billings are assigned to the health service.

Becoming a Training Practice to support a medical workforce pipeline

A further consideration in designing the medical workforce is whether to become a training practice.

A key challenge to establishing and maintaining a vibrant & self-sufficient medical service is the ability to recruit and retain suitably qualified medical practitioners. Evidence suggests that despite efforts to attract quality health professionals, workforce shortages persist in rural and remote areas.

Rural clinical placements (such as through the Queensland Country jDocs program, the John Flynn Doctor Program[4] or the Rural Generalist pathway) are an important component of contemporary training experiences for student health professionals. The rationale for these programs is based on the evidence that positive, well supervised and supported rural placements increase the likelihood of students to return to rural areas once qualified - a "grow our own" strategy.

Additionally, "growing our own" workforce also has potential for example, for mentoring young people who live in a remote community, keeping in touch with them when they go away for university and 'talking up' opportunities of the region.

oo00oo

This information sheet provides an indicative (general) assessment of potential practice earnings. For a more detailed analysis, please contact the Queensland Country Practice Service and Workforce Redesign by email at ProgramServicesQCP@health.qld.gov.au or telephone 3199 3950.

[3] https://qheps.health.qld.gov.au/__data/assets/pdf_file/0028/2155771/idocs-jdocs-guidelines-v15.pdf
[4] www.health.gov.au/initiatives-and-programs/john-flynn-prevocational-doctor-program