

# Queensland Health, Health Practitioner Core Competency Descriptor

## Epidemiologist

### DISCIPLINE DESCRIPTOR:

Epidemiologists, as defined by the Australasian Epidemiological Association,

- Describe health and disease patterns in human populations (the distribution);
- Identify the causes (aetiology) of diseases (the determinants);
- Provide data essential for the management, evaluation and planning of health services for the prevention, control and treatment of disease (the application).
- Promote and improve health and wellbeing.”

Epidemiology serves as the foundation and logic of interventions made in the interest of the public's health. Epidemiology is a discipline including multiple specialisations. These specialities include communicable disease epidemiology, clinical epidemiology and evaluation. The Queensland Health epidemiology workforce contains Units comprised of generalist and specialist epidemiologists. Epidemiologists provide services in discipline specific and multidiscipline teams.

### CORE COMPETENCIES:

#### 1. Knowledge in Practice

1.1 Knowledge of population health prevention, promotion and protection concepts and strategies including but not limited to health status of populations, inequalities in health status and the determinants of health (biological, social, cultural, environmental, economic and physical).

1.1.1 Knowledge of epidemiological, biostatistical and evaluation principles and techniques.

1.1.2 Understand the methods for acquiring and interpreting epidemiological information about health outcomes and determinants.

1.1.3 Understand health status and determinant monitoring and surveillance systems.

1.1.4 Use laboratory, clinical, environmental and other resources to support epidemiological practice.





1.2 Use of evidence and research to target and inform population health interventions and influence access to and delivery of health services.

1.2.1 Use epidemiological knowledge, principles and practices to gather and critically analyse scientific evidence and research relevant to population health.

1.2.2 Understand the role of epidemiology principles and knowledge in decision making for population health practice.

1.3 Knowledge of state, national and international developments in population health prevention, promotion and protection strategies.

1.4 Understand how the determinants of health (biological, social, cultural, environmental, economic and physical) influence the health and well-being of the population and the interaction between public policies, lifestyles, consumption patterns, urbanisation and health.

1.5 Knowledge of project management principles (including scope, time, cost, procurement, quality, risk, human resource, and communication management) as they apply to population health interventions.

## 2. Health Intervention Planning and Implementation

2.1 Develop evidence based options to address a specific population health issue and assess the implications of each option to formulate appropriate and measurable program goals, objectives and strategies.

2.1.1 Use epidemiological techniques to describe factors associated with health outcomes (web of causation).

2.1.2 Provide epidemiological advice for the development of evidence based interventions.

2.1.3 Prepare for emergency response and respond in public health emergency.

2.2 Understand the principles and processes of policy development and implementation in promoting and protecting health and preventing disease and injury.

2.2.1 Contribute epidemiological knowledge to policy and strategy development and implementation.

2.3 Plan and implement multi-strategy population health interventions to contribute to defined policy and program outcomes.

2.4 Identify risks and apply principles of risk management.

### 3. Needs Analysis and Assessment

3.1 Identify the health issues that exist in and impact on populations.

3.1.1 Understand basic disease aetiology and determinants

3.1.2 Use epidemiological principles to profile populations and health issues, including health inequalities, by sociodemographic and health characteristics.

3.2 Identify behavioural, environmental and organisational factors that promote or compromise health.

3.3 Identify relevant and appropriate sources of information

3.4 Collect, manage and analyse data to determine appropriate implications, uses, gaps and limitations in information on population health issues.

3.4.1 Conduct surveillance and monitoring of population health outcomes, risk and protective factors using epidemiological data sources.

3.4.2 Investigate outbreaks of acute disease and changes in chronic conditions in the population.

3.5 Interpret the meaning of information, considering the current ethics, political, socio-cultural and economic context.

3.6 Recommend specific actions based on analysis and interpretation of information.

3.7 Report and communicate through appropriate channels to inform population health policy and practice.

### 4. Partnerships, Collaboration and Advocacy

4.1 Identify partners and other stakeholders through a process of proactive and responsive engagement.

4.2 Participate in, develop and maintain sustainable community and professional partnerships to enhance population health outcomes.

4.3 Collaborate with partners and other stakeholders in the planning and delivery of clinical services to achieve positive population health outcomes.

4.4 Advocate on issues of population health significance to influence healthy public policy and practice across sectors and jurisdictions.





## 5. Cultural Competency Skills and Health Equity

5.1 Consider population diversity and health inequality and apply culturally- relevant and ethical approaches based on the Cultural Respect Framework when planning, implementing and evaluating population health interventions.

5.2 Interact sensitively, effectively and professionally with people from diverse cultural, socioeconomic and education backgrounds.

5.3 Understand and respect cultural differences when engaging with Aboriginal and Torres Strait Islander and culturally and linguistically diverse populations.



## 6. Communication

6.1 Communicate effectively with a range of stakeholders and populations by using appropriate resources, techniques and technologies.

6.1.1 Prepare written and oral reports and presentations on health status and epidemiological investigations at local, area and state level.

6.1.2 Apply the principles of risk communication in all communications of epidemiological findings.

6.2 Apply interpersonal skills in communication with colleagues, partners and the public.

6.3 Inform and influence individuals and communities by using appropriate media, community resources and social marketing techniques.

6.4 Provide expert advice on population health matters.

6.4.1 Provide expert epidemiological advice to management, partners and other stakeholders.



## 7. Leadership

7.1 Communicate and apply shared visions, missions and values as well as building capacity, improving performance and enhancing the quality of the working environment.

7.2 Contribute to team and organisational quality and performance standards, through ethical practice that acknowledges and respects the dignity, culture, values, beliefs and rights of individuals and populations.

7.3 Understand the context and the environment in which decision making occurs in relation to population health interventions.



7.4 Understand the contribution and role of other government and community partners for improving the health and wellbeing of the population.

7.5 Promote and contribute to reflective practice, professional development and an active collegiate learning environment.

7.6 Build the capacity of communities and organisations to improve population health outcomes by sharing knowledge, tools, expertise and experience.

7.7 Recognise the competencies and qualities that make successful leaders.

## 8. Evaluation, Research and Knowledge Translation

8.1 Utilise relevant literature and research findings to improve evidence based practice.

8.1.1 Utilise relevant literature and research findings to improve epidemiology practice.

8.2 Locate and systematically review the information and assess its quality and usefulness for the purposes of public health research, policy and practice.

8.3 Conduct research and evaluation according to research and project management principles.

8.4 Select and design appropriate evaluation and research methods and instruments.

8.5 Monitor programs, objectives and strategies based on the analysis of data.

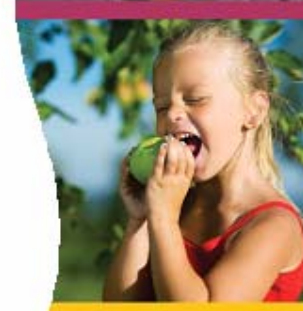
8.6 Analyse quantitative and qualitative data to understand program effectiveness

8.7 Report and communicate findings through appropriate channels to contribute to the evidence base and promote population health outcomes.

8.7.1 Translate epidemiological data and literature into information that public health practitioners, policy makers, other clinicians and the public can understand and use

## 9. Use of Technology

9.1 Uses appropriate technology and software to collect and analyse data relevant to Population Health.





9.1.1 Use epidemiological and biostatistical software to analyse data.

9.2 Uses appropriate technology to communicate effectively.

9.3 Awareness and use of current and emergent technology in delivering population health services.



## 10. Management and Administration

10.1 Apply financial human and operational management frameworks to population health interventions

10.2 Manage population health interventions and strategies within quality, time and budget constraints.

10.3 Demonstrate skills that foster collaboration and support, partnership and team building to achieve population health outcomes.



## 11. Learning and Development

11.1 Understand the importance of and engage in the activities of lifelong learning and development

11.2 Maintain professional currency.

11.3 Support and develop the competence and professional development of colleagues.

11.3.1 Provide training pertaining to the application of epidemiological methods in population health.



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### Primary source:

- Centers for Disease Control and Prevention/Council of State and Territorial Epidemiologists. 2007. Competencies for Applied Epidemiologists in Governmental Agencies. October 2007 version 1.01. Atlanta: CDC.
- Core Competencies for Public Health in Canada Release 1.0 (Public Health Agency of Canada).
- Australasian Epidemiological Association website [http://www.aea.asn.au/home\\_whatisepidemiology.htm](http://www.aea.asn.au/home_whatisepidemiology.htm) (accessed 10 August 2007)

### Secondary sources:

- Competency Standards for Public Health Practice 2007 (Public Health Education Research Program)
- Public Health Practice in Australia Today, A statement of core functions (National Public Health Partnership)

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