

Towards ... a Queensland Aboriginal and Torres Strait Islander Environmental Health Strategy: A Scoping Paper ...

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Executive summary ...

The health of Aboriginals and Torres Strait Islander people has been a priority agenda item for Queensland Health for some time as it has been at a Commonwealth level and in other States and Territories. Despite prioritisation of this complex issue of indigenous health, Indigenous mortality and morbidity continues at unacceptably elevated levels. Furthermore, the diseases responsible for these levels are characteristic of illness patterns in developing countries. This is unacceptable for a rich country such as ours.

Mortality and morbidity patterns for Aboriginals and Torres Strait Islanders suggest that the effectiveness of health interventions to date has been limited. Determined efforts have been made by government to provide primary health care for Indigenous peoples. The value of this is significant and has resulted in major reductions in mortality rates over recent decades. However more needs to be done.

Hospitalisation, immunisation and other primary health care interventions have established their critical place in Australian health care. However, they do not address the core determinants of many diseases attributing to the ongoing high morbidity and mortality rates of our Indigenous peoples. Attempts to reduce the morbidity and mortality rates for these people has primarily focused on tertiary intervention. Not enough attention has been paid to the underlying environmental health factors contributing to the causes of those diseases. Government's approach to addressing environmental health related illness through housing and infrastructure development has been ineffective in significantly reducing environmental health risks, proceeding without the involvement of the State's principle stakeholder in environmental health in many instances.

The state of health of Aboriginals and Torres Strait Islander people in Queensland has been associated with their long history of dispossession, discrimination and social oppression and the resultant state of poverty suffered by many of these people. Today, the root of many health problems in Indigenous communities results directly from entrenched environmental causes. Unless these environmental causes are identified, addressed and monitored, Indigenous illness will continue to be treated, rather than prevented. While Queensland Health can undertake prevention and treatment initiatives to address national Indigenous health targets, achievement of the targets will also require involvement in housing and infrastructure planning and development for Indigenous communities in Queensland. There must be integration, not competition, in providing services that have an environmental health component.

Australia represents diverse environmental living conditions. In Queensland, our Aboriginal and Torres Strait Islander population is spread through tropical climates into deserts and cities. Each of these unique landscapes pose their own specific environmental health risks to their inhabitants.

The challenge for Queensland Health is to provide appropriate strategic interventions to address the broad range of environmental health risks to Indigenous communities throughout Queensland by establishing a framework for culturally appropriate environmental health programs for the State. These strategic interventions must also be flexible to allow different approaches for the different settings in rural, remote and urban communities.

This Scoping Paper is the first step in the development of an *Aboriginal and Torres Strait Islander Environmental Health Strategy* for Queensland. It is a determined effort to provide Indigenous peoples in Queensland with the same environmental health standards taken for granted by the rest of this State.

The Appendix to this Scoping Paper is entitled *draft Framework for Action*. It is a proposal for a framework for further development of the Strategy. The *draft Framework for Action* focuses on addressing those challenges identified in this Scoping Paper and is intended to provide the basis for development of the Strategy.

We invite all interested stakeholders to provide feedback on the proposed Strategy development discussed throughout this Scoping Paper. Additionally, comment on the *draft Framework for Action* is strongly encouraged to ensure the development of an *Aboriginal and Torres Strait Islander Environmental Health Strategy* is responsive to the needs of Indigenous peoples in Queensland.

Dr John Scott
State Manager
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April 1999

Chapter 1 Introduction ...

A Strategy to improve Indigenous Environmental Health

Government mandates as far back as 1973 have supported the achievement of social justice through the increased recognition of the health of Aboriginals and Torres Strait Islander people. Strategic planning is integral for achieving efficiency and equity in any health care system and consequently, for achieving social justice for Aboriginals and Torres Strait Islander people. Planning at this strategic level is now considered fundamental in Indigenous environmental health at national, state and program levels¹¹.

This Scoping Paper aligns with the Queensland Health Public Health Service focus on strategic program outcomes through a key performance objective of the Public Health Services *Plan for Achievements* - “to develop and implement public health interventions based on priorities to improve health status indicators”.

A health risk assessment approach

In order to address the priority issues affecting Indigenous health it is necessary to clearly define the problems in environmental health standards which pose a risk to their health. Short and long term strategies to reduce risk can be developed once these priority issues are identified and defined.

Risk assessment has developed as a valuable tool for environmental health practitioners for assessing the level of risk in certain situations, at a point in time, and for evaluating the effectiveness of interventions through measurement of changes to risk over time. In environmental health, risk assessment is a best-practice tool which can be used for prioritising risks and informing decision-makers, facilitating the development of the most appropriate strategies and programs for management of those risks.

The Tropical Public Health Unit of Queensland Health is currently developing a risk assessment and review program for environmental health in Indigenous communities. This development will complement the implementation of the Strategy and traditional regulatory approaches for managing Indigenous environmental health in the long term.

Collaboration is essential

Opportunities for many Aboriginals and Torres Strait Islander people to maintain traditional living standards is diminishing with the evolution and dominance of non-Indigenous designed and constructed housing and infrastructure.

Furthermore, the way local resources are managed and made accessible to community members, when these resources are in fact available, greatly determines environmental health standards in Indigenous communities.

In May 1998, a National Indigenous Environmental Health Workshop was held in Cairns, North Queensland, to discuss possible directions for addressing core environmental health risks nationally.

An underlying theme at the National Workshop was that addressing environmental health problems in Indigenous communities requires more than obtaining and allocating funding resources. This is supported in many documented studies. There are core structural and system changes required in health processes and public works and housing processes.

Whilst funding will always be an essential component in addressing infrastructure related problems, successful management of Indigenous environmental health problems must include a number of additional components:

- * community involvement in and control of environmental health systems
- * provision of effective environmental health programs and services together with a workforce skilled to deliver them
- * an infrastructure supportive of environmental health programs
- * adequate relevant information on and for Indigenous communities
- * enhancement of environmental health knowledge in the communities
- * reducing cultural barriers which have the potential to affect behaviours and communication
- * adoption of a holistic approach to health which includes education and economic development

Unfortunately, efforts by government to date have not produced the desired results. This can partly be attributed to a failure to provide these components fully and appropriately.

Optimal environmental health infrastructure and living standards for Queensland's Indigenous population can only be achieved through dedicated collaboration at all levels of Government to address housing, water supply, waste disposal and management, education and training, nutrition, personal hygiene and all other areas of environmental health.

Building on the past

Shortcomings in environmental health infrastructure in Queensland's Indigenous communities are highlighted in this paper. They have hindered the achievement of acceptable standards of environmental health for Indigenous peoples living in Queensland. Some of these shortcomings include:

- * fragmented approaches between agencies to managing Indigenous environmental health
- * no mechanisms in place to monitor or evaluate the impact of environmental health programs
- * absence of local full-time Indigenous environmental health services throughout the State
- * communication breakdown through cross-cultural barriers and misconceptions
- * inadequate infrastructure maintenance programs
- * decision making without effective community involvement
- * excessive cost resulting from isolation and the absence of road infrastructure
- * lack of consultation between funding agencies

In coordinating future environmental health services and programs in Queensland, policy makers and practitioners must be cognisant of past and present successes and failures relating to Indigenous environmental health. Without learning from these successes and failures, Indigenous peoples in Queensland will continue to face inequitable standards of environmental health risk.

Managing these environmental health risks and promoting and sustaining improvements in Indigenous health must focus on providing these people with an environment which provides safe and adequate water for drinking and bathing, appropriate size and number of houses, a safe food supply, dust control and safe disposal of waste. Undeniably, governments' continual failure to provide health and housing infrastructure which offers these essentials suggests we have not learned from our past.

Development of a framework to influence government's future investments in environmental health is a priority outcome of the Queensland Aboriginal and Torres Strait Islander Environmental Health Strategy.

To provide this framework, it is essential that the Strategy be a whole-of-government strategy. This is paramount to ensure a coordinated approach to environmental health programs between key government and non-government agencies in Queensland in the future.

This whole-of-government Strategy will support existing Queensland strategies in the areas of social, cultural and economic development while at the same time, provide a focus for the management of environmental health programs within Queensland Health with the cooperation of relevant external agencies.

The Strategy will provide direction for local environmental health policies and activities and recognise specific cultural needs and the immense gap in health status between Indigenous and non-Indigenous peoples in Queensland.

Another benefit of the Strategy will be in the justification of resource allocation to target improved environmental health infrastructure by identifying future program directions in Indigenous environmental health and delineation of the roles and responsibilities of those most appropriate to direct these programs.

Of special consideration, the Queensland *Aboriginal and Torres Strait Islander Environmental Health Strategy* will be based upon the five essential components of Indigenous health strategies outlined in the NAHS report:

- * *An integrated approach to community development (land, housing, water, sanitation, income, employment, education)*
- * *Aboriginal and Islander control of decision making*
- * *Implementation of effective prevention and treatment health services for the major health problems*
- * *provision of resources for health services at least equal to the rest of the population, as well as additional resources required to address the higher burden of illness and consequently higher use of services by the Aboriginal and Torres Strait Islander populations*
- * *progressive improvement in the skill levels of health workers providing services to Aboriginal and Torres Strait Islander communities¹¹*

The following sections of this paper look at environmental health and the historical influences attributing to the current state of Aboriginal and Torres Strait Islander health, particularly in rural and remote Queensland. Furthermore, recommendations and principles to be applied to future environmental health interventions in Indigenous communities are offered for consideration in the development of the Queensland *Aboriginal and Torres Strait Islander Environmental Health Strategy*.

The purpose of this Scoping Paper

The environmental health needs of Indigenous peoples in Queensland have been identified repeatedly through various surveys and studies at both a national and a state level. Whilst the environmental health issues effecting Indigenous health in Queensland are well documented, strategies to improve environmental health living conditions in Indigenous communities are not well defined.

The participation of all key stakeholders in the development of an *Aboriginal and Torres Strait Islander Environmental Health Strategy* for Queensland is essential to ensure that the Strategy provides the framework necessary to actually address the current environmental health needs of Queensland's Aboriginal and Torres Strait Islander peoples.

Queensland Health is the leading agency for environmental health in Queensland and has produced this Scoping Paper as the first stage in the development of a Queensland *Aboriginal and Torres Strait Islander Environmental Health Strategy* and to provide leadership and focus.

The intention of this Paper is to describe the range of environmental health issues effecting Queensland's Indigenous population in cities, urban and rural areas and to highlight the significance of environmental health as a major determinant of Indigenous health in this State. Subsequent development of the Strategy will provide opportunities to:

- * consolidate information already gathered about environmental health risks in Indigenous communities
- * assess these risks in the appropriate context
- * identify gaps in environmental health management programs
- * through a sound methodology, work with all agencies to agree on priority environmental health risks and possible management options which can be presented for discussion at appropriate forums and incorporated into a strategy which includes regulatory review.

Thus, this Scoping Paper is an integral tool to collaborate for a whole-of-government approach to the development of the Strategy.

This Scoping Paper recognises the future direction and principles provided by the 1989 NAHS Report, the Queensland *Aboriginal and Torres Strait Islander Health Policy 1994*, and the *Torres Strait Health Strategy (1993)*.

Recommendations

Action in the following specific areas is recommended for the success of a State *Aboriginal and Torres Strait Islander Environmental Health Strategy* and the subsequent development and implementation of successful and sustainable environmental health programs for Queensland:

- ✿ ensuring the participation of Indigenous communities in the management of environmental health in their communities
- ✿ fostering collaboration and coordination of all organisations active in environmental health and infrastructure related areas
- ✿ providing opportunities and mechanisms for the development of a sustainable and effective environmental health workforce to support Indigenous environmental health initiatives in Queensland communities
- ✿ providing accessible housing and environmental health infrastructure systems which are developed and maintained to support and promote Indigenous community health throughout Queensland
- ✿ continued development of programs and resources strategically targetted at improving Indigenous environmental health
- ✿ enhancing information networks to facilitate greater access to and sharing of environmental health information for Indigenous communities.
- ✿ developing accurate and reliable indicators of performance and health status as a way of measuring and monitoring environmental health programs in Indigenous communities.

Chapter 2 What is environmental health ?

Environmental health is a multi-disciplinary field of public health concerned with the study of all physical, biological and social factors in our environment which have an effect on human health. Environmental health incorporates the assessment, intervention, control and prevention of those environmental factors that do, and have the potential to, adversely effect human health.

The role of environmental health is to identify and manage hazards in our environment which present a risk to human health and well-being. This application is unlimited as environmental health risks present themselves to us in many varied ways.

Micro-organisms threaten to spread disease from person to person, spoil food products and contaminate our drinking water supplies. Chemicals, toxins and radiation in our environment can pose long and short term threats, many of which are still not clearly understood. The risks presented by these environmental hazards are influenced and often emphasised by factors which occur in day to day life - natural and man-made disasters, climate change, housing and population growth to name but a few. Similarly, the degree of exposure to these environmental health risks influences their effects.

With growing contemporary concerns for how we effect the environment we live in, we must not lose sight of core environmental health principles and how our environment can effect our state of health. In the field of environmental health we must remain focused on identifying risks to our health posed by our environment and continue developing strategies and programs to manage and eliminate the associated risks for all people.

In Queensland, as in the rest of Australia, a relatively good level of environmental health is enjoyed by the general population. Most of us have comparatively clean water to drink, and fresh air to breath, waste disposal is well managed and most have access to safe and nutritious food. However, this standard of environmental health is not shared by all Queenslanders. Aboriginal and Torres Strait Islander people suffer more at the hands of unsatisfactory environmental health conditions than the general population and remain burdened by illness and an absence of structured environmental health interventions. Addressing this inequality with our Indigenous peoples is the challenge for the remainder of this decade and beyond.

Chapter 3 The development of environmental health in Australia ...

Environmental health's history in Australia as an integral part of public health is long and successful. Since first European settlement in Australia, many public health success stories, *and some failures*, have resulted from environmental health interventions and activities.

With the rapid influx of large numbers of immigrants, a range of environmental health conditions arose which necessitated public health intervention. Health infrastructure was unable to meet the demands of the rapidly multiplying population and this, together with increasing population densities, resulted in poor sanitary conditions and an environment ideal for the transmission of disease.

Legislation was eventually introduced to address these new environmental health threats. Controls on the use of water and disposal of waste as well as notification requirements for certain diseases were established with the development of this legislation. These were supported by public health inspection and isolation of disease carriers. In fact, environmental health was public health in these early years.

Incidence of infectious disease dropped dramatically as an outcome of these basic environmental health interventions and the paralleled advancement of vaccines and medical treatments. We have for many years now, seen the control of diseases which threatened the existence of mankind for centuries. Now, for most developed countries, the environmental health risks have changed. New threats continue to emerge and present a different challenge to environmental health practitioners.

Unfortunately in Queensland, as in the other States and Territories in Australia, some people still suffer severe acute and chronic illness stemming from an unacceptably poor standard of environmental health. This is more evident in rural and remote parts of the State and particularly with our Indigenous communities.

Whilst health infrastructure is generally well developed in our urban centres, the same cannot be said about the rest of the State. The vast size of this State and the isolation of its rural and remote inhabitants cannot be accepted as justification for the intolerable burden of illness carried by these people arising from inadequate environmental health provision.

Experience has consistently demonstrated that complacency in environmental health is fraught with disaster. Certainly, valiant attempts to improve the state of environmental health in Queensland and Australia have been made. Medical treatments and vaccination rates are improving quickly. This begs the question of why Aboriginal and Torres Strait Islander people still experience such unacceptable levels of health?

This Scoping Paper discusses these questions and attempts to explain where environmental health has failed to identify the key environmental health risks to our Aboriginal and Torres Strait Islander population. Acknowledging our failures and successes can provide us with a direction for future environmental health programs in this State.

Chapter 4 Providing an environmental health workforce ...

Improving the health of Indigenous peoples in Queensland is contingent on the employment of Indigenous environmental health skills in communities. In Queensland particularly, progress in the development of courses and career structures for Indigenous environmental health workers has been considerable. The employment of environmental health workers is a concept of skilled people working and living within their communities.

With the recent graduation of the first intake of students in the Environmental Health Worker course in Queensland, greater support for further development of the course is being realised. However, a number of obstacles must be overcome for these types of courses and training programs aimed at enabling individuals to take environmental health skills and knowledge back to their communities, to be sustainable:

- * identification of individuals suitable and willing to participate in courses
- * ensuring and facilitating attendance of the individuals at courses
- * providing a defined career path for Environmental Health Workers supplemented with opportunities for ongoing development and training
- * limited financial resources of Indigenous communities
- * ignorance and lack of understanding of the potential community benefits from supporting environmental health worker position(s) in communities
- * continued promotion and awareness of courses to all Indigenous communities

The introduction of environmental health workers in Indigenous communities in Queensland is a relatively new initiative and began with the initial development of the Environmental Health Worker course in 1991. The first course in Queensland commenced in 1996. Graduates are now actively involved in the environmental health workforce. This very successful program is rapidly developing to support the more traditional role of environmental health officers in this State.

The continuation of this training course is essential as the environmental health worker offers many benefits to Indigenous communities. Environmental health workers, with their knowledge and skills to manage environmental health issues, offer much promise with the existing shortage of qualified health practitioners. With community support, environmental health workers can bring new skills to their own communities whilst the training programs provide career opportunities for community members.

Community control through local decision making and community involvement also dictate the direction of many environmental health issues. Providing appropriate skills and knowledge to Indigenous communities will lead to community initiative, community participation and community control of environmental health. The Environmental Health Worker training programs are a significant step towards achieving this.

Chapter 5 Work done to date ...

Whilst research has provided an explicit insight into the causal factors effecting Indigenous health, strategies to remedy the situation in Indigenous communities have had little impact. Of these factors, environmental health conditions in Indigenous communities in Queensland remain an undeniable cause of health inequalities.

Environmental health programs have been conducted extensively in Aboriginal and Torres Strait Islander communities for several years by Queensland Health. There are many other government and non-government organisations that have also been active in this area. Large financial and human resources have been devoted to these programs statewide and improvements have been considerable. However, despite these programs and their costs, environmental health outcomes for Indigenous peoples are still poor, as previously highlighted in this Paper. Within Queensland Health and between other external agencies, there has been little strategic coordination and collaboration to address environmental health in these communities. However, this is slowly changing, providing great encouragement for the success of future programs.

Environmental Health Services within Queensland Health's Public Health Services, have successfully established valuable local networks with key agencies providing housing and infrastructure, health education and allied health services. This pro-active networking process is allowing the sharing of information and the injection of specialist environmental health knowledge in decision making processes relating to these other agency portfolios. Together with reinforcement from funding for environmental health worker coordinators and public health coordinators, it represents the dedication of Public Health Services to improving Aboriginal and Torres Strait Islander health and well-being in Queensland.

Whilst these efforts have been very successful, future strengthening of the networks between environmental health and other agencies requires strategic direction at a State level. Without this level of strategic management there will be no framework to determine future direction and investment in Indigenous environmental health.

Future programs affecting environmental health in Queensland's Indigenous communities will require a strategic model to facilitate a partnership based approach to working with communities to achieve environmental health outcomes. Experience with Queensland Health's Environmental Health Services has already demonstrated how partnerships with communities can provide the community members with the knowledge and understanding necessary to play an active role in environmental health prevention strategies. These positive outcomes provide motivation for future improvements.

Chapter 6 Development of the Strategy ...

Environmental health has for many decades formed the cornerstone for improvements in public health standards. It has now long been recognised that the health of all people is underpinned by the provision of sustainable housing and health infrastructure. Since the earliest environmental health interventions in these areas, the global decline in many disease states has been significant. However it has not been uniform across all components of the population.

As we approach a new millennium where technology and urban communities are growing at phenomenal rates, not all Queenslanders enjoy access to acceptable environmental health standards.

Additionally, expenditure and planning into infrastructure housing and development has taken place without the active consultation of this State's lead agency in environmental health - Queensland Health's Public Health Services Branch. As a result, infrastructure and housing has progressed through the provision of significant funding. However, the expected improvements in environmental health conditions have not been seen. The same investment into these developments may have produced better health outcomes with the involvement of this agency.

The development of a State Strategy for Indigenous environmental health must consider other activities, past and present, conducted by various agencies in relation to Indigenous health and infrastructure. From a broader perspective, many lessons have been, and continue to be, learned from past attempts to manage environmental health issues.

The Strategy must identify the many agencies with responsibilities which influence directly or indirectly, the environmental health of Indigenous peoples in Queensland. The clear definition of the roles and responsibilities of these organisations and how they support each other, in particular, Public Health Services of Queensland Health, must be an outcome of the Strategy. Without identification of these roles and responsibilities, advancement in environmental health standards will not be adequate and the needs of Indigenous communities will not be met.

Queensland Health is committed to ensuring that the only surveys in Indigenous communities are ones which are necessary and contribute to more appropriate programs. Sufficient evidence already exists to reinforce the significance of environmental health risks facing Indigenous communities. Our commitment extends to identifying the most effective and resource efficient interventions and developing culturally appropriate risk management strategies to minimise these risks. That must be the primary goal of the Strategy.

Chapter 7 The context for development of the Strategy ...

Commonwealth and State governments are currently developing and implementing various strategic initiatives to guarantee a coordinated and planned approach to all services delivered and/or funded by Government. These initiatives, intended to achieve quality outcomes for consumers and the whole community, reflect Commonwealth and State directions in providing health services. Many of these initiatives influence the environment in which Aboriginals and Torres Strait Islander people, like other Queenslanders, live, work and play.

An examination of some of the initiatives currently in place or under development gives a valuable insight into the complexity of addressing Indigenous environmental health in Queensland:

A National context for development

National Environmental Health Strategy

Development of the *National Environmental Health Strategy* is progressing with the development of a discussion paper for public consultation. This Strategy, when completed, will steer environmental health policy and services in Australia in coming years.

That Strategy will provide mechanisms for improved management, as well as more effective decision making and communication processes to ensure management of all environmental health issues nationally is flexible, coordinated and strategic in its approach.

National Aboriginal Health Strategy

The National Aboriginal Health Strategy Working Party (NAHSWP) developed strategies and goals to improve the health status of all Aboriginals and Torres Strait Islander people in its *1989 NAHS Report*.

In this report, the working party identified that the provision of health systems infrastructure is integral in providing sustained improvements in Aboriginal health and well being⁴. Safe and adequate water supply, improved number and design of houses, dust control and other environmental factors are essential components of the health systems infrastructure.

At a national level, the *National Aboriginal Health Strategy* offers policy makers and practitioners a strategic framework and a basis for implementing health services for Aboriginals and Torres Strait Islander people. For Queensland, this framework is provided by the State's *Aboriginal and Torres Strait Islander Health Policy 1994*.

National Indigenous Environmental Health Workshop

The first National Workshop in Cairns, North Queensland, in May 1998, which was convened by the National Environmental Health Forum, identified factors to be considered by governments to successfully address key environmental health issues. Additionally, a set of principles to be applied to the provision of housing in Indigenous communities nationally and in the training and development of the environmental health workforce were endorsed.

Clearly defining these issues will enable the formulation of targeted strategies for their cost effective and sustainable management which focuses on improving Indigenous health status.

These principles should form the basis for the future direction of Indigenous environmental health programs in this State, and indeed in other States and Territories.

Council of Australian Governments

The Council of Australian Governments (COAG) was formed to facilitate the management of administrative arrangements between levels of government in Australia and has overseen the formation of several joint Commonwealth and State agreements such as the Commonwealth / State Housing Agreement 1997.

COAG endorsed reforms in public and community housing will potentially affect all Queenslanders, as it will other Australians, as they aim to clarify Commonwealth and State responsibilities for managing and delivering public housing. As these reforms will attempt to address public housing issues for people with special needs, they are specifically relevant to our Aboriginal and Torres Strait Islander population.

National Public Health Partnership

The National Public Health Partnership is managed through a special subcommittee of the Australian Health Minister's Advisory Group (AHMAC) and provides a forum for collaborative work by State, Territory and Commonwealth Ministers for Health on a broad public health agenda.

The Partnership, through this collaborative process, strives to improve coordination and collaboration in addressing public health issues at a national level.

1999 National Housing and Community Infrastructure Needs Survey

The Aboriginal and Torres Strait Islander Commission (ATSIC) is planning a community housing and infrastructure needs survey (CHINS) of Aboriginal and Torres Strait Islander communities throughout Australia in 1998 - 1999 to follow on from its 1992 CHINS survey.

The HINS 1992 provided data representing the housing and infrastructure status in Australia's Indigenous communities. The 1998 - 1999 survey is expected to achieve the same, however, greater collaboration and input from relevant State/Territory agencies should see the collection of more relevant and useful data for future planning for housing stock and infrastructure in these communities.

National Environmental Health Forum

The NEHF has been established to improve, promote and protect the health of the Australian community in relation to environmental health issues. Its objectives include¹²:

- * providing coordinated, timely assessment and advice
- * promoting consistency of environmental health legislation and reducing duplication
- * providing a mechanism for transfer of information and expertise between States, Territories and the Commonwealth governments
- * ensuring the environmental health perspective is integrated into other Commonwealth, State and Territory Indigenous Health and Ministerial Council activities
- * enhance the commitment to environmental health advice, research and training through the National Public Health Partnership and other bodies.

This group is a sub-group of the Public Health Partnership, reporting through to the Australian Health Minister's Advisory Committee and maintaining close links with the NH&MRC Public Health Committee.

Australian Institute of Environmental Health

The Institute is a professional body which aims to ensure excellence in the science and practice of environmental health. It has a lead agency role in the achievement of high standards of environmental health and environmental health practitioners in Australia through formal and informal networking and information sharing in a range of forums.

A State context for development

State Strategic Plan

The *State Strategic Plan*, released in 1997, is the mechanism developed by the State Government to direct the full range of Government activities to achieve its strategic objectives for economic and social development and provision of public services and infrastructure in Queensland.

Of course, these objectives are of significance to communities in remote parts of Queensland where a large Indigenous population contingent reside and where infrastructure development is most needed.

The goal of the *State Strategic Plan* is to improve the standard of living and quality of life in Queensland by achieving four fundamental objectives¹⁶:

- * *to deliver rising prosperity and more jobs, based on sustained economic growth, ahead of other States*
- * *to foster social cohesion, a fair and just society, and a stronger community based on the family unit*
- * *to maintain Queensland's environmental values and qualities*
- * *to ensure the delivery of quality services to the community*

An *Aboriginal and Torres Strait Islander Environmental Health Strategy* for Queensland must complement this and other existing strategies aimed at enhancing social, economic and cultural well-being.

Aboriginal and Torres Strait Islander Health Policy 1994

Queensland's *Aboriginal and Torres Strait Islander Health Policy* was developed in 1994 as an initiative to improve health care delivery in Aboriginal and Torres Strait Islander communities in Queensland.

The Policy is Queensland's commitment to the national *Aboriginal Health Strategy* and provides a framework for future direction for the implementation of health services for Aboriginals and Torres Strait Islander people in Queensland.

The *Aboriginal and Torres Strait Islander Environmental Health Strategy* must recognise and align with the framework provided by this Policy.

Queensland Indigenous Communities Infrastructure Coordination Strategy

The *Indigenous Communities Infrastructure Coordination Strategy* was developed to identify the infrastructure needs of Indigenous communities in Queensland and recognises that infrastructure including roads and transport networks, water, sewerage, electricity and power and communications are essential elements for improving the standard of living and quality of life for all Queensland people.

The Strategy defines and coordinates responsibilities for provision of infrastructure in Queensland to support the development of sustainable, self-determined communities with health, social and economic outcomes.

Again, the specific relevance of this Strategy to environmental health through the relationship between infrastructure and health, is recognised and its outcomes directly influence future health infrastructure developments and programs.

The development of an *Aboriginal and Torres Strait Islander Environmental Health Strategy* for Queensland must be considered in the context of, and giving support to, these national and State initiatives, policies and organisations. Only by doing this, will the Strategy be able to provide greater long term coordination and integration of Indigenous environmental health and related programs statewide.

Chapter 8 Profile of Queensland's Indigenous peoples ...

Where do Queensland's Indigenous Peoples Live?

In Australia, the Indigenous population is primarily comprised of two distinct groups. These two groups, Aboriginals and Torres Strait Islanders, share many of the same problems arising from contemporary society and historical dislocation and dispossession. However, there is significant diversity within the two groups.

In Queensland, Aboriginal people are spread throughout the State. However, there is a distinct concentration in the south-east part of the State⁴.

Despite the concentration in South-east Queensland, a large proportion of the population is located in the remote areas of the Cape York Peninsula and Gulf of Carpentaria regions of Queensland. Throughout the State, the Aboriginal population is distributed in 32 Deed of Grant in Trust (DOGIT) communities and numerous other discrete communities.

The Torres Strait Islander population of Queensland is primarily located in the Torres Strait Islands. In addition to the numerous islands forming the Torres Strait Group, Seisia and Bamaga are two mainland communities administered by Torres Strait Islander Councils in Queensland.

The Australian Bureau of Statistics in 1996 reported that Queensland's Indigenous population comprised almost 3% (approximately 95 000 people) of the total Queensland population¹⁶. Table 1 below illustrates the distribution of Queensland's Indigenous population.

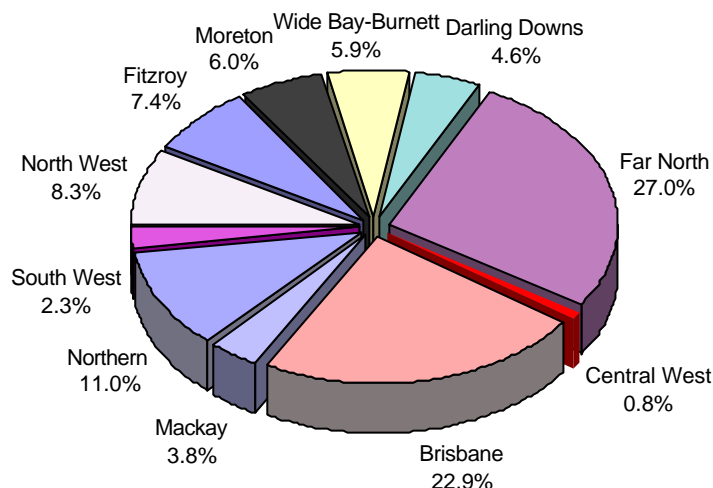
Table 1: Aboriginal and Torres Strait Islander Population by Statistical Division, Queensland, 1996.

Statistical Division	Indigenous Population			% of total Indigenous population			Indigenous Population as % of regional population		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Brisbane	10 617	11 270	21 887	22.7	23.1	22.9	1.5	1.5	1.5
Moreton	2 832	2 876	5 708	6.1	5.9	6.0	0.9	0.9	0.9
Wide Bay-Burnett	2 694	2 896	5 590	5.8	5.9	5.9	2.4	2.6	2.5
Darling Downs	2 133	2 275	4 408	4.6	4.7	4.6	2.2	2.3	2.3
South West	1 111	1 117	2 228	2.4	2.3	2.3	7.9	8.9	8.4
Fitzroy	3 502	3 588	7 090	7.5	7.4	7.4	3.8	4.1	3.9
Central West	361	361	722	0.8	0.7	0.8	5.2	5.7	5.4
Mackay	1 834	1 796	3 630	3.9	3.7	3.8	2.8	2.9	2.9
Northern	5 111	5 385	10 496	10.9	11.1	11.0	5.2	5.6	5.4
Far North	12 655	13 097	25 752	27.1	26.9	27.0	10.6	11.4	11.0
North West	3 909	4 058	7 967	8.4	8.3	8.3	18.6	23.3	20.7
Queensland	46 759	48 719	95 478	100	100	100	2.8	2.9	2.8

Source: Australian Bureau of Statistics 1996 *Census of Population and Housing*

In 1996, almost 23% of the Aboriginal and Torres Strait Islander Queensland population lived in the Brisbane Statistical Divisional area. Quite significant proportions of this Indigenous population live in the Far North area (27%) and the Northern area (11%). The rest of the population is spread fairly evenly throughout the rest of the State. These percentages are illustrated in Table 1(above) and Figure 1(below):

Figure 1: Aboriginal and Torres Strait Islander Population by Statistical Division, as % of Total Indigenous Population, Queensland, 1996.



Source: Australian Bureau of Statistics 1996 *Census of Population and Housing*

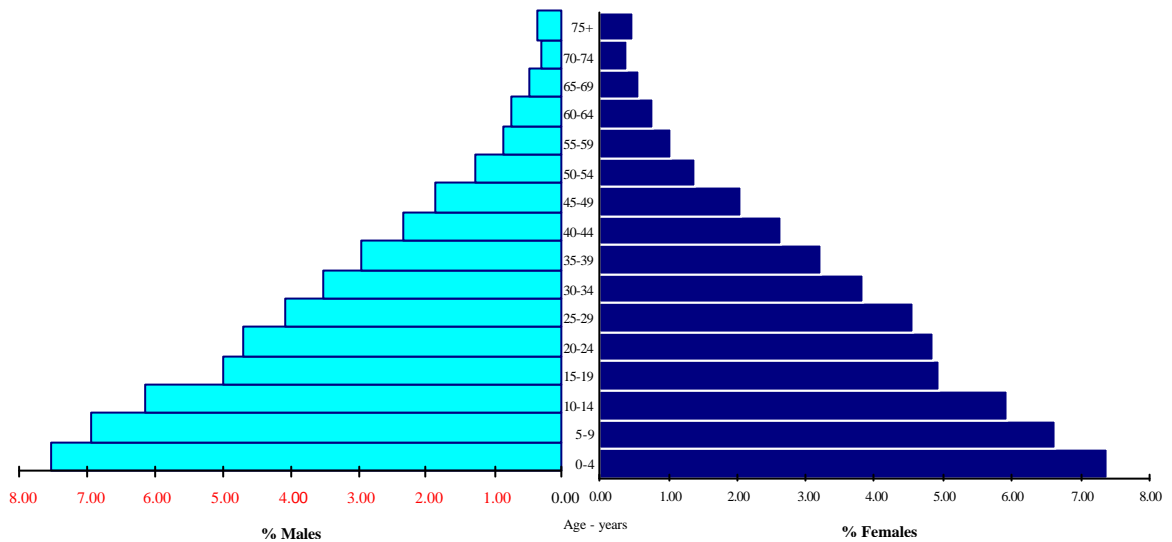
This broad population distribution and the concentration of people in remote areas of Queensland creates significant difficulties in providing housing and health infrastructure to these communities. Additionally, the costs of providing this housing and infrastructure, fresh food, transport and health and other services are greatly increased because of the geographical isolation.

How old are Queensland's Indigenous Peoples?

The age of a population is an important factor in understanding the state of health and the importance of certain determinants effecting the health of that population. Many diseases affecting Aboriginals and Torres Strait Islander people, such as circulatory system disease, chronic respiratory disease, neoplasms and diabetes, are more prevalent in older age groups. However, conditions such as skin infections, infectious diseases and respiratory illnesses, which have shown links with prevailing environmental health conditions are very common in children, and predispose them for other health problems in adult life¹⁹. This creates an unequal disease burden resulting in shorter life expectancies.

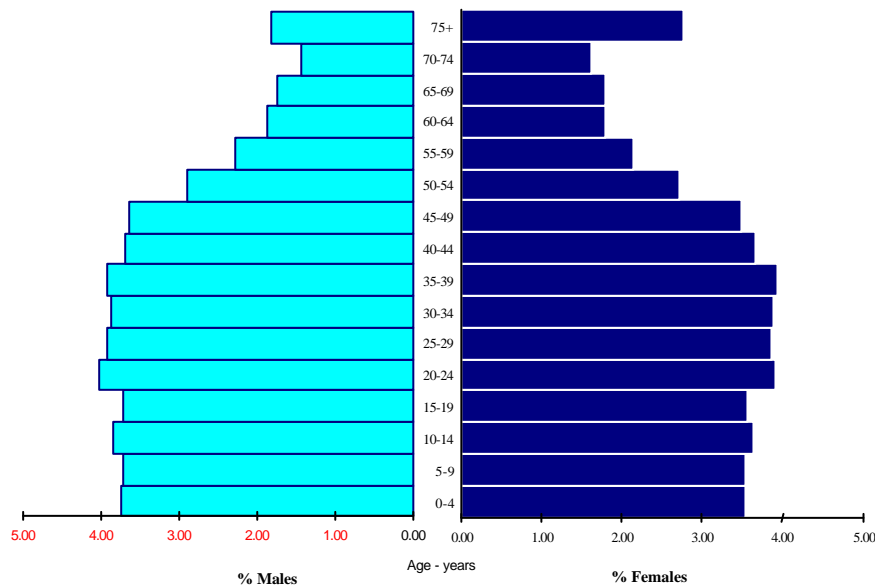
Examination of the age distributions shown in Figure 2 reveals a relatively young Aboriginal and Torres Strait Islander population when compared to total Queensland population shown in Figure 3. With poor environmental health conditions in many Indigenous communities in Queensland having such a significant effect on child health, the state of environmental health becomes a major determinant of health status for the population as a whole.

Figure 2: Age and Sex Distribution, Aboriginal and Torres Strait Islander Population, Queensland 1996



Source: ABS Experimental Estimates of the Indigenous Population, Queensland, 1996.

Figure 3: Estimated Age and Sex Distribution for Total Population, Queensland, 1996.



Source: ABS Demography Queensland, 1996

Gender distribution of Indigenous Peoples in Queensland

In 1996, there were 1 690 500 (50.1%) males and 1 683 800 (49.9%) females in Queensland³. For Aboriginals and Torres Strait Islander people, there were 46 759 (48.9%) males and 48 719 (51.0%) females in Queensland¹⁵. Only minor differences appear between the gender distributions of the Indigenous and non-Indigenous populations in Queensland.

Projected Population Growth

Population projections are useful to provide a picture of the growth and change patterns in the population which would occur if assumptions on demographic trends actually occur over the period of the projection.

Queensland's Aboriginal and Torres Strait Islander population shown in Table 1 (95 478) for 1996 was significantly larger than the population projected in the 1991 Census counts (83 850)⁴. These figures must be considered in the context of the changing tendencies of persons to identify themselves as Aboriginal or Torres Strait Islander.

With a population steadily growing, it is again vital that adequate housing and infrastructure is provided to meet the needs of that population.

Chapter 9 Environmental health: the links with disease ...

To understand the significance of basic environmental health provision through housing and infrastructure, imagine the following scenario...

A typical family in Australia...lets call them the Smiths... a husband, a wife, three children, a dog and a cat. The location...any house in any suburb or town in Queensland ...

Without warning, the population in this household doubles. Several extended family members arrive to stay with the Smiths. The population in the house increases from five to ten people...

The single toilet in the house struggles to carry the additional burden imposed on it by all the extra people. It breaks down. Mr Smith has recently lost his job and is unable to afford to have a plumber come and fix the broken down toilet. Not only has the toilet stopped working, but the water supply to the house has been reduced to a trickle for some unknown reason.

The youngest of the children has a bad skin infection picked up from other children at preschool.

Mrs Smith takes the child to the doctor who tells her to wash the infected skin area regularly, keep the child away from other children and wash the child's clothing and bed clothes to stop the spread of the infection.

But on arrival home, the water is still not working and Mrs Smith cannot wash her child or its clothes or bedding as directed by the doctor. There is not enough room in the house to keep the children separate...they have to share beds with the extra children or go with out. As it is winter, the only bedding available to keep them all warm has to be shared by all.

...the skin infection spreads to the other children with the first child's infection worsening... Mr and Mrs Smith feel helpless ... what can they do?

Whilst this scenario seems too unrealistic to happen to most people in Queensland, it is situations like this which are faced everyday by many Aboriginals and Torres Strait Islander people in Queensland.

The disease states of Queensland's Indigenous communities resemble that of developing countries. The burden of illness and death suffered, particularly at a younger age, is much greater for Aboriginals and Torres Strait Islander people than for non-Indigenous people⁴.

The matrix in Table 2 is a snapshot of the relationships between certain diseases common with Aboriginals and Torres Strait Islander people in Queensland and a range of environmental health factors which can contribute to the incidence of the diseases.

Table 2: Matrix of environmental health factors and the diseases they contribute to.

Environmental Factor	Morbidity / Mortality Factor						
	Pneumonia	Upper Respiratory Tract Infection	Scabies	Streptococcal Skin Infection	Gastrointestinal Disease	Hepatitis	Trachoma
Water supply for drinking, bathing and washing	✓	✓	✓	✓	✓	✓	✓
Sewage disposal system					✓	✓	
Adequate shelter	✓	✓	✓	✓			✓
Infection in dogs			✓		✓		
Dust				✓			✓
Adequate waste disposal mechanisms	✓	✓	✓	✓	✓	✓	✓
Fly control					✓		✓
Overcrowding	✓	✓	✓		✓	✓	✓

Examination of the major causes of transmission of certain diseases common in Aboriginals and Torres Strait Islander people allows us to understand the connection between living conditions and the spread of disease. The statistical information provided in the following discussion highlights the incidence rates in Aboriginals and Torres Strait Islander people in comparison to non-Indigenous people in Queensland.

In this discussion, statistical data obtained from the Queensland Health *Hospital Admitted Patient Data Collection* is used to represent the alarming rates of illness in Queensland's Aboriginal and Torres Strait Islander population, particularly children. For some diseases, such as trachoma and hepatitis A, statistical information is not available at levels of significance that allow inclusion. It must also be considered that the statistics used are for hospitalisation rates.

Those illnesses which are not serious enough to warrant hospitalisation, but still cause morbidity, are not available and have not been included. Unfortunately, this absence of

accurate and reliable data demonstrates the limited effectiveness of morbidity and mortality rates as indicators of environmental health.

Acute respiratory infections

The high incidence of acute respiratory infections has repeatedly been demonstrated to be a leading factor in mortality and morbidity rates in Aboriginals, particularly children⁹. However hospital separation rates also confirm that diseases of the respiratory system are one of the major causes of hospitalisation for adults in Aboriginal populations¹.

Most statistical representations of respiratory illness in Aboriginal and Torres Strait Islander populations do not distinguish the specific causes of illness but rather, gather all causes together into a collective group. This can be somewhat misleading and does not allow clear representation of the range of respiratory illnesses which are influenced by environmental health conditions. The following breakdown of respiratory illnesses experienced by Aboriginal and Torres Strait Islander populations demonstrates the relationship between the environment and the transmission of the disease.

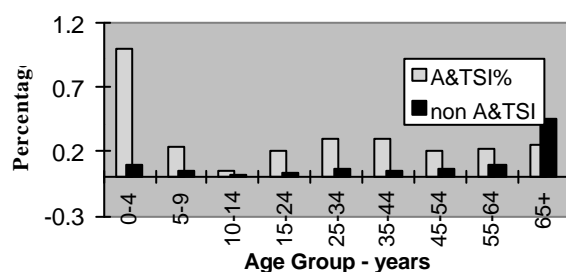
Pneumonia

Clear evidence exists that the major organisms contributing to high rates of acute respiratory illness are *Streptococcus pneumoniae* and *Haemophilus influenza* which are the bacteria responsible for a large proportion of severe pneumonial infections suffered by Aboriginal and Torres Strait Islander children^{5, 9}.

Studies in the Northern Territory identified a range of serotypes of pneumococci present in the nasal passages of aboriginal children⁹ with further research determining *Streptococcus pneumonia* could also be found on the hands of parents handling children suffering ear and nasal discharge¹⁴.

Figure 4 illustrates a significant rate of pneumonia in most Queensland Aboriginal and Torres Strait Islander age groups, particularly young children.

Figure 4: Pneumonia Inpatient Episodes of Care by Age Group (as % of total A&TSI / non A&TSI inpatient episodes of care) QLD, 1996/97



Source: Queensland Health *Queensland Hospital Admitted Patient Data Collection*

The spread of pneumonia is typically by direct oral contact or droplet spread released for example by sneezing or coughing. Transmission also occurs indirectly by persons contacting clothing or articles which have been freshly soiled with oral or nasal discharges.

In the general population, resistance to the disease causing bacteria is good. However, resistance is compromised where people are exposed to cold and wet environmental conditions (without adequate shelter), suffer physical fatigue, excessive alcohol consumption (alcoholism) or chronic lung disease or, where the person has suffered a recent viral respiratory infection⁵.

Measures to reduce the spread of bacteria causing pneumonia include avoidance of crowding situations, particularly in living areas and preventing infected children from sleeping close together. Good personal hygiene including correct disposal of soiled tissues and washing of hands and faces, supported by disinfection of clothing and articles such as handkerchiefs contaminated with saliva, cough secretions and nasal discharges, are also important in reducing transmission.

These are simple measures to reduce disease transmission. However, to carry out these measures people must have access to sufficient clean water for washing, adequate living space to avoid overcrowding and suitable waste disposal systems to effectively dispose of contaminated materials and prevent an accumulation of infected material in the living environment.

Upper respiratory tract infections

Respiratory illness in Aboriginal and Torres Strait Islander populations is not limited to pneumonia. An extremely common ailment presenting in Aboriginal and Torres Strait Islander children is ear and nasal discharge. The condition, *otitis media* (middle ear infection) has the potential to result in middle ear perforation, with chronic ear discharge affecting childhood hearing and developmental skills.

While the specific causes of this condition have not been clearly identified, there is strong evidence to establish a link with other infections of the respiratory tract such as rhino-sinusitis (nasal discharge) and bronchitis. Again, an association with the environmental living conditions to which the children are exposed may be a factor in the higher incidence of this condition in Aboriginal and Torres Strait Islander children. Research indicates that declines in infection rates have occurred in areas where environmental conditions are improved²¹.

Streptococcal sore throat, parainfluenza virus and respiratory syncytial virus are among other infections which are commonly experienced by Aboriginal and Torres Strait Islander populations. Figure 5 shows a much higher rate of hospitalisation for very young Aboriginal and Torres Strait Islander children (aged 0-4 years) than for non-Indigenous children of the same age group.

Figure 5: Upper Respiratory Tract Infections - combined Parainfluenza and RSV (Bronchiolitis) - Inpatient Episodes of Care for A&TSI / non-A&TSI Population by Age Group (as % of total A&TSI / non-A&TSI inpatient episodes of care) QLD, 1996/97



Source: Queensland Health *Queensland Hospital Admitted Patient Data Collection*

Different variants of these infectious agents have the potential to cause a range of illnesses of varying severity. Bronchiolitis, pneumonia and croup are only some of these.

Again, the transmission of the infectious agents is by direct oral contact or contact with secretions, either directly or indirectly, through eating utensils, handkerchiefs or other articles soiled with infected secretions.

Overcrowding, particularly in living and sleeping areas, basic personal hygiene and disposal and disinfection of soiled articles all play a major role in preventing transmission of the infectious agents⁵.

Infections of the skin

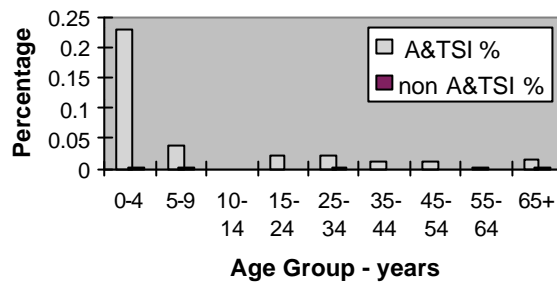
Skin infections are a common problem in Indigenous communities. However, like many respiratory illnesses they can be effectively controlled by correct management of basic environmental health and hygiene practices:

Scabies

Scabies, an infectious disease of the skin caused by mites, causes intense itching. The constant scratching reaction may lead to secondary infections, such as from the *group A Streptococci*, when the skin is broken. Whilst scabies can be transmitted from dogs to human hosts, in many Aboriginal communities, particularly in northern Australia, the human scabies variant is the predominant source of infection⁸.

Figure 6 illustrates that scabies is insignificant as a cause of hospitalisation for non-Indigenous people of all age groups. However, alarmingly, scabies is a major factor attributing to hospitalisation for very young Aboriginal and Torres Strait Islander children, with hospitalisation often providing the only possible isolation from sources of infection necessary to break the exposure path.

Figure 6: Scabies Inpatient Episodes of Care for A&TSI / non-A&TSI Population by Age Group (as % of total A&TSI / non-A&TSI inpatient episodes of care) QLD, 1996/97



Source: Queensland Health *Queensland Hospital Admitted Patient Data Collection*

The scabies mite is transferred from person to person (or in some cases from dog to person) and from infected bedding and clothing. This again highlights the significance of frequent washing of clothing and bedding and avoidance of overcrowding. Regular bathing to ensure personal cleanliness is also important in preventing initial infection and reducing the likelihood of secondary infection from scratching the skin. This reinforces the need for an adequate water supply suitable for washing and an appropriate waste-water disposal system in place.

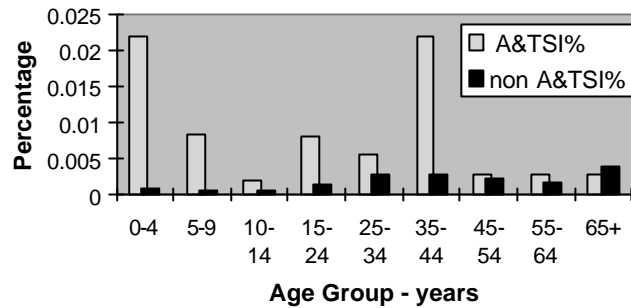
Programs to treat dogs infected with the canine variant of scabies generally improves, and can cure, the scabies infection. However, this action will not prevent the spread of human scabies between persons⁸.

Streptococcal skin infection

Whilst the *Streptococcal* bacteria have been implicated in upper respiratory tract infections in Indigenous communities, streptococcal skin infections also commonly occur in Aboriginal and Torres Strait Islander children.

As Figure 7 shows, streptococcal skin infections, like scabies, are a significant factor attributing to hospitalisation of Aboriginals and Torres Strait Islander people. This is not the case for non-Indigenous Queenslanders.

Figure 7: Streptococcal Skin Infection Inpatient Episodes of Care for A&TSI / non-A&TSI Population by Age Group (as % of total A&TSI / non-A&TSI inpatient episodes of care) QLD, 1996/97



Source: Queensland Health *Queensland Hospital Admitted Patient Data Collection*

The *group A Streptococcus bacterium* causes a generally superficial infection occurring at broken skin sites. In Indigenous communities, the broken skin commonly results from the scratching associated with scabies⁸. When untreated, *streptococcal skin infection* can progress to the development of crusted lesions on the skin and other serious conditions such as the development of post-streptococcal glomerulonephritis.

Important in the treatment of skin lesions is the regular cleansing of infected areas to remove crusting and discourage further bacterial growth¹⁴. Hygienic removal of crusting will reduce the likelihood of crust flakes falling from the skin and causing further contamination to floor dust, bedding and clothing.

Control of dust in houses, and particularly in the general community, can potentially contribute to a reduction in skin irritations suffered.

Limited data is available on this condition, suggesting non-hospitalisation in many cases.

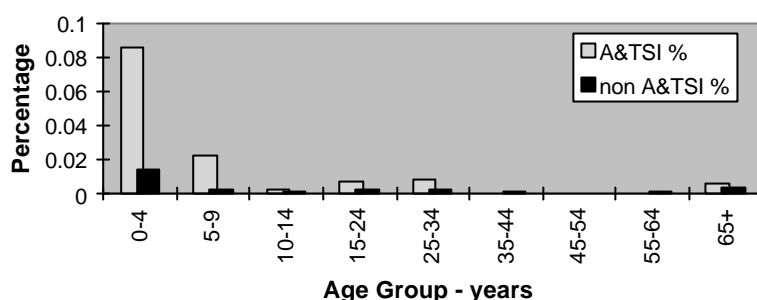
Gastrointestinal disease

Gastrointestinal disease in Indigenous communities is associated with a large range of parasites, bacteria and viruses. In most cases, environmental health interventions are fundamental in preventing the transmission of infectious organisms and the subsequent control of infection.

The range of viral and bacterial organisms primarily involved in public health in the tropical regions of Australia include *Eschericia coli*, *Shigella spp.*, *Salmonella spp.* and rotaviruses¹⁹. As a large proportion of Queensland's Aboriginal and Torres Strait Islander population reside in the tropical regions of the north, these organisms have particular significance in Indigenous environmental health.

Data available does not provide information on rates of illness from these organisms. Additionally, insufficient data exists for most of the gastrointestinal diseases discussed in this Paper. However, for combined *Shigella* and *Salmonella*, data does reveal a comparatively high incidence of hospitalisation for Aboriginal and Torres Strait Islander children under 10 years of age. This is illustrated by Figure 8.

Figure 8: Gastrointestinal Disease - combined Salmonella and Shigella - Inpatient Episodes of Care for A&TSI / non-A&TSI by Age Group (as % of total A&TSI / non-A&TSI inpatient episodes of care) QLD, 1996/97.



Source: Queensland Health *Queensland Hospital Admitted Patient Data Collection*

These organisms have long been associated with diarrhoea and gastrointestinal disease in humans and typically present themselves in improperly disposed of wastes and faecal materials. This provides an opportunity for the transmission of the organisms from the infected material to humans via the indirect or direct faecal-oral route. Young children particularly, are vulnerable to gastrointestinal infection.

Accordingly, good personal hygiene by infected carriers through thorough hand washing after defecation, is also paramount in controlling the transmission of these organisms as direct human to human contact is a primary method of transmission of these disease causing agents.

The contamination of food and water through handling or direct contamination with faecally infected material and the spread by flies, dogs and other animals are specific environmental health factors which determine the transmission of these diseases in communities. Overcrowding in communities places increased loads on infrastructure. Where that infrastructure (water supply and sewerage systems) is inadequate or malfunctioning, the environmental health risks are increased through the potential for magnified waste accumulation and disease transmission.

With morbidity rates relating to diarrhoeal disease up to 20 times more frequent in Aboriginal children than adults¹³, the significance of environmental interventions in control of this disease can not be overlooked.

Without proper toilet facilities, water supply for handwashing and laundry, appropriately designed and well maintained community sewage and grey water disposal systems, these diseases will continue to be prevalent in Indigenous communities.

In addition to the range of disease-causing bacteria described above, there are also numerous intestinal parasites which affect Aboriginal and Torres Strait Islander populations. Information from research conducted suggests a relationship between the presence of many of these parasites in humans and their carriage in dogs, particularly in the tropical regions of Australia⁸.

Giardia duodenalis, *Cryptosporidium spp.*, *Strongyloides stercoralis*, *Toxocara canis* (dog roundworm) plus a range of other intestinal parasites commonly infect domestic dogs. Whilst the role of some of these parasites in directly causing human gastrointestinal disease is not well established, there is an indication that they may pose a risk in dog-human transmission where veterinary intervention such as antiparasitic medication is not available.

The absence of data for most of these infectious organisms suggests many cases do not require hospitalisation.

Hepatitis

The spread of the hepatitis type A virus most commonly occurs by contact with infected body secretions particularly through the faecal-oral route. However, urine and blood are also recognised as modes of disease transmission⁵.

It is easy to understand the potential for water and food to become contaminated through poor handling, poor personal hygiene and inadequate disposal systems for human waste. The potential for food to be contaminated through preparation with contaminated water or, through direct contact with soiled hands, reinforces the importance of good sanitary practice.

However, it cannot be understated that recommending good personal hygiene and sanitation procedures, particularly for children, are pointless when the facilities for correct personal waste disposal and washing cannot be provided and maintained in a community.

Diseases of the eyes

The eye disease trachoma is a significant cause of blindness and visual impairment in remote Indigenous communities, particularly in children¹⁹. Whilst treatment with appropriate drugs is successful in controlling infection, again, the control of initial infections and transmission from person to person is dependant on environmental health interventions.

Trachoma sufferers typically have discharges from the eyes resulting from conjunctival infection. This highly infectious discharge is responsible for the transmission of the disease. The disease usually occurs in communities with poor hygiene, overcrowding and inadequate personal washing and hygiene practices²². It is exaggerated in dry, dusty areas, common in many areas inhabited by Aboriginals and Torres Strait Islander people. The environmental conditions usually represent the severity of the disease⁵.

Transmission usually occurs through contact with the infected discharge present on soiled hands and clothing and sharing soiled toilet articles such as towels. Flies can also contribute to the spread of the bacteria⁵.

Examination of these modes of transmission reinforces the importance of environmental health factors in controlling this disease. Methods to control dust such as planting vegetation; fly control through correct waste disposal; protection from flies through fly-screening houses in high fly population areas, repairing broken windows and doors on houses; and providing facilities and education for proper hygiene practices, are essential for supporting treatment interventions for trachoma control in Indigenous communities.

Chapter 10 The housing and infrastructure dilemma ...

The health of Aboriginals and Torres Strait Islander people at the time of European settlement into Australia showed minimal evidence of widespread illness or disease. Diseases introduced with the arrival of European settlers found a target group completely unequipped to cope with control of these 'new' diseases. Together with the dispossession and forced relocation to make way for growing non-Indigenous settlements, a rapid deterioration in Indigenous health states was inevitable. Whilst the new Australians had knowledge and resources to treat and control many of their diseases, the Aboriginal and Torres Strait Islander population was defenceless.

Many complex historical factors have been detrimental to the well-being of Aboriginal and Torres Strait Islander populations since European colonisation of Australia. This Paper is not the forum to discuss these in detail. However, of utmost significance is that since European colonisation of Australia, the health status of the non-Indigenous population has increased whilst that of Aboriginal and Torres Strait Islander populations remains disastrously low. This trend has coincided with dramatic improvements in urban environmental health infrastructure and movement of Indigenous populations, in the mainstream, away from that urbanisation.

Most improvements in Indigenous health to date can largely be attributed to the increased acceptability and accessibility of health services¹¹. Environmental health improvements have not kept pace with the growing isolation of Indigenous communities.

Despite many efforts to reduce inequalities in Indigenous health nationally, and at a state level, Aboriginal and Torres Strait Islander populations are still denied the enjoyment of the same standard of health as their fellow Australians. However further opportunities do exist for improving health status in Aboriginal and Torres Strait Islander Australians. Evidence from other countries demonstrated that significant improvements in the health of Aboriginal and Torres Strait Islander populations can occur where appropriate environmental health strategies and resourcing levels are implemented²⁰.

The Australian Bureau of Statistics, in its report on the *Health and Welfare of Aboriginal and Torres Strait Islander Peoples* highlighted that on a range of indicators of environmental health, such as breakdown of facilities, crowding and the availability of suitable water, Aboriginal and Torres Strait Islander people are greatly disadvantaged, with these factors providing considerable risk to their health and well being.

The Community Housing and Infrastructure Needs Survey (CHINS) commissioned by ATSIC in 1992 on the housing and infrastructure standards in Indigenous communities in Australia highlighted that infrastructure was poor in many discrete Indigenous communities nationally. Disappointingly, Queensland had the greatest number of houses requiring replacement at the time of that survey. The discrete communities identified in the survey represented very poor standards of environmental health infrastructure. Data from that survey revealed that only three quarters of the communities operated properly maintained water supplies with only slightly more having maintained sewerage systems¹⁷.

Table 3 represents information about housing conditions in private Indigenous dwellings in Queensland, obtained at the household level in the Australian Bureau of Statistics' National Aboriginal and Torres Strait Islander Survey, 1994.

Unfortunately, tables such as this do not accurately represent the complexity of environmental health issues associated with housing and infrastructure. The mere presence of a utility or service does not mean healthy living conditions are provided for householders. The adequacy, use and maintenance of utilities and services all contribute to the health risks of people living in the house. Despite significant standard errors associated with the data, Table 3 does show that a considerable number of Aboriginal and Torres Strait Islander households are likely to be affected by utility breakdowns, particularly in Queensland's rural regions.

Table 3: Households in Private Dwellings: Household Utilities and Services By Part of Queensland, 1994.

<i>Dwelling Characteristics(a)</i>	<i>Capital city</i>	<i>Other urban</i>	<i>Rural</i>	<i>Total</i>
Number of Toilets				
No toilet	**	**	*8.8	*2.4
One or more toilets	100.0	98.3	89.5	96.3
Total	100.0	100.0	100.0	100.0
Whether dwelling has bathroom / shower				
YES	100.0	97.6	87.7	95.5
NO	**	**0.7	*10.6	*3.3
Total	100.0	100.0	100.0	100.0
Whether running water connected				
Running water connected	98.4	97.6	89.6	95.6
No running water connected	**1.6	**0.5	*8.5	*3.0
Total	100.0	100.0	100.0	100.0
Whether dwelling has electricity / gas				
YES	99.2	98.3	90.7	96.4
NO	**	**	*7.6	*2.1
Total	100.0	100.0	100.0	100.0
All breakdowns in household utilities in last four weeks				
Affected households	*4.9	*4.5	*9.8	6.0
Not affected households	95.1	91.6	80.7	89.5
Total	100.0	100.0	100.0	100.0
Dwelling is missing at least one household utility(b)				
Has at least one utility missing	**1.8	**0.7	*12.8	*4.3
Not affected by missing utilities	97.6	97.4	85.3	94.1
Total	100.0	100.0	100.0	100.0
Other Services				
Garbage collected	100.0	100.0	81.3	94.8
Dwelling situated on sealed road	95.5	94.0	51.5	82.5
Total (FULL ESTIMATES)	5,288.9	10,158.2	5,935.2	21,382.3

**Subject to sampling variability too high for most practical purposes. *Subject to sampling variability between 25% and 50%. (a) Within each category, figures do not always add to 100% due to a proportion of 'not stated' responses.

(b) Missing utility could be toilet, bathroom or shower, running water, electricity or gas.

Source: Australian Bureau of Statistics *National Aboriginal and Torres Strait Islander Survey, 1994. Unpublished data.*

There are special considerations in the design and maintenance of water and sewerage systems in many remote Queensland areas to ensure hardware is appropriate for the prevailing environmental conditions. In addition, remoteness mandates systems which are easily maintained. This can be achieved through simplistic design and education of users and improved through ongoing research in housing and hardware engineering.

An insufficient number of houses that are suitable for the harsh, remote and extreme environments and, houses designed without recognition of the cultural demands of the inhabitants, increase health risks and exasperate poor health in Indigenous communities. It is difficult to argue against the premise that overcrowding in Indigenous communities signifies inadequate accommodation. Housing designs which disregard the potential demands placed on components result in the inability of housing to meet demands on water usage and waste disposal as well as excessive environmental contamination.

The simple nature of overcrowding in closed living environments and the communal use of facilities increases the risk of repeated transmission of infections and infestations as well as various other environmental health risks which significantly effect community health.

Overcrowding occurs where houses are not designed to accommodate the increases in numbers of people that may share the house. This typical problem signifies a failure of housing suppliers to take account of the cultural lifestyle requirements of Aboriginals and Torres Strait Islander people.

Examination of the links between disease conditions and housing and infrastructure, demonstrated in this paper, highlights the difficulties in improving Aboriginal and Torres Strait Islander health, without adequate housing and health infrastructure in place.

These survey results help to understand why the diseases suffered by many Aboriginal and Torres Strait Islander people are so prevalent. These poor standards in environmental health in communities, in conjunction with deficiencies in other medical and health services contribute significantly to Aboriginals and Torres Strait Islander people in Queensland having the poorest state of health of any identifiable group within the State. Poor nutrition, obesity, substance abuse and violence in many communities compound these conditions.

The Australian Bureau of Statistics has been contracted by the Aboriginal and Torres Strait Islander Commission to conduct a second community housing and infrastructure needs survey in 1999. Whilst the survey is still being developed, it is essential that environmental health factors relating to housing and infrastructure be a primary focus of the survey. This will enable data to be collected to accurately assess the current standards and future requirements of housing and infrastructure for Aboriginals and Torres Strait Islander people.

Chapter 11 A Framework for the Strategy ...

Challenges

Throughout this Paper, a number of issues have been highlighted as integral factors to be addressed for the improvement of environmental health conditions in Indigenous communities in Queensland. The Strategy must target these priority areas and provide a sustainable framework for an integrated whole of government approach to planning and managing environmental health in Queensland.

This Paper has provided an oversight of shortcomings, from an environmental health determinant perspective, in previous housing and environmental health infrastructure development programs. In doing so, it has identified certain components which must be incorporated into the Strategy such as those suggested by the NAHS Report.

Based on this Paper, the *Aboriginal and Torres Strait Islander Environmental Health Strategy* should:

- * specifically address the issue of improving environmental health holistically, through a cooperative approach
- * be sensitive to specific cultural needs
- * focus on identified priority areas
- * recognise and consider the different environmental health risks in rural, remote and urban communities
- * define and delineate the roles of key organisations supporting environmental health in the State.

The Strategy must highlight the place of environmental health in the programs of all relevant government organisations and deliver strategies for forming new, and strengthening existing alliances to achieve quality outcomes. To do this the framework of the Strategy should focus on:

- * ensuring the participation of Indigenous communities in the management of environmental health in their communities
- * fostering collaboration and coordination of all organisations active in environmental health and infrastructure related areas
- * providing opportunities and mechanisms for the development of a sustainable and effective environmental health workforce to support Indigenous environmental health initiatives in Queensland communities

-
- * providing accessible housing and infrastructure systems which are developed and maintained to support and promote Indigenous community health throughout all of Queensland
 - * continued development of programs and resources strategically targeted at improving Indigenous environmental health
 - * enhancing information networks to facilitate greater access to and sharing of environmental health information for Indigenous communities.
 - * identifying the areas where most gain can be made through re-orienting and re-focusing existing programs
 - * identifying the infrastructure resources for which Public Health Services, through working with communities, can provide expertise to other agencies to help guide the development and planning of better housing
 - * presenting a framework for systematically identifying environmental health risks, comparing levels of risk, informing policy and measuring review progress.



... Executive Summary

Aboriginals and Torres Strait Islander people in Queensland are greatly disadvantaged over a range of basic environmental health factors including access to clean water, inadequate housing and poor maintenance of essential health hardware. Accordingly, the health of these people has suffered significantly from diseases uncommon in the rest of the population.

Despite successful intervention campaigns and treatments for common diseases suffered by Indigenous people, serious problems still exist in the fundamental determinants of health - appropriate and adequate housing and effective health infrastructure systems. Without addressing these problems, many of the health conditions endured by the Indigenous peoples in Queensland will continue to be treated rather than prevented.

... Our Vision

Queensland Health's commitment to ensuring equitable standards of health for Indigenous peoples is represented in the Vision of the Strategy ...

To raise the standard of environmental health for all Aboriginals and Torres Strait Islander people in Queensland to a level comparable to that of the rest of this State.

... An Environmental Health Strategy - Meeting the Challenge

The remoteness of many Aboriginal and Torres Strait Islander communities combined with a considerable population in urban centres create significant complexities for providing environmental health. Providing health hardware and housing which is resilient to harsh environmental and social conditions, providing an adequately skilled workforce, a complex matrix of responsibilities across and outside of governments and a range of cultural issues, create a significant challenge in ensuring environmental health programs support and promote health.

This challenge can only be met through the development of a strategic framework for action - a framework which identifies and coordinates the responsibilities of various agencies in ensuring environmental health standards are promoted for Aboriginals and Torres Strait Islander people in Queensland.

Through the programs of environmental health conducted in Queensland by Environmental Health Services, the outlook for the health of Aboriginals and Torres Strait Islanders is bright. Queensland Health is committed to ensuring health outcome improvements for Aboriginals and Torres Strait Islanders continue. However, for these improvements to continue, there

needs to be strategic direction to guide environmental health programs over the coming years.

The *Aboriginal and Torres Strait Islander Environmental Health Strategy* outlines the key action areas, goals, objectives and strategic actions which will provide the framework to coordinate, plan and ultimately achieve improvements in health outcomes.

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... The Framework for Action

Queensland Health has identified six key action areas in this Strategy to achieve our Vision

1. *Community Participation and Control*
2. *Coordination and Collaboration between Agencies*
3. *A Sustainable Environmental Health Workforce*
4. *Housing and infrastructure to Promote Health*
5. *Information Networks*
6. *Optimal Environmental Health Programs*

Focusing on these key action areas will require a commitment from not only Queensland Health but from other agencies as well. Furthermore, the success of the Strategy will depend on input from local communities.

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KEY ACTION AREA 1

Community Participation and Control

Goal

To foster and support the active participation of Aboriginals and Torres Strait Islander people in the management of environmental health in communities.

Objective 1.1 To increase knowledge and awareness of environmental health in communities.

Performance Indicators

Strategic actions	Responsibility for action	Implementation Schedule
1.1.1 Support the development of relevant, culturally appropriate and accessible environmental health resources and training courses for Indigenous peoples.		
1.1.2 Develop additional environmental health worker and environmental health coordinator positions to service communities.		
1.1.3 Provide operational and policy support mechanisms for the community environmental health work force.		

Objective 1.2 To encourage and facilitate community participation in the development and implementation of environmental health programs.

Performance Indicators

Strategic actions	Responsibility for action	Implementation Schedule
1.2.1 Develop training and promotional resource packages for environmental health workers.		
1.2.2 Assist and encourage community identification of environmental health needs and development of local solutions.		
1.2.3 Develop an environmental health information base which is accessible to all communities.		
1.2.4 Develop mechanisms and assistance schemes to enable communities to participate in program development.		

Objective 1.3 To support community development and implementation of environmental health programs and strategies.

Performance Indicators

Strategic actions	Responsibility for action	Implementation Schedule
1.3.1 Encourage and provide support to community development of locally relevant policies and programs.		
1.3.2 Encourage and assist in local decision making processes.		
1.3.3 Provide resource support to facilitate development and implementation of community initiatives.		
1.3.4 Assist communities in the dissemination and sharing of local information to other government and non-government agencies.		

KEY ACTION AREA 2
Coordination and Collaboration Between Agencies

Goal

To foster coordination and collaboration between relevant organisations active in environmental health and infrastructure related management.

Objective 2.1 To define the roles of Public Health Services and other agencies in providing environmental health to communities.

Performance Indicators

Strategic actions	Responsibility for action	Implementation Schedule
2.1.1 Work with other relevant agencies to clearly establish the roles and responsibilities of Public Health Services vis-a-vis other agencies in providing environmental health.		
2.1.2 Consult with local agencies to develop statewide programs and policy.		

- 2.1.3 Identify the roles and responsibilities of other agencies in providing housing and health infrastructure to Indigenous communities.
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Objective 2.2 To ensure Public Health Services is represented at all housing and health infrastructure management forums in Queensland.

Performance Indicators

Strategic action	Responsibility for action	Implementation Schedule
2.2.1 Advocate Public Health Services' lead agency role in environmental health at the State and local levels.		
2.2.2 Ensure representation of Public Health Services at local, State and national environmental health infrastructure and housing forums.		
2.2.3 Develop a vertical and horizontal reporting and communication framework to expand areas of potential Public Health Services participation in Indigenous environmental health.		
2.2.4 Support information exchange forums to disseminate information on key Indigenous environmental health strategic and operational issues.		

Objective 2.3 To ensure active consultation with communities.

Performance Indicators

Strategic actions	Responsibility for action	Implementation on Schedule
2.3.1 Encourage and facilitate attendance of local Public Health Services representatives in consultations.		
2.3.2 Establish a network to communicate and coordinate ongoing consultations between communities and Public Health Services statewide.		
2.3.3 Ensure open and effective communication channels to and from communities and local Public Health Services agencies.		
2.3.4 Provide communities with information and resources necessary to make informed decisions regarding local environmental health matters.		

KEY ACTION AREA 3

A Sustainable Environmental Health Workforce

Goal

To develop and expand a sustainable and effective environmental health workforce

Objective 3.1 To provide a defined career structure for environmental health workers

Performance Indicators

Strategic actions	Responsibility for action	Implementation Schedule
3.1.1 Promote environmental health worker recognition through advocating for membership to professional associations.		
3.1.2 Develop positions for environmental health workers in Public Health Unit Networks statewide.		
3.1.3 Identify opportunities for and support the employment of environmental health workers in a greater number of Aboriginal and Torres Strait Islander communities.		
3.1.4 Identify mechanisms to facilitate career progression of environmental health workers.		
3.1.5 Support the expansion of environmental health workers throughout the State and particularly into remote communities.		
3.1.6 Promote the employment of environmental health workers in urban centres as well as rural and remote centres.		
3.1.7 Develop and implement uniform and equitable reward structures for environmental health workers reflective of qualifications, training and work responsibilities.		

Objective 3.2 To ensure the continuation of relevant, culturally appropriate environmental health training and education programs which are accessible to all Indigenous peoples in Queensland.

Performance Indicators

Strategic action	Responsibility for action	Implementation Schedule
3.2.1 Participate in the development and review of environmental health worker training and education courses.		
3.2.2 Develop mechanisms to increase the accessibility of environmental health training and education courses for Indigenous people living in rural and remote communities.		
3.2.3 Identify technological options for bringing training to communities.		
3.2.4 Establish and strengthen collaborative relationships with training providers.		
3.2.5 Maintain a commitment to identifying training and development needs of environmental health workers.		
3.2.6 Develop and implement environmental health worker competency standards.		

Objective 3.3 To broaden the knowledge base of non-Indigenous environmental health professionals in Indigenous health.

Performance Indicators

Strategic actions	Responsibility for action	Implementation Schedule
3.3.1 Advocate for the inclusion of Indigenous environmental health content in relevant tertiary environmental health courses.		
3.3.2 Ensure a culturally aware workforce.		

Objective 3.4 To establish effective and sustainable ongoing professional development for environmental health workers founded on emerging community needs.

Performance Indicators

Strategic actions	Responsibility for action	Implementation Schedule
3.4.1 Identify opportunities for ongoing professional development and in-service training.		
3.4.2 Establish and sustain an effective environmental health worker network.		
3.4.3 Encourage multi-skilling, work exchange and on the job training programs.		
3.4.4 Work with the Australian Institute of Environmental Health to ensure nationally consistent training courses and professional development is provided for environmental health workers.		
3.4.5 Support environmental health workers in the definition and promotion of roles and responsibilities and the development of environmental health worker strategies.		

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KEY ACTION AREA 4

Housing and Infrastructure to Promote Health

Goal

To ensure accessible quality housing is provided and environmental health infrastructure is developed and maintained, to support and promote health

Objective 4.1 To ensure environmental health is represented in the development of housing and infrastructure policies and programs.

Performance Indicators

Strategic actions	Responsibility for action	Implementation Schedule
4.1.1 Participate in the development of guidelines and standards for design, construction and maintenance of housing and infrastructure in communities in conjunction with environmental health infrastructure funding bodies, research organisations, the National Environmental Health Forum, Australian Institute of Environmental Health and other environmental health advocacy groups.		
4.1.2 Identify and participate in all relevant local and statewide housing and infrastructure forums, decision making processes and delivery programs.		
4.1.3 Support the adoption of rigorous inspection and certification processes for all building works in Indigenous communities.		

Objective 4.2 To encourage community management and decision making in the design, construction and maintenance of housing and infrastructure.

		Performance Indicators	
Strategic action		Responsibility for action	Implementation Schedule
4.2.1	Participate in the delivery of local training programs for the use of standards and guidelines for the design, construction and maintenance of housing and infrastructure in Indigenous communities.		
4.2.2	Promote and support communities in adopting the concept of community self management.		
4.2.3	Support the consultation of communities in design, construction and maintenance programs for housing and infrastructure.		

Objective 4.3 To encourage the identification of appropriate technology and standard setting in the design and construction of housing.

		Performance Indicators	
Strategic actions		Responsibility for action	Implementation Schedule
4.3.1	Encourage research by relevant research bodies into the development of appropriate and economical, low maintenance options for housing and infrastructure provision.		
4.3.2	Identify opportunities for funding into appropriate technology design for housing and infrastructure in remote Indigenous communities.		

Objective 4.4 To maintain and promote the quality of water supplies in Indigenous communities.

Strategic actions	Performance Indicators	
	Responsibility for action	Implementation Schedule
4.4.1 Support and participate in the development of national guidelines for the provision of water supplies in remote Indigenous communities.		
4.4.2 Encourage the adoption of national guidelines by relevant State government agencies and other infrastructure providers for the development, maintenance and disposal of water supplies.		
4.4.3 Ensure communities develop the knowledge and skills necessary to manage local water supplies.		
4.4.4 Provide assistance in the development of community awareness packages on the responsible use of water resources.		

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KEY ACTION AREA 5

Information networks

Goal

To enhance information networks for Aboriginal and Torres Strait Islander communities

Objectives 5.1: To develop mechanisms for providing greater access to and sharing of environmental health information for Indigenous communities

Performance Indicators

Strategic actions	Responsibility for action	Implementation Schedule
5.1.1 Ensure culturally appropriate, relevant and contemporary information on environmental health is available on and for Indigenous communities.		
5.1.2 Identify the infrastructure resources for which Public Health Services, through working with communities, can provide expertise to other agencies to help guide the development and planning of better housing and infrastructure.		
5.1.3 Develop reliable and accurate information and indicators on housing quality and infrastructure provision in Indigenous communities.		

KEY ACTION AREA 6

Optimal Environmental Health Programs

Goal

To enhance environmental health programs to ensure the provision of environmental health in communities equivalent to the broader community

Objective 6.1 To evaluate and improve environmental health programs in Indigenous communities.

Strategic action	Performance Indicators	
	Responsibility for action	Implementation Schedule
6.1.1 Identify and develop reliable and relevant risk indicators on environmental health in Indigenous communities.		
6.1.2 Develop auditing and reporting mechanisms to be used in conjunction with risk indicators to evaluate the state of environmental health in communities.		
6.1.3 Ensure continuous quality improvement to existing programs and implement improvements as need is identified.		

Objective 6.2 To ensure ongoing assessment of future program requirements based on community defined needs.

Strategic actions	Performance Indicators	
	Responsibility for action	Implementation Schedule
6.2.1 Identify areas where most gain can be made through re-orienting and refocussing existing programs.		
6.2.2 Ensure community involvement in the identification and development of future environmental health programs.		
6.2.3 Develop systems for locally managed needs assessment programs and support the implementation of these in Indigenous communities.		

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