

# **Health Determinants**

Queensland 2004

## **Bundaberg Health Service District**



**Queensland  
Government**  
Queensland Health



**Queensland Government**  
Queensland **Health**

**HEALTH DETERMINANTS QUEENSLAND  
2004**

**Chapter 6. BUNDABERG HEALTH SERVICE DISTRICT**

**PUBLIC HEALTH SERVICES AND  
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## **Health Determinants Queensland 2004**

Chapter 1 Whole of population

Chapter 2 Children

Chapter 3 Young people

Chapter 4 Older people

Chapter 5 Indigenous peoples

Chapter 6 Health service district profiles

## **Companion documents**

*Health Determinants Queensland 2004 at a glance*

*Health Determinants Queensland 2004: Statistical report.*

## **For further information: Central Public Health Unit Network**

CentralHDQ2004@health.qld.gov.au

Brisbane Northside  
184 St Pauls Terrace  
Fortitude Valley Qld 4006  
Ph. 07 3250 8555  
PO Box 1507  
Fortitude Valley Qld 4006

Sunshine Coast  
150-152 Horton Parade  
Maroochydore Qld 4358  
Ph. 07 5479 4655  
PO Box 577  
Maroochydore Qld 4358

Central West  
3 Snipe Street  
Longreach Qld 4730  
Ph. 07 4658 4760  
PO Box 297  
Longreach Qld 4730

Redcliffe  
181 Anzac Avenue  
Kippa-Ring Qld 4021  
Ph. 07 3883 7300  
PO Box 162,  
Redcliffe Qld 4020

Central Queensland  
82-86 Bolsover Street  
Rockhampton Qld 4700  
Ph. 07 4920 6989  
PO Box 946  
Rockhampton Qld 4700

Wide Bay, Hervey Bay  
141 Long Street  
Hervey Bay Qld 4655  
Ph. 07 4197 7277  
PO Box 724  
Hervey Bay Qld 4655

Wide Bay, Bundaberg  
Bourbon Street  
Bundaberg Qld 4670  
Ph. 07 4150 2780  
PO Box 34  
Bundaberg Qld 4670

## Foreword

The health of the people of Queensland is very good overall and continues to improve. However, recent declines in the amount of physical activity undertaken, poor nutrition, an increase in overweight and obesity, as well as high levels of smoking and alcohol misuse, tell us that this is not a time for complacency. In addition, the increasing inequalities in health and the poor health of Indigenous peoples require specific attention.

In order for us to address these issues, Queensland Health and others whose work impacts on health and wellbeing, need to focus on the areas that will have the greatest gains for all Queenslanders. Information is critical to enable us to make decisions about where to focus and invest.

*Health Determinants Queensland 2004* is a key resource in this regard. It provides a summary of the most important factors influencing the health status of Queenslanders today and the areas of potential gain, and highlights the key responses needed to address them. This report brings together indicators of the major behavioural, social, economic and environmental determinants of health and their recent trends in Queensland. In doing so, it provides valuable guidance to government, non-government agencies and the community for improving health and reducing the burden of disease tomorrow and into the future.

It is absolutely clear that the influences on the health of Queenslanders go well beyond the scope of health agencies. All parts of society are and need to be engaged in the effort. Promoting and sustaining the health of the public is one of the most important functions of government and Queensland Health's new strategic intention highlights this.

Our mission is to promote a healthier Queensland. Our vision is to be leaders in health and partners for life. We will be successful in promoting a healthier Queensland through acting on following five strategic intents:

- Healthier staff – optimise staffing levels, provide staff with the right knowledge and skills, and provide an environment that values their experience and which supports positive ideas to drive innovation, creativity and health enhancements
- Healthier partnerships – work with others to harmonise programs and activities that impact on health
- Healthier people and communities – promote healthier lifestyles and environments for individuals, families and communities and improve community-based chronic disease management
- Healthier hospitals – provide high quality and equitable acute emergency care, integrated with enhanced community-based services
- Healthier resources – use finite resources to maximum advantage.

Health Determinants Queensland provides an information basis from which we can make informed decisions about how to best action each of these intents – what initiatives need to be implemented in which areas to achieve the greatest possible gains in health.

I encourage everyone with an interest in health – which is all of us – to familiarise yourself with the information in this report and to use this information in planning priority setting, and decisions about resource allocation.

Dr Steve Buckland  
Director-General  
Queensland Health

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## 6.1 Health Determinants Queensland 2004

*Health Determinants Queensland 2004* (HDQ) reports indicators of the major behavioural, social, economic and environmental determinants of health in the state. Where possible, it reports key trends in these indicators. Outcome indicators of preventable health issues are also reported. The report describes the relationship between the determinants of health and their outcomes. Queensland population groups with excess mortality and morbidity associated with conditions and determinants are also identified.

A determinant of health is a factor or characteristic that brings about a change in health, either for the better or for the worse. Health determinants can be broadly divided into 'upstream' determinants (education, employment, income, living and working conditions), 'midstream' (community capacity, health behaviours and psychosocial factors) and 'downstream' (physiological and biological factors).<sup>1</sup> The social, cultural, economic and environmental factors are collectively called 'social determinants of health and wellbeing'.

The five population based chapters of HDQ reflect the life course approach and the age specific nature of many health determinants and outcomes. The *Whole of population* chapter reports the determinants of health which affect the entire population, key health outcomes and interventions to address these determinants. The *Children, Young people, Older people* and *Indigenous peoples* chapters reflect the health determinants of specific relevance to those populations. Population-specific interventions to address these determinants are described.

The *Health service district profiles* chapter comprises a suite of 34 profiles, one for each of the population based Health Service Districts (HSDs) in Queensland. The Bundaberg HSD profile is one of the suite.

## 6.2 What is the aim of this profile?

This profile provides Bundaberg HSD with a summary of the key health issues and their causes, in the total population and in subpopulations within the district.

Information on the prevalence of risk and protective factors for health is required to determine the level of need in the population, and to measure the effectiveness of services. With rapidly changing populations in many parts of Queensland, and specifically an ageing population, strategic prevention initiatives are critically needed.

*Health Determinants Queensland 2004* supports decision makers at the local level in identifying priority areas for prevention and evidence based interventions for investment. It provides information for planning to strategically address the current, and short and long term future burden of disease in the Bundaberg HSD.

## 6.3 An introduction to small area analysis

The health status of the people of Bundaberg HSD can be considered in two ways.

- What are the major determinants of health, death and disease?
- Are the health issues of the people of this district different to other populations in Queensland? That is, what is the relative health status of this population?

The major determinants of health, death and disease, and the health status of the total Queensland population are reported in other chapters of *Health Determinants Queensland 2004* and in earlier publications.<sup>2,3,4,5,6</sup> This information provides a good base for understanding the general health issues affecting this district's population.

Regarding the relative health status of this population, this is of critical concern, as the impact of changing sociodemographic patterns and the effect of lifestyle behaviours on demand for health services is experienced in the district currently and in the future.

In order to determine the relative health status of the district population, knowledge of the health status of this and other districts in Queensland is required. However, at HSD level and smaller, mortality and morbidity information is not always available. In addition, where this information is available, it has some inherent problems which can lead to difficulties with interpretation and possibly the development of misinformation.<sup>7</sup> These difficulties with small area analysis mostly stem from the relatively small number of cases reported for many conditions in smaller populations, with variation in numbers of cases, deaths or behaviours due to unexpected or non-representative events.

An estimation method has been adopted to address this problem and is used in this profile. This method relies on the fact that the health status of a population is largely predicted by sociodemographic characteristics of that population.<sup>8,9</sup> The key sociodemographic predictors of health status of a population are the age structure, sex distribution, proportion of Indigenous people and socioeconomic profile, and to a lesser extent urban, rural or remote location. Cultural diversity also needs to be considered.

The relative health status of people living in the Bundaberg HSD can be estimated from knowledge of:

- key sociodemographic characteristics of the population in the district and Queensland
- the distribution of health outcomes and determinants in these sociodemographic groups in Queensland, as described in *Health Determinants Queensland 2004*.

This methodology is detailed in section 1.6 of *Whole of population* chapter and in other Queensland Health documents.<sup>7</sup> While this estimation method provides broad indications of health status in the population, complementary local knowledge will enhance the interpretation of this information and the understanding of its significance to the local population.

Population groups are not homogenous in regards to health issues. Thus, the key issues for population groups are interdependent. Prevalence of health outcomes and determinants are the result of complex interactions between the sociodemographic variables of the population. Key interactions are between: Indigenous status, socioeconomic disadvantage, and to a lesser extent rural or remote location; and between all populations and socioeconomic disadvantage. That is, older people who live in socioeconomically disadvantaged areas have greater health needs than those living in socioeconomically advantaged areas. A similar observation holds for Indigenous people, where the impact of Indigenous status, socioeconomic disadvantage, and rural and remote locations are interwoven. In addition, other interactions occur within district population groups. For example, Indigenous children and children from lower socioeconomic backgrounds are at greater risk of developing untoward health outcomes such as diabetes, than other children.

## 6.4 Who lives in Bundaberg HSD and how will that change?

The key sociodemographic predictors of health are described for Bundaberg HSD, using data from the 2001 census of population and housing, and population projections where available (Table BU 6.2).

In summary, compared to Queensland, Bundaberg HSD has:

- higher proportion of older people
- projected increase in proportions of young people and older people
- evidence of socioeconomic disadvantage

Within the boundaries of the district, the sociodemographic distribution of the population varies considerably. Specifically, some areas of the HSD have a higher proportion of young children aged 0-4 years (Figure BU 6.2), children aged 5-14 years (Figure BU 6.3), young people aged 15-24 years (Figure BU 6.4), older people aged 65 years and older (Figure BU 6.5). The location of Indigenous people (Figure BU 6.6) and areas of greater socioeconomic disadvantage (Figure BU 6.7) also varies across the district. Many areas have greater proportions of a number of these population groups, including older people and Indigenous peoples living in areas of socioeconomic disadvantage.

Depending upon the sociodemographic mix of the local population as shown in these figures, the health status and specifically the likely prevalence of determinants of health, will vary within the district. This same estimation model can be applied to identify areas within the district at greater health risk.

In this profile, unless otherwise noted, the following age range definitions apply; children are 0-14 years, young people aged 15-24 years, adults are 25-64 years and older people are 65 years and older.

### Age and sex distribution

In 2002, the population of Bundaberg HSD was 85,113, which was 2.3% of the Queensland population (Table BU 6.2). Compared to the age profile of Queensland population, in this district there were proportionally more older people (Figure BU 6.1).

Compared to the Queensland population, there were similar proportions of males and females in the district.

## Population growth

Bundaberg HSD is an area with a recent history of population growth. Moderate population growth, at a rate greater than the Queensland rate is projected for the period 1996 to 2016. In the 20-year period, the district population is projected to increase by about 34,000 persons. Consistent with an ageing population in many areas in Queensland, greatest proportional increases will occur in older age groups, however proportional growth in population of younger people in Bundaberg HSD will be substantially greater than many other districts in the state (Table BU 6.2).

These projections are based on data derived from the 1996 census.<sup>10</sup> Projected population growth using the 2001 census, for Queensland and at Local Government Area level have been reported,<sup>11</sup> but are currently not available for health service districts.

## Indigenous population

In 2001, there were 2,042 Indigenous people in the district, representing 2.5% of the total district population and 2.5% of Queensland's Indigenous population. In Queensland, 3.1% of the population identified as Indigenous in 2001.<sup>12</sup>

## Socioeconomic disadvantage

Bundaberg HSD had a greater proportion of people living in areas of relative socioeconomic disadvantage (49% of the population or about 39,000 people) in 2001, compared to Queensland as a whole (20%). In addition about 700 people lived in areas of relative advantage; 0.9% of the population compared with 20% of the Queensland population. Using the 2001 Index of Relative Socioeconomic Advantage/Disadvantage,<sup>13</sup> a profile of socioeconomic disadvantage includes variables for unemployment, lower income and level of skilled occupations, and a profile of advantage includes variables for employment, skilled and professional occupations, higher income and higher educational achievement.

In 1996, following the pattern in all HSDs in Queensland, the Indigenous population in this HSD were more likely to live in areas of greater socioeconomic disadvantage than the non-Indigenous population.<sup>2</sup>

## 6.5 What are the key health issues and their causes?

Considering the whole population in the Bundaberg HSD, the major causes of death and illness include: Coronary heart disease (CHD), stroke, chronic obstructive pulmonary disease (COPD), depression and lung cancer (Table BU 6.3).

Health determinants of significant impact in this population include: harmful alcohol consumption, smoking, overweight and obesity, poor nutrition, physical inactivity, and risk and protective factors for mental health.

Due to the effect of socioeconomic disadvantage in this district, the health issues and their determinants listed below are likely to be exacerbated.

A complete list of health outcomes and determinants of particular importance in each population group in Bundaberg HSD are in Table BU 6.3.

The social determinants of health vary for each population group, and are not detailed in this profile. These determinants are described in each population-based chapter of *Health Determinants Queensland 2004*. The social determinants of health will vary between areas of the district. For example, socioeconomic disadvantage in one area may be reflected in poor employment options while in other areas it may be reflected in low disposable incomes, or lack of health awareness and general education.

### Higher proportion of older people and projected to increase

The major causes of death and illness for older people will include: CHD, stroke, Alzheimer and other dementias, COPD, diabetes, and lung and colorectal cancer.

Health determinants of significant impact in this population will include: poor diabetes management, overweight and obesity, poor nutrition, physical inactivity, high blood pressure, poor blood cholesterol management, and smoking. In addition, falls are of particular concern in this population. Risk and protective factors for mental health are likely to have widespread effects on physical and mental health. Social determinants of health are of specific importance in this population, particularly housing, transport and social isolation.

These health issues will be exacerbated where older people are socioeconomically disadvantaged.

### **Higher proportion of young people in the future population**

The major causes of death and illness for young people will include: road traffic injury, depression, bipolar affective disorder, heroin dependence and harmful use, and suicide and self-inflicted injury.

Health determinants of significant impact in this population will include: harmful alcohol consumption and use of illicit drugs. In addition, sexual health will be of importance in this population. The social determinants of health of specific importance in this population are education, employment, family relationships and housing.

The impact of lifestyle behaviours in youth are often not experienced until later in life. There will be substantial health and wellbeing gains by increasing the level of physical activity in young people, improving nutrition, and addressing the growing problem of overweight and obesity.

### **Higher level of socioeconomic disadvantage in the district**

In general, socioeconomically disadvantaged people experience poorer health and shorter life expectancy than more socioeconomically advantaged people, for nearly all disease causes and populations studied.

The major causes of death and illness for populations of high socioeconomic disadvantage compared to those of low socioeconomic disadvantage include higher rates of: diabetes, intentional and unintentional injuries and mental disorders.

Health determinants of significant impact in this population include: diabetes management, harmful alcohol consumption, overweight and obesity, poor nutrition, physical inactivity, and risk and protective factors for mental health.

Socioeconomic disadvantage is evident in this district, and while the instrument for measuring disadvantage lacks sensitivity in terms of pinpointing individual age groups, it would be expected that all age groups would be affected. The impact of disadvantage in children may be seen in a growing prevalence of physical inactivity, overweight and obesity, poor nutrition and oral health. This pattern is also likely to be seen in young people with the uptake of smoking and hazardous alcohol consumption setting up patterns for long term health burden. Smoking prevalence plus overweight and obesity, lack of fruit and vegetables in the diet, harmful alcohol consumption and insufficient physical activity during the adult years will combine to produce higher rates of the chronic disease burden of cardiovascular disease, diabetes and cancers. Socioeconomic disadvantage will be reflected in health determinants such as unemployment, transport difficulties, lack of affordable housing and a greater reliance on Queensland Health services.

### **Indigenous population**

Due to the excess burden of disease in Indigenous peoples in Queensland in urban, rural and remote parts of the state, specific health gains can be made through targeted interventions in this district. Indigenous peoples in this HSD were more likely to live in areas of greater socioeconomic disadvantage than the non-Indigenous population.

The major causes of death and illness for Indigenous peoples include: stroke, CHD, diabetes, suicide, unintentional injury and mental health.

Health determinants of significant impact in this population include: poor diabetes management, overweight and obesity, poor nutrition, physical inactivity, harmful alcohol consumption, high blood pressure, poor blood cholesterol management, and risk and protective factors for mental health. In addition, rates of cervical cancer screening and asthma management are projected to be low in this population. Social determinants of health are of specific importance in this population, particularly sense of control, housing, employment and transport.

## 6.6 How many people are at risk?

An extension of estimating prevalence of health determinants of Bundaberg HSD is the estimation of the number of residents with specific key conditions (Table BU 6.1). The attributable burden of disease, the preventability of the conditions and the availability of data, were the basis for selecting the conditions to estimate case numbers.

**Table BU 6.1: Estimated number of current residents with specific key conditions in Bundaberg HSD, by sex**

	males	females
Diabetic adults, aged 25 years and older	2,500	2,500
Overweight adults, aged 20 years and older	13,000	8,000
Obese adults, aged 20 years and older	6,000	7,000
Overweight children, aged 5-14 years	800	1,000
Obese children, aged 5-14 years	300	400
Asthmatic children, aged 0-9 years	100	600

## 6.7 How can the burden of disease be addressed?

Specific interventions to address the burden of disease in a population should target diseases, conditions and determinants of health which pose significant threat and are potentially preventable. There is now good evidence that a range of interventions are effective in preventing disease, illness and injury, and in promoting health and wellbeing through action on the determinants of health and ill health.

The key challenge is to ensure these initiatives are ongoing and widespread, and, are at a level sufficient to achieve broad based population-wide outcomes, as well as reduce health inequalities across population subgroups. Evidence based interventions to address these issues in each population are detailed in section 1.5 of the *Whole of population* chapter and in equivalent sections in other chapters of *Health Determinants Queensland 2004*.

Since population health issues are being addressed by multiple organisations and communities, the aim of these intervention sections is to identify key evidence based strategies that are currently being undertaken, are planned or are required. These strategies are based upon best practice. The interventions will be led by a variety of organisations in partnership with other sectors.

It is clear there are no simple, quick fixes to these complex issues. Action on all determinants requires multi-strategy approaches which:

- include both population-wide and at-risk group approaches
- involve sectors working together
- focus on both risk and protective factors
- address social, behavioural, economic and environmental factors
- specifically address equity and reduce disparities by focusing on the needs of the most disadvantaged communities and population groups
- take a lifecourse perspective.

The risk of disease is not confined to a particular group of the population with particularly high levels of risk factors. Rather, the risk of many diseases increases with increasing levels of risk factors, from levels within the normal range to very high levels of risk factors.<sup>14</sup> In particular, there is a continuous association between:

- risk of coronary heart disease and healthy and excess weight (as assessed by body mass index),<sup>15</sup> serum cholesterol,<sup>15</sup> fruit and vegetable intake<sup>16</sup> and diastolic blood pressure<sup>15</sup>
- risk of diabetes and healthy and excess weight<sup>15</sup>
- risk of haemorrhagic and ischaemic stroke and healthy and excess levels of diastolic blood pressure<sup>17</sup>
- risk of hip fracture and bone mineral density<sup>15</sup>
- risk of neural tube defects and maternal plasma folate.<sup>15</sup>

Thus incremental change in the population prevalence of these health determinants will affect the health status of the population in Bundaberg HSD.

Considerable evidence indicates that current greater prevalence of determinants of ill-health will result in higher hospital separations and mortality in the population in the short and long term. There is a variable and often long lag time between the incidence of health determinants and hospital separation or deaths from associated diseases or conditions. As a result, the excess prevalence of some health determinants in Bundaberg HSD will be partially reflected in current mortality and morbidity statistics, and partially reflected in future statistics.

## 6.8 Priorities for prevention in Bundaberg HSD

Addressing the burden of disease in Bundaberg HSD requires interventions that positively modify the diseases, conditions and health determinants that pose significant preventable burden for the population. Priority health determinants may include those for which prevalence is higher in the HSD than that of Queensland. However, interventions should also be implemented at the small area level if those conditions or risk factors have similar or lower prevalence than that of Queensland, but have a large impact within the small area.

Social determinants of health, particularly sense of control, employment and housing must be addressed to achieve sustained health improvement in this HSD. In addition, environments that support healthy lifestyles must be developed and maintained. Intersectorial partnerships are needed to affect these upstream determinants of health.

It is estimated that currently population groups within this HSD have a higher prevalence of some health behaviours than Queensland as a whole (Table BU 6.3). These key health determinants or preventable morbidity factors are:

- overweight and obesity
- physical inactivity
- tobacco smoking
- poor diabetes management
- poor asthma management
- risk and protective factors for mental health
- hazardous and harmful alcohol consumption
- falls in older people.

In addition, specific interventions to address those determinants of health in this population which pose significant preventable burden for the population, but whose prevalence is similar or lower than that of Queensland must be addressed. There are no such health determinants in this district.

The relative priority of key health determinants and preventable morbidity factors may change in the future as the population changes.

Population health interventions to address the burden of disease attributable to these health determinants are identified for the whole of the population and for sociodemographic groups, within the relevant chapters of the *Health Determinants Queensland 2004*.