Underlying causes

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What is health?

There is widespread and general acceptance that 'health' is more than not having a disease and that an holistic approach should guide efforts to improve health. Nevertheless, it is difficult to define health. NT policy documents (THS 1996a; THS 1996b) propose two of the more frequently cited definitions—that of the World Health Organization (WHO) in the Declaration of Alma-Ata:

...health ... is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity.

and an extension of that definition proposed by the National Aboriginal Health Strategy (NAHS) Working Party in 1989 (NAHS 1989):

Not just the physical wellbeing of the individual but the social, emotional and cultural wellbeing of the whole community. This is the whole-of-life view and it also includes the cyclical concept of life-death-life.

The WHO definition emphasises an holistic, multifaceted view of health. The Alma-Ata Declaration also notes that achieving health in this broad sense is beyond the health sector alone. The NAHS definition also emphasises an holistic approach: it proposes wellbeing as an attribute of communities, as well as of the individuals within a community; and it identifies cultural wellbeing, along with social and emotional wellbeing, as equally central to health.

Because 'health' is so difficult to define, we advance our understanding by investigating those situations where it is obviously absent; indeed it is 'non-health' or ill health that provides the starting point of most health-related research. Our goal is to understand better the determinants or underlying causes of health. The way we explain or try to make sense of the reasons why some people are healthy and others are not, and our attitudes towards such explanations, determine to a large extent the actions that we take, both as individuals and as a society, to promote health. Only when our analysis of the underlying causes is accurate and meaningful is it likely that our actions to promote health will succeed.

NT health differences

It is immediately evident from the data presented in this publication that Territorians are not equally healthy. Differences, for example, between the health of NT men and NT women are reflected in their different life expectancies, as well as their death rates for the main causes of death (see Causes of death chapter). There are differences too, between the NT as a whole and Australia generally—for example, the proportion of NT deaths caused by injury, which includes motor vehicle accidents and suicides, is well above that of the nation as a whole (approximately 20% compared with 6%) (ABS 1997b). However, by far the most consistent differences are within the NT population, between Aboriginal and non-Aboriginal Territorians.

Aboriginal people in the NT, as elsewhere in Australia, carry a dramatically disproportionate burden of poor health across virtually all of the measures presented in this publication. The most graphic summary statement of this is perhaps that (ABS 1997b):

- Aboriginal Australians born in the 1990s have a life expectancy that is almost 20 years lower than other Australians
- 58% of NT Aboriginal deaths occur before the age of 55 compared with 17% of deaths among non-Aboriginal Territorians
- for all major causes of death among both men and women of the NT, Aboriginal death rates far exceed those of non-Aboriginal Territorians

There have been some improvements—in Aboriginal infant mortality rates, for example—but the question remains: why does this profile of deplorable health persist in one small population encapsulated within an affluent, technologically sophisticated nation such as Australia? Is it a lack of health services reaching Aboriginal people? Is it related to poverty, poor living conditions and the multiple legacies of dispossession and colonisation? Is it lack of knowledge among Aboriginal people about how to be healthy, or is it the consequence of adopting high risk behaviours like smoking, substance abuse and eating poorly? Does it perhaps arise from different genetic endowments?

It has long been known that all these factors, in some way, contribute to poor health outcomes (see, for example, Anderson 1988; Reid & Trompf 1991; Saggers & Gray 1991, Hunter 1993; Mathews 1997; Bartlett 1998). The precise mechanisms of *how* they do have been less clear. In this chapter, we reconsider the unequal distribution of health and wellbeing among Territorians in the light of recent research that examines the pathways through which our social and physical environment, as well as our genetic endowment, interact, resulting in better health for some people and greater amounts of illness and early death for others. We then relate that understanding to the situation in the NT.

Health determinants: 'new' views from research

Low socioeconomic status is everywhere the most important risk factor for health (Evans & others 1994; Marmot, Ryff & others 1997). This finding in itself is nothing new. It has long been clear that poverty is powerfully predictive of poor health. People of low socioeconomic status have higher levels of ill health because, generally speaking, they lack the finance, knowledge and skills to acquire the essential prerequisites of good health—such as suitable housing, education, nutritional diets and so on. They are thus unable to achieve a healthy lifestyle in a safe environment.

The Whitehall studies

Research has now demonstrated that, in a situation where poverty is not a factor, health still remains unequally distributed throughout the group. This is shown in the long-term, ongoing studies (referred to as 'the Whitehall studies') that the International Centre for Health and Society at the University of London conducted with a large group of British civil servants (Marmot, Bosma & others 1997). This research suggests that social inequality in itself, independently of poverty, affects health. The health inequalities documented in the study group showed a clear and consistent correlation with the rank of the individual within the service, and this was so across all health indicators measured.

The social gradient of disease

The Whitehall studies demonstrated the existence of a clear 'social gradient of disease' such that 'the lower you are in the hierarchy, the higher the risk of disease' (*Mastering the Control Factor* 16 Nov 1998). Of the four identified levels or ranks in the civil service, those in the middle levels had more disease than those in the top rank; those in the bottom rank had the highest levels of disease (Evans & others 1994).

While risk factors such as smoking and so on also clustered unequally (but systematically) throughout the study group, such factors accounted for only

...between a quarter and a third of the social gradient. In other words, for people who have equivalent levels of smoking, blood pressure and plasma cholesterol, we still find that where you are in the hierarchy is powerfully related to your disease risk. So there has to be something else going on.

That 'something else' relates to psychosocial factors; the amount of control people have over their lives, including whether they are part of an integrated social network and whether they have access to supportive relationships. In particular, it is the level of control an individual has within their environment that determines whether the demands and stresses they experience have neutral, positive or negative consequences in terms of health (*Mastering the Control Factor* 9 Nov 1998).

Individual control as a health determinant

In a situation where individual workers experience high levels of demand but have a low level of control to cope with those demands, the health outcome is negative. On the other hand, where an individual has greater control of the factors impinging on their situation, they are able to better manage demands and consequently experience, it seems, less harmful health outcomes.

Thus, in the Whitehall studies, those at the top of the service—despite bearing heavy work-related demands and responsibilities that lead to considerable stress—did not manifest the negative health consequences experienced by their less empowered colleagues in the ranks below them.

Linking chronic stress and disease

In the absence of poverty, how does a low level of control translate into disease and illness for individuals? Here, too, research into the effects of stress is elucidating the intricate and delicate connections between the mind and the body. A range of evidence—new and contentious but

accumulating—explores how the nervous, endocrine and immune systems may interact under various kinds of stress to effect both short and long-term physiological consequences. This work suggests that certain cascades of consequences may be initiated by psychosocial and/or biological stress (*Mastering the Control Factor* 16 Nov 1998).

There seem to be links in a causal chain that connects low levels of control and/or other kinds of psychosocial stress to neuroendocrine responses that have defined physiological outcomes including, ultimately, the precursors to certain diseases (McEwen 1998). Chronic stress of the damaging kind arises in situations where an individual experiences a great deal of demand at the same time as having a low level of control over the factors impinging on them; it arises when individuals are in a situation of continual anxiety, heightened vigilance and worry; it accompanies situations of chronic boredom (McEwen 1998).

Research in this field suggests that, although the body's stress mediators—the hormones that the body produces in rapid response to various kinds of stress are essential for maintaining health, they can also be damaging if the body produces an oversupply (McEwen 1998). Situations of sustained or chronic stress are known to alter the patterns of production of these mediating hormones, thereby transforming their potential benefits to potential harm. McEwen refers to the cumulative effect of such stress as 'allostatic load' and says: '... the things which really affect most people's health over long periods of time are not dramatic life events, but are really the dayto-day problems, the wear and tear that we all experience in one degree or another, and . . . these effects may accumulate over months and years to cause problems' (Mastering the Control Factor 23 Nov 1998). There is likely to be a long lead time between damage-causing situations and the final manifestation of 'disease' (of whatever form) in particular individuals.

Cultural change and stress

This body of research also considers how cultural change is associated with stress (Evans & others 1994). Whether through historical time at the same geographical location or through migration, the process of culture (and related social) change exposes the taken-for-granted values of existing community life to scrutiny and challenge. Cultural change powerfully affects the structure of social relationships; in particular, it redefines the things that mark or indicate social standing—the symbols of prestige—as well as reshaping the relations of access to both prestige and status.

Where cultural change results in social stratification, the upwardly mobile cope well with the changing milieu for as long as they maintain their generally upward trajectory. On the other hand, those individuals who fail to achieve social standing or recognition, because they are unable to gain access to the symbols of the new social and cultural regime, experience the rapid and widespread change as a source of stress. In other situations, cultural change does not lead to significant social stratification, but nonetheless introduces the material culture of modernity along with alternative social values. To the extent that those values and/or goods confront or contradict the values underpinning the existing community ethos, they will generate tensions and stress.

Evans and others (1994) suggest that it is not cultural change in itself that affects health but rather the extent of the change, including the impact of change on traditional ways of coping with stress. When social and cultural change occurs at such a rate that it exceeds people's ability to cope with or accommodate it, they experience a decreasing capacity to control the circumstances of their lives.

The social gradient of health

The demonstration of a social gradient of health predicts that reducing inequality itself has health benefits for all, not simply for the impoverished or deprived minorities within populations. There are renewed calls for reinvigorated attention, including research attention, towards constructive ways of altering the social environment (Evans & others 1994).

Rather than more health-specific information, advocates call for sustained interventions that primarily provide the kinds of skills which enable people to operate more effectively within their existing environment—that is, skills that give individuals and/or groups an increased level of control over their circumstances. They point, for example, to the successes of the Headstart program provided to a group of poor, African-American children. A study, which followed this group through the course of their lives to age 28, demonstrated that the individuals receiving such an intervention were subsequently distinguishable from their contemporaries by increased rates of graduation and decreased levels of welfare, early pregnancies and crime (Evans & others 1994; *Mastering the Control Factor* 9 Nov 1998).

Another landmark study involved the bus drivers of San Francisco, whose cardiovascular health improved when they were given more control over their working environment. Significantly, previous attempts by employers to use risk factor control strategies had been unsuccessful (*Mastering the Control Factor*, November 1998).

In Australia in the 1970s, a pre-school program based on strengthening specific language skills in children in the Bourke region was introduced by Nurcombe and others (Nurcombe 1973). They demonstrated sustained improvements in primary school performance in the participants.

The key factor is something Professor Len Syme calls 'mastery': being able to traverse life's difficulties and solve everyday problems so that they do not overwhelm us. As Syme puts it, the challenge is 'how to give people secrets for how they can negotiate their life' (*Mastering the Control Factor* 9 Nov 1998).

Of course, determining the right time to intervene to alter the social environment and, even more crucially, the most effective kinds of interventions that foster the confident problem solving and situational mastery promoted in this approach are enormously important, not to say complex, questions. Nor does the research discussed here address them fully. Nevertheless as noted above, there are success stories that may have value for the NT (see, for examples, Benzeval & others 1995).

Health transition research

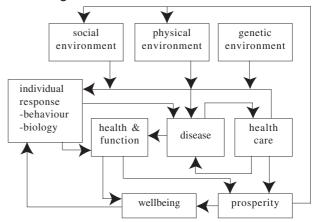
Importantly too, the findings we summarise here converge at significant points with an independent body of research, usually referred to as 'health transition research', that has been carried out almost exclusively in so-called Third World countries. This research indicates that universal education, particularly for women but also for men, is strongly predictive of improved health (Caldwell 1993). Formal education in the Third World has, to some extent, performed the kind of empowerment functions now being mooted in a different context. Education enhances people's skills as well as increasing their confidence to assert their will and, at least for some, challenge and modify existing social relations (Tsey 1997).

Factors influencing health

The relationships between the factors influencing health are complex and comprise several interrelated feedback loops.

As described by Evans & others (diagram 2.1),

2.1 Interrelationships of factors in human wellbeing



Source: Adapted from Evans & others 1994:53

several principles can be drawn from these interrelationships:

- the social as well as the physical environments are crucial primary determinants of health
- genetic factors are important but, with notable exceptions, their expression as specific disease in individuals is mediated by the external social and physical environment
- prosperity and wellbeing are important prerequisites for good health
- the individual's subjective experience of illness ('health & function') is separate from the consideration of disease as an objective clinical category ('disease')—this recognises that the same 'disease' may be experienced differently and that a patient's perspective on the effects of illness are not necessarily encompassed by either the treatment or the clinician's view
- risk factors (smoking, hypertension, obesity, lack of exercise etc) are intermediate determinants of ill health, not underlying causes of ill health
- since risk factors correlate so strongly with socioeconomic status, it is more helpful to understand them as 'host responses' to particular external environments rather than simply as individual lifestyle choices freely made
- health care is related to the burden of disease, but also to health and function, and to wellbeing
- the expansion of health care by itself will be insufficient to improve health and function, and may even limit the potential to influence health through other means by diverting scarce resources away from more effective avenues for change

In summary, the research cited here makes three main points that have relevance for our situation in the NT. First, medical science is an essential component of adequate health care but has a limited potential to improve health—we must contemplate more carefully where those limits are and what they mean for our capacity to improve the health of our communities. Second, the struggle against 'bad lifestyles' is necessary but not sufficient to effect health improvements—good health is not just a matter of lifestyle, and lifestyle is not just a matter of choice. Third, changing the social environment is both possible and desirable (Evans & others 1994).

Health inequalities among Territorians

Health research indicating that low position in a social hierarchy in itself is a powerful predictor of health, or that the degree of control an individual is able to exert over their situation has health significance, will come as no surprise to Aboriginal Australians. Indeed, this simply confirms what Aboriginal Territorians (and their counterparts elsewhere in Australia) have always argued. It is the position they have articulated in several key policy documents (see, for example, National Aboriginal Health Strategy Working Party 1989; Royal Commission Into Aboriginal Deaths in Custody 1991; Dodson 1994; Aboriginal Health Policy THS 1996a; National Inquiry into the Separation of Aboriginal and Torres Strait Islander Children from their Families 1997). Non-Aboriginal social activists, medical practitioners and scholars all have long identified social inequality and powerlessness as the key issue in Aboriginal wellbeing, including health (see, for example, Rowley 1978; Coombs 1978).

The role of dispossession

The present profile of Aboriginal health stems from the dispossession and separation of Aboriginal people from their homelands (THS 1996a). Losing control of their lands resulted in the loss of their economic base (THS 1996a); this was frequently accomplished in an ethos of gross personal violence, brutality and family dislocations. In the NT, it continued well into the lifetimes of contemporary Aboriginal people. Communities of hunters and gatherers became either a convenient workforce for the settlers within the economic system they hastened to establish or unwanted nuisances to be ignored, regulated, moved on or, at times, exterminated.

Even in those areas of the NT (for example, Arnhem Land) where people were not physically dispossessed of their homelands, they nevertheless lost control over them despite remaining in residence. In Arnhem Land,

this was publicly demonstrated when, in the mid 1960s, Yolngu failed in their attempts to prevent bauxite mining on their homelands. In the NT, Commonwealth legislation has enabled some groups to regain legal title to portions of their original lands.

Critics of the priority that Aboriginal people place on land and of the political agenda for land rights argue that neither bring improvements in Aboriginal health; indeed they suggest that twenty years of land rights has produced few health improvements and that priorities must shift to basic services, including water supply, housing, education and so on. However, as Dodson has pointed out, such basic services are every citizen's right; they should be provided as a matter of course. That aside, the nexus between Aboriginal health and Aboriginal land needs to be more clearly understood, so that we 'distinguish between ownership of land, in a legal sense, and control over what happens on the land' (Dodson 1994):

The return of people to their country, or the gaining of other land to live on, is an essential part of grappling with the manifold underlying sources of health problems. But mere 'ownership' of land, in the western legalistic sense, will not immediately resolve the historical and contemporary social and cultural pressures which surface in alcohol abuse, violence, physical and mental ill-health. These matters will only respond to the building of a real sense of control in individual and community life.

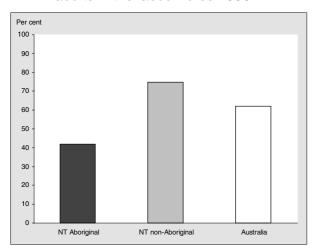
Achieving recognition of land rights is a necessary step on the path to wellbeing. The dispossessed are unlikely to achieve health. This is the position of Aboriginal people. It is also predicted by the model of health determinants we have outlined. Land rights for Aboriginal Australians is thus a public health issue with particular relevance for the NT. That is, however, only part of the story. Under present circumstances, as Dodson argues, it is barely possible for Aboriginal people to control in any real sense what happens on their land, despite owning it, because so many communities are themselves in crisis. His analysis, with its emphasis on the fundamental requirement for Aboriginal people to have control of their lives and of their communities, resonates clearly with the themes articulated earlier in this chapter (Dodson 1994).

The role of employment, income and education

Historically, Aboriginal people have been at the margins of the imposed economic system. This remains the case.

Employment

2.2 NT adults in the labour force 1996



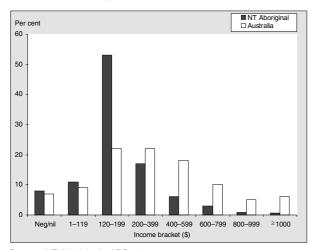
Source: NT—ABS 1998c Australia—ABS 1998b

The most recent available data show that, in 1996, only 40% of Aboriginal adults were in the labour force compared with nearly 75% of non-Aboriginal Territorians (graph 2.2). Given that this figure of 40% includes those working on CDEP schemes as well as unemployed people who are actively looking for work, the proportion of Aboriginal family incomes at welfare levels is higher than is indicated by the proportion that is shown as in the labour force.

Income

The high proportion of Aboriginal adults who are not in the labour force translates into low levels of income for the majority of Aboriginal families. The largest proportion of adults are welfare recipients of one kind or another.

2.3 Adult weekly income 1996



Source: NT Aboriginal—ABS 1998c Australia—ABS 1997a

In 1996, about 65% of the NT Aboriginal population had a weekly income of less than \$200 whereas about

35% of Australians overall had a similarly low income (graph 2.3). The poverty brought about by low income levels is reflected in other aspects of life for Aboriginal families.

In 1996, over 10% of Aboriginal Territorians lived in improvised accommodation, including tents. Aboriginal accommodation, of whatever type, tends to be crowded. In 1996, Aboriginal households averaged more than five people per dwelling while NT non-Aboriginal households averaged less than three people per dwelling, similar to the average for all Australians (ABS 1998b; ABS 1998c).

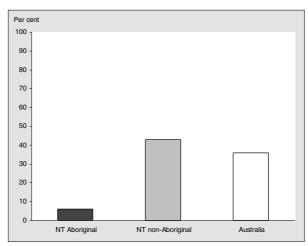
A survey of an NT Aboriginal community in 1997 revealed that only about a third of the showers, sinks, stoves and handbasins in the houses were functional (Hardy 1998).

Most Aboriginal families live in rural and remote regions of the NT. There they experience daily the consequences of a debilitating combination: low income plus extremely high prices plus inadequate services. By way of example: whereas a family dependent on social welfare pays out 23% of their income for a typical basket of food in a capital city, it would take 35% of their income to buy the same basket in an NT Aboriginal community store (Price & McComb 1998).

Quite apart from any other influences, it is evident that outright poverty is a major factor affecting the health and wellbeing of Aboriginal Territorians.

Education

2.4 Adults with a post-secondary school qualification 1996



Source: NT Aboriginal—ABS 1998c Australia—ABS 1997a

Note: 'Post-secondary school qualification' means at the degree, diploma and vocational levels

Improved levels of Aboriginal engagement in the

economy and society are unlikely without some change in current education and training outcomes.

In 1996, only between 5% and 6% of NT Aboriginal adults had any kind of post-secondary school qualification compared with 40% of non-Aboriginal Territorians (graph 2.4). These education levels are cause only for further alarm, particularly since research shows that (Hunter 1996):

Education is the largest single factor associated with the current poor outcomes for indigenous employment. Indeed, the influence of education dwarfs the influence of most demography, geography and social variables.

Given such poor educational outcomes among today's NT Aboriginal youth, it is unlikely that employment and income opportunities for the families of the next generation will be substantially different without specific intervention. The Australian National University's Centre for Aboriginal Economic Policy Research calculates that, based on 1998 projections, the national Aboriginal unemployment rate is likely to reach 53% by 2006 (Taylor & Roach 1998). Unskilled young Aboriginal people will have difficulty joining the workforce, even more so if they lack literacy and numeracy skills. With trans-generational poverty of this scale already predictable, how can health improvements be achieved?

The health effects of poverty, social inequality and disempowerment

Aboriginal Territorians as a group are worse off than their non-Aboriginal counterparts when rated against the standard indicators of socioeconomic status. That they are also simultaneously enmeshed in a process of pervasive and rapid social as well as cultural change simply adds to the complexity of their situation: long-held community values and authority are challenged; coherent social life is undermined by substance abuse and its related mayhem; ritual and ceremonial pursuits must compete with secular activities; and too-frequent deaths and illness weigh down on families and communities. The disempowerment flowing from this is profound. It leads to 'a spiritual or psychosocial malaise which afflicts much of indigenous Australia and variously surfaces in conditions such as drug and alcohol dependency, and high suicide and accident rates' (Flick & Nelson 1994).

These social conditions (see diagram 2.1) then feed back into the situation, further deepening and entrenching patterns of dysfunction. The research makes clear that dysfunction itself occurs not only to communities or social groups as abstract entities but is etched into the bodies of the individuals experiencing it, ultimately manifesting as ill health of one form or another.

In the larger national forum too, intense levels of public criticism on many fronts, particularly in the late 1990s, have had a negative impact on Aboriginal peoples' collective sense of belonging to the wider Australian community. There remains considerable (perhaps increasing) resistance from those in authority and among the wider community to Aboriginal people managing their own affairs, and to their attempts to influence the agendas of government, the corporate sector and community organisations.

At the level of the community, the family and the individual, this apparently ever-narrowing set of options sets up precisely the kinds of high stress—high anxiety—low control scenarios described earlier by health researchers. Incrementally and cumulatively over a lifetime, such factors are shaping the health of individuals and families, as well as the following generation of children. As Flick and Nelson note: 'It doesn't take multiple science degrees to appreciate the impossibility of attaining good physical health under such conditions' (Flick & Nelson 1994).

In summary, findings on the social gradient of health are not fundamentally new insights. They are 'new' only insofar as health researchers have now described them quantitatively as well as by the physiological ways in which they operate. Indeed the WHO definition of health cited earlier in this chapter arose within an international context where community empowerment had become, and has remained, a dominant theme. The whole spectrum of community advocacy through consumer groups, women's groups, patient support groups and the like is an expression of people moving to achieve greater control over the circumstances of their lives. The establishment of Aboriginal community-controlled organisations, including health services, is also an expression of the continuing struggle by Aboriginal people to gain a greater measure of control over their lives. In all cases, these levels of control are closely related to, though not synonymous with, the kind of mastery discussed earlier in this chapter.

But if this is not 'new' knowledge, what then explains our slow progress in addressing the underlying conditions of poor health? In the case of Australia, the inadequate progress (Ring 1998) is disturbing as well as puzzling. Aboriginal Australians, with by far the greatest burden of ill-health, number about 400,000 within one of the world's most affluent nations. Aboriginal people in the NT number about 50,000. What is this chasm between the 'knowing' and the 'doing'? Why is it that across the spectrum of authoritative knowledge only some kinds seem to have the power to cause action? As Evans & others ask (1994):

Why is it that in some areas we know without acting, in others we act without knowing? Or, more generally, why are the standards of evidence required before observations are accepted as knowledge, or knowledge accepted as a basis for action, so stringent for some and so flimsy for others?

Addressing the underlying causes of ill health

The information in this publication describes Territorians against a number of different kinds of measures or indicators of health. These measures or indicators of health need to be conceptually distinguished from the notion of health itself. In an analogy: a signpost points a direction, it is not itself the destination. An important question then is how (or if) the selected measures of health reflect or encapsulate the notion of health? Since the set of possible measures of health is virtually endless, those finally selected need to be explicitly related to the desired overall outcome of improved health.

Health policy and the resource allocations it governs—that critical and most contested dimension of the health endeavour—similarly require explicit, systematic linkage to the notions of health that underlie specific health-related activities. The team involved in social gradient research have developed and disseminated some practical guidelines (Wilkinson & Marmot 1998) to assist governments, policy-makers, service organisations and community groups to address the underlying causes of ill health.

The insight from social gradient research is that health for all of us is critically related to our social position. While absolute poverty, in a global sense, guarantees excessive levels of ill health, relative poverty, social distress, powerlessness and social marginalisation will all, separately or in combination, generate disproportionate amounts of ill health (see inset).

Underlying causes of health and illness: translating scientific evidence into policy and action

The social gradient

People's social and economic circumstances strongly affect their health throughout life, so health policy must be linked to the social and economic determinants of health

Stress

Stress harms health

Early life

The effects of early development, including in pregnancy, last a lifetime; a good start in life means supporting mothers and young children

Social exclusion

Social exclusion creates misery and costs lives

Work

Stress in the workplace increases the risk of disease

Unemployment

Job security increases health, wellbeing and job satisfaction

Social support

Friendship, good social relations and strong supportive networks lead to improved health at home, at work and in the community

Addiction

Individuals turn to alcohol, drugs and tobacco, and suffer from their use, but their use is influenced by the wider social setting

Food

Healthy food is a political issue

Transport

Healthy transport means reducing driving and encouraging more walking and cycling, backed up by better transport

Source: Adapted from Wilkinson & Marmot 1998

The health differential between Aboriginal and other Territorians reflects both poverty as well as social inequality. The health of Aboriginal Territorians will improve when they achieve greater levels of real control over the circumstances of their lives and their communities. This in turn requires concerted attention to the social and physical environments within which people and communities live. A set of appropriate measures of socioeconomic status in the NT need to be developed and integrated with existing measures of health if we are to effectively track progress.

Access to comprehensive primary health care

We emphatically are not suggesting here that only social and economic measures are needed to alter the present situation. Nor are we advocating a simple dichotomy between a 'social' or a 'medical' approach. In light of earlier discussion (and see diagram 2.1), that kind of reductionism would clearly be misleading. Better resourced and more accessible health services, particularly comprehensive primary health care, are an essential part of efforts to improve the status quo. Approximately 70% of Aboriginal Territorians, for example, live outside urban centres (THS 1996a) where they rely for health care on the least-resourced health service sector, primary health care. These remain pressing issues that must be solved.

Equipping people with a sense of mastery

Health education programs that target high risk groups, such as smokers or the overweight, are limited in effectiveness while the circumstances of the individuals in those groups remain unchanged. As Professor Len Syme says: '... if you want people to change their behaviour, you can't do it with proclamations from the top down by experts. Experts need to learn a new way of being an expert, to empower people to participate in the events that impinge on their life' (Mastering the Control Factor 9 Nov 1998). The model presented here would argue for greater attention to changing the social and/or physical conditions in which a behaviour pattern consistently occurs. In the case of poor diet, to take one example, that might lead to more concerted action towards improving the food supply in communities (including grappling with its associated political agendas—see inset above) than on programs aimed at working with individuals to influence eating patterns.

Aboriginal people themselves may also lead the way in designing innovative programs that address individual emotional and social wellbeing (Tsey & Every). Programs such as the South Australian Department of Education's family wellbeing, personal development and counselling course offer promise in this regard.

Related to this is the view that it is not specific health information that will necessarily assist individuals and communities, rather it is an as yet less well-defined set of abilities, skills and attitudes that enable people to 'problem solve'. Further work could be undertaken

to analyse successful models or programs of this type for their relevance to the NT. Pertinent to the situation of Aboriginal people, however, is that education—in the formal, institutional sense—is invariably implicated in the process of mastering one's environment. It is also linked directly to employment and income potentials.

There is a straightforward explanation for at least part of the stark health differential between Aboriginal and non-Aboriginal Territorians: inadequate health services delivered into communities where they are needed. The underlying causes—poverty and social inequality—are not only clearly revealed for further analysis but, more importantly, are amenable to planned action.

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