

# **An Overview of Current Knowledge of the Social Determinants of Indigenous Health**

Working Paper



Compiled by

Clive Nettleton  
Dora A. Napolitano  
Carolyn Stephens

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Contributing authors

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## Contributing authors

### *Compilers*

Clive Nettleton (corresponding author)  
London School of Hygiene and Tropical Medicine  
clive.nettleton@lshtm.ac.uk

Dora A. Napolitano  
London School of Hygiene and Tropical Medicine/Shinai  
dorashta@yahoo.co.uk

Carolyn Stephens  
Senior Lecturer  
London School of Hygiene and Tropical Medicine  
carolyn.stephens@lshtm.ac.uk

### *Chapter authors*

**China**                    **Dora A. Napolitano**  
dorashta@yahoo.co.uk

London School of Hygiene and  
Tropical Medicine  
United Kingdom

**South Asia**            **Malavika A. Subramanyam**  
msubrama@hsph.harvard.edu  
**S.V. Subramanian**  
svsubram@hsph.harvard.edu

Department of Society  
Human Development and Health  
Harvard School of Public Health  
677 Huntingdon Avenue  
Kresge 7<sup>th</sup> Floor  
Boston MA 02115-6096  
USA

**Latin  
America**                **Dora A. Napolitano**  
dorashta@yahoo.co.uk

London School of Hygiene and  
Tropical Medicine  
United Kingdom  
Shinai, Peru  
www.shinai.org.pe

**Raúl A. Montenegro**  
President of FUNAM  
Alternative Nobel Prize 2004  
Lecturer in Evolutionary Biology  
montenegro@funam.org.ar

Universidad Nacional de Córdoba  
(Argentina) / Fundación para la  
defensa del ambiente (FUNAM)  
Casilla de Correo 83  
Correo Central  
Córdoba (5000)  
Argentina

**Thomas Hart**  
Country Manager  
Health Unlimited Guatemala  
tomashart@hotmail.com

Health Unlimited  
20 Avenida D1-75  
Zona 3  
Quetzaltenango  
Guatemala

**Renato Athias**  
Professor of Anthropology and  
Coordinator of the Centre for the Study of  
Ethnicity  
Universidade Federal de Pernambuco  
rathias@ufpe.br

CP 500  
53370-970 OLinda PE  
Brazil

**Indonesia  
and  
Philippines**            **Jennifer Narcisa del Rosario-  
Malonzo**  
Head, IBON Partnership in Education for  
Development (IPED)  
jenndelrosario@yahoo.com

IBON Foundation, Inc.  
IBON Center  
114 Timog Avenue  
1103 Quezon City  
Philippines

<b>Circumpolar and Russia</b>	<b>Barbara Profeta</b> barbara_profeta@mail.ru	London School of Hygiene and Tropical Medicine United Kingdom
<b>Africa</b>	<b>Clive Nettleton</b> clive.nettleton@lshtm.ac.uk	London School of Hygiene and Tropical Medicine United Kingdom
<b>North America</b>	<b>Meaghan Thumath</b> Community Health Nurse, Sheway, Vancouver Native Health/VCHA Canada thumath@interchange.ubc.ca	London School of Hygiene and Tropical Medicine United Kingdom
<b>Australia</b>	<b>Lisa Jackson Pulver</b> Head of Unit, Muru Marri Indigenous Health Unit l.pulver@unsw.edu.au	School of Public Health and Community Medicine University of New South Wales Australia
	<b>Elizabeth Harris</b> Director, Centre for Health Equity, Training Research and Evaluation	Centre for Primary Health Care and Equity, University of New South Wales Australia
<b>New Zealand</b>	<b>John Waldon (MPH)</b> Research Officer and Doctoral Scholar j.a.waldon@massey.ac.nz	Te Pumanawa Hauora Te Pūtahi-ā-Toi Massey University New Zealand

## **Reviewers**

We gratefully acknowledge the following people who have either been part of a reference group, read texts, commented or made suggestions on the chapters in this report.

### **China**

Thomas Heberer, Institut für Ostasienwissenschaften (Institute for East Asian Studies), Universität Duisburg-Essen, Duisburg, Germany – thomas.heberer@uni-duisburg-essen.de

### **Latin America**

Vanessa Grotti, Research Fellow, Maternal Health Unit, London School of Hygiene and Tropical Medicine, London, UK – vanessa.grotti@lshtm.ac.uk

### **Africa**

Dorothy Jackson, Forest Peoples Programme, UK – dorothy@forestpeoples.org

### **North America**

- Annette Brown, Associate Professor, New Investigator, Canadian Institutes of Health Research Scholar, Michael Smith Foundation for Health Research, School of Nursing, University of British Columbia – annette.brown@nursing.ubc.ca
- Eduardo Jovel (Pipil-Mayan Nation), Director, Institute for Aboriginal Health, University of British Columbia – ejovel@interchange.ubc.ca
- Margot Parkes, Visiting Scholar, Institute for the Scholarship of Teaching and Learning, Global Health Research Program, University of British Columbia – mwparkes@interchange.ubc.ca
- Patricia Osterberg (Sto:lo Nation), Masters of Science Candidate, Faculty of Land and Food Systems, University of British Columbia – tosterbe@interchange.ubc.ca

### **Australia**

- Ian Anderson, Professor and Director, Centre for Health & Society and Onemda VicHealth Koori Health Unit, Melbourne University; Research Director CRC for Aboriginal Health

- Yin Paradies, Postdoctoral Research Fellow, Menzies School of Health Research, Charles Darwin University
- Jacinta Elstone, Associate Professor and Assistant Dean. Indigenous Health Unit, James Cook University

#### **New Zealand**

- Chris Cunningham, Professor and Director, Research Centre for Māori Health and Development, Te Pumanawa Hauora, Te Pūtahi-ā-Toi, Massey University.
- Amohia Boulton, Post Doctoral Scholar, Research Centre for Maori Health Research and Development - Te Pumanawa Hauora, Te Putahi-a-Toi School of Maori Studies, Massey University
- Heather Gifford, Whakauae Research Services, Whanganui
- Bevan Clayton-Smith, Doctoral Scholar, Research Centre for Maori Health Research and Development - Te Pumanawa Hauora, Te Putahi-a-Toi School of Maori Studies, Massey University

# Chapter 1

## Introduction

*‘What I think is that well being is living better, living well. Because ... “well being” means being well in the family, being well in the home, in good health, not ill, and another thing is eating, or having food in the home – there’s beans, corn, food; it means not suffering hunger, not suffering illness, not suffering in your thinking either, because if you’re bad in your mind, that means not living well. That’s what well-being is about.’* Gaspar Castro Uz, 68 years old, K’iche’ ethnic group, Santa Lucia la Reforma Municipality , Totonicapán Department, Guatemala in [1]

Indigenous peoples are acknowledged to be amongst the most careful guardians of our ecosystem - they have been the custodians of our environment and its medicines for thousands of years. Their knowledge has been built on a holistic communal view of humanity and its links to the ecosystem [2]. Yet there is substantial evidence that these peoples are highly marginalised and disenfranchised within many countries [2, 3]. There are estimated to be between 257 and 350 million indigenous people, in some 5000 communities spread across 70 countries internationally [4, 5]. Despite an acknowledged lack of information on many indigenous groups, the World Health Organisation argues that their crisis situation is “most clearly reflected in the health status of indigenous peoples around the world, with wide disparities between the health status of indigenous peoples and non-indigenous peoples within the same country”[6].

### ***This report***

This report on the social determinants of indigenous health, has been prepared as a working paper for the Symposium on the Social Determinants of Indigenous Health in Adelaide as part of the work of the World Health Organisation’s Commission on Social Determinants of Health. In this report we look at indigenous health and inequalities between indigenous and non-indigenous populations internationally. We then look at the social determinants that underpin these inequalities.

A team of international researchers have put this report together within a very short time period as a first step to collate evidence on social determinants of indigenous health. Although we have covered a wide range of regions, we recognise that there are substantial gaps, notably in South East Asia, Oceania and the Middle East. With the time and resources available it was not possible to cover these areas, though a more thorough and wide ranging analysis would, we believe, provide more useful information, especially if it were conducted in collaboration with indigenous research organisations in all regions.

It is also important to point out the substantial limitations of existing evidence. While some regions have a substantial body of literature covering many aspects of indigenous health, for others there are few even basic data and studies are limited to one or two aspects of health or a specific population group within a region. It is even

harder to find literature on social determinants of indigenous health – epidemiologists have not worked extensively in this area internationally, and still less in the field of indigenous health. Anthropologists have collected extensive data related to the social determinants of indigenous peoples’ wellbeing, but this is rarely linked directly to specific health outcomes.

In the report we present regional and national profiles covering:

- China
- South Asia
- Latin America
- Indonesia and the Philippines
- Circumpolar and Russia
- Africa
- North America
- Australia and New Zealand

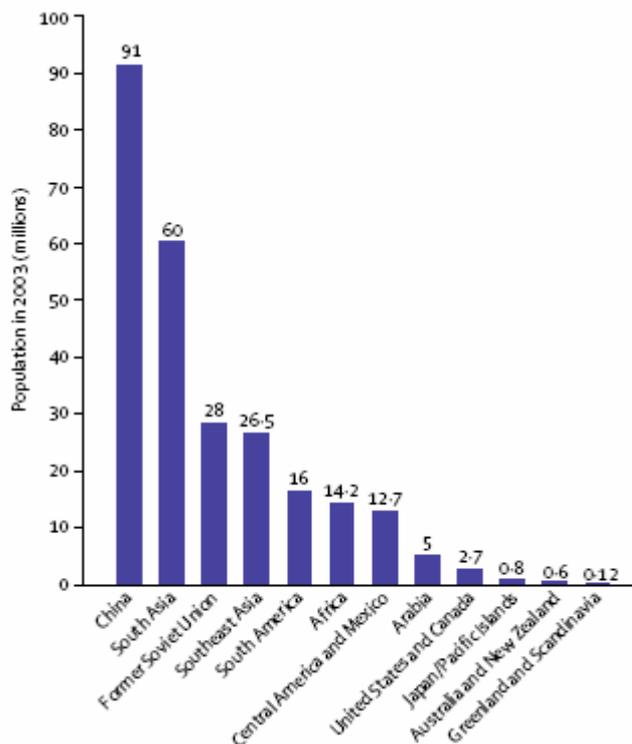


Figure 1 Indigenous population by country and region [7]

We have organised the regional profiles according to the size of the indigenous population in each region. This is shown in Figure 1. It is notable that in countries like China, with the largest population of minority peoples, there are very few data on indigenous health at all, and still less on social determinants. In contrast, there is a huge body of evidence on aboriginal health in Australia, including a recent study on social determinants of aboriginal health.

## ***The socio-political context for this report***

This report is being written during the second International Decade of the World's Indigenous Peoples, initiated after a first Decade that achieved little—even according to the responsible United Nations officers. As the High Commissioner for Human Rights, Coordinator of the first Decade, noted in an assessment:

*“Indigenous peoples in many countries continue to be among the poorest and the most marginalized...the adoption of a declaration on the rights of indigenous peoples, one of the major objectives of the Decade, has not been achieved. The report considers that further efforts are needed by the Member States concerned and the international community to ensure that all indigenous people everywhere enjoy full human rights, and real and measurable improvements in their living conditions.”*[8]

Indigenous peoples' health is intimately linked to the social and political environment in which they live. In some regions, indigenous peoples are unrecognised and uncounted [9]. Where data do exist, indigenous peoples have worse health and social indicators than others in the same society. Importantly, unlike many western models of health, indigenous peoples' notion of health is often not individual, but one that encompasses the health of the whole community and the health of the ecosystem in which they live. This is crucial for understanding the social determinants of indigenous health. It means that the determinants of individual indigenous health are linked to the determinants of community and ecosystem health – an holistic notion that is key to social determinants of indigenous health, and is linked fundamentally to “indigenous” identity. This will be raised again and again in the following profiles.

## ***Defining Indigenous***

The social determinants of indigenous peoples' health cannot be understood without some discussion of the very term “indigenous”. The term is highly contested [2, 4, 7, 10, 11], but most observers agree that the concept incorporates the importance of ancestral occupation of land, separation from colonising peoples, language, culture, self-identification, group recognition and self-determination [3, 12].

Definition of who is indigenous is a difficult task [4]. In some parts of the world, indigenous peoples are easily identified: they are Native Americans, the aboriginal peoples of Australia, or the Maori in New Zealand who occupied the land before the arrival of European settlers. They are called variously indigenous, tribal, aboriginal, or minority peoples. However, the existence of “indigenous” peoples as a category is challenged by some nation states and by some researchers. Nowhere is the concept more disputed than in the African continent. This issue is so contentious that during the Lancet Indigenous Health series of 2006, a commentator immediately wrote to the Lancet and suggested ominously: *“If the category of indigenous peoples is so problematic, it is unwise for The Lancet to devote a series of papers to their supposedly special health problems”* [13].

It is important to note that indigenous peoples themselves, throughout the International Decade of Indigenous Peoples and through the UN Permanent Forum of Indigenous Peoples, have consistently challenged the need for global definitions of this controversial concept. This was most recently expressed in a UN Permanent Forum workshop on data collection and disaggregation for indigenous peoples: “in the case of the concept of ‘indigenous peoples’, the prevailing view today is that no

formal universal definition of the term is necessary. For practical purposes the understanding of the term commonly accepted is the one provided in the Martínez Cobo study” [12].

The working definition developed by Martínez Cobo and his colleagues is shown in Box 1.1. It demonstrates the complexity of defining indigeneity. It is important to note that these aspects of indigeneity are linked intimately to the conceptual framework of social determinants of health. As the regional profiles show, indigenous health is crucially influenced by structural social determinants of health, which underpin indigenous peoples’ control over resources and access to services, and have a major impact on indigenous peoples’ autonomy.

### **Box 1.1: Definitions**

“Indigenous communities, peoples and nations are those which, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing on those territories, or parts of them. They form at present non-dominant sectors of society and are determined to preserve, develop and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal system.

“This historical continuity may consist of the continuation, for an extended period reaching into the present of one or more of the following factors:

Occupation of ancestral lands, or at least of part of them;

Common ancestry with the original occupants of these lands;

Culture in general, or in specific manifestations (such as religion, living under a tribal system, membership of an indigenous community, dress, means of livelihood, lifestyle, etc);

Language (whether used as the only language, as mother-tongue, as the habitual means of communication at home or in the family, or as the main, preferred, habitual, general or normal language);

Residence on certain parts of the country, or in certain regions of the world;

Other relevant factors.

“On an individual basis, an indigenous person is one who belongs to these indigenous populations through self-identification as indigenous (group consciousness) and is recognized and accepted by these populations as one of its members (acceptance by the group).“This preserves for these communities the sovereign right and power to decide who belongs to them, without external interference”[14].

## ***The concept of social determinants in relation to indigenous health***

The final issue that we need to point out in this introduction is the complexity of understanding social determinants of indigenous health. Indigenous people have a concept of health that is ecosocial and often communal, rather than individual. This has several implications for understanding of social determinants of indigenous health. For example, many indigenous peoples have a complex socio-cultural and

spiritual relationship with their lands and the ecosystem – and isolation or destruction of land is not just a question of a change of location or occupation, but a profound socio-spiritual change with consequent health implications. In addition, it is important to understand that the very definition of indigenous is substantially socio-cultural, as Box 1 demonstrates. It includes elements of identity that may also be classed as important determinants of well-being. This also means that being isolated from aspects of this identity may have direct negative impacts on health. In other words self and group identity may be important social determinants of indigenous health.

The following sections will show the complexity of these issues through their attempt to collate evidence on demography and health inequalities, and their discussion of social determinants. It is a first attempt to look at this issue internationally and much more work needs to be done.



## Chapter 2

### China

#### Introduction

In the last 20 years measures of income inequality have increased and health performance has slipped in China [1]. There is little concrete data on how these disparities are affecting the 100 million minority peoples in China, but below we present a patchwork of official figures, scientific studies, anthropological research and eye witness accounts which point clearly at how certain social determinants are having a powerful effect on indigenous health in China.

The People's Republic of China (PRC) recognises 55 official "minzu" or minority groups numbering from many millions to a few thousand people<sup>1</sup>. Imperial China had a long history of control and oppression of neighbouring peoples, which it sought to "civilise", integrate and assimilate into the Empire [2]. The Communist state had a similar intention but with a different vocabulary: it claimed to recognise minority identities and autonomy with a rhetoric of equality, unity and mutual support, but "perceived China to be a nation consisting of nationalities representing different stages of development, with the Han at the top of economical, societal, cultural and political development" [3]. In "raising" the rest of the ethnic minorities to the Han level and achieving "equality", the Han civilising project continued. The Party decided which customs were "healthy" and "unhealthy" and the latter were banned<sup>2</sup> including traditional healers like the *bimo* among the Yi [3]. There has been greater freedom since 1984 [3].

In practice the PRC applies a mix of affirmative [2, 4] and discriminatory policies [5-7]. Interpretations of party policies towards minority groups vary, but coincide in that their main aim is to manipulate and pacify in the interests of control and stability<sup>3</sup>.

There has been growing unrest and resistance in many minority provinces of China in recent years, with conflict most evident in the resource-rich, frontier regions of Xinjiang, Tibet and Inner Mongolia with high proportions of minority peoples [2, 3, 7-9]<sup>4</sup> but also in more central regions like Henan [9] and surveys of minority groups suggest many expect more conflicts to come [2].

There is a strong sense at many levels – from economy and industry to anthropological scholarship – of an internal colonial relationship between coast and interior, Han and *minzu* [10, 11].

#### **Data gaps**

State definitions of minorities in China are different to the definition of indigenous peoples that we are using elsewhere; effectively the 55 minorities or "minzu" are any peoples classified as "not Han"<sup>5</sup>, the ethnic group which makes up the vast majority of the population (91.6% of 2000 census according to government statistics [4]). In 1982 the Han were the majority in every province except Xinjiang and Tibet [12]; colonization from the centre has increased the proportion of Han in both these provinces [7, 13].

The smaller (in number) and more rural minority groups are probably closer to the criteria we are using for indigenous people elsewhere in this report, but it is impossible to recalculate figures according to these criteria and what little data there is, is more often about the larger groups, so in this section we accept the *minzu* categories and data available in the limited published literature.

Very little data on health and social or economic characteristics in China is disaggregated by *minzu*, indeed some authors report that policy forbids the differentiation of Han and ethnic minority economic statistics (Kaup 2000 in [14] especially at county level or below (i.e. below the 31 provinces), where such information has been decreed “top secret” [7]. Even where data are available, given the PRC interest in maintaining an image of harmony, their veracity is often questioned by researchers.

## **Demography**

According to the census of 2000, the 55 ethnic minorities have a combined population of 104.49 million persons or 8.41 % of the total population of China [4]. Compared with the 1990 census, the minority population had increased 16.7 % compared to 11.22 % increase for the majority Han population [15]. This may be due in part to more relaxed application of the one child policy among ethnic peoples [16], but other scholars suggest that the increase in the minority population is related to an increasing assertion of ethnic identity rather than natural population growth [2].

Disaggregated census data is hard to come by, but the 1982 census has been more widely published than others. At that time there were fifteen *minzu* groups with over 1 million people (these 15 groups accounted for just under 90% of the minority population), a further 13 with over 100 000, and only 8 with fewer than 10 000; the smallest group were the Hezhen with 1476 (figures in [17]).

The *minzu* population is predominantly rural and most concentrated in the South West and North West provinces [12, 18]<sup>6</sup>. There are some data available on rural/urban difference and regional disparities and where relevant we use these as proxies for indigenous effects, although we have no detailed information on the accuracy of this proxy.

## **Epidemiology**

There is little descriptive epidemiology available about the health of different indigenous or minority peoples of the PRC. Pei and Rodriguez (2006) cite infant mortality rates as high as 96.2/1000 for some rural areas. The 2005 UNDP report gives rural maternal mortality as 61.9/100 000 (compared to 33.1/100 000 in urban areas [19]).

Some studies report significantly worse child growth measures for minority peoples in rural Yunnan [20, 21]<sup>7</sup>. Their conclusions include that their chronic underdevelopment, genetic effects, mother’s child-rearing behaviour and social support are potential risk factors “rather than a severe or immediate lack of food” [21]. None of the study abstracts indicate whether food intake was measured. The UNDP does report generalised malnourishment in rural areas [19] and a BBC report from a Miao (Hmong) community in Guizhou indicates a very clear food shortage in the village associated to the fact that their fields have been flooded and they can no longer rely on their age-old subsistence skills to sustain themselves [6]. Many of the

studies we were able to find which specifically set out to evaluate the differences in health outcomes for minority groups, and their causes, tend to attribute the disparities they identify to errors of minority ways [20-23]<sup>6</sup> and do not acknowledge social constraints on behaviour. This may relate to a trend highlighted by Heberer to make a distinction between “healthy” and “unhealthy” customs and practices, related to the desire to assimilate and integrate the minorities into “modern China” [3].

Some researchers report significantly higher rates of sexually transmitted diseases among minority women (Dai and Naxi compared to Han) related to condom use, having sexual partners other than the husband, number of abortions, and education [24]<sup>6</sup>. No reference is made in the article abstract to attempts to examine structural determinants that might constrain individual choices that affect STD rates.

There are some reports that alcoholism, drug addiction and unrest are on the rise [3], probably signs of depression, disaffection and social disintegration associated with the rapid changes taking place in minority lands.

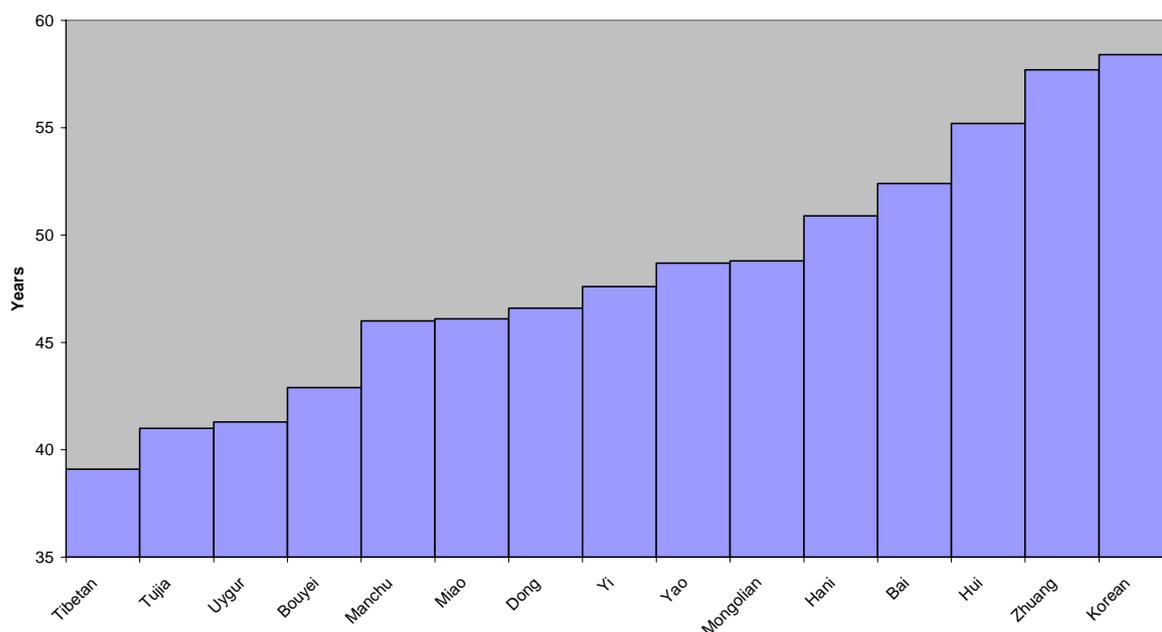
## **Inequalities/inequity**

There are stark discrepancies between the occasional reports on health and well being from minority peoples and the state line on the minority situation [see for example [6, 7]].

Average life expectancy has increased in China over the last 50 years from 35 in 1949 to 71 in 2000 [19]. The improvement is attributed to improvements in maternal and child health, most prior to the economic reforms which began in 1978, as reported in Pei and Rodriguez [1], but how these indices have changed for indigenous peoples is not clear.

The only life expectancy figures we were able to obtain disaggregated by *minzu* populations are from the 1982 census and are presented in Figure 1 (data from [12]). The UNDP [19] provides life expectancy figures disaggregated by province (reported below) but these figures mask internal inequalities. The data in Figure 1 are for the fifteen most populous *minzu* populations in China at the time: all have more than 1 million people. Unfortunately the equivalent calculation for the majority Han population is not available for comparison<sup>8</sup>. It is not unlikely that some of the less populous and more entirely rural minorities, perhaps closer to our understanding of “indigenous” than some of these populous groups, had even worse life expectancy outcomes, but we could find no data on the subject. The data presented show a difference in life expectancy of 19.3 years between the Koreans and Tibetans in 1982. A gradient of worsening well being is apparent between groups, as we have seen for indigenous peoples in other regions, suggesting that different factors influence their health or to different extents. There is little information to account for the differences displayed here.

Figure 1 Life expectancy for fifteen largest minzu groups in China (1982 census data)



More recent figures are not disaggregated by *minzu*, but the government white paper on minorities reports that the life expectancy of 13 ethnic minorities is actually higher than the national average and that for seven minorities average life expectancy is higher than the Han average of 73.34 years [4]. The meaning of these figures is obscured because there is no information on how they have been aggregated, nor on the life expectancy of the remaining 42 minorities.

The most recent UNDP report lays considerable emphasis on disaggregation of data by urban and rural areas. Overall, average life expectancy in rural areas is reported as 69.6 years compared to 75.2 in urban areas [19] a disparity of 5.6 years (the UNDP calculations are based on 2000 census). In Yunnan, Tibet and Guizhou (three South Western provinces with higher proportions of minority populations) rural life expectancy is less than 65 whereas, 8-10 years less than in cities in these provinces [19]. Disparities in life expectancy between rural and urban within provinces are more pronounced in the West than in the East: 10 provinces in the East show rural/urban difference of less than 3.5 years compared to the 10 provinces in the West, with higher proportions of indigenous population, with an average rural/urban disparity of 8.2 years [19]. However since the data available is only for the provincial level and cannot be disaggregated by *minzu* or smaller administrative area, it is impossible to quantify the magnitude of minority/Han disparity in health in each province or across the country.

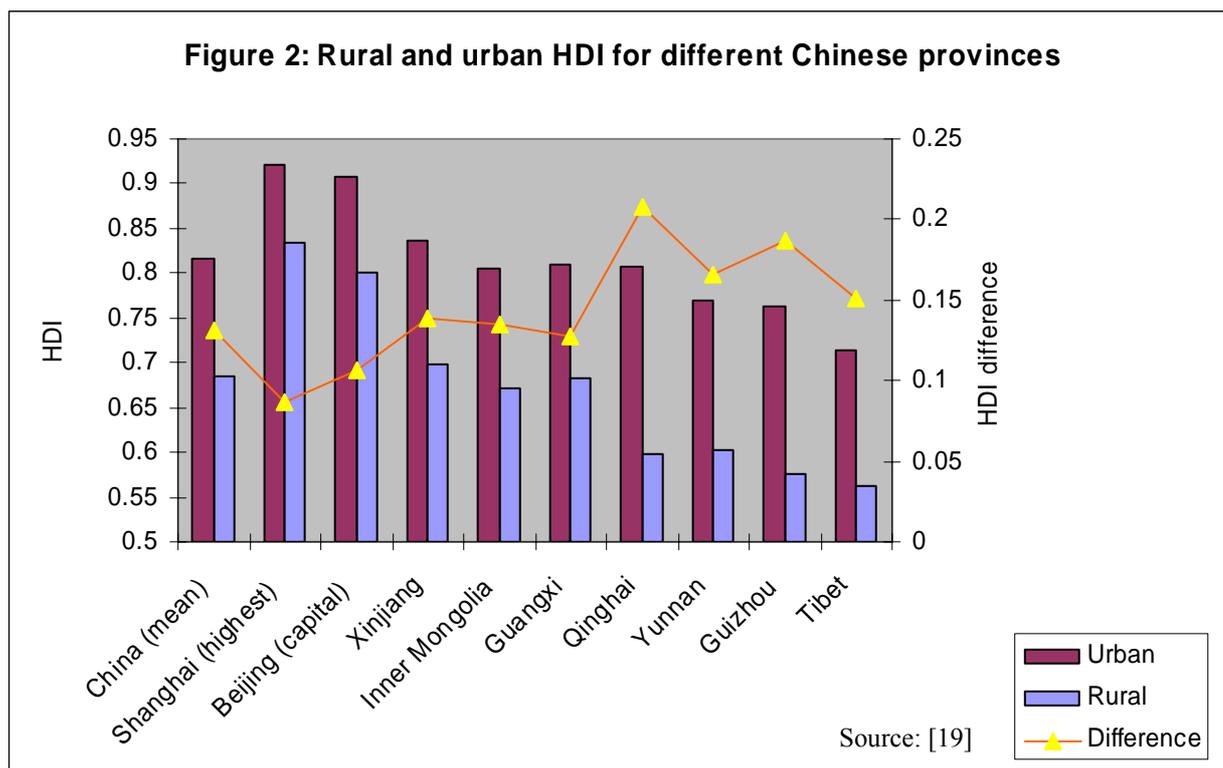


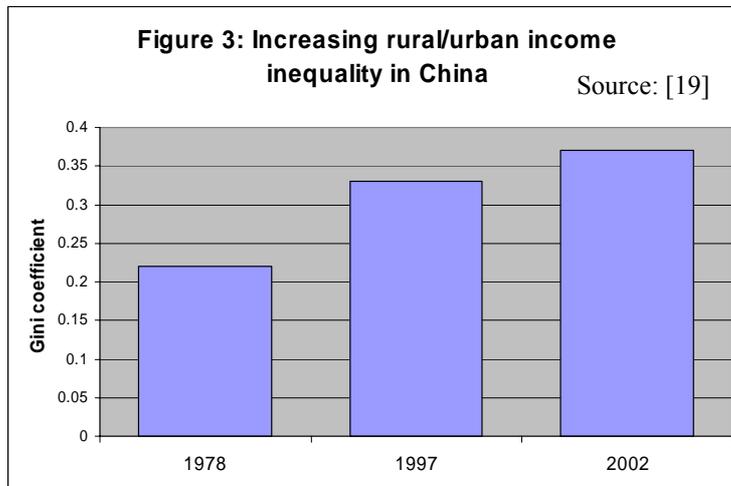
Figure 2 shows the human development index (HDI) for the two wealthiest provinces in China (Shanghai and Beijing) and for 7 provinces with large minority populations (Xinjiang, Inner Mongolia, Guangxi, Qinghai, Yunnan, Guizhou, Tibet). For the provinces with large minority populations in most cases the urban population is predominantly Han and the rural population predominantly indigenous so this comparison may approximate indigenous disparities. While a general decline in urban and rural HDI is evident in Xinjiang, Inner Mongolia and Guangxi, the lowest HDI figures are reported for the rural regions of provinces with high proportions of indigenous peoples (Qinghai, Yunnan, Guizhou, Tibet) which also have the highest figures of urban/rural difference.

Some studies show socioeconomic differentials for illhealth [1] and access to services [25] but it is not clear how these relate to indigeneity in China since we could find no studies that specifically disaggregated these indicators by ethnicity or for smaller administrative units (which could be more specifically analysed). A study of factors affecting health seeking behaviour in Inner Mongolia found that Mongolian and Han farmers showed no significant differences in access to care or health seeking, but that income and education were much more important factors affecting access to care [26]. The situation in the South West may be substantially different but we were unable to find data on the subject.

Pressures in rural areas have led to migration on a massive scale, transforming the de facto age and gender profiles of both rural and urban areas. Rural workers in urban industrial areas tend to receive lower wages, do lower status jobs and suffer discrimination in terms of access to health care and adequate housing [19].

Income inequalities have increased in China since the beginning of economic reform in 1978. The country gini coefficient has risen from 0.3 in early 1980s to 0.45 in 2002 [19], this is one of the fastest growing income inequalities in the world [1], still lower than in some Latin American countries, but the rural/urban gini coefficient is “perhaps

the highest in the world” [19]. This rural/urban measure of disparity in income has increased by two thirds since economic reforms began (Fig. 3 [19]).



Such marked rural urban differences, suggests that differences in health indicators like life expectancy for indigenous peoples will be greater, although the aggregated means for urban and rural now suggest only 5.6 years difference. Just as life expectancy difference is higher at the provincial level for the South Western provinces of Yunnan, Guizhou and Tibet, more locally specific and disaggregated studies might show increasingly marked disparities in health outcome for minority peoples.

There are far fewer doctors and medical facilities per capita in South western and western states than in Eastern China [19].

## **Social determinants**

### ***Social and political context***

Ethnic minorities have rarely wielded political power in modern China, even at a regional level. Although the CCP insists on the “regional autonomy” of the minorities, 44 out of 55 of which “have their own ethnic autonomous areas” [4] the rhetoric overlooks the fact that “the head of virtually every Party organ, from county level to the XUAR, is a Han. It is common knowledge that the Party head at every level outranks the corresponding government official” [7]. This is also the case in Yunnan where ethnic minorities occupy a number of local government positions but the real authority lies with the representatives of the Chinese Communist Party [18]. Few minority leaders have reached high ranks in the Party in the last 60 years, and those in positions of power are often perceived as “traitorous yes-men” by their people or moved into formally superior but effectively powerless positions if they try to press demands for their people [7]. In practice there is little English-language research or data available on China to discern specific health effects on indigenous or minority peoples, however in the following paragraphs we aim to highlight some social determinants which are likely to be affecting indigenous peoples and merit further in-depth research.

### **Policy**

Some authors report minority dissatisfaction with communist party policies from the 1950s to the 1970s [3] and the dramatic effects of the Cultural Revolution are reported

by several to have been more severe for minority groups [11, 27]. The economic reform which began in 1978 has also had a major impact on life for the Chinese population and minorities. Although a majority of the population is thought to have undergone an improvement in living standards, there is grave concern about increasing income and health inequalities [19, 28].

Changes in health policy in particular appear to be a major determinant of treatment seeking [25, 26], with consequent impact on peoples' health. We discuss this below as an intermediate determinant of health under access to services. Unfortunately there is little information published that focuses specifically on impacts on indigenous peoples in China.

Heberer suggests that there is increasing minority nationalism in response to the stresses of massive social change [2, 3] which he links to a revival of traditional medicine among the Yi. This revival is partly due of the prohibitive cost of conventional medicine, but also appears to be a reaffirmation of Yi identity and is seen as a way of responding to and interpreting their rapidly changing world [3].

Market reform policy has also promoted major industrial and infrastructure projects which have had significant impacts on minority territories, in many cases undermining community subsistence capacities and provoking massive migration. We discuss the importance of land and environmental degradation as a structural social determinants of health and migration and employment conditions as intermediate social determinants.

## ***Structural social determinants***

### **Land**

“After our fields were flooded, we didn't have any land anymore, so we can't make a living”

Yang Chuanxin, a  
Miao man in Guizhou  
[6]

The construction of a hydroelectric dam in the Guizhou hills, led to the flooding of an extensive agricultural plain and left many Miao (Hmong) villagers without their farmlands. They were given no compensation and no alternative livelihoods. This has had major consequences for individual well being: without land to farm, communities can no longer maintain even basic subsistence, let alone establish other economic relations. Many people – especially the men – have been forced to migrate which has disrupted the traditional balance of village life, leaving the burden of family responsibilities to be borne by women alone. Many families now live in poverty, suffering food shortages, malnutrition and unable to afford basic medicines when they become sick (this is example is taken from a BBC News Online article [6]).

The construction of dams, extractive and productive industry and intensive agriculture have had a major impact on the Chinese lands. Increasing rural income disparities, as calculated by UNDP 1988-2002, are due in part to the decreasing value of land, due on the one hand to the take over of large areas of farmland for industrialization and urbanization, dramatically reducing per capita land possession in rural areas, and on the other to a fall in the price of farm products, so that by the late 1990s farmers could make almost no profit [19].

There are now more than 25 800 dams in China, the construction of which has caused the forced relocation of 10 million people [29] and the death of millions more in thousands of dam collapses [30]. Although reports specifically about minority peoples are rare, a few recent campaigns do indicate that their mountain lands are among those most often affected by dams, for example the damming of three major rivers in the south west province of Yunnan will affect predominantly minority lands and lead to the relocation of 50 000 minority people along the Nu, Lancang (Mekong) and Yangtze [31]. The record for resettlement in China is ominous [32].

Ecological degradation, deforestation, overgrazing and industrial pollution from industrial colonization, agricultural run off, human waste and shipping have lead to climate change and affected the water table across China [3, 33]. Again, accounts that give impacts of minority peoples are rare but Heberer reports that in the three autonomous prefectures in Sichuan by the early 1990s forested areas had reduced to almost a third of their 1950s coverage, 5% of native flora and fauna are considered extinct and 10-20% endangered [3]. In other areas Mongolian herders have also been affected (see Box 2.1).

#### **Box 2.1: forced “ecological migration” in Inner Mongolia**

Mongolian pastoralists have been forced off their lands in their thousands, the “overgrazing” of their herds blamed for ecological degradation and climate change in the region. In their place, the government encourages the colonization of the lands by Han Chinese peasants bringing industry and intensive agriculture. How this will reduce and not deepen the ecological problems is hard to understand.

Forced removal, resettlement and compensation strategies have been shown to be totally inappropriate and amount to violations of human rights.

Source for this box: [8]

It seems likely that there are many more examples of land tenure changes that are not easily accessed in English or in the public domain but that certainly affect minority health and in many cases constitute serious violations of human rights and the right to health.

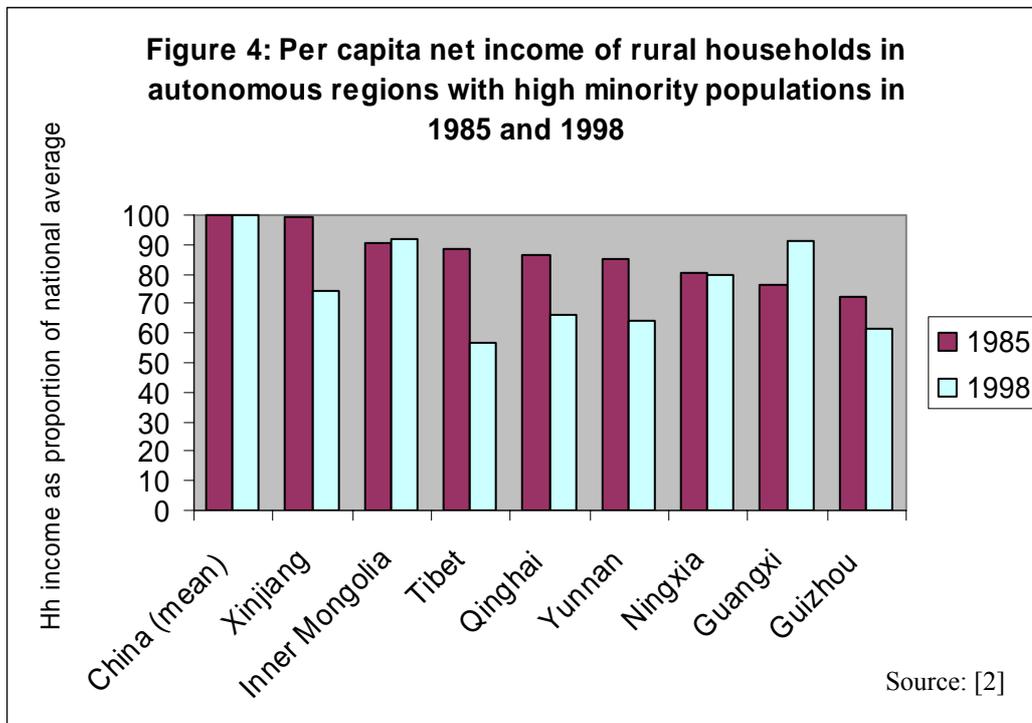
## **Income**

Although the Constitution states “The state will do its utmost to promote the common prosperity of all ethnic groups” and in spite of alleged preferential provision (for economic development, infrastructure, education, environmental protection and social services, among others) for ethnic minorities [4], government expenditure is lower in poorer, more rural provinces with larger minority populations [34]. Minority autonomous areas (60% of Chinese territory) received only 11.7% and 8.9% of investments in 1993 and 1994 [2].

According to the government white paper on ethnic minorities, between 1994 and 2003 the GDP of ethnic autonomous regions grew by an average 9.87% annually, nearly one percentage point more than the national average [4]. Aggregated average calculations mask much of the explanatory variation. Minority regions are rich in natural resources including oil, coal, metals. The distribution of profits from the exploitation of these resources, however, is uneven: since economic statistics for county level and below are not available it is generally difficult to compare minority and Han prosperity but major extraction projects are generally managed by Han

Chinese. Labourers are often recruited from outside the region since the local population is seen as untrained and little effort is made to train them, resulting in high unemployment among minority peoples [3].

The 1995 Xinjian Yearbook reported the average household income of 150 *minzu* families in six major cities in Xinjiang as 2157 yuan; the same year the average household income for all urban residents was 3154 yuan [7], nearly 50% more. In rural areas – where most Uighurs live – income was 1600 yuan in 1998 [2]. Although many Uighurs accept that economic prosperity has reached remote provinces like Xinjiang, the benefits have gone predominantly to Han-dominated urban areas, oil fields and state farms [7] and many Uighur feel that the government intentionally keeps them poor, for example applying agricultural regulations that bankrupt them [7]. As we have seen, HDI figures for Xinjiang are nonetheless high when compared to the provinces in the Southwest (Figure 2), suggesting that the disparities are even greater in these poorer provinces. Figure 4 shows that rural incomes in minority regions were already below the national average in 1985 and how they declined (in relative terms) in most of these regions over the next 14 years (data from [2]).



There is no research specifically on the effect of income on indigenous health in China, but Pei and Rodriguez [1] have shown that income inequality is an important social determinant of health in China as it has been shown to be in other countries. They analysed income inequality and self-reported health for nine Chinese provinces. They found a significant association between provincial-level income inequality (gini coefficient) and poor health (OR 1.03,  $p < 0.01$ ) and that the effect of income inequality on health increased from 1991 to 1997 [1]. Zhang, Tang et al [25] also show income differentials associated to tuberculosis prevalence in rural areas. Their data is for rural populations across China. The authors do not make reference to minority peoples, but in view of the apparently greater urban rural disparities and lower incomes in provinces with higher proportions of minority groups, we might expect these populations to have even more marked disparities in health outcome than those reported by Zhang, Tang et al [25]. For example, Heberer reports that the

Liangshan Yi Autonomous Prefecture (Sichuan) has even lower per capita incomes than aggregated provincial means in the south west [3].

Pei and Rodriguez [1] also found that individual incomes are strongly and consistently associated with health status, which may be related, at least in part, to access to treatment, since research by Zhang, Liu et al [26] show income to be a major determinant of health seeking behaviour.

It is noteworthy that income, as well as rural/urban location, education, occupation and possession of goods (included in the studies reported by Pei and Rodriguez [1] and Zhang, Tang et al. [25] as factors in multilevel logistical regression) are proxies of social status so these models may over control for income inequalities [1] and mask the effects of other significant social determinants which influence all of these factors, for example discrimination on the basis of ethnicity, which is understood to be widespread and arguably most ingrained in rural areas [10]. Such widespread studies may also gloss locally specific factors which influence the distribution and health and wealth.

We have reported possible income-mediated effects on health, but it is also important to consider the reverse effects of illness causing low income. Sickness makes families less productive: Zhang, Liu et al found that in Inner Mongolia “TB represents a financial disaster for farmer’s families, resulting in reduced income from lost productivity and increased expenditure for medical care” [26]. Thus the sickness of one family member may jeopardise the capacity of the family to maintain the wellbeing of other members, even before consideration of the potential for disease transmission within a family (for example in the case of TB). The China Human Development Report points to the role of changes in health policy in this regard: “Due to a lack of insurance and social security, natural disasters and diseases have become important causes of poverty” [19], but the effect of sickness in weakening a family’s economic possibilities may work through a number of other pathways as well, such as loss of marital possibilities through disease-related stigma (see [26]).

## Education

There are rural-urban disparities in education in China, with rural illiteracy rates as high as 11.6% in villages compared to 4.6% in towns [19]; figures in minority counties are even higher with reports of 60% of rural Yi illiterate or semi-literate and only 40% of Yi children attending school in Liangshan, in some villages attendance is as low as 10% [3].

The government white paper on ethnic minorities in 2005 claimed that the “education level [is] markedly raised” and that the years of schooling for 14 of the large ethnic minorities was higher than the national average [4]. However, eye witness accounts, especially in rural areas, suggest a different reality: “I see really miserable school systems in minority regions—under-funded, under-staffed—and the school fees are extremely burdensome for minority families. That shuts down many opportunities. Young ethnic people not only lack history and culture in their own languages, but they also don’t learn to speak Chinese fluently enough to get good jobs and access to higher education. This especially impacts girls in a disastrous way that has yet to be documented” [10]. This is a key observation, which highlights the link between education and employment, both potential determinants of present and future health. The UNDP reports similar disparities in education between “urban and rural areas, among regions, and between genders. As indicated by 2000 national census data, 2.5

percent of the urban population aged 15 to 64 never received any education, while the figure for rural areas was 8.7 percent. Fourteen percent of urban populations had received primary education while in rural areas, the figure was 39 percent” [19].

Zero order correlation coefficients calculated for the 15 most populous ethnic minorities in China with data from the 1982 census suggest a relationship between education and life expectancy [12]. Smaller groups are likely to have been even more marginalised. As rural urban disparities in education increase, and the need for education to get good jobs increases [19], we can only suppose that the association would be even stronger for many indigenous groups today. The government Whitepaper on minorities emphasises that the authorities have developed Windows-compatible fonts and software for Mongolian, Tibetan, Uighur and Korean, produced books in ethnic languages and promoted television and radio stations in minority languages [4]. However, in many regions poor education means many minorities speak very little Chinese, putting them at a disadvantage in all their relations with authority [10].

One study has also associated education, gender, ethnicity and income to accurate awareness about TB transmission which suggests that these may influence an individual’s ability to take action to protect themselves from ill health [26].

## Gender

Gender is also likely to be a major determinant of indigenous health in China. The China Human Development Report identifies gender disparities in service coverage, employment, salaries and education [19]. Minority women may be additionally burdened by the contrasting pressures of traditional gender relations (which were sometimes oppressive), combined with the contradictory Communist Party messages and “trying to negotiate how to be like a modern Chinese woman and still demonstrate solidarity with their ethnic group through another set of behavioral standards that sometimes involves deferring to men” [10]. Among anthropological inquiries in rural China “there is general agreement that there is a recovery in the villages of patriarchal domination” [11]. Although as men move to urban areas in search of work some women have gained *de facto* power all the same, accepted roles are undergoing constant renegotiation. This is very likely to have an impact on health and well being but we found no data to report.

## ***Intermediate social determinants***

### Migration and employment conditions

Poor returns from farming, land loss, increasing industrialisation with market reform and the relaxation of controls on people’s movement have all contributed to large scale migration in China with major consequences for the health and wellbeing of migrants and family-members left behind, many from minority regions. Wage differences between urban and rural areas have increased in the last 10 years, probably contributing to desire to migrate [19]. Reports vary but the size of the “floating population” of migrants was estimated at 131 million according to 2000 census data [19].

In rural regions communities have been left unbalanced by the exodus, particularly of men, usually on a long term basis. In her report for the BBC from a remote Miao (Hmong) village in Guizhou, Lim [6] writes that labour migration has left women,

children and the elderly to carry the burden of responsibility in villages, often with minimal resources and consequent health burden. Beyond subsistence activities, traditional dress is now too expensive and traditional celebrations have lost their attraction without the participation of men [6], suggesting that social cohesion and sense of community may be affected. This cannot but have consequences for mental health and psychosocial wellbeing. In addition, some of the poorest rural minority regions have few modern facilities: in Liangshan Yi Autonomous Prefecture in 1997 half the population had no access to electricity and 95% of villages did not have access to transport links [3].

Urban areas: Unprotected by Hukou (labour laws), rural migrants to urban industrial areas have poor working conditions, fewer benefits and lower wages [19]. They are often considered responsible for crimes, although they are more often its victims, requiring permission from local gangs to continue to live there (in [11]). They work in hazardous, dangerous environments, are subject to dismissal and late payment of salaries, and put in long hours with as many as 58% working seven days a week; only 2% have unemployment insurance [19]. Due to a large extent to low educational attainment among rural migrants only 8% get white-collar jobs and 5% work in high pay industries (compared to 32% and 23% respectively for urban dwellers) [19]. They are often paid less (80%) than urban people doing the same job but without any of the subsidies, pensions, healthcare, paid holidays, unemployment benefit that urban workers receive. Some migrants do not speak the language of the area they work in and do not seek to learn, hoping to return home to marry and settle [11]. The specific health consequences that the situation these statistics describe may contribute to are not reported but it is safe to assume they occur. Nor is there data on whether minority groups, with poorer education and Chinese-language skills, might be at a greater disadvantage than Han rural-urban migrants.

## Service delivery

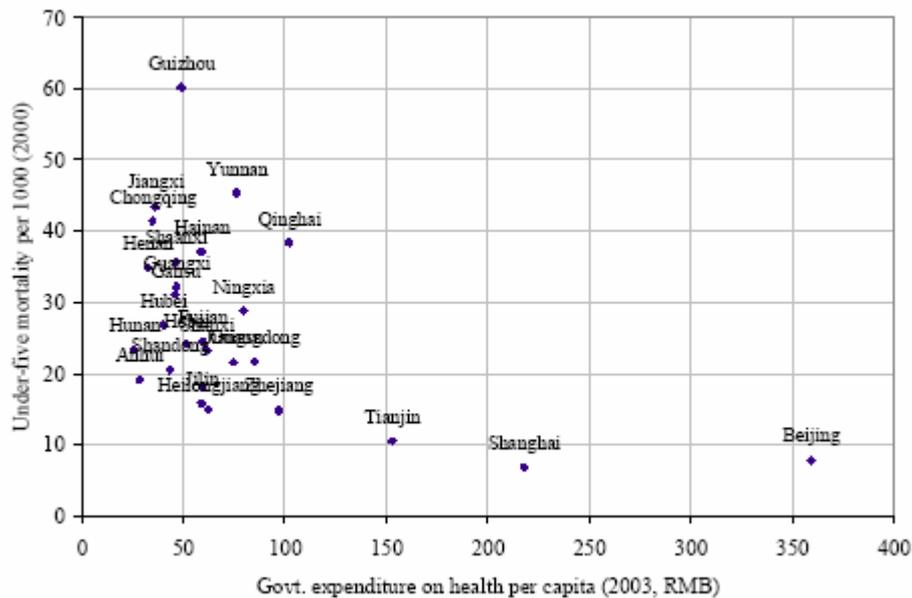
Health policy can be seen as a socio-political, contextual social determinant of health but the manner in which it is expressed is in terms of availability of care, hence inclusion here as an intermediate determinant of health.

The Yi have a very different sense of the production and causation of illness and the form of healing to the biomedical approaches promoted by dominant Han Chinese, but the biomedical approach with the well known “barefoot doctors” achieved substantial improvements in health in the 1970s and 1980s [35]. However, changes in health policy since the early 1980s have contributed to a re-emergence of epidemic diseases as cut backs reduced the number of doctors and clinics in Yi autonomous areas [3]. This has contributed, along with a withdrawal of prohibition of animistic healing, to a resurgence in indigenous healing practices among the Yi [3].

With existing health policy, only 15% of the population can afford medical insurance [19]. In some rural areas like Inner Mongolia only 2% are covered by insurance [26].

Rapid economic growth has not been mirrored by increased public expenditure on health: on the contrary, the health system has been increasingly commercialised and decentralised since the early 1980s. Overall government investment in health has fallen from 32% in 1978 to 15% in 2002 [1]; although this has meant an increase in expenditure in real terms there is some recognition that it has not been spent wisely [34]. Health spending has been found to disproportionately benefit the better off, since it is focused on urban health insurance and subsidies to city hospitals; there are

substantial disparities in expenditure on health per capita in richer and poorer provinces, and there is little effort from central government (which contributes only 3% of national health spending) to compensate for provinces that have few resources available for health [34].



**Fig. 5: Government health expenditure and under-5 mortality for Chinese provinces**

Graph taken from: [34] Sources: NBS (Statistical Yearbook) and

Policies intended to make care accessible to all have led to supplier driven demand for high-tech (more profitable) care, which is out of reach for most. Public health institutions have been encouraged to generate business incomes, charging for core public health activities, which has led to a decline in coverage rates for key interventions, and public-good programmes, including surveillance, especially in poor areas [34].

Some studies have shown how this has put health care well beyond the possibilities of low income families in rural areas [3, 25] and also increased inequities in access to care in urban areas, affecting low income families (including many rural – and perhaps minority – migrants) the most [28]. A study in Inner Mongolia found that 98% of 614 rural respondents were not covered by any kind of health insurance but were too poor to pay the out of pocket costs; these families would have to borrow if tuberculosis treatment were necessary or simply resign themselves to “wait[ing] for death” since they could not get a loan [26]. For those who did incur debts, paying these back might take years and have knock-on effects on family capacity to live well in other ways.

## Conclusion

There is plenty of evidence to suggest that social determinants are significant factors of health and wellbeing for indigenous peoples in China. However specific data is sparse, certainly in English, and probably in Chinese. Government efforts to portray an image of Chinese unity will probably present significant difficulties for more research, although there are signs that some efforts are being made to make official policy more equitable in rural areas. This is unlikely to address some of the contextual and structural social determinants of health, but may improve health and educational services in rural areas.

Although there is little disaggregated data on minority groups, as reported above, there are several reports that suggest that discrimination and racial tension may be significant determinants of indigenous health. Racial and ethnic stereotyping are said to be common place in China, especially among villagers, and civil unrest (for example in protest over resources and land) goes largely unreported in the news media [10]. In spite of State efforts to hide disparities and demonstrate harmony between the different ethnic groups, news of uprisings and signs of discontent in various regions with predominant indigenous populations are not uncommon [2, 7, 17]. Allegations of repression, censorship, torture are increasingly common [36, 37]. Active repression has an obvious impact on health, but living in fear of censorship and the threat of repression probably does too, while ethnic discrimination may act as a determinant of health at every level of decision making for meeting of subsistence needs.

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<sup>1</sup> The 55 groups are (in order of population size in 1982): Zhuang, Hui, Uyghur, Yi, Miao, Manchu, Tibetan, Mongol, Tujia, Bouyei, Korean, Dong, Yao, Bai, Hani, Kazak, Dai, Li, Lisu, She, Lahu, Va, Sui, Dongxiang, Naxi, Tu, Kirgiz, Qiang, Daur, Jingpo, Mulam, Xibe, Salar, Blang, Gelao, Maonan, Tajik, Primi, Nu, Achang, Ewenki, Uzbek, Benglong, Gin, Jino, Yugur, Bonan, Monba, Derung, Oroqen, Tatar, Lhoba, Gaoshan, Hezhen. There is an addition “unknown” category which in 1982 numbered nearly 1 million (in [17]).

<sup>2</sup> Customs banned included rites and festivals which lead to romance because they were perceived to “violate the morality of Han functionaries”, and predeath and funeral ceremonies, which involved communal feasts that lasted several days because they were seen as “wasteful” and “superstitious” without any consideration that the “Yi may have a different rationality related to traditional obligations” (see [3] for more details).

<sup>3</sup> A classic policy maxim on *minzu* relations was “the systematic construction of the socialist market economy will stimulate the natural fusion of the various *minzu*” [7].

<sup>4</sup> For example in Xinjiang, with over 8 million Uighur, there have been riots and revolts, followed by severe government repression and summary executions [38-40]; dissidents are portrayed as deranged and drug-addled in an attempt to marginalize them and promote an image of harmony but Bowingdon found that in fact many prove to be articulate and committed and that their actions and aspirations resonate widely in Uighur society [7]. Since 2001, Uighur resistance has been linked to international Islamic fundamentalism and there are fears that the Chinese government will take advantage of the international environment to repress legitimate dissent [5, 36, 39, 41, 42].

<sup>5</sup> The official designation of these 55 “minorities” does not include “subethnicities” such as Hakka or Subei which would increase the proportion of *minzu* in the national population [14]. In the 1950s, when the new Communist government decided to register all ethnic minorities, 400 ethnic groups responded to the call, but government ethnologists grouped them into the 55 groups recognised today [43]. There is no estimate of whether some groups may change their self identification to census collectors, although some authors indicate that people give their “real nationality” more often since 1982 [17] perhaps due to stronger feelings of ethnic identity or material advantages [2]. Other authors highlight that several peoples who perceive themselves as separate have been grouped together [35] and the creation of ethnic identity among some of the largest groups such as the Zhuang and the Hui, or that several others might all be considered the same group, along with differently named peoples in neighbouring countries (Kaup 2000 and Gladney 1991, both in [14]; see also [3]). Identity is always shifting, but the panorama and the population in China are enormous and enormously complex. See Harrell [11] for a brief review of how some ethnic minorities are building identities through scholarship and tourism.

<sup>6</sup> The exceptions are the Koreans, Manchu and Mongolians who live in the North-east and the Hui who are widely dispersed throughout the country: these four groups were also the most urban of the fifteen minorities included in Poston and Shu’s demographic analysis of the 1982 census [12].

<sup>7</sup> Only the abstract of these papers was available since the journals are not available in London.

<sup>8</sup> Park and Han [16] write that for many indicators of wealth, education and wellbeing Koreans fare better than Han, so they may be a good benchmark here for “best” comparison.

## Chapter 3

### South Asia

#### Introduction

South Asia accounts for about 36% of the global estimate of 350 million [1] indigenous populations. Yet, very little research exists that presents a comprehensive picture of patterns of well-being, including health status. We conducted a systematic search for literature on the indigenous peoples of the following countries of the South Asian region: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. Since the very notion of “indigenous” in South Asia is yet to gain full acceptance [2], we present information about peoples identified as indigenous according to United Nations guidelines [3].

#### Demography

Table 1 provides the approximate numbers and location of indigenous population(s) based on various text-based secondary sources.

**Table 1 Numbers and location of indigenous population(s) in South Asia**

Country	Predominant indigenous peoples	Number (millions)	Proportion of total population	Location
Bangladesh	Chakma, Marma, Tripura and others <sup>[4]</sup>	1 to 2.5	1-2% <sup>[5]</sup>	Chittagong Hill Tracts
Bhutan	Brokpa and others <sup>[6]</sup>	0.121	15% <sup>[7]</sup>	North East Frontier Agency (NEFA)
India <sup>[8]</sup>	Santal, Oraon, and others (more than 400 tribes)	84	8.2%	North-East region, Orissa, Madhya Pradesh, Jharkhand, Chhattisgrah, Rajasthan, West Bengal, Gujarat
Nepal	Magar, Tharu, Tamang, Newar and others <sup>[9]</sup>	~7 <sup>[10]</sup>	30%	Across the country
Pakistan	Pashtun, Sindhi, Baluchi, Kalash and others <sup>[11]</sup>	~34.4 <sup>[12]</sup>	26%	North Western Frontier Province, Federally Administrated Tribal Area, Sindh, Balochistan
Sri Lanka	Vedda <sup>[13]</sup>	~0.017 <sup>[14]</sup>	1%	Across the country

#### Epidemiology

Other than a few studies from India, there have been no comprehensive descriptions of the health of indigenous peoples at the national level in South Asia. We have used localized reports in order to depict the health situation of indigenous peoples, both in absolute terms and in relation to non-indigenous population groups.

## India

We used the following keywords to search for documents on PubMed, ISI Web of Science and Google: indigenous, tribe, tribal, people, adivasi, India & health.

The indigenous people present, in general, a picture of poor health in India. Based on the few studies that have examined indigenous health we see that mortality, infectious disease, nutritional status, and unhealthy behaviours, are worse for the indigenous groups compared to non-indigenous groups [15-26].

Agriculture and gathering food are the main occupation of tribals (the term used to refer to indigenous groups in India). Barriers such as infertile soil, lack of irrigation and primitive methods of agriculture make sustenance difficult for up to six months a year in, for example, Madhya Pradesh and Chhattisgarh. For the rest of the year the tribals depend exclusively on forest produce or on forest labour.

Malaria is one issue identified as a public health problem among tribals at the national level [15]. The national Anti Malaria Programme has classified malaria in India into various epidemiological types and “Tribal Malaria” is one such type. Typically tribal malaria is seen in hilly, forested areas that are home to tribals but are not easily accessible by health workers. It is difficult to treat these individuals who are constantly on the move and therefore malaria parasite load remains high in these communities. Villagers frequently spent the night in the open, providing a source of infection to the mosquitoes. Mosquito repellents, coils and bed nets are not used by the communities as they do not have the knowledge about these devices nor can they afford them. However, in the evening, most people burn dry leaves to drive mosquitoes out of their houses. People have faith in traditional healers since they hail from the same community, live among them and are always available. Only when the traditional method fails do they go to untrained and unlicensed practitioners. Another point of concern is the strong misconception that malaria convulsions are due to evil spirits which has considerable impact on the use of antimalarial drugs. A study in a tribal area of Maharashtra showed that malaria was a big health problem and the efforts of local malaria control operations were thwarted by the population not adhering to treatment, by them smearing houses after indoor spraying and not allowing spraying in all rooms [16]. Social and cultural factors associated with tribal life that lead to maintenance of a high degree of malaria have been well documented from intense malarious regions of Assam, Orissa and Madhya Pradesh. Inaccessibility due to difficult terrain and non-compliance to treatment by inhabitants are the prime reasons cited for outbreaks of malaria in tribal areas. Falciparum malaria was reported recently among the Jarawas in the Andaman [17].

Among other infectious diseases, four tribes in the Andaman & Nicobar islands were found to have hyper endemic hepatitis B infection [18]. The prevalence of tuberculosis (TB) infection and smear-positive cases on the island of Car Nicobar (98% of the residents belong to the Nicobarese tribe) increased significantly between 1986 and 2002 and presents a high risk of transmission of TB infection on this island [19].

In a nationally representative survey of adults in India, indigenous groups experienced excess mortality compared to non-indigenous groups, even after adjusting for economic standard of living (odds ratio 1.22; 95% confidence interval 1.13–1.30). They were also more likely to smoke and (especially) drink alcohol. However the

prevalence of chewing tobacco was not substantially different between indigenous and non-indigenous groups [20].

About 30% of the indigenous people in the Garhwal Himalayas were found to be undernourished—higher than the average of 20% [21]. The height and weight of Kamar children in Chhattisgarh were significantly lower than the all India averages at every age [22].

It should also be noted that indigenous populations are not uniformly at risk of poor health. Babies born to the Tangsa tribe in Arunachal Pradesh were found to have healthier birth weights compared to non-tribal babies in Calcutta and Pune areas of India [23]. A study of Oraon tribe in West Bengal also presented a mixed picture: the Oraons paid attention to hygiene while preparing food and also knew of herbal remedies to ailments. However, the diet of all Oraon groups was deficient in all food groups. While children were enrolled in a midday meal program their energy intake was severely deficient. Despite a diet deficient in calories, the mean body mass index (BMI) of adult Oraons was not low, but children were severely undernourished. Men were less undernourished than were women. The Oraons' had very poor knowledge of contraception, vaccinations, adequate diet and supplements needed for a successful pregnancy [24]. Similar results are reported in a study of adults of Kora Mudi tribe in West Bengal. The extent of undernutrition was found to be very high (52.2%) with the frequency of undernutrition being higher in women than men, although this difference was not statistically significant [25]. In a nationally representative study of adult women in India, tribal women were seen to have 15% greater risk of being undernourished compared to non-tribal high caste women [26]. This increased risk was no longer statistically significant after accounting for age, education, standard of living, occupation and rural residence, highlighting the importance of these social factors in reducing the gap between indigenous and non-indigenous peoples.

A study of two tribal groups—the Toto and Bhutia—in sub-Himalayan India revealed that the prevalence of metabolic syndrome was high (about 30-50%) among the Bhutia, with no significant rural-urban difference. Among the Toto, though the prevalence of metabolic syndrome was low (about 4-9%), although their lipid levels were alarmingly adverse (about 37-67% had low HDL cholesterol or high triglyceride levels). There was an additional adverse impact of adoption of urban life-styles (perhaps primarily mediated through dietary changes) on cardiovascular risk factors [27].

## Pakistan

We used the following keywords to search for documents on PubMed, ISI Web of Science and Google: indigenous, tribe, tribal, people, ethnic, Pashtun, Pukhtun, Pathan, Sindhi, Kalash, Baluch, Baluchi, Pakistan & health.

The predominantly tribal areas (and the least developed provinces) of Balochistan, North West Frontier Province (NWFP) and Federally Administered Tribal Areas (FATA) have high levels of infant mortality rate—70 to 129 per 100 live births. An unfortunate fact, which underscores the disadvantaged position of the indigenous people, is that a majority of infant deaths were due to highly preventable causes such as diarrhoea, respiratory infection and tetanus. Additionally, a majority of the infant deaths were neonatal deaths most commonly due to tetanus, low birth weight and birth injury [28].

Compared to the dominant Punjabi ethnic group, indigenous Pashtuns had 32% greater chance of coexistence of two or more risk factors for cardiovascular disease, Sindhis had 23% greater chance while Baluchis had 47% lower chance of the same outcome [29]. However, another study found that the prevalence of hypertension was highest among Baluchis followed by Pashtuns while Punjabis and Sindhis had lower prevalences [30]. Also, the Pashtun living in the NWFP report more depressive symptoms than other communities in Pakistan [31].

The prevalence of bilateral cataract blindness among people aged  $\geq 50$  years was 4.8%, in the Orakzai tribal area [32]. This is one of the highest reported in recent studies conducted in Pakistan. This was not unexpected, considering the lack of static cataract surgical services and decades of underdevelopment, poverty, and deprivation in the area. The areas are mountainous and sparsely populated. Farming, which is a way of living for the majority of people in the area, is rain fed, which means they are usually too poor to pay for cataract surgery. 73.3% of subjects with bilateral cataract blindness reported they could not undergo cataract surgery because they could not afford its cost.

## Sri Lanka

We used the following keywords to search for documents on PubMed, ISI Web of Science and Google: indigenous, tribe, tribal, people, Vedda, Veddah, Sri Lanka, Ceylon & health. Among the articles that was identified using these criteria, only one article discussed health of the Vedda.

In this study of 6 to 15 year olds in rural Sri Lanka undernutrition (wasting) and anemia were found to be significantly high among Vedda children as compared to Sinhalese [33].

## Nepal

We used the following keywords to search for documents on PubMed, ISI Web of Science and Google: indigenous, tribe, tribal, people, adhibasi, jana jati, names of indigenous groups in Nepal & health. It was disheartening to see that only one article was identified as helpful [34].

However, this article highlighted the fact that indigeneity is not uniformly associated with poorer health outcomes in Nepal. While the Newars are indigenous, they are a dominant group. This study of pregnant women in Nepal showed that the Lama/Sherpa/Tamang tribals, and the Gurung/Rai/Magar/Limbu tribals, had increased odds ratios of severe anemia compared to Newars and other non-indigenous dominant groups.

## Bangladesh

We used the following keywords to search for documents on PubMed, ISI Web of Science and Google: indigenous, tribe, tribal, people, adivasi, Chittagong, names of indigenous groups in Bangladesh & health.

Tribals in the hilly Khagrachari area of Bangladesh were found to have a higher prevalence than non-tribals in a study examining the prevalence of diabetes [35].

In a study of immunization coverage rates among children aged less than 24 months, indigenous groups in the Chittagong Hill Tracts had lower immunization coverage than the dominant Bengali people [36].

## Bhutan

We used the following keywords to search for documents on PubMed, ISI Web of Science and Google: indigenous, tribe, tribal, people, names of indigenous group in Bhutan & health. Unfortunately no article was identified that focussed on indigenous health.

## Social determinants

Social determinants [37,38], do account for a substantial portion of the inequalities in health between indigenous and non-indigenous groups in developing countries. For instance, in a study examining the relative contribution of individual socioeconomic status and indigeneity, the indigenous groups experienced excess mortality compared to non-indigenous groups, even after adjusting for economic standard of living (odds ratio 1.22; 95% confidence interval 1.13–1.30) [20]. However, standard of living attenuated this relationship. Without adjustment for economic standard of living the odds ratios for excess mortality among indigenous groups was 1.33 (95% confidence interval 1.24–1.42). Differentials in smoking and drinking alcohol also remain substantially attenuated once we take account of individual socioeconomic status. Odds ratios for smoking were attenuated from 1.47 (1.40, 1.55) to 1.22 (1.16, 1.28) and drinking from 2.67 (2.52, 2.82) to 2.27 (2.15, 2.40).

The importance of social determinants is convincingly exemplified given that there is a social gradient in health even *within* indigenous groups. For instance, in a nationally representative study in India, indigenous peoples in the bottom quintile of the indigenous-peoples-specific standard of living index have an odds ratio for mortality of 1.61 (95% confidence interval 1.33–1.95) compared to indigenous peoples in the top fifth of the wealth distribution. Smoking, drinking alcohol, and chewing tobacco also show graded associations with socioeconomic status within indigenous groups [20]. Additionally another study from India showed that the probability of smoking among adult men and women decreased once social factors such as rural residence, household wealth and education were accounted for [39].

Another instance that highlights the importance of social determinants in the relationship between indigeneity and health is seen in a study of domestic violence and asthma among ever-married women in India [40]. Tribal women had the highest unadjusted prevalence of asthma compared to non-indigenous groups. Yet the risk of asthma among tribal women was not significant after accounting for frequency of domestic violence, rural residence of house, religion, marital status, education, standard of living, history of smoking, secondary exposure to tobacco smoke, living conditions, body mass index and occupation.

A study of the social significance of ‘routine health behavior’ from Nepal outlines how “scarce resources and low status shapes many aspects of Tamang life, including Tamang attitudes about health. In the face of grave illness, ruined crops, or hunger, there is a strategy of conservation and acceptance in part born of the experience of scarcity” [41].

While numerous studies from South Asia describe the relationship between social determinants and health [42-46], very few studies examine the unique influences of social determinants and indigeneity.

## Summary

It is clear that there is a severe paucity of published research on health status of indigenous peoples, let alone those examining the social determinants of health. Biologists and anthropologists have studied the Vedda of Sri Lanka much more than epidemiologists [47,48]. The lack of focus is particularly acute in Bhutan, Nepal, Bangladesh and Sri Lanka. While there are local studies from Pakistan and India, very few national level studies exist. There are local studies of social determinants among these groups, however no comprehensive analysis of the health effects of these social determinants that is representative at the national level from any South Asian country, other than India. Keeping these data limitations in mind, it is clear that indigenous groups in South Asia do tend to fare worse, on average, compared to non-indigenous groups on various health indicators. One major reason for this difference is likely to the differential distribution of socioeconomic resources and status between indigenous and non-indigenous groups, with the former disproportionately sharing the burden of social and economic disadvantage. This would suggest a lesser role for explanations to the health inequalities rooted in the notions of “indigeneity” and a far greater role for explanations based on social determinants.

## Chapter 4

### Latin America

#### Introduction

The indigenous peoples of Latin America – from Mexico to the tip of Argentina and Chile – are extremely diverse, linguistically, in terms of their social and cultural organisation and management of their local environments from uplands to lowlands, in forest, savannah and steppe. The native inhabitants of the American continent have experienced the colonisation process under many guises – from deliberate extermination to enslavement, indentured labour, forced migration and epidemics – and the consequences are still visible in Latin America today where indigenous peoples remain economically, culturally and socially marginalised. These peoples have negotiated their relationship with outsiders for centuries, through trade, alliance, revolt, warfare and avoidance. In recent decades a number of local, national and international indigenous rights movements have developed dedicated to overcoming the colonial legacy and gaining State recognition and respect for their peoples' rights and wellbeing.

In spite of indigenous efforts, constitutional and policy changes in many countries in line with ILO Convention 169 and the increased attention to indigenous issues during the first UN Indigenous Decade (1994-2004), the proportion of indigenous peoples living in poverty in Latin America (just under 80%) did not change much from 1990s-2000s [1]. There is general acceptance that development indices such as measures of poverty, capital and assets are related to health and wellbeing, but there is little focused research on how different aspects of the social environment, from structural to local level, affect indigenous health.

Although systematic data is lacking for the region, in this section we aim to give a broad overview of the situation of indigenous peoples in Latin America. We cannot include data on every country and hope instead to have covered the spectrum of social determinants that emerge from available academic and grey literature on health from epidemiological and medical sources. All areas require further research.

#### **Data gaps**

Few countries in Latin America keep or report systematic data on indigenous health, statistics are rarely disaggregated by peoples or indigenous/non indigenous; even basic indicators like infant mortality, life expectancy at birth or principal causes of morbidity and mortality are hard to obtain for indigenous people at national level [2].

#### **Data collection**

There are intrinsic difficulties involved in data collection. A widespread problem in most of Latin America is that much of the indigenous population lives in remote (rural) or marginalised (urban) environments with limited access to health services so routine information is collected only intermittently on these populations so published data may significantly underreport ill health, as government bodies recognise [3].

It is important to note also, that local understandings of health and well being – often at odds with the normative biomedical perceptions – influence reporting: in some regions people are reticent to report events, like deaths or episodes of illness, because they are considered taboo, especially if attributed to shamanic powers, and thus visiting strangers (health personnel) cannot collect accurate statistics (Vanessa Grotti, personal communication).

## Disaggregation

One source of systematic data is the national census, although the inclusion of indigenous people as a category is a recent addition in many Latin American countries, but consensus on results is not always straightforward (see Box A). A number of approaches to elicit “indigeneity” in the census have been proposed, but self identification is widely accepted as the most useful for understanding inequities, although the “accuracy” of results will depend on peoples’ perception of the census and the significance of such an identification [4]<sup>9</sup>.

### **Box 4A: Problems with census data**

Problems with census data on indigenous peoples are highlighted by some discrepancies in reported calculations on population, let alone other social characteristics.

**Guatemala:** according to the National Statistics Institute in Guatemala at the last census the indigenous population made up 41% of the total, but the Ministry of Health’s 2005 Epidemiological Report gives the proportion as 14.31% [5]. Both these estimates are lower than those made by reported in Montenegro and Stephens [6].

**Brazil:** A recent Brazilian study analysed estimates of the indigenous population of the Brazilian Amazon and found discrepancies of over 18 000 between official sources like FUNAI<sup>10</sup> and national census data [7], that is 12% of the smaller estimate.

**Mexico:** A study in Mexico found that an apparent worsening in income indices occurred at the same time as indigenous self identification declined (from census 1990-2000) and Delaunay suggests that the apparent reduction might be due to the wealthier, more urbanised families and individuals ceasing to self-identify as indigenous to census takers [8].

Disaggregation of data by indigenous people presents additional problems because self identifying peoples often live across politico-administrative boundaries, both national and internal, for example the K’iche’ live across several departments in Guatemala, or the Achuar on both sides of the Peru/Ecuador border. Even within a country, MoH and local authorities often collect data within their boundaries and collation is uneven.

The complexities of collecting systematised data on indigenous peoples, their health and social characteristics means that accurately describing the interrelations between health and social determinants is at present difficult. This paper draws on reviews and small scale examples to propose a number of areas for further research. They are by no means exhaustive.

## Demography

Given the data problems described above, reported figures vary but recent estimates put the total indigenous population of Latin America and the Caribbean at almost 48.5 million people [6]. The proportion and distribution of indigenous peoples vary from country to country across the region (Table 1, Figure 1).

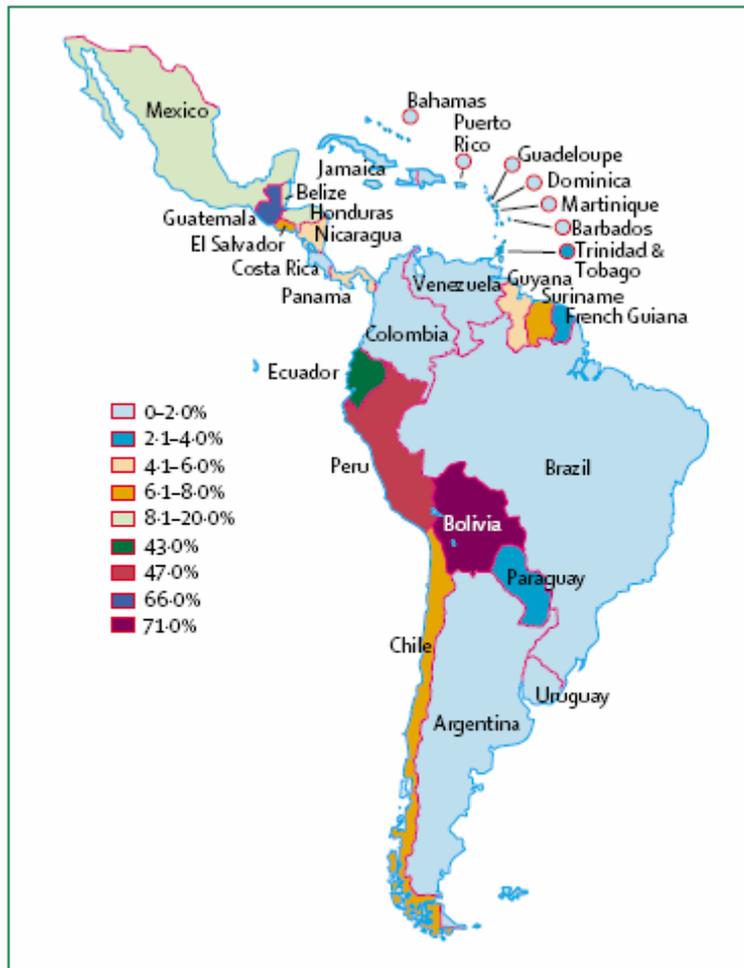


Figure 1: Percentage of Indigenous population with national population by country in Latin America and the Caribbean (end 1990s–beginning 2000s)

Source: [6]

Mexico has the largest total number of indigenous people (nearly 13.5 million, 14% of the total population) but Bolivia has the largest proportion of indigenous peoples (71%, 5.6 million) [6]. 89% of indigenous people in Latin America live in only five countries: Bolivia, Guatemala, Peru, Ecuador and Mexico [6].

	Total population	Indigenous population	% Indigenous
Bolivia†	7 960 000	5 652 000	71%
Guatemala	10 801 000	7 129 000	66%
Peru	24 797 000	11 655 000	47%
Ecuador‡	12 175 000	5 235 000	42.99%
Belize§	230 000	44 000	19.13%
Honduras	6 147 000	922 000	14.99%
Mexico	95 831 000	13 416 000	13.99%
Chile	14 824 000	1 186 000	8%
El Salvador	6 032 000	422 000	6.99%
Suriname ¶	414 000	25 000	6.03%
Guyana	850 000	51 000	6%
Panama	2 200 000	132 000	6%
Nicaragua	4 807 000	240 000	4.99%
French Guyana **	100 000	4 000	4%
Paraguay	5 222 000	157 000	3%
Trinidad Tobago	1 283 000	26 000	2.02%
Colombia	40 803 000	816 000	2%
Venezuela ††	23 242 000	465 000	2%
Jamaica	2 538 000	51 000	2%
Puerto Rico	3 600 000	72 000	2%
Dominica	270 000	54 000	2%
Barbados	268 000	3 000	1.11%
Guadalupe	280 000	3 000	1.07%
Martinique	73 000	1 000	1.01%
Bahamas	296 000	3 000	1%
Argentina ††	36 123 000	361 000	0.99%
Costa Rica	3 841 000	38 000	0.98%
Brazil §§	165 851 000	332 000	0.20%
Uruguay	3 289 000	1 000	0.03%
Total	476 577 000	48 496 000	10.17%

Data are drawn from several sources,<sup>§§§</sup> and compared with local estimates when possible. \* Latin America and the Caribbean have 43 countries (South America 13; Central America and Mexico 8; and the Caribbean 22). Data available for 29 countries where Indigenous populations are substantial (end 1990s–beginning 2000s). Other estimates of populations based on different methodologies, definitions of indigeneity, and censuses are the following: † 5 800 000 indigenous people in 1994.<sup>††</sup> ‡ 910 146 indigenous people in a total population of 10 600 000 in 1990 (24.85%)<sup>‡</sup> while another source estimates the indigenous population at between 40% and 45% of the total population.<sup>‡‡</sup> § 38 562 in 2002–03.<sup>§</sup> ¶ 22 000–25 000 people in 2005.<sup>¶</sup> || 60 000–70 000 people in 2002–03.<sup>||</sup> \*\* 15 000 people in 2002–03.<sup>\*\*</sup> †† 534 816 individuals representing 2.14% of total population.<sup>††</sup> ‡‡ 318 683 Indigenous people in 2004, slightly fewer than indicated here.<sup>‡‡</sup> §§ 370 000 people in 2006 representing 0.20% of total population.<sup>§§</sup>

**Table 1: Indigenous populations in Latin America and the Caribbean by country\***

Source: [6]

The size of each indigenous people varies from several million<sup>11</sup> to just a few individuals. One summary of the indigenous population in Brazil shows the range in size of the 208 peoples registered: twelve of these recognised groups have populations of only 2-38 individuals, nearly 30% have fewer than 200 people and over 50% have fewer than 500 [9]. Such small population numbers mean that all these groups are at greater risk in case of epidemics, which may wipe out a whole generation, with tragic consequences for physical survival as a people (see Box C). Such high demographic vulnerability also presents research challenges, for example, calculating mortality rates per 1000 is a useful way to compare outcomes for large populations, but when the total “real” population is under 200 – although a mortality rate is useful to highlight their vulnerability – statistical comparisons are no longer meaningful.

An increasingly important proportion of the indigenous population has migrated from traditional territories to urban areas [2] but estimates of the numbers undertaking this temporary and permanent movement are difficult to obtain.

## **Epidemiology**

Health indicators such as infant mortality and life expectancy have improved for most Latin American countries over the last 30-50 years but indigenous health indicators, however, have not changed at a similar pace.

The history of health in Latin America can be crudely divided into two periods, before and after European colonization [6]. The arrival of Europeans was accompanied by the spread of epidemics of novel diseases including plague, small pox, influenza, typhus, scarlet fever, measles, dysentery, yellow fever and malaria [10-13]. In just 100 years the population is estimated to have dropped from 150 million (prior 1492) to only 11 million [6, 14, 15].

Accounts of indigenous health before contact across Latin America vary and there is no direct evidence since researchers are by definition a form of “contact”. Some authors highlight high mortality due to accidents, violence, and some parasitic infections [16] but others present evidence that many of the disparaging accounts of the poor health and hygiene at contact may be more associated to ideological discourses about dirty “Stone Age Indians” to justify external intervention to “‘free’ populations such as hunter-gatherers from their limiting living conditions” [17]. Most accounts agree that introduced infectious diseases substantially increased the vulnerability of indigenous peoples across Latin America in the post contact period [16, 17] principally associated to a lack of acquired immunity [18]. Many authors have recorded dramatic contact epidemics in the recent past [13, 16, 19, 20] and they continue to take place, especially acute respiratory and gastro intestinal disease [21-23] (see Box C).

In spite of some decline in infectious disease-related infant mortality, these continue to be the principal causes of mortality and morbidity: in Guatemala the leading causes of mortality are pneumonia and bronchopneumonia (16.5% of deaths) and acute respiratory infections are the most common cause of medical consultation [5]; in Peru respiratory infection is the leading cause of infant and child mortality (18% of deaths) and morbidity; it is also the leading cause of all consultations: 18% nationally, and 25.1% for rural, predominantly indigenous regions [24].

Many Latin American countries are acknowledged to be showing signs of an epidemiological transition, with increasing rates of non-communicable disease and aging populations, but infectious and parasitic diseases remain significant in national disease profiles, particularly for the poor [25]. Disease profiles vary across Latin America with one evaluation suggesting that Mexico was in a “prolonged transition situation” whereas Guatemala was still “pre transition” [26].

## **Pollution and imposed change**

In many Latin American countries major industrial pollution in remote areas has had serious consequences for indigenous peoples, both in terms of physical health (due to environmental contamination) and socioeconomic wellbeing (due to contact with workers or large scale social, economic and demographic changes associated with

industrial projects) [2]. There are relatively few solid epidemiological studies of health outcomes but we report a selection of surveys in Box B.

Box B gives some examples of pollution in indigenous territories and how it undermines health. Mega infrastructure, extractive industries and intensive agriculture projects, even less evidently polluting extractive industries like logging (legal and illegal), have also been shown to have serious impacts on social and economic life with consequences for wellbeing, particularly disruption of indigenous subsistence strategies, which beyond physical survival, underlie social organisation and cohesion [2, 27]. Dams [28], highway construction and extractive industries are usually associated with *de jure* and *de facto* loss of lands for indigenous peoples [29, 30].

The social transformations that take place around extractive and infrastructure projects and settler invasions have severe impacts on health and wellbeing because they undermine management systems intimately linked to social production and reproduction in unpredictable ways. For example, as men go away to work (as mining, agricultural, construction or logging peons) responsibility for maintaining the family falls disproportionately on women, the traditional division of labour is strained and often no (or fewer) new gardens are cleared and there is a sharp drop in hunting and fishing (traditionally male activities for most peoples), contributing to increases in malnutrition. The existence of employment opportunities also creates income disparities within communities that have previously been more or less egalitarian or divided along different lines, creating new dynamics with unpredictable effects. In some cases an acute need for income to respond to needs that were previously non-monetary leads to prostitution [27]. The influx of workers tends to contribute to the introduction of new infectious diseases [13], including the proliferation of malaria [2], and (with prostitution) STDs [27].

## Psychosocial health

In a review of indigenous mental health in Latin America, Pedersen writes that indigenous peoples are particularly at risk “from internal power struggles generated by the arrival of migrant *colonos* (ranchers), mining and timber companies, drug traffickers, missionaries and religious sects, including government officials in charge of development megaprojects, often funded by international financing agencies” [46]. But there are few rigorous epidemiological studies of the physical, quantifiable health impacts of extractive industry and mega infrastructure project-related environmental destruction, and there are even fewer that attempt to evaluate broader impacts and long term consequences on indigenous wellbeing, including the concept of mental health and the more holistic perspective of indigenous peoples themselves, of such environmental disruption and loss of lands.

Armed conflict has also “disproportionately affected the indigenous populations” in Latin America [46]. In an evaluation of the impact of political violence, Pedersen notes that many indigenous peoples are under threat as they “defend their land and possessions from continuous incursions by insurgent groups, special forces and the military” [46]. Examples in recent years include extra judicial executions of Miskito Indians (Nicaragua), mass executions of Mayas (Guatemala), Tzotzils (Mexico), and Yanomami (border between Brazil and Venezuela) [46], military and para-military offensives against Andean and Ashaninka (Amazonian) peoples (Peru) [47] and Guambiano, Nasa, Kankuamo and Makaguán peoples (Colombia) [45]. Conflict affects both physical health and mental or psychosocial wellbeing, through disruption

of routine services, control of access to the peoples' own land and subsistence resources, causing fear and grief and limiting peoples' capacity to live freely [45].

#### **Box 4B: Environmental pollution and indigenous health**

Oil and gas - In **Argentina** petroleum pollution of surface and underground waters in Loma de La Lata (Neuquén) has endangered the health of Mapuche people (Patagonia). Blood and urine sample analysis on indigenous people living in the area reveals high concentrations of lead and mercury [31]. In the Amazon there is some evidence of the detrimental health and in particular carcinogenic effects of the petrol industry in **Ecuador** [32-36] and in **Peru** the Achuar have often raised their concerns about increased mortality and morbidity in relation to massive environmental exposure to petrol contamination but little has been done to measure or mitigate [37]. In the last 6 years the Peruvian government has made a 40 fold increase in areas of its Amazon region available for oil and gas exploitation with potentially dramatic effects on almost all the peoples of the Peruvian Amazon [38] which will also affect peoples who avoid contact with outsiders [13] (see Box C). Conflicts have increased across the country around mining and extractive enterprises [39].

Gold mining - Mercury contamination of water sources and fish by small and large scale gold mining across Latin America (**Guyana, Colombia, Nicaragua, Peru, Suriname, Venezuela, Brazil**) is understood to be a major contributor of health of local peoples [2, 27, 40]. In **Peru** in 2000 a major mercury spill from trucks heading for Yanacocha, the largest gold mine in South America, affected three communities. Mine employees reportedly encouraged villagers to gather up the heavy metal and offered up to US\$30 per kilogram for recovered mercury. More than 900 community members now live with serious health problems including skin irritation, headaches, diminished eye sight, kidney problems, stomach aches (classic symptoms of mercury poisoning). One woman went blind. New born children are showing deformities, older children have growth retardation. Rates of miscarriages are alarming and children suffer from chronic nosebleeds, respiratory infections, loss of sight and hearing, chronic migraine headaches and an inability to concentrate [41, 42].

Other kinds of mines have also been shown to generate damaging effects: for example several studies have shown that the mine (for metals including copper, gold and silver) and poly-metallic smelter in La Oroya (**Peru**) which have been producing pollution for over 80 years, are responsible for blood lead levels in children well above established EPA limits and there is evidence of serious development effects [43]. A massive tailings dam breach at the Omai bauxite mine (**Guyana**) in 1995 discharged three million cubic meters of cyanide-laced toxic waste into the Essequibo River, causing skin diseases, killing wild life and threatening subsistence resources for many peoples living along its banks [27]. Hair analysis of indigenous people living near the Pilcomayo river, in Formosa (Northern Argentina), shows high concentrations of heavy metals from spills at mines upstream in **Bolivia** [44].

Chemical pollution from aerial eradication of coca, poppy and food crops as part of Plan Colombia has also been reported to contribute to the outbreak of new illnesses among the indigenous peoples of **Colombia** [45].

Migration is another area understood to have had substantial effects on indigenous health. Some studies have focused on material declines such as the poor nutritional status of indigenous children in forced migration from Guatemala to Mexico in the 1970-80s (for example see [48]). Loss of lands, poverty and changing economies

forces people to migrate in search of economic opportunities which are substantially limited by the “highly stratified and exclusionary” characteristics of Latin American societies [49]. Instead of finding greater opportunities, the experience of many indigenous people “is marked ... by displacement ... from any labour force, high rates of unemployment, and the exposure of individuals to risk of extreme uncertainty and social stress” [49]. Anecdotal evidence abounds of social integration difficulties for indigenous peoples as they move to the capital, temporarily or permanently, in search of work.

In many countries alcohol, substance abuse and suicide [50, 51] are also reported as increasing problems, “arising from stressful experiences, discriminatory practices and ill-treatment of indigenous peoples” [52]. Accidental and violent deaths are among the first causes of death for young indigenous men [2].

#### **Box 4C: Isolated peoples’ health**

It is now widely accepted that there are many peoples living in voluntary isolation in the Amazon basin [21]. Most of these groups are the descendents of people who survived slave raids and massacres during the rubber boom (late 1800 – 1915) and widespread virgin soil epidemics from the 16<sup>th</sup> century to the present [13]. As a result of these negative experiences they have chosen to avoid contact with outsiders indefinitely. We know relatively little about them or their health situation because seeking access to these groups is neither ethical nor practical [6].

Like, all Amerindian populations at the time of the Spanish conquest, isolated peoples have had no exposure to introduced diseases (at least since the rubber boom and the last epidemics) and are therefore extremely susceptible to infections with high fatality [13]. Populations are usually very small (less than 200 people) and high mortality epidemics can jeopardise the survival of a people, even without taking into account the psychosocial impacts of losing half the population.

Maintaining isolation today is becoming increasingly difficult due to mining, oil and gas exploration and legal and illegal timber extraction in increasingly remote regions [22, 23, 53]. These high-impact incursions into previously inaccessible areas of the rainforest have led to forced contacts and increasingly frequent outbreaks of infectious diseases. For example, in Peru, the expansion of oil and gas concessions now threatens all ten existing and proposed reserves for isolated peoples [54].

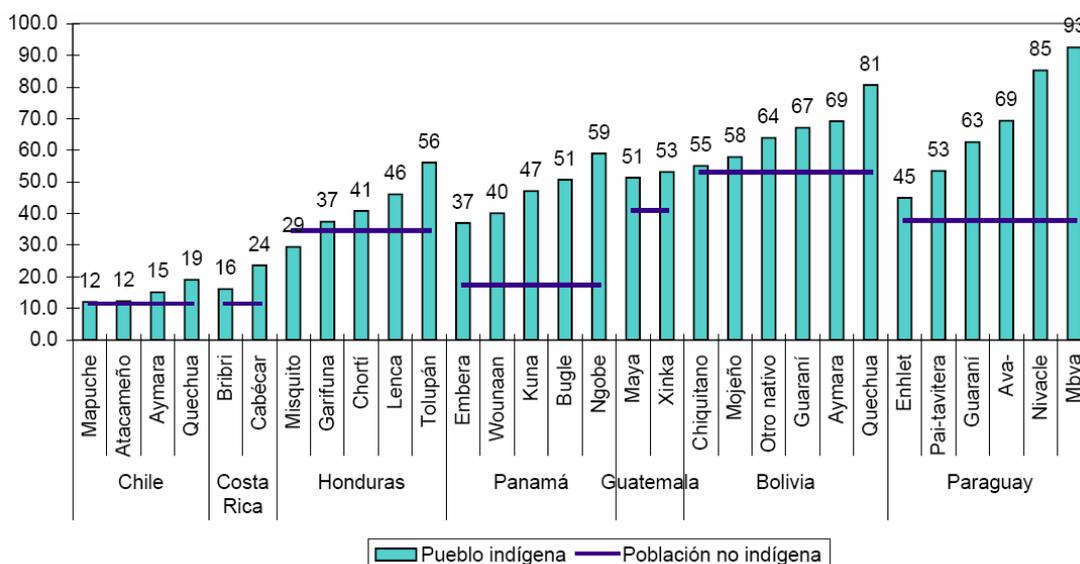
There are major debates about the relative importance of “a few savages” and the “national benefit” of resource exploitation. In some countries isolated peoples have been bombed by national governments when they repeatedly rejected all attempts at contact (usually by missionaries) and were perceived to obstruct national interests [55, 56].

However, there are some signs of change: in March this year, the Inter American Commission for Human Rights emitted a precautionary measure against the Peruvian government for not taking action to remove illegal mahogany loggers from a Territorial Reserve set aside to protect the lands of isolated peoples in the Amazon [57]. The draft OAS Declaration on Indigenous Rights also includes a paragraph on respect for isolated peoples, their lands and autonomy [58].

## Inequalities/inequity

Health indicators such as infant mortality and life expectancy have improved for most Latin American countries over the last 30-50 years, and national disease profiles have shown some signs of an epidemiological transition towards a greater proportion of chronic and degenerative disease [25]. Indigenous health indicators, however, have not changed at a similar pace for all groups.

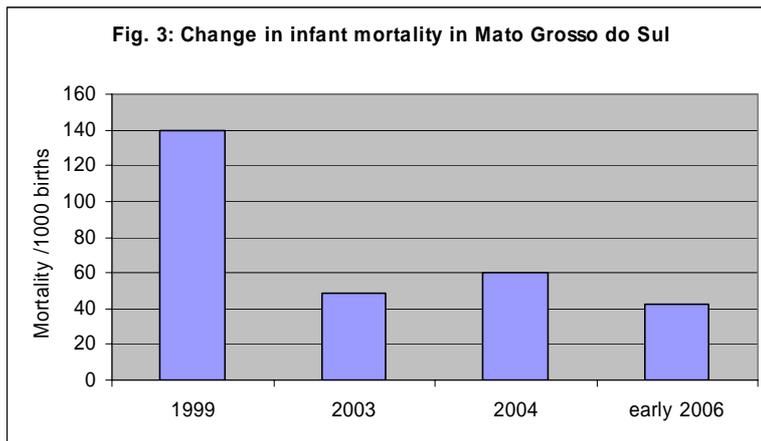
**Figure 2: Infant mortality for various indigenous peoples in seven Latin American countries (2000 census data)**



Source: Centro Latinoamericano y Caribeño de Demografía (CELADE) – División de Población de la CEPAL, procesamientos especiales de los microdatos censales. Graph published online by CEPAL information service: <http://www.eclac.org/prensa/noticias/comunicados/1/27521/graficoCP3panosoc.pdf> [accessed 05/04/2007]

Evidence is patchy and variable in quality. An ecological study in Mexico reported that municipalities with predominantly indigenous population had significantly higher mortality rates in the age groups 0-4 and 15-44; these municipalities also had higher degrees of deprivation (data from 2000 census [59]). Another fairly large scale study also found that indigenous children under 5 had significantly ( $p < 0.001$ ) higher prevalence of underweight and stunting (but not wasting) than non-indigenous children: this disparity was found at national level, in rural and urban areas and in all regions of the country [60]. The same study found that nutritional status in general (both indigenous and non-indigenous children) was poorer in rural areas but the disparity between the two groups was greater in urban areas (in rural areas stunting was twice as prevalent in indigenous as non-indigenous, whereas in urban area indigenous children were three times more likely to be stunted than non-indigenous [60]).

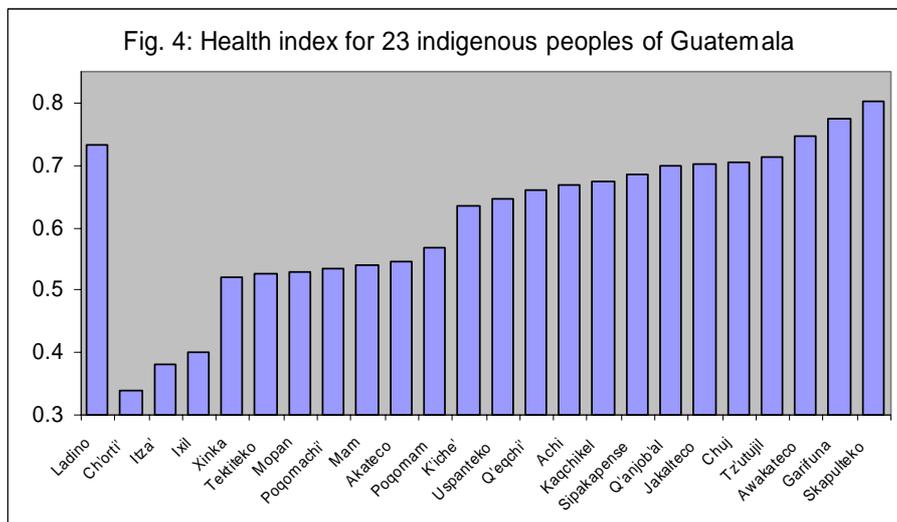
A decline in indigenous infant mortality is reported in parts of Brazil (Figure 3, data from [61]).



Source: [61] dos Santos 2006

However, without a more detailed understanding of the local situation and more systematic data for the whole region, it is too early to draw conclusions about these positive changes. Mato Grosso do Sul have targeted infant mortality through the health system [61]<sup>12</sup>.

There is some variation between infant mortality figures for different indigenous peoples in each country in Figure 1. Where country data have been disaggregated by peoples a similar gradient in health can be seen, for example in infant mortality in the Peruvian Amazon [3] or in terms of health index<sup>13</sup> in Guatemala, in Figure 4 (data from [62]) where 23 indigenous groups are compared to Ladinos, the socially dominant group in Guatemala, who claim descent from European invaders in the 16<sup>th</sup> century. This range suggests that the social determinants influencing health outcomes act in different measure or manner on different groups.



Source: [62] PNUD 2005

## Social determinants

*I think that the most important issue for the indigenous peoples is to have a personal harmony with the environment and with nature, depending on the cosmovision of each person. This allows us to live together, to be strengthened personally and to have a healthy life. That is what the members of the community aim at, what they pursue. To be healthy means to live in harmony with the world.*

Jairo Alonso Embus, President of the  
Indigenous Regional Council of Huila,  
Colombia [63]

*[People have] harmony ... regarding the environment -- the experience depends on self reliance in nutrition -- as a person, as an indigenous person, with the possibility of having a productive economy and having social interaction. That idea is also shared by others such as the Yanacona and the Guambiano communities.*

Isaias Ramillo, Nasayuwe, Colombia [63]

*Feeling well is to feel well with the family, being with friends, having food; and you're well when you don't have sickness.*

Lucila Castro Ramírez, K'iche' ethnic group,  
Santa Lucía la Reforma, Totonicapán,  
Guatemala [64]

*Well being for me, is like the others have said utz'ilal. It's when we're not fighting with our family, in the home. It also means peacefulness when we go to sleep.*

Irma Pu Tiu, K'iche' ethnic group, Santa  
Lucía la Reforma, Totonicapán, Guatemala  
[64]

These testimonies about ways of “being well” by peoples from Colombia and Guatemala are also commentaries on the social determinants of *good health* for them. These kinds of explanations are key contributions to understanding the social determinants of indigenous wellbeing, such as the importance of land, community and autonomy.

Although conventional research tends to focus on ill health and not people who are well, there are a few examples in the published literature of indigenous peoples with surprisingly positive health outcomes, such as the rarity of hypertension among the Kuna of Panama [65, 66]. These authors seek biological reasons for positive health outcomes for example in “good genes” or active agent, like chocolate, but when asked about what makes one well, indigenous people more often describe it in terms of peace, communal harmony and happiness [64]. Happiness and conviviality make up an important part of indigenous explanations of wellbeing [17, 64]. It is important to recognise that there is much that is positive about communal living and indigenous understandings of the production of health and that the breakdown of these established ways of achieving “health” may be an important contributor of the myriad forms of ill health described above.

## Socio-political context

### Respect / History of discrimination

The historical context of conquest and colony, with consequent decimation and pervasive discrimination, still structures indigenous peoples' relations of power and access to all kinds of resources and opportunities [2, 6, 49] as a recent study of the

limits to their employment opportunities suggests [1]. Nation states have an important role to play in determining some of these overarching contextual relations but so do some “Christian fundamentalist sects actively working among Latin American Indian groups – [that] act in partnership with official agencies, creating conditions favourable to further social disintegration” [2] and international organisations that promote certain kinds of economic policies without taking indigenous needs into account. Many mega projects – usually government sponsored and often internationally funded<sup>14</sup> - perceive indigenous peoples as “backward” and their communities as destined for inevitable transformation, without considering the social and psychosocial consequences [28].

In recent years, civil society organisations and an increasingly active indigenous political movement across the region have played an important role in bringing inequities to light, but it is hard to judge to what extent deep seated inequalities and discrimination have changed. In practice, decisions about major economic interests that affect indigenous peoples are rarely taken with their best interests in mind or even in consultation with them (in spite of most Latin American states being signatories of ILO 169 [67]).

Conflict for resources and power at a national level often leaves indigenous groups trapped in the middle [39]; the socio-political context of the nation state – that may have little immediate relevance to indigenous peoples – is brought into communities with deep and often irreversible consequences for structural and intermediate determinants of health. Relations with powerful outsiders that are out of the control of communities undermine local modes of production and reproduction and lead to gradual dis-ease and dis-organisation. Militarization is one way in which state and non-state armed groups have tried to control strategic indigenous territories with long term impacts on intermediate determinants of health and long term welling [45, 47]: both sides live around communities “appropriating foods and natural resources, breaking the rules for communal living established by traditional indigenous authorities, changing behaviour parameters, and serving as a bad example through their consumption of liquor and drugs, and their use of women for sexual services, quite apart from the terror created through frequent combat, aerial bombardments, and the use of heavy artillery, antipersonnel land mines, and explosives” [45].

In most of Latin America subsurface resources are the property of the state and the weakness (or effective non-existence) of national environmental standards, facilitate the establishment of detrimental structural and intermediate determinants of indigenous health [27, 37]. Corner cutting and corruption by governments and companies contributes to many of the environmental problems such as the Omai tailings dam disaster in Guyana (a project funded by the World Bank) [27] or the gas spills in Machiguenga territory from the Camisea Project (funded by the IADB) within 6 months of initiation of operation [68].

Government policies for “foreign investment”, responding to ideologies in vogue have dramatic impacts on land holdings. In Peru land reform several decades ago contributed to undermining Andean peoples’ ability to cope with emerging problems (see Social cohesion, below) [69], recent economic policies have led to the opening of indigenous territories and weakening of territorial protections to facilitate external exploitation [27, 38] and thus must be seen as the contextual determinants of many of the structural and intermediate determinants that affect the health of indigenous peoples. Many authors also recognise the impact of international political and trade

decisions on indigenous health [70]. There is evidence that they may have disproportionate influence on indigenous people's health. Free trade agreement patent regulations change the markets that indigenous farmers have provided for for many years, undermining subsistence and low income strategies with little room for adaptation; they also limit access to generic medicines for poor people, which will affect indigenous people who fall among the poorest in most countries [71]. Aerial chemical spraying as part of Plan Colombia destroys peoples main form of income generation, at the same time as it eradicates food crops and causes chemical pollution related disease; funding from Plan Colombia is also thought to exacerbate violent conflict between military and para-military groups in Colombia "generating division, stigmatization and confusion within the indigenous population" in whose territories they operate [45].

Achieving greater respect for indigenous peoples is undoubtedly fundamental to their wellbeing, underlying all those discussed below.

## **Structural determinants**

### **Land**

*For indigenous, peasant and rural peoples land and territory are more than mere sources of work and subsistence; they are also culture, community, history, ancestors, dreams, future, life and mother.*

Open letter from Comisión Sexta,  
Ejército Zapatista de Liberación  
Nacional [72]

Land should be seen as both a structural and an intermediate determinant of indigenous health. Its importance for indigenous peoples has been inscribed in international treaties [67]. A number of authors have shown that indigenous peoples' relationship to their land has meanings beyond simply a source of subsistence, that relate to identity, history and a sense of belonging [73, 74] and it is widely accepted to form part of indigenous understandings of health and wellbeing [2, 75]. Yet most indigenous peoples across Latin America have been forced into smaller and smaller areas of land as urban and immigrant populations gained control of the continent. Even where people have not been literally forced off their lands, they are often obliged to leave them if it is no longer possible to live there (e.g. for environmental or economic reasons) and their relationship with it is dramatically altered.

*We trust that you will not view it necessary to contribute to my people's genocide in exchange for monetary gains.*

Mark Atkinson, Captain of the  
Santa Rosa Village Council to  
the Guyana Geology and Mines  
Commission [76]<sup>15</sup>.

Some of the principal causes of land loss are declining agricultural prices and increasing costs, land degradation and pollution associated to resource exploitation, flooding in dam building, highway construction (as described in Box A), land grabs by settlers, violent conflict and international trade agreements. In recent years, indigenous peoples have also been faced with challenges from conservationists who want to remove them from national parks (e.g.[77]) in favour of conservation and tourism [78].

Although few studies explicitly set out to examine how the disruption in land tenure and security affect indigenous peoples' health, we report a few useful insights. Much more effort in this area is needed, in coordination with indigenous peoples themselves.

Reed writes that "land loss and forest destruction are the root cause of many of their [the Guaraní's] diseases" because it has limited their hunting, gathering and agriculture, while migrant peasants have brought new diseases to Guaraní communities, which they were ill equipped to respond to, especially as malnutrition increased [50]. The social and psychological burden that this places on community members has led to high suicide rates in these communities. Controversially, Reed comes to the conclusion that "curing individual cases of disease simply masks the greater issue of land expropriation from indigenous producers. In fact, relief programs subsidize the process of forest destruction" [50].

Myers offers a brief insight into the process of social decline and disorganisation when cattle ranchers took over Makushi lands in Guyana:

The despair felt at overwhelming circumstances which they are powerless to control and the rapid dying out of the tribe, has led to an increase in 'paiwarri' drinking, which means that a large portion of the cassava goes into its manufacture. One frequently hears the excuse: 'I am not going to leave my field to be enjoyed by others. I shall at least have some pleasure from it before I die' ... A vicious circle is formed – sickness and despair leading to hunger and malnutrition predisposing to sickness. [79]

For indigenous peoples land underpins both "physical" and "mental" health, in biomedical parlance.

## Community

Leatherman shows that land reform in Peru left many families landless and led to increasing out-migration which undermined community cohesion; Andean families were less able to make up for the losses associated to having a member sick and were increasingly vulnerable to additional disease episodes and thus a declining spiral of disease, low income and poor nutrition [69]. He suggests that although indigenous peoples have for generations managed their environment to cope with changing circumstance, "as the number of problems and constraints on coping increase, costs and contradictions of responses are accentuated" [69]. Loss of lands and also their communal support system as more adolescents and young adults migrated undermined self-sufficiency and capacity to cope with adverse events.

The concept of community has often been recognised as a key feature in indigenous worldview; with regard to health and illness, this may be manifested in the importance of social relationships being perceived as part of a person's well-being [64]. Community cohesion may be weakened by migration or changing economic strategies within and around communities (related to disruption of the relationship with land as discussed above) and thus community relationships may become fragmented.

In Guatemala, for instance, traditional community organizational structures were devastated by the divisions of civil war [52], and more recently with neighbours divided, for instance, by a proliferation of religious sects, or by relatively recent wealth disparities between those who receive income from family members who have emigrated to the United States and those who have not; intergenerational cohesion has also weakened as a result of young people who have attended secondary school, and

are relatively comfortable in a very different linguistic and cultural environment than that familiar to their parents.

Often termed “acculturation”, the negotiation that goes on at individual and community level with powerful outsiders in relation to changes of place, space and control is certainly changing the ways communities live together (and apart, since rural-urban migration in some countries has been high) and also how they understand and interpret their health and wellbeing. Some research has shown that these processes are associated with changing disease profiles, and an increase in stress, anxiety, alcohol and drug abuse and family disruption which leads to malnutrition and disease [52] (a scenario similar to that described by Myers, above).

This is an area that needs more research and interdisciplinary collaboration, probably closely linked to efforts to explore the impact on health of indigenous relationships with land.

## Socioeconomic indicators

### **Employment possibilities/income**

A socioeconomic indicator (constructed using information on type of housing and possession of goods) accounted for much of the disparity in prevalence of stunting, underweight and anaemia between indigenous and non-indigenous children under 5 in Mexico (e.g. probability ratios for stunting fell from 3.4 to 1.83) but differences remained significant [60]. The authors propose that this may be due to a range of probably behavioural factors related to culture and “other socioeconomic differences not captured by the variables employed” [60]. Since they also show that the proportion of indigenous children in lower socio economic deciles is much greater than in the higher ones, the role of housing and possession of goods does seem suggestive.

However, this kind of approach fails to examine the situation in which these kinds of situations occur. It is not the absence of a television or a two storey house that contributes to ill health *per se*. We believe, as indigenous testimonies attest, that the structural determinants of wellbeing for many indigenous peoples are more to do with strong communities, availability of and autonomy over resources and a positive relation to their land. As these basic factors are challenged and as their subsistence food base is undermined, families have to have money to obtain any resources; in this situation it is not difficult to imagine that the limitations which contribute to poorer physical health are mediated by income, especially since it is broadly accepted that economic opportunities for indigenous peoples are restricted [1].

Other authors highlight situations where increasing income does not necessarily contribute to improved quality of life, for example around mining concerns in Guyana, where indigenous people could no longer live off the disturbed and polluted land and began to do low-wage labour in the mines, but high prices meant the overall effect was a dramatic decline in living conditions [27].

### **Education**

Education and income have both been widely accepted as useful predictors of health outcomes [80]. Table 2, of intermediate indices generated by the UNDP

to calculate the human development index in Guatemala, shows the three “top” and “bottom” ranked peoples according to the health index.

**Table 2: Ranked health, education and income indices used to calculate the Human Development Index (Source: [62])**

Ethnic group	Indices (rank out of 24 and index figure)			
	Health index	Education Index	Income index	Combined HDI
Garifuna	1 <sup>st</sup> 0.774	1 <sup>st</sup> 0.758	2 <sup>nd</sup> 0.647	1 <sup>st</sup> 0.726
Maya Awakateko	2 <sup>nd</sup> 0.748	10 <sup>th</sup> 0.481	12 <sup>th</sup> 0.549	6 <sup>th</sup> 0.593
Ladino	3 <sup>rd</sup> 0.733	2 <sup>nd</sup> 0.712	1 <sup>st</sup> 0.652	2 <sup>nd</sup> 0.699
Maya Ixil	22 <sup>nd</sup> 0.401	21 <sup>st</sup> 0.360	16 <sup>th</sup> 0.527	23 <sup>rd</sup> 0.429
Maya Itza’	23 <sup>rd</sup> 0.381	3 <sup>rd</sup> 0.616	4 <sup>th</sup> 0.599	16 <sup>th</sup> 0.532
Maya Ch’orti’	24 <sup>th</sup> (last) 0.339	24 <sup>th</sup> (last) 0.230	15 <sup>th</sup> 0.533	24 <sup>th</sup> (last) 0.367

We find a good fit between health, education and income indices for the Garifuna and non-indigenous Ladinos, but surprising anomalies for other Maya groups, for example the Maya Itza’ are ranked 23<sup>rd</sup> for health but 3<sup>rd</sup> and 4<sup>th</sup> in education and income, whereas the Maya Awakateko are ranked 2<sup>nd</sup> for health but 10<sup>th</sup> and 12<sup>th</sup> for education and income.

Education and income are useful predictors of health outcomes but not necessarily causally related to them. The relationship between education and wellbeing is so accepted in Western research that people seem to forget that having spent 10 years in a class room is not directly protective of health, but rather an indicator of other aspects of an individual’s life which affect health at a population level. How appropriate such indicators are (education, income, possession of goods, type of housing) for indigenous people is less clear. Perhaps the key common feature for indigenous peoples is that they are undergoing major lifestyle changes in the process of establishing relations with outsiders. Otherwise there is so much variety between peoples that general indicators like these may “measure” different aspects or indicate different things for different peoples.

There are also strong arguments made for the lack of indigenous educational services. Individuals are confronted with a clash between the “official” provision of education services – in the dominant Spanish language, and looking to the values of the dominant culture – which have little to do with the domestic environment and indigenous forms of learning. State educational services may have a very different perception of what students need to learn and how it will relate to their long term well-being. For example, there is some evidence that not learning to read in their mother tongue may substantially limit children’s learning potential. At another level, the form in which school teaching takes place may be out of keeping with indigenous ways of thinking, with consequences for future alienation and sense of identity.

## ***Intermediate determinants***

### **Migration**

Migration is one way (a pathway) in which contextual and structural factors (policies, power relations, land and environment, income and exclusion) affect health and well being. Indigenous migrants tend to have poorer health, employment and living conditions than the population to which they migrate.

Large scale rural-urban migrations in Latin America, driven by loss of lands, poverty and changing economies, have been associated with concomitant increases in psychosocial stress and poorer health [49] perhaps because they are “caught between the pull of memories of [their] country of birth and the need to adapt to the host culture and the new context of daily life, constructing [a] new identity from multiple referential models” [52]. Pedersen reports several studies (from Chile and Peru) that indicate that migration to cities and adaptation to changes in lifestyle, climate and society, are associated with psychological distress, psychosomatic disorders and physiological problems [52]. One epidemiological study suggests that rural non-migrants are significantly less affected [52], although other problems arise for families or family members left behind which should not be overlooked.

### **Health systems**

The recognition and revaluing of indigenous medical systems for their therapeutic and explanatory values may be an important determinant of health outcomes.

For many peoples the imposition of conventional health systems, though “useful” for controlling infections, is also perceived an imposition of external institutions. Reed describes how the Guaraní in Paraguay rejected the activities of a formally trained medical officer (a respected member of the community) as a form of resistance to integration within national society [50]. State educational and health services may have a very different view of what health and well-being mean, as well as a different diagnostic frame of reference and treatment prescriptions; for the indigenous person, for instance, the social and spiritual determinants of both health and illness may be an important part of their understanding, whereas official guidance relies heavily on the physical aspects of health and illness. In his account of the situation in Paraguay, Reed suggests that conventional medical systems were not only culturally inappropriate and representative for the Guaraní of greater scales of oppression, but also that the giving of health aid masks the impacts of development projects so that “relief programs subsidize the process of forest destruction” [50].

Although they have been unable to deal with many introduced diseases, traditional health systems remain an important resource for indigenous people. Encompassing a variety of practices from shamanic ritual to the use of medicinal plants, these systems include both curative interventions and practices which contribute to the preservation of other aspects of wellbeing [81]. The need for integration of traditional knowledge has been mentioned in Brazilian health policy documents since the 1990s, but virtually no progress has been made in operationalising these statements of intent [82].

When indigenous and non indigenous groups and cultures live in the same region, and the indigenous health systems collapse, indigenous morbidity and mortality rates usually increase. This has happened and continues to happen in most Latin American

indigenous communities. In such situations a gradient of health systems is often adopted by indigenous people. In the urban communities of Quom in Resistencia city (Chaco, Argentina), where people could access Western medicine, women use 44 contraceptive species of plants [83].

## Conclusion

The proximal causes of indigenous morbidity and mortality across Latin America are diverse – from infection, “development” and pollution, to warfare – and all associated to complex and locally specific webs of interacting social determinants. Perhaps the only universal factor is the pressure of change which means that the intermediate parameters are often shifting and people’s capacity to adapt may be overstretched. For example many peoples have experienced a shift from a situation in which the main determinants of good nutrition were availability of land for hunting, fishing and cultivation and their own family’s skill in these activities to a situation in which, in the absence of land, the main determinant of nutrition is money to *buy* food and their family’s skill in getting money, which is linked to employment and formal education, “new” factors over which families have less control and which may be conditioned by discrimination. The loss of control over subsistence food production is usually accompanied by a reduction in family autonomy over a number of other factors which influence health and wellbeing in other ways.

External pressures (like territory loss, pollution, inproductivity) lead to involuntary lifestyle change, but these usually coincide with social processes which contribute for many peoples to changes in their own needs and desire for external, manufactured goods which then force them into relations with an economic market system for which their own exchange economies have little precedent and which tend to be established on inequitable footing.

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<sup>9</sup> In societies where being indigenous is associated to social, political or economic stigma and marginalisation, many indigenous people do not identify themselves as such to census takers. Many Mayans in Guatemala City, for instance, no longer use traditional costume or language and try to be accepted within the traditionally dominant Ladino society. Similarly, in urban areas in the Peruvian Andes many native Quechua speakers have refused to speak to their children in anything but Spanish for decades so that the young urban generation is almost uniformly monolingual. These can be seen as signs of acculturation or rejection of an indigenous identity, but are perhaps more often an expression of peoples’ adaptability in a discriminatory and stereotype-driven context: in other contexts they may chose to identify as indigenous. See also [4] on Bolivia.

<sup>10</sup> Fundação Nacional do Índio, Brazilian government agency for indigenous affairs

<sup>11</sup> For example, the Academia de Lenguas Mayas de Guatemala claims there are 1,270,953 members of the Maya K’iche’ community, citing the 2002 Guatemalan census (Instituto Nacional de Estadística) as its source. One estimate suggests over 8 million people speak Quechua [84] although dialects may vary.

<sup>12</sup> In the article reporting the apparent improvement in South West Brazil, dos Santos also notes that the period of improvement has been one of particular disruption: 700 Guaraní-Caiuás were forced to leave their lands in Nhãndero Marangatu and set up camp along highway MS-184 where six children died and one adult was murdered [61]. The brief news item does not go into detail with regard to cause of death or give further information on morbidity. A causal association between major social disruption and *decline* in infant mortality is extremely unlikely, but it raises questions about the quality of the data.

<sup>13</sup> The health index, calculated as a component of HDI, is basically a childhood survival index, combining the proportion of children currently alive in relation to the live births of reproductive-age women at municipal level [62].

<sup>14</sup> For example, many dam projects in Latin America have been funded by the World Bank or Inter

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American Development Bank [28] as have other road building and oil/gas projects.

<sup>15</sup> The village opposed the permit given by the GGMC to mine on their lands and objected to the lack of consultation and the presence of “multiinternational mining companies” and the concomitant negative impacts in their territory. In this letter the village Captain requested the immediate withdrawal of the mining permit for Gold Star Resources Ltd and concluded with the line cited here.



## Chapter 5

# Philippines and Indonesia

### Introduction

Many studies have established that the highest incidence of poverty occurs in regions populated by indigenous peoples. Indigenous peoples are also more likely to be poor than non-indigenous peoples, and public spending in basic social services “systematically discriminates against minorities and indigenous peoples” in many countries, according to the 2004 Human Development Report. Thus, access to health services and medicines is limited in indigenous communities such as in Central Sulawesi [1].

Meanwhile, development projects have resulted in violations of the rights to health, food, and culture, which have already aroused the concern of the United Nations Committee on Economic, Social and Cultural Rights [2]. In the Philippines, ancestral lands, communally owned and intertwined with the lives and history of indigenous communities, have been targets for exploitation of resources such as mineral deposits and forest products [3].

Armed conflicts are also harsh realities for indigenous peoples in many Asian countries [4]. Displacement due to development-related activities and militarization intensifies the poverty and marginalization of indigenous peoples, exacerbating health, nutrition, and sanitation problems that confront them.

### Data gaps

The World Health Organization has pointed out that weak health and demographic information systems in most developing countries “do not permit accurate, systematic and routine measurements and monitoring of demographic indicators or health trends and status of different population groups” [2]. This is particularly true in the case of indigenous peoples who are mostly found in remote areas.

The Philippine Department of Health (DoH) admits, “Data on indigenous peoples are severely limited. Without data, targets are hard to set even though professional consensus exists that indigenous peoples are at considerably higher risk than the total population” [5].

### Demography

Indonesia’s total population is estimated at 245.4 million as of July 2006, [6] including 500 ethnic groups speaking over 600 languages, [1] spread throughout 400 districts across the huge archipelago [7]. The ethnic groups that occupied Indonesia long before it was a nation are considered indigenous peoples.

But another term used to define the indigenous peoples concept was *isolated people* or “groups of people who live or are nomadic in geographically remote and isolated areas and are socially and culturally alienated and/or still underdeveloped compared to other Indonesian communities in general.” Considered a social problem, there are roughly 1.2 million isolated people in 18 provinces in the outer islands. Statistics

show about 6,000 households (or some 31,000 people) in Central Sulawesi, belonging to 15 ethnic groups, are under the isolated people category [1].

Yet another term to define indigenous peoples is *adapt* community or *adat* law community that Indonesian law experts took from *rechtsgemeenschappen*, which is often translated into “legal communities,” “autonomous group,” or “autonomous community.” In March 1999, 208 *adat* communities representing 121 ethnic groups attended a congress, which established an alliance of Indonesian indigenous peoples called AMAN (Indigenous Peoples Alliance of the Archipelago). An *adat* community is defined as a “community living together based on their origins intergenerationally in *adat* land, who have sovereignty over the land and the natural resources, sociocultural life regulated by *adat* law and *adat* institutions which manage the sustainability of the communities’ lives.” AMAN estimated there are 50-70 million people in such communities [1].

The Philippines, with a total population estimated at 89.5 million as of July 2006, [6] is likewise comprised of diverse peoples with distinct cultures, languages, and traditions. There are 114 ethnolinguistic groups in the country. The National Commission on Indigenous Peoples (NCIP) identifies 95 indigenous tribes, excluding Muslim groups, in 14 regions of the country [8]. Thirteen Muslim ethnolinguistic groups are indigenous to Mindanao: the Maranaw, Maguindanao, Tausug, Yakan, Samal, Sangil, Molbog, Kalibugan, Kalagan, Palawani, Iranun, Jama Mapun, and the Badjao [9].

The Indigenous Peoples Rights Act (IPRA) defined indigenous peoples as “a group of people or homogenous societies identified by self ascription and ascription by others, who have continuously lived as organized community on communally bounded and defined territory, and who have, under claims of ownership since time immemorial, occupied, possessed and utilized such territories, sharing common bonds of language, customs, traditions and other distinctive cultural traits or who have, through resistance to political, social and cultural inroads of colonization, non-indigenous religions and cultures, become historically differentiated from the majority of Filipinos.”

The NCIP estimated the indigenous population in 1998 to be around 12 to 15 million. The distinct tribes may be roughly classified into seven groupings: Mindanao Lumad (including Manobo); Cordillera Peoples; Caraballo Tribes; Mangyan; Negrito/Aeta; Palawan Hilltribes; and Visayan groups. There are 35 tribes not classified under these seven groupings, but may be considered to fall under one of these groups due to their geographical location [8].

**Table 5.1. Top 5 Regions Populated by Indigenous Peoples**

Region	Indigenous Population	Total Regional Population	Proportion of Indigenous Peoples in Reg'l Pop. (%)	Proportion of Reg'l Pop. in National Total (%)
CAR (Luzon)	1,252,962	1,254,838	99.9	1.8
Region X (Mindanao)	1,470,296	2,463,272	59.7	3.6
Region XI (Mindanao)	2,107,285	4,604,158	45.8	6.7
Caraga (Mindanao)	874,456	1,942,667	45.0	2.8
Region II (Luzon)	1,014,955	2,536,035	40.0	3.7

Sources: Total Population, NSO 1995 Census of Population; Estimated IP Population, ONCC & OSCC, 1989 cited in “Indigenous Peoples.” IBON Facts & Figures, 15 April 2001.

The majority (61%) of the indigenous peoples are in Mindanao, while a third (33%) can be found in Luzon. The rest (6%) are scattered among the Visayan islands. An ADB report in 2002 noted the top five regions with the highest concentration of indigenous peoples are: the Cordillera Administrative Region, Region X, Region XI, Caraga Administrative Region, and Region II [9] (see Table 5.1).

## **Epidemiology**

In the Philippines, the DoH identified the indigenous peoples as among special groups of population that require special consideration in terms of health. “Tackling health issues of these groups require more focused preventive efforts and understanding of their needs and differences that set them apart from the mainstream.” Furthermore, it admits that issues that affect the rights of vulnerable sectors are growing, and that “...protection of these rights, the most basic of which is the right to life and health, is important to meet their full potential, development and productivity” [5].

Cholera, dysentery, parasitism, diarrhoea, hepatitis, malaria, goitre, tuberculosis, polio, measles, pneumonia, and skin diseases are the most common illnesses and disorders prevalent in indigenous peoples’ communities in the Philippines.

Malnutrition is also a common problem both for preschoolers and nursing mothers [5].

The diseases mentioned imply inadequate health and sanitation services and facilities. According to the DoH, “Indigenous peoples in far settlements have a hard time reaching health services due to difficult terrain, lack and high cost of transport facilities which are more formidable during the rainy season. Insufficient knowledge of existing services, irregular and insufficient service providers and medical supplies discourage the indigenous peoples from using these services” [5].

Indigenous children are particularly underserved, especially since it is difficult to obtain statistics, as births are generally not reported. “The limited access to basic services for children in these indigenous peoples’ communities is worsened by factors such as armed conflict, dislocation and natural disasters which make them more vulnerable to communicable diseases, malnutrition, poor environmental sanitation and high death rates” [5].

### **Malaria in the Philippines**

Malaria is still one of the 10 leading causes of morbidity in the country, although it is no longer a leading cause of death. In 2004, the DoH targeted the reduction of malaria morbidity rate to 24 cases per 100,000 population and malaria mortality rate to 0.45 deaths per 100,000 population. Special target areas identified are all indigenous peoples’ areas.

Source: [5]

Several measures have been implemented in Indonesia to increase the efficiency and effectiveness of health development, increase access to health services, and improve distribution and quality especially in remote areas. Primary health care, carried out through the “posyandu” network, has improved with the growth of the Village Community Health Development Programmes [10].

### **Health in the Cordillera Administrative Region**

The Cordillera Administrative Region (CAR) is mainly populated by indigenous peoples, estimated at 1,404,000 in 2000. The birthrate in 2000 was 22.25 live births per 1,000 population. The infant mortality rate in 1999 was 13.82 per 1,000 births, with the main causes being pneumonia, preterm birth, septicemia, congenital anomalies, and respiratory distress syndrome. Most provinces have good immunization schemes. However, malnutrition has been increasing, with 9% of preschool children classified as either moderately or severely underweight in 1999 compared to 5% in 1998.

Maternal health care continues to be a problem. Not all pregnant women have been able to get prenatal care and vitamin supplements from the health units. Education on pregnancy and childbirth seems to be a continuing necessity to uplift maternal health in CAR. Potable water continues to be a problem in most provinces of CAR. Virtually all households in Baguio City and Mountain Province have safe water, but only 65% of those in Apayao have access to potable water. Most households in Baguio City (85%) have complete basic sanitation facilities including provisions for sewerage and garbage disposal, but only 19% in Kalinga and 34% in Ifugao have these facilities; the average for CAR is 48%.

The leading causes of death were pneumonia, cancer, cardiovascular diseases, accidents/trauma, tuberculosis, hypertension, vascular diseases, and peptic ulcers. Among the infectious diseases, the specter of tuberculosis continues to haunt the region. A greater number of cases have been reported from the outlying provinces than in the more urbanized areas. Malaria, rabies, pneumonia, and gastroenteritis are significant in some provinces of CAR.

Source: [5]

A number of health indicators were observed to have improved. The infant mortality rate decreased from 145 per 1,000 live births in 1967 to 52 per 1,000 live births in 1995. Under-five mortality has also declined from 111 per 1,000 live births in 1986 to 59 per 1,000 live births in 1997. The average life expectancy of men and women both increased substantially over the same period [10].

But there are still significant regional variations in program implementation and effectiveness. In particular, human resources in the health sector are unevenly distributed. It was also noted that health services should be enhanced for population most vulnerable to infectious diseases such as tuberculosis, cholera, and malaria [10]. For example, indigenous peoples in Central Sulawesi have limited access to health services and medicines.

The prevalence of malnutrition in Indonesia is high at 24.6% of children under five years old as of 2000. Only 77% of the population has access to clear water source in 2004 [6]. The Indonesian Demographic and Health Survey in 1994 found maternal mortality rate is still high at 390 per 100,000 live births [10]. As of 2004, 72% of total births were attended by skilled health workers [6]. HIV/AIDS cases reported from April 1987 to September 2001 was 2,313, but WHO estimates put the real numbers to be closer to 35,000-50,000 cases [10].

**Ngata Toro, Central Sulawesi**

The population in 2000 was 1,859 (415 households). The villagers call themselves *Toi Toro* (Toro people); ethnically they belong to the Kulawi group. They regard themselves as indigenous people as opposed to immigrants from South Sulawesi (Rompi and Bugis people), from North Sulawesi (Minahasa people), and from Poso (the Pamona people). The Toro believe they have inhabited the village for four centuries, before any other ethnic groups arrived.

There is only one village health care center, serviced by a village midwife (*bidan desa*). Although now decreasing, malaria is still the main disease. Every month a health aide (*mantri kesehatan*) visits the village, but a doctor's visit is rare. Prices of medicine are considered very high by the Toro people, especially when they have to buy it from the provincial capital, Palu. The medicines provided by the Social Safety Net program are limited, both in kind and quantity.

### **Kalora Village, Central Sulawesi**

The population in 2000 was 1,134 (234 household heads). Although there is only one village health center, served by a village midwife, health facilities (health center, hospital, and doctors' services) in Palu are relatively close. Villagers do not express any complaint on the availability of health facilities, except their inability to buy medicines or to pay for hospital or doctors' services. Many women still go to traditional healers to control their pregnancy or to help them give birth. The medicines provided under the Social Safety Net program are relatively limited and only for minor illnesses.

Source: [1]

Taboos and misconceptions about health-related beliefs and practices may pose health hazards. For example, the local government of Oriental Mindoro in the Philippines cites some Mangyan beliefs and practices [11]:

Causes of Sickness - the Mangyans distinguish between sickness for which there is a natural obvious explanation, and sickness for which according to them there is no natural explanation and which, they believe, is caused by evil spirits. To the first category belong cuts, burns, bruises, scratches, and shoulder and muscle pain from carrying heavy loads and from long hikes. To the second category belong flu, measles, skin diseases, diarrhea, dysentery, cough, colds and fever, rheumatism, sprains and fractures.

Natal Care - traditional birth attendants are preferred over midwives, nurses, and doctors because they rarely touch body parts. Husbands attend to the delivery of their wives. Bamboo sticks are used for cutting the cord of their babies. Most of them do not register birth and death of their babies. The Mangyans do not seek prenatal and postnatal care from health workers or trained birth attendants.

## **Inequalities/inequity**

Indigenous groups are not only poorer than the rest of the population, but their situation is also worsening. An Asian Development Bank study in 2002 covering Vietnam, the Philippines, Cambodia, and Indonesia showed that poverty is much higher in regions populated mainly by indigenous peoples [12]. Basic services such as health and education are often inaccessible to the rural poor, and more so for the indigenous peoples.

Though there is a general lack of disaggregated data, available information indicates that access to health services of indigenous peoples are limited and wide disparities exist between the health status of indigenous peoples and that of other population groups [13]. A study shows that health conditions of indigenous populations are typically poorer: “Life expectancy at birth is generally 10-20 years below that of the total population and infant mortality rates tend to be 1.5-3 times those of the population as a whole. Indigenous peoples also suffer disproportionately high morbidity and chronic illness. Malnutrition, communicable diseases, parasitic diseases, intentional and unintentional injury, mental health problems, cardiovascular disease, tuberculosis, diabetes and cancer are just a few examples of major areas of concern” [14].

In the Philippines, the NCIP admits that though healthcare of indigenous peoples is a mandate and responsibility of the DoH, “due to the inaccessible location of the vast majority of the indigenous peoples coupled by certain realities peculiar to their situation, it cannot be denied that medical benefits and services hardly ever reach the tribal settlements” [15].

The lack of commitment to collect data has been attributed to racism and marginalization of indigenous communities. The Global Health Watch 2005-2006 concluded, “At best, the health situation of indigenous peoples mirrors that of the world’s very poorest, but is made worse by their social and cultural marginalization.”

## **Social determinants**

Socio-economic, geopolitical and cultural reasons have driven indigenous peoples deeper into the mountains and hinterlands where they have a much harder existence and access to basic healthcare and other services is almost non-existent. Indigenous communities are deprived, depressed, underserved, and critical in terms of high health risks and human security. These harsh realities affect their basic rights to life and health.

## ***Socio-political context***

### **Land**

The ecosystems that indigenous communities often depend on are rapidly deteriorating through no fault of their own. Indigenous peoples have for centuries relied on the forests for their subsistence, as well as their cultural and spiritual life. The loss of their ancestral lands and environmental degradation underlie the destruction of livelihoods and food security, and the disintegration of indigenous communities.

The struggle for land is a familiar theme for all indigenous peoples across the world. Concerns include the lack of legal titles over ancestral lands and resources and the displacement of indigenous communities from their lands either for national security reasons or development projects [16]. Indigenous peoples’ opposition to government projects and corporate intrusions into their lands has been fierce and often led to bloodshed. Classic examples in the Philippines are the opposition to the Chico River Dam in the Cordilleras and the geothermal project of the government-owned Philippine National Oil Company in Mt. Apo in Mindanao [3].

Indigenous peoples in Indonesia are said to have lost authority and control over their territory and community for 32 years and only when the New Order regime fell in May 1998 the government issued policies that acknowledged the role of indigenous people in sustainable forest management. But previous and even existing policies on forest management destroyed sustainable *adapt*-based natural resource management systems as well as the economic systems of indigenous peoples. These also led to increasing deforestation, biodiversity loss and degradation of ecological and hydrological function of forests [10].

In addition, indigenous women's health and their roles in food and health security are undermined by industrial pollution. In the Philippines, mining wastes have caused air and water pollution, fish kill, and destruction of agricultural lands [4]. There are also instances that indigenous peoples are exposed to pollutants that have been banned in other countries [2].

## Policy and internal politics

In Indonesia, efforts to limit the expression of ethnic identity through state policies and programs emphasizing uniformity marked the New Order period. The Suharto policy deactivating so-called SARA (*Suku, Agama, Ras dan Antar Golongan*, meaning ethnic group, religion, race, and group-based interest) in institutions and socio-political interaction was a move to eliminate ethnic identity. The government then called community territory as *desa*, Javanese for territory, though other ethnic communities had their own terms for their territory. This had great impact, such as changed socio-cultural systems due to changed local governance structure. Few religions were officially recognized (Islam, Protestantism, Catholicism, Buddhism, and Hinduism), while the communities were encouraged to convert from their traditional beliefs to the officially recognized religions [1].

Demands for autonomy or means of political representation are common for indigenous peoples. In Indonesia during the New Order period, raising the issue on *adapt* communities was construed a threat to national integration or against development. This was among the reasons why the government has been reluctant to ratify international instruments related to indigenous peoples, such as International Labor Organization (ILO) Convention 169 [1].

At the national level, the Philippine government's decreasing budget and privatization policies have immense impact on social services such as health, education, and water and indigenous peoples' access are all the more limited by rising costs of services. Ironically, the IPRA provides that indigenous peoples "have the right to special measures for the immediate, effective and continuing improvement of their economic and social conditions, including in the areas of employment, vocational training and retraining, housing, sanitation, health and social security. Particular attention shall be paid to the rights and special needs of indigenous women, elderly, youth, children and differently-abled persons. Accordingly, the State shall guarantee the right of ICCs/IPs to government's basic services which shall include, but not limited to water and electrical facilities, education, health and infrastructure."

## Conflict

Militarization is also a serious problem for indigenous communities. It restricts their freedom of movement, destroys their habitats, and gives rise to sexual violence against indigenous girls and women. Militarization has resulted in family and

community disintegration. For example, the Mangyan and Aeta of the Philippines were forced to flee due to harassment because the military accused them of being members of the rebel New People's Army [4].

## International relations

The Philippines and Indonesia are among highly indebted countries. Philippine foreign debt amounts to some \$52 billion, while Indonesia's foreign debt is about \$135 billion as of 2005 [6]. The debt burden has a huge impact on the worsening situation of indigenous peoples. Governments often turn to massive resource extraction for export in order to pay foreign debts. Mountains where indigenous peoples live are rich in mineral deposits and diverse forest products and are thus the targets for exploitation. The Philippine government, for instance, prioritizes mining as a path to economic growth even if this may lead to displacement, conflicts, and violations of the rights of indigenous peoples to their lands and resources [17].

Globalization, where trade and investment liberalization, deregulation and privatization policies are implemented by most governments, worsened poverty for many indigenous peoples. For example, dumping of cheap imported vegetables through agricultural liberalization affected indigenous vegetable farmers in the Philippines. This destroyed the livelihood of 250,000 farmers and 400 vegetable traders. In their search for alternatives to this livelihood that they depended on for almost a century, some affected farmers shifted to the illegal production of marijuana to cope with destitution [18].

## ***Structural determinants***

### Income

Poverty is debilitating especially when it is chronic. In the Philippines, an ADB study found that no substantial improvement in the economic condition of indigenous peoples occurred between 1988 and 1997 [9]. But poverty, as generally defined in terms of income and consumption in a market and cash-based economy, does not sufficiently show the misery of indigenous peoples. The \$1 a day global indicator fails to cover people who do not sell their labor or who do not produce for the market. The lack of voice or power in political systems, the non-recognition of collective rights, and the lack of access to basic infrastructure and social services are important non-income gauge of poverty [18].

### Education

Poverty breeds a high incidence of illiteracy, which is a major factor in employment and ill health. Basic rights such as the right to education and health are severely compromised in indigenous communities. Policies on education also affect access. Philippine education, for instance, is viewed to be more responsive to the needs of the labor market than to strategic development needs of the people. Education curricula also seldom adjust to the realities of indigenous students who have distinct situations and environments. Girls suffer a double burden and a prevailing preference to educate boys results to lower literacy rate among girls [4].

## ***Intermediate determinants***

### **Health services and health systems**

As mentioned earlier, modern health services are not easily available for indigenous peoples because their communities are usually found in remote areas. Though the Millennium Development Goals 4, 5, and 6 have set targets for 2015 “to reduce by two thirds the mortality rate among children under five; reduce by three-quarters the ratio of women dying in childbirth; and to halt and begin to reverse the spread of HIV/AIDS and the incidence of malaria and other major diseases,” indigenous peoples’ health is left underserved or unserved.

Indigenous peoples often have their own effective systems of traditional medicine and many traditional medicines have become targets of biopiracy by pharmaceutical companies that are after patents. An estimated 80% of developing countries population relies upon traditional healing systems for healthcare and thus it is reasonable to assume that a high proportion of indigenous peoples depend on traditional healers [13]. But traditional healthcare systems have been undermined by lack of respect and intrusion of western medicine. Forests serve as pharmacies of indigenous peoples but they are losing access due to displacement or destruction of forests [2].

### **Migration**

Many indigenous peoples have become slum dwellers, internally displaced persons, or refugees. A number of indigenous communities in the Philippines have been displaced from their ancestral lands by military operations, logging concessions and plantations, dam-building, industrial zone development, and protected areas. The consequences are extreme poverty and urban migration. But in the cities, indigenous people suffer further because of lower wages, lack of employment, poor health, inadequate housing, and criminal convictions [17].

Indigenous peoples pushed to urban areas pursue livelihood and employment strategies that build on traditional skills but many end up in low-paying jobs. They are a source of cheap labor in the city. Examples are marketing of handicrafts; trading of traditional herbs and remedies; and construction jobs. Many become exploited as tourist attractions. Many more are petty traders, menial and domestic workers, and low-paid service workers. They live in poor settlements outside the support of traditional community and culture [17].



## Chapter 6

# Circumpolar Region and Russia

### Introduction

Defining the boundaries of the circumpolar region is not an obvious task, because it “consists largely of segments of nation states whose political centres of gravity lie, for the most part, far to the South” [2]. Striking historical differences divide the evolution of the role played by the Arctic in the eight nation states concerned by their entire or partial location within the circumpolar region, i.e. the United-States, Canada, Greenland, Iceland, Norway, Sweden, Finland and Russia. Given the cultural, socio-economic and political variety, the delimitation conventionally adopted by researchers requires the application of different geopolitical inclusion criteria for individual sections of the region, and boundaries are generally defined in order to ensure coherence and comparability between new investigations and existing data. This supports the thesis, according to which the development of an Arctic policy agenda on health and indigenous peoples’ matters among others, has suffered until recently from the label of an artificial construct [2].

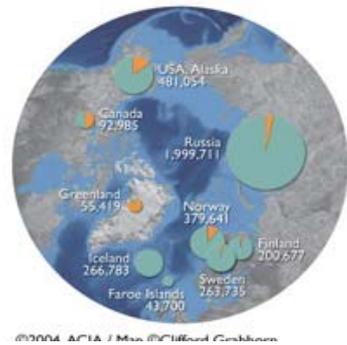
While most studies on indigenous peoples agree on a number of ethnic groups, which unambiguously constitute the focus of interest in the Arctic region comprised within all of Alaska, Canada North of 60°N, the Faroe Islands (Denmark) and the northernmost counties of Fennoscandia (see point 3, “Demography”)<sup>16</sup>, divergences and hesitations appear while addressing boundaries in the Russian Federation. In spite of the fact that only about one third of the ethnic groups located on the territory of the Russian Federation plausibly share similar living conditions with other native Arctic residents (e.g. Inuit, Saami, etc.), another thirty officially recognized minorities scattered mostly across Siberia share with the “small-numbered indigenous peoples of the Russian North”<sup>17</sup> a range of socio-economic, political and environmental problems, largely attributable to their recent common past. The major dilemma consists in that, while living in the Arctic grants to the former a certain visibility in the international arena, with consequent increased access to transnational research and support networks, the uniqueness and geographical marginalisation of the latter, at the heart of the largest country in the world, exacerbate their risk to be excluded from conventional regional distributions and, thereby, from global reports and statistics<sup>18</sup>. Although accumulated important data gaps (see point 2) and space limits make it unrealistic to repair this imbalance in the present section, attempts will be made to include existing knowledge about indigenous peoples in Russia into the overview of the social determinants of health in the circumpolar region.

Indigenous peoples of the circumpolar region occupy a leading position in the global struggle to secure the rights of ethnic minorities. During the last 10-15 years, the circumpolar north has progressively become a privileged pilot platform for innovative initiatives in the form of interstate agreements and cooperatives between subnational or non-State actors. Among them, a major step forward is represented by the foundation of the Arctic Council<sup>19</sup>, in 1996, which promotes partnerships with indigenous peoples in research [2].

## Data sources and gaps

The major data sources on indigenous populations are represented by the respective national censuses (which include health and socioeconomic information [8]), as well as by a range of regional syntheses, which provide informative thematic overviews related to major health issues and their determinants. Among them, we will quote the following recent documents: the Arctic Climate Impact Assessment [1], the Arctic Human Development Report [2], the final report on Persistent Toxic Substances, Food Security and Indigenous Peoples of the North within the Arctic Monitoring and Assessment Program [15], the Analysis of Arctic Children and Youth Health Indicators produced by the Sustainable Development Working Group [5], and the Survey of Living Conditions in the Arctic [27].

Intuitively and with rare exceptions, a common gap of these numerous sources consists in their focus on a geographical area, without specific consideration for data on ethnic minorities. Only in Greenland, where the majority of the population is native (90%), national statistics can be used as a proxy for describing health trends among indigenous peoples [8] (see map 1). In most other Arctic countries, where indigenous peoples are a significant minority, ethnicity is either partially<sup>20</sup> (Alaska, Canada) or totally omitted (Norway, Sweden, Finland) from official censuses; therefore demographic indicators for these groups are extremely difficult to extrapolate from country statistics [8].



**Map 1.** Proportion of indigenous peoples in the Arctic nations

The circumpolar region counts with some of the wealthier countries in the world, where national health indicators tend to be high and service provision very developed<sup>21</sup>. This apparently positive picture represents, in fact, an important bias, which is particularly detrimental to the knowledge about specific problems of ethnic minorities and to the possibility of addressing existing disparities. Moreover, national statistical practice differs consistently among the states covered by the circumpolar region; as a consequence, the definition of a policy addressing health disparities between indigenous peoples and national residents is hindered by the lack of standardized data comparable across nations, Arctic regions and ethnic groups [5].

Important data gaps concern indigenous peoples in Russia. This is often attributed to the fact that, on the one side, many ethnic groups were officially recognized by the Russian government<sup>22</sup> only in recent years. On the other side, the Soviet impact on assimilation of ethnic groups to the dominant culture and a tradition of secrecy about

certain areas of military and industrial strategic importance limited the access to information about a number of indigenous communities and isolated most of them from research and contacts' opportunities [15]. In particular, the lack of systematic data on the extent of environmental problems currently represents one of the most severe obstacles for indigenous peoples in Russia to defend their rights [13].

Finally, most data specifically on social determinants of health among indigenous peoples of the circumpolar region and Russia is available through non-governmental organisations<sup>23</sup>, few of which have a recognized international or, at best, interregional, status. The chronic shortage of financial resources and, in many cases, of technical support, particularly in Russia, makes it extremely difficult to keep a systematic track of the institutional memory, to disseminate information about successful local or regional interventions and to obtain access to peer reviewed publications and quality research.

### ***Demography***

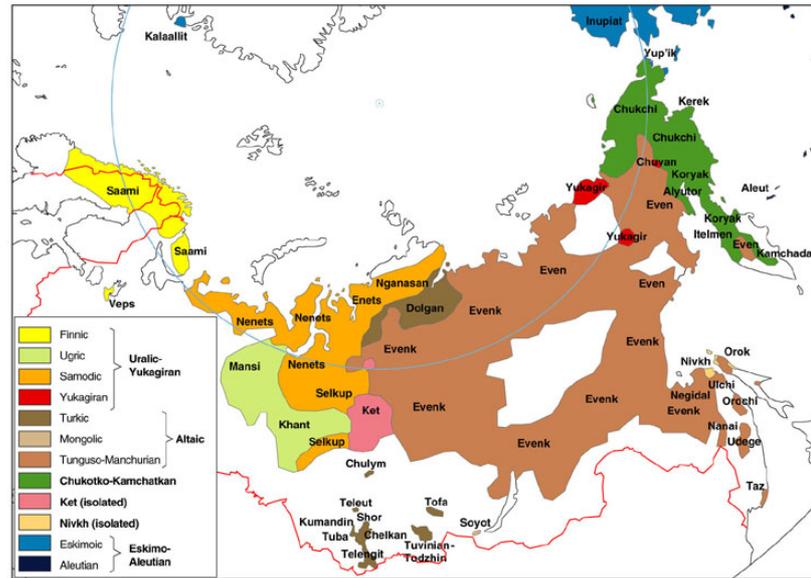
In scientific works, the circumpolar region is conventionally considered to encompass an area of over 40 million square kilometres, i.e. about 8% of the total surface of the Earth. But in spite of its dimensions, the region hosts only about 4 million of residents, almost half of whom live in the Russian Federation. Among them, according to recent estimates, less than 10% are indigenous peoples [2]. In the Russian Federation, the overall number of officially recognized indigenous groups represents less than 2% of the national population (2002 census [4]). Indigenous peoples of the Arctic are the descendents of migrants that spread over the current circumpolar region some 4 to 5 thousand years ago, following the retreating icecap in Europe [8]. Throughout much of their past, they have conducted a rather isolated life, which largely accounts for their common practice, in spite of a historically divergent development in most spheres of their existence, of referring to themselves as “the people” and to their habitat as “the land” [2]. Northern territories and particularly Siberia have always been associated with exploratory expeditions and discoveries of important stocks of natural resources; therefore a variety of outsiders have progressively colonized, with different approaches across arctic regions, the traditional communities, thereby modifying their distribution and lifestyles from the 10<sup>th</sup> century and up to our days. For many of the indigenous groups illustrated in maps 2 (circumpolar region) and 3 (Russian Federation), a number of currently investigated social determinants of poor health (see point 6) are the accumulated consequences of their historical legacy, which have been exacerbated by the rapid social and economic changes faced by most ethnic minorities during the past 50 years [2, 15].

**Map 2. Arctic indigenous peoples**



**Map 3. Officially recognized indigenous peoples in Russia**

(source: ANSIPRA)



## Epidemiology

Extensive published research on the health state of arctic indigenous peoples is only available for Inuit<sup>24</sup>. Although to a lesser extent, some aspects of the recent health profile of Scandinavian Saami communities is also reflected in the literature. In spite of the lack of comprehensive and comparable figures, the authors of most of the existing studies argue, that the epidemiological trends observed among Inuit communities are plausibly generalizable to the whole of the Arctic indigenous population. In particular, this refers to the so-called health transition, which Inuit people are reported to be facing since the second half of the 20<sup>th</sup> century, which is described by the following characteristics:

- a precipitous decline in respiratory infectious diseases (mainly tuberculosis) due to improved housing and sanitation conditions, as a consequence of urbanization and large vaccination campaigns<sup>25</sup>. Russian indigenous peoples represent an exception to this trend [3, 15];
- a relatively high prevalence of food-borne infectious and parasitic diseases linked with the extensive consumption of raw meat, as well as other infectious diseases such as hepatitis, meningitis, pneumococcal infections and STD
- compared to national averages, a higher rate of bacterial and viral infections, and birth defects (particularly heart defects) accounting for most of perinatal and infant morbidity and mortality<sup>26</sup>
- a rapid increase of chronic diseases or “diseases of modernization” (diabetes, cardiovascular diseases, cancers typical of industrialized countries<sup>27</sup>, obesity, etc.)
- a worrisome high mortality, mainly among younger age groups<sup>28</sup> due to external factors and social pathologies, such as violence, suicides, accidents, alcohol

consumption. According to Bjerregaard, Young et al., these causes account for at least 30% of the overall death burden among indigenous peoples of the circumpolar region [8].

At the same time, data collected among indigenous peoples of the Russian North [15, 30] suggest a strong consistency with typical post-Soviet health patterns profusely documented in the literature, particularly in relation with alcohol abuse, psychosocial stress, violence, TB outbreak and environmental contamination<sup>29</sup>. It is, therefore, legitimate to expect that other aboriginal groups scattered across the country, settled near Russian communities or partially assimilated to them, and missed by mainstream research, face similar problems.

### ***Inequalities/inequity***

The success stories and health improvements reported by the Arctic Human Development Report [2] have not managed to eliminate a series of inequalities that keep affecting indigenous peoples in the circumpolar region. Inequalities occur at various levels: across countries, across regions or between indigenous and non-indigenous residents of the same region.

As for international inequity, in the light of the last comment made in the previous point, it can be observed that, in spite of obvious similarities in living and climatic conditions, basic health parameters are much worse among small-numbered peoples of the Russian North than among their counterparts in Greenland, Alaska, Canada and Scandinavia. The comparison between known information about the health state of indigenous peoples in Russia with national statistics, on the one side, and the latter with key health indicators for the other seven Arctic nations, on the other side, highlights two-level disparities at the detriment of Russian aboriginal groups. A striking example is provided by the fact that not only Russia reports the lowest national life expectancy and the highest infant mortality rate (almost by five times) among the Arctic nations<sup>30</sup>, but the same indicators has been found worse than the national average in selected indigenous communities<sup>31</sup>. This is a clear reminder of the inevitable impact of context (i.e. a country's overall socio-economic conditions), the geographical position (i.e. the proximity to existing networks) and political decisions in research on the visibility and consequent access to information, material resources and expression platforms.

Other forms of geographical inequalities are given by the global distribution of environmental contaminants, which place Arctic indigenous peoples at the centre of a worldwide unique risk of exposure to Persistent Toxic Substances and Persistent Organic Pollutants (POP)<sup>32</sup>.

### **Social determinants**

Although the link between most health problems faced by indigenous peoples of the circumpolar region and a series of external factors is clearly in need of extensive documentation, current knowledge suggests that all social determinants identified by the WHO framework apply, in a way or another, to Arctic communities. Their respective social and political contexts, as well as structural and intermediate social determinants affect ethnic minorities of the North, as this is likely to be the case for many other indigenous peoples and vulnerable groups around the world. This last part aims at providing an overview as concise as possible of those determinants that are

specific to the circumpolar region and Russia. The description provided hereafter is, therefore, not exhaustive.

### ***The social and historico-political context***

The circumpolar region is largely associated with important stocks of natural resources (oil, gas, minerals, wood, wild animals, sea mammals and fish). The aftermaths of World War II marked the beginning of a frantic process of reconstruction of the European economy, which led to massive exploitation, and the current dependence of a large part of the world's market from these resources. Industrialization took place without consideration for indigenous residents and existing subsistence mechanisms, that had managed to be precariously preserved until then by previous paternalistic, but more respectful state policies and waves of immigrants in a number of areas (Canada, the US and Scandinavia). The two major consequences of these rapid changes are: 1) a severe contamination and related deprivation of landscape and wild life caused by timber, oil, gas and mining industry, which has progressively reduced the access to traditional self-subsistence activities (reindeer herding, fishing and hunting); 2) the destruction of the indigenous community-based economy with the introduction of market competition [11, 12, 17, 21, 24, 25, 29].

Over seventy years of Soviet regime followed by a drastic and largely unprepared shift to a capitalistic policy forced Russian ethnic minorities into even more desperate circumstances, where the adaptation to a changing environment had to be faced twice, within two radically opposed contexts and in less than two generations. On the one side, the assimilation of indigenous peoples to the leading (communist) ideology and culture and their imposed "sedentarization" into a system of collective farms and production chains led to the loss of major traditional skills, such as fishing and hunting techniques or language knowledge and ancestral healing practices or dietary patterns. While other circumpolar groups managed to take advantage from the democratic roots of their national frame and to progressively politicize ethnicity, in order to use it as an argument to defend indigenous rights (for example, Saami people in Finland and Sweden), the existence of Russian aboriginals has not gone beyond mere recognition. Today, Russia, whose priorities are clearly oriented towards rapid income generation and economic growth, applies what is defined a "policy of abandonment" [15] towards indigenous peoples; policy-makers take advantage from the incompleteness of the national law in matters such as land ownership and mechanisms of compensation for the (environmental) harm incurred, as well as from the decentralisation process and independence movements set off by the collapse of the Soviet Union.

### ***The structural social determinants***

The application, by the majority of authorities concerned, of strict regulations on hunting and coastal and river fishing (on whales and salmon, for example), in order to prevent exploitation abuses and control over the market, had an additional negative socio-economic impact on Arctic indigenous peoples. Access to these natural and traditional resources has been limited and/or prohibited without adequate permits, which can only be obtained under precise productivity and competitiveness conditions. Most native communities lack of initial capital to improve their equipment and expand their activities [11, 12]. The need to increase productivity forced many small groups to gather in bigger settlements or to move to urban areas. In many cases,

the purchase of modern equipment has modified the patterns of working-related injuries, shifting from hypothermia and animal attacks to motor vehicle accidents.

Moreover, particularly in Russia, corruption in the distribution of quotas (rights to fish and hunt) among well-off trade companies, public leaders and administration officers, as well as pressure and threats towards reindeer herders or even thefts committed by oil and mines' workers are not rare occurrences [15].

Finally, the collapse of their formerly sustainable economy has caused a rapid increase of unemployment among indigenous peoples, followed by a persistent perception of loss of control over one's life, health and subsistence. In Russia, the powerlessness of ethnic minorities is exacerbated by the lack of a solid land regulation, which allows massive questionable land trade, particularly in areas recently declared as naturally protected<sup>33</sup>, where the indigenous heritage is sold out to urban entrepreneurs for the development of tourism<sup>34</sup>.

### ***The intermediate social determinants***

Researchers haven't reached a consensus about the causal attribution of the high level of stress observed among indigenous peoples of the circumpolar region [16]. Nevertheless, everyone agrees that a number of worrisome social behaviours described in point 4, i.e. alcohol abuse (binge drinking in Russia), increase of violence and suicides are directly linked to despair, uncertainty about the future and poverty [18, 20, 33]. On the one side, forced migration to urban settings without the necessary background to adapt to the new conditions (e.g. a western education, a family or social network, language skills, etc.) has relegated indigenous peoples to the bottom level of the social scale [6, 19]. On the other side, those who remained in their original communities suffer from important shortages in terms of food and access to health and other public services<sup>35</sup>. In both scenarios, increased poverty has not solved old problems of precarious housing and sanitation [8].

Like many other indigenous peoples around the world, residents of the circumpolar region are going through a dietary transition inseparable from a not so context specific phenomenon of urbanization and globalization. Western nutrients have integrated a traditional diet made essentially of raw meat, thereby modifying indigenous disease patterns [7]. However, what adds to the risk of poor health among Arctic groups is the big dilemma they are facing in relation with the numerous sources of environmental exposure to PTS, POP and other chemicals that characterize their habitat [15]. Today, the choice available to them is between consuming rather expensive (but easily available) highly sugary and salty commercial food and increase the incidence of diabetes and cardiovascular diseases or maintain a cheaper traditional diet and, together with it, the intake of contaminated meat.

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<sup>16</sup> Iceland is the only state of the circumpolar region with no presence of indigenous peoples.

<sup>17</sup> "Small-numbered indigenous peoples" is the term used in the Russian legal system to define ethnic minorities.

<sup>18</sup> It is not a coincidence that the most important reference on and for indigenous minorities in Russia is the non-governmental organization RAIPON, which, in spite of its acronym historically referring to the North, defines itself as the "Russian Association of Indigenous People of the North, Siberia and the Far East".

<sup>19</sup> <http://www.arctic-council.org/>. Other references on research conducted in the circumpolar region resulting from similar initiatives are: the International Arctic Science Committee (IASC,

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<http://www.iasc.se/>), the International Union for Circumpolar Health (IUCH, [www.iuch.org/](http://www.iuch.org/)), the International Arctic Social Sciences Association (IASSA, <http://www.iassa.gl/>), the International Network for Circumpolar Health Research (INCHR, <http://www.inchr.org/>), the Arctic Network for the Support of Indigenous People of the Russian Arctic (ANSIPRA, <http://npolar.no/ansipra/english/Index/html>), the Indigenous Peoples' Center for Documentation, Research and Information (doCip, <http://www.docip.org/>).

<sup>20</sup> The US census only distinguishes American Indians and Alaskan Natives, while the Canadian census defines as indigenous the following groups: Inuit, American Indians and Métis [2].

<sup>21</sup> In the Arctic nations, sanitation is available for 60% of the population, water is accessible for 82% of the population and the average life expectancy at birth is 65.2% (data from World Health Organisation, 20 April 2004. <http://www.who.int/whosis>). This clearly does not reflect the state of the indigenous peoples living in this region [2].

<sup>22</sup> During most of the Soviet era, only 26 ethnic groups of the Russian North, Siberia and the Far East had the status of small-numbered indigenous peoples. Several other ethnic groups applied for this status during recent years. The current list of ethnic groups officially recognized by the decision of the Government of the Russian Federation № 255 of 24 March 2000 includes 41 peoples, among which at least 11 (boundaries are rather artificial. Some researchers include up to 28 groups in this category) live in the coastal and northern areas of the Arctic Ocean's catchment [15]. See also map 3.

<sup>23</sup> Russian Association of Indigenous Peoples of the North, Siberia and the Far East (RAIPON, <http://www.raipon.org/>), Médecins du Monde (MDM, <http://www.medecinsdumonde.org/terrain>), Aleut International Association (homepage under construction), [Arctic Athabaskan Council](#) (<http://www.arcticathabaskancouncil.com/>), [Gwich'in Council International](#) (<http://www.gwichin.org/>), [Gwich'in Steering Committee](#) (<http://www.gwichinsteeringcommittee.org/index.html>), [Inuit Circumpolar Conference](#) (ICC, [http://www.inuitcircumpolar.com/flash\\_player\\_icc\\_select.php](http://www.inuitcircumpolar.com/flash_player_icc_select.php)), Inuit Tapiriit Kanatami (ITK, <http://www.itk.ca/>), [Pauktuutit – Inuit Women of Canada](#) ([http://www.pauktuutit.ca/home\\_e.asp](http://www.pauktuutit.ca/home_e.asp)), [Saami Council](#) (<http://www.saamicouncil.net/?deptid=1116>), [Lauravetlan Information and Education Network of Indigenous People](#) (<http://www.indigenous.ru/>), [Center of Information and Documentation of Crimean Tatars \(CIDCT\)](#), (<http://www.cidct.org.ua/en/>), Arctic Peoples Alert (APA, <http://www.arctica.nl/>), Association of Nenets Peoples "Yasavey" (no independent site, see <http://www.raipon.net/yasavey>), Ecological organisation "Tengri" (Republic of Altai, no web site. Contact: [tengri@ongudai.ru](mailto:tengri@ongudai.ru)), Khabarovsk Regional Association of the Peoples of the North (no independent site, see <http://raipon.net/khab-ilc>), Association of northern indigenous peoples of the Primorskiy Kray (<http://www.udege.ru>), Youth Information Center "Northern Hearth" (no independent site, see <http://www.raipon.net/piter>), Informational-legal Center "Turgar" at the Kemerovo Regional Public Organisation of Teleut People "Nabat" (<http://www.turgar.ru/>).

<sup>24</sup> According to the studies, this collective denomination includes both linguistic Inuit branches (Inupiaq and Yup'ik) spread out across Alaska, Northern Canada and Greenland, Canadian Dene/Métis, Greenland's Kalaallik, as well as Eskimos, Chukchi and Aleuts in Russia. Most works are currently accessible electronically. The International Journal of Circumpolar Health is one of the leading sources in this field ([www.ijch.oulu.fi](http://www.ijch.oulu.fi)). A selected list of references is provided at the end of the present section and a more comprehensive bibliography can be consulted in [8].

<sup>25</sup> See, for example, [2, 8, 10, 23].

<sup>26</sup> Research conducted mostly among Canadian Inuit. Poor quantitative data.

<sup>27</sup> Research focuses mainly on lung, breast, colon and cervical cancers.

<sup>28</sup> The peak of the problem has been recorded among young men aged 15-24 years old [8].

<sup>29</sup> See, for example, [9, 14, 22, 28, 31, 32].

<sup>30</sup> 64.8 years in 2002, compared with figures ranging from 77.2 years (Denmark) to 80.4 years (Sweden), as reported by the Arctic Human Development Report [2, p.156].

<sup>31</sup> Life expectancy appears by ten years lower (2002) and infant mortality more than twice as high (1996). This refers to data collected by MDM among Nenets peoples. (<http://www.medecinsdumonde.org/terrain/mission/etranger/russienenetses>).

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<sup>32</sup> Please consult [1, 15, 27] for an overview of this problem.

<sup>33</sup> The creation of natural parks has become a fashionable national practice in Russia, as a measure to allegedly reduce environmental contamination and resources depletion.

<sup>34</sup> Environmental organisation “Tengri” (Republic of Altai), personal communication.

<sup>35</sup> In relation to health care provision, for example, it should be highlighted that well documented technical improvements like the telehealth system introduced in Canada [26] have not yet changed the fact, that isolation, particularly of rural areas, and large distances remain a major challenge for service delivery in the Arctic.



## Chapter 7

### Africa

This section draws extensively on Health of Indigenous people in Africa by Nyang'ori Ohenja, Ruth Willis, Dorothy Jackson, Clive Nettleton, Kenneth Good, Benon Magarura [1] particularly in the information relating to the Pygmy and San peoples.

#### Introduction: Being Indigenous in Africa

Patterns of migration and settlement in pre-colonial Africa are strongly contested. Whatever their origins, by the time of the colonial period Bantu-speaking agro-pastoralists had established themselves as the dominant populations in sub-Saharan Africa. Across North Africa and the eastern coastal areas Arab culture had come to dominate. Populations of hunter gatherers and nomad pastoralists were marginalised within or moved beyond the reach of these dominant populations.

With the arrival of the European colonial powers from the fifteenth century all the indigenous African inhabitants were classed together in their relation to the settlers and the colonial state. All suffered from subjugation, discrimination and dispossession.

In his report on Kenya [2] the OHCHR Special Rapporteur on the situation of human rights and fundamental freedoms of indigenous peoples argues that in the colonial period “the majority ethnic groups, which became integrated into the farming economy occupied the more fertile areas and after independence they regained much of the land which they had lost to the colonial regime”. Hunter-gatherers and pastoralists were further marginalised as the colonial powers engaged with the settled and more accessible populations.

At independence the national boundaries of the colonial states were fixed, confirming both the separation of many Indigenous communities who lived or travelled across borders and their continued marginalisation within the new states. All the inhabitants of African countries in theory became equal citizens, and governments sought to build national identity. In doing so they sought to disregard ethnic identity and difference and as Saugestad [3] argues in regard to Botswana, this resulted in the elevation of “the culture of the numerically dominant (Tswana) people to a new national, neutral standard”, with minorities and Indigenous communities were grouped with other minorities as Remote Area Dwellers. In other countries power was contested between larger ethnic groups and governments such as that of Kenya refer to Indigenous communities as “minorities”, “marginalized” or “vulnerable” groups or communities.

In this context the concept of “indigenous” peoples remains strongly contested in Africa. As a report adopted by the Africa Commission on Human and People's Rights (ACHPR) put it[4]:

... the main argument that has always been preferred is that all Africans are indigenous to Africa. Definitely all Africans are indigenous as compared to the European colonialists who left all of black Africa in a subordinate position that was in many respects similar to the position of indigenous peoples elsewhere. However, if the concept of indigenous is exclusively linked with a colonial situation, it leaves us

without a suitable concept for analysing the internal structural relationships of inequality that have persisted from colonial dominance.’

The growth of the international Indigenous movement over the past 20 years, has led to the growth of Indigenous organisations and movements in Africa campaigning for the rights of Indigenous peoples. Recognising the increasing awareness of the rights of Indigenous peoples the ACHPR concludes:

‘The overall present day international framework relating to indigenous peoples should be accepted as the point of departure. The principle of self-identification as expressed in the ILO convention 169 and by the Working Group on Indigenous populations is a key principle ....’[4]

The report argues that:

‘...Africa’s indigenous peoples have their own specific features that reflect from the specific feature of the African state and its role. They have specific attachment to their land and territory; they have specific cultures and mode of production that are distinct from the groups that dominate political, economic and social power.’

Indigenous peoples, the report concludes, face a critical problem in being evicted from of their land or denied access to the natural resources upon which their survival as peoples depend. Culture and knowledge systems on which communities are built and sustained are disappearing. Dispossession “is rapidly turning them into the most destitute and poverty stricken”. All these amount to serious human rights violations which the Commission challenges in terms of the obligations African states have under the African Charter on Human and Peoples’ Rights.

Impoverishment and loss of culture are only part of the story. While not formally recognised, Indigenous peoples face discrimination in all aspects of life – education, housing, employment, access to services. Poor service provision in remote areas combined with derogatory attitudes of staff deny Indigenous people equal access.

### **Data Gaps**

As was pointed out in the Lancet review[1], “lack of formal recognition of indigenous peoples poses problems for gathering evidence about their health status. Even where there are apparently clear demographic figures, these mask complex political issues which inform when and where data are collected by whom, and how (if at all) indigenous groups are categorised. In public health terms, this affects both the numerator and denominator of statistical calculations and limits the scope of epidemiological studies. Information about health status and access to services, and social determinants of health including the right to occupy and use land, clean water, sanitation and education is difficult to find”.

#### **Box 7.1**

##### Dispossession in Namibia

*“Wood for the walls of our houses is also a problem. We now need a permit to chop down the trees but the officials don’t want to give us one as permits have been given to people that come and chop down the trees to be sold as firewood. These people hire the San to do it for them, but after three months we still haven’t been paid a cent.”*

Jamba, Vasekele San Leader, Namibia [5]

## Demography

Maybury Lewis [6] estimates that there are over 14.2 million self-identifying indigenous people in Africa. Instability, conflict, remoteness of the areas in which Indigenous peoples live, poor infrastructure and communications, and lack of capacity in governments in most of the continent make detailed population data very hard to find and such data as exists is not reliable. The ACHPR [4] report lists some of the best known Indigenous peoples whom they divide into two groups, hunter-gatherers and pastoralists. The report gives 11 examples of hunter-gatherers in 13 countries and 23 of pastoralists in 22 countries. To give some idea of the range of groups it is worth noting that in his report of his mission to Kenya in December 2006 Stavenhagen [2] records meeting representatives of 26 Indigenous communities. Small, widely scattered and in some cases partially assimilated, Indigenous communities are hard to identify and enumerate and there is currently no comprehensive survey of Indigenous peoples in Africa.

In this report we look at three groups covering a broad spectrum of the Indigenous peoples of the continent, and the social determinants that affect their health and well being: the 300-500,000 hunter-gatherer Pygmies<sup>36</sup> spread across ten countries of central Africa; the 85,000 San of in six countries of Southern Africa; and the 2 - 4.5 million nomadic pastoralists spread across the continent.

## Epidemiology – incidence and inequality

In spite of the difficulties with collection, there is sufficient data to give an indication of the health of Indigenous African people and their position relative to their neighbours and national figures. This section gives a broad overview; more detailed information on the Pygmies and San is available in Ohenjo et al [1] and Jackson [7] from which most of the data here is drawn.

### Infant and child mortality

Infant mortality rates for Indigenous peoples are higher than national averages and their neighbours. Rates for the Aka of the Central African Republic and Twa in Uganda are more than twice the national rates [8, 9], with the Ugandan Twa mortality rates 1.8 to 2.4 times higher than non-Twa [9].

Under-five mortality rates of 27% reported for forest-dwelling Mbendjele in northern Congo were 1.5 times higher than neighbouring Bantu<sup>37</sup> [10] and mortality from measles amongst Mbendjele children in Congo was five times higher than in neighbouring Bantu communities[10, 11].

In Namibia both infant and child mortality are higher for the San who make up the bulk of the population of the Tshumkwe Constituency than the rate in the district, region and the national average Table 1 [12].

**Table 1:**

	Namibia	Otjozondjupa Region	Grootfontein District	Tsumkwe Constituency
Infant mortality (per 1000)	52	48	36	77
Child mortality (1-4yrs)	23*	22	10	33

Sources: 2001 Population and Housing Census Report; \*2000 Namibia Demographic Health Survey  
\*\* 2004 National HIV Sentinel Survey Report; \*\*\* 2005 Preliminary National Accounts  
Supplied by the Central Bureau of Statistics, National Planning, Namibia. Source: [12]

Infant and childhood mortality are reported to be substantially higher amongst Tuareg and Fulani pastoralists compared to Sonrai agriculturalists in the same area, and in East Africa there have been similar findings in comparisons between nomadic and settled Turkana [13]. However, there does seem to be evidence that there is less malnutrition amongst pastoralist children. Results in a study by Fratkin [14] showed “far fewer cases of child malnutrition in the nomadic pastoral Ariaal community of Lewogoso than in any of the other, sedentary communities”. This was attributed to the availability of milk and resulted in nomadic children maintaining adequate growth.

In Tanzania Sikar and Hodgson argue that their research and experience indicate that maternal and infant mortality are substantially higher than the national averages [15].

Maternal mortality also appears to be higher amongst pastoralists. In Kenya the maternal mortality rate (MMR) among the Gabbra pastoralists has been estimated at 599 per 100,000 and one study in Somalia suggested a figure of 1270 [13].

### Adult morbidity

Amongst Twa<sup>38</sup> communities in the Great Lakes region malaria, intestinal worms, diarrhoea and respiratory complaints are reported as their most serious illnesses [16]. Comparative data is not available, but less access to land, and impoverished living conditions with inadequate housing, and lack of sanitation and safe water are likely to account for the higher risk of parasite infections as has been reported for the Mbuti in DRC and Baka in Cameroon.[17, 18]. Other indications are mixed with Mbendjele, Aka and Baka communities having lower prevalence of malaria, rheumatism, respiratory infections, scabies, goitre, syphilis, hepatitis C, high blood pressure and dental caries; however, leprosy, conjunctivitis, periodontal disease, tooth loss and TB are more prevalent[10, 17, 19-25]. Yaws, is also reported to be more prevalent in forest-dwelling Pygmy communities than neighbouring groups[10, 18].

In a review article on the health of nomadic populations in sub-Saharan Africa Sheik-Mohamed and Velma [13] report that nomads appear to be generally healthier than their settled neighbours, but have less access to health services, safe drinking water and education. Viral infections, particularly measles, are less common but this also leaves them more susceptible to infection and outbreaks.

As Pygmy communities spend more time outside the forest in fixed settlements, malaria increases and parasites accumulate due to increased population density and lack of adequate sanitation [26-29].

As Pygmies are forced off their land and its associated culture and way of life, traditional cultural mechanisms for dealing with tension and discord are eroded and alcohol abuse and domestic violence against women increases [16]. Increasing consumption of alcohol in San settlements in both Botswana and Namibia has been reported over the last two decades, attributed to cultural upheaval and loss of land, resources and community networks [30, 31]. Sylvain [32] describes the effect of alcohol on the landless San in Omaheke and Mijlof [12] reports on similar problems in the Namibian conservancy area of Tshumkwe.

There is some evidence that there HIV prevalence is lower amongst Pygmy populations, [22, 23, 33, 34], which “may be because intermarriage is infrequent and monogamy more common” [16, 19, 35]. However there is also evidence that HIV

amongst Pygmies is increasing, probably because of increased contact with other communities [36].

There is a similar picture amongst the San. Botswana has an extremely high adult HIV/AIDS prevalence, estimated at 35.4% in 2002. For the San resettled in Ganzi the rate was estimated to be 21.4% [37] which may have been the result of their remote location in the Central Kalahari Game Reserve (CKGR). However, community leaders and NGOs working in the resettlement camps for people removed from the CKGR report that there is increased exposure (see box 5).

In Namibia, national HIV adult prevalence rose from 4.2% in 1992 to 23.3% in 2002, accounting for over 25% of deaths in health facilities [38]. Accurate data for the San population is not available. Mijlof [12] points to two studies speculating a rate between 2% and 6% for the San in Tshumkwe which are far lower than the UNAIDS national estimate of 21.3% in 2004. San displaced from farms along the new trans-Kalahari highway are also vulnerable and, as Sylvain points out San women are particularly vulnerable because of a 'widespread belief that 'Bushmen' women are highly promiscuous and generally sexually available' and the unregulated and lawless environment in which they live [32].

Namibia has the highest tuberculosis notification rate in the world with a rate for all forms of 676/100,000. Mijlof [12] reports that the notification rate amongst the San in the Tshumkwe is around 3-5% annually, an exceptionally high rate.

Tuberculosis is a serious problem for nomads. In Kenya for example the national detection rate in 1992 was 61 per 100,000 but 176,000 in 13 districts with nomadic and semi-nomadic populations. Nomadic districts contributed 28% of all cases registered though they comprise only 11% of the population [13].

There were, however, no significant differences in reported morbidity data. Studies in Somalia and elsewhere confirm this [13], though the review also points to problems with vitamin deficiencies in the dry season when milk production is lowest and anaemia amongst pregnant women. Tuberculosis is a major problem with a study in Kenya reporting detection rates of 176 per 100,000 population in 13 districts with nomadic or semi-nomadic populations against 61 nationally.

## **The social determinants**

For the remaining Indigenous hunter-gatherers and pastoralists in Africa, the future looks increasingly bleak, and for those displaced and dispossessed, the situation in most aspects of their lives, including health, has grown worse.

### ***Socio-political context***

#### **Conflict and instability**

Africa has witnessed almost constant war, violence and political instability with low level conflict for in all parts of the continent over 40 years: from the violence which accompanied independence in the Democratic Republic of Congo, to the civil war in Mozambique, to the civil war in Ethiopia, to the genocide in Rwanda, the wars in the Great Lakes and the current genocide in Darfur.

Loss of life through fighting, unexploded mines and the destruction of infrastructure, particularly in the Great Lakes Region has led to an estimated 4.5 million civilian

casualties of which over three million were in the DRC in the period 1999-2002 according to a study undertaken by Johns Hopkins University [39] While data for Indigenous pygmy groups has not been collected, there have been press and NGO reports of massacres of pygmies [40] and there were a large number of remote and insecure areas which the Johns Hopkins team were unable to reach.

The Africa Commission draws attention to the “countless, smaller, conflicts, such as those between herders and cultivators which are to be found in many parts of Africa”.

Apart from the deaths and injuries directly sustained warfare, the loss of skilled personnel and destruction of health infrastructure has been devastating. And, in the aftermath, as the Africa Commission [41] puts it, “nervous governments keep military expenditure high”, diverting resources from health and education.

## Recognition and discrimination

In the introduction to this section we described the lack of recognition as distinct communities with particular needs and rights which underlies many of the problems facing Indigenous peoples throughout Africa. Their struggle for recognition extends beyond national borders to international institutions. In 2006 in a statement on the discussion of the situation of Africa’s Indigenous peoples at the UN Permanent Forum [42], it was noted that it was the first time in its five year history that Africa had been discussed (see Box 2).

### Box 7.2

“.....speaker after speaker from indigenous groups and civil society told the panel about the indignities they suffered — from the routine bigotry, forced slavery and even cannibalism that indigenous Pygmy and Batwa people endured, to the poaching and predation of natural resources that crippled the development of the Maasai people.”

Press release on UN Permanent Forum on Indigenous Issues [41]

But lack of formal or legal recognition does not preclude marginalisation, discrimination and abuse of human rights on the basis of the perceived differences between the dominant groups and minority Indigenous peoples. In the discussion at the Permanent Forum Indigenous representatives and experts from Africa “said that they felt “invisible” to the United Nations and spoke passionately about the Government neglect, discrimination, intimidation, slavery, and other violations of human, political and civil rights they faced (ref).” It was notable that virtually no representatives of African governments attended this session.

The ACHPR quite clearly sees the issue of discrimination and prejudice as the underlying cause of the marginalisation of Indigenous peoples: “the rampant discrimination towards indigenous peoples is a violation of the African Charter”.

Indigenous peoples throughout Africa are affected by negative stereotyping, domination, discrimination and marginalisation. At the most extreme there are reports of massacres of Pygmies in the devastating conflict in the DRC, but exclusion from or discrimination in delivery of services are widely reported.

Botswana demonstrates the issues which arise from formal invisibility of Indigenous peoples. The National Constitution

### Box 7.3

*“How can you have a stone-age creature continuing to exist in the time of computers? If the Bushmen want to survive, they must change, otherwise, like the dodo they will perish.”*

Festus Mogae, President of Botswana, in [43]

recognises the main tribes but not the San, though they are quite clearly distinguished as a separate group as the quotation in Box 4 illustrates. Since independence the government policy has been to integrate the San but they have in fact remained as an underclass at the bottom of the social hierarchy [43] [44], against whom there is substantial prejudice and discrimination.

In Namibia colonial history and apartheid policies resulted in two divergent pathways for the San. Some groups were segregated into remote areas which were carved out of their traditional lands while the majority were forced off the land and became an underclass working as farm labourers, domestic servants and squatters[45]. Since independence the government has allowed for the establishment of “conservancies” which gave communities in remote areas some control of natural resources and an income from tourism. Two conservancies have been established, but the majority remain as an underclass of labourers. New labour laws, intended to ensure minimum standards for workers have had resulted in many San, who lived as family groups on farms, being forced off the farms into resettlement camps where poverty and welfare dependency have increased [43].

Politically, pastoralists across Africa have lost the power they held before the colonial period to the more populous farming communities. Governments see their way of life as backward and destructive of the environment [14, 46], a view based on prejudice [4] combined with an environmental doctrine that pastoralism is unsustainable because overgrazing leads to degradation of the land and destruction of the environment [46]. Policies towards pastoralists focussed on ways in which they could be encouraged or forced to change their way of life.

More recently the effect of pastoralists on both the economy and the environment has been questioned [14, 46, 47]. Pastoralists occupy marginal lands and their way of life and social organisation are appropriate to their environment and fundamentally depends on their livestock that “provide nutrition, transport, clothing, shelter, and are also the basis of wealth, traditional customs and respect” [47]. Furthermore pastoralists can make a positive contribution to GDP: “in Chad the nomadic pastoralist livestock production contributes up to 15% of the GDP for a population of  $\leq 6\%$  of the total population[47]”.

In spite of changing views about the environmental and economic reality, pastoralists have come under increasing pressure from a number of directions aimed at forcing them to abandon their way of life. In East Africa, Fratkin [14] summarises the situation as follows:

*“Population growth, loss of herding lands to farmers, ranchers, game parks and urban growth,, increased commoditization of the livestock economy, out-migration by poor pastoralists, and dislocations brought about by drought, famine, and civil war are increasing throughout the region. These problems are intensified as international development programs encourage privatization and individuation of formerly communally held resources”.*

## Structural Determinants

### Loss of Land and its consequences

As is the case in most parts of the world, land and access to its resources is a central issue. Forced removal, displacement and alienation from the land have profound effects on Indigenous health.

Land issues have propelled the San of Botswana into international limelight in recent years. The long and controversial process of removing and resettling San from their lands in the Central Kalahari Game Reserve (CKGR) dissolving their hunting and gathering rights was challenged in the courts [48] and overturned in December 2006. Official statistics are not available but NGOs and community members have reported a rise in HIV/AIDS and alcoholism. There are continuing negotiations on the provision of services and the extent to which San will be allowed to hunt, grow crops or herd animals. The group in the CKGR are only a small proportion of the total San population, most of whom are either settled in small communities or in ethnically mixed communities. Without disaggregated census data it is difficult to assess the distribution accurately, though it is certain that most have not retained either their traditional lands or maintain a traditional way of life.

Jackson [7] argues that Pygmy peoples' health situation is changing due to changes in their traditional forest-based hunter-gatherer livelihoods and culture. Logging, farming, infrastructure projects and the creation of protected areas are restricting Pygmy peoples' access to forest resources; many Pygmy groups are spending more time in road-side settlements, have closer contact with neighbouring 'Bantu' farming communities and are more involved in farming, wage labour and the cash economy. These changes are most pronounced in the Great Lakes region where most of the Twa communities have had to abandon a forest-based lifestyle, and have become landless and impoverished [16].

#### Box 7.4

*We are completely neglected and forgotten. Even our wives do not have access to midwives. They are permanently exposed to death because of lack of care during their pregnancy and deliveries. This came with the so-called modern life into which we were dragged. It did not exist when we were living in our natural environment. We had so many plants for such problems...*

Twa man from Kalehe district, Kivu, Democratic Republic of Congo (DRC)

#### Box 7.5

*"JCBs and caterpillars are working here now but they aren't doing development, they are bringing in AIDS. All these guys come here, they have a lot of money, they meet with Bushman women, buy them alcohol, sleep with them, and bring them AIDS.*

*There's development and AIDS, but there's more AIDS than development. According to our culture, we didn't know all these diseases. I didn't think I would die at my age, I thought I'd die only when I was very, very old. We only expect old people to die, but right now we are dying like never before".*

Roy Sesana, a San leader in New Xade resettlement camp, Botswana, 2003 [56]

Depletion of forest food resources through logging, commercial poaching or restricted access to protected areas increases the risk of malnutrition and mortality, particularly if Pygmy communities lack alternative lands on which to grow their own food [49, 50]. Evidence from Rwanda and Burundi shows that around half of Twa families have

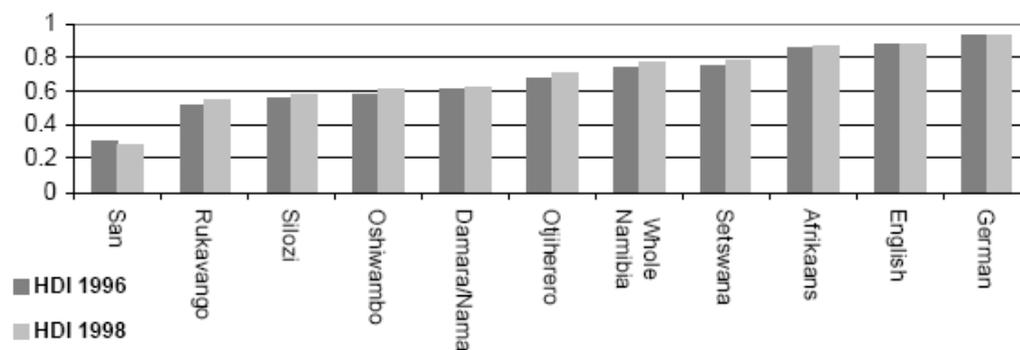
no farm land, 3.5 times the national rate [7]. Where Ugandan two families in a similar situation were given land under-five mortality rates dropped from 59% to 18% [51].

## Poverty

Poverty and inequity characterise the position of Indigenous peoples in Africa.

The health status of the San across Southern Africa is closely linked to their poverty. Figure 1 shows the position of San speakers in the Namibian Human Development Index (HDI) during the late 1990s. The HDI score combines measures of life expectancy at birth, education (adult literacy and school enrolment) and income (gross domestic product per capita). Not only are the San in the lowest position, they are the only group whose HDI score falls over the two year comparison period.

**Figure 1: Namibian Human Development Index (HDI) by language group – 1996 and 1998**



Reproduced from Suzman [43], based on UNDP data 1996 and 1998

In Botswana, which has the fourth highest income per capita on the African continent [52], income inequality within the country is high with the poorest 10% of the population receiving only 0.7% of the nations' income [53]. This group is largely comprised of the San and related minority communities [44].

For pastoralists, movement into closer settlements can have considerable effects on health including the transmission of density dependent diseases such as malaria; the introduction of new diseases to the area by those settling; and the exposure of the newly settled to infections common to the area [13].

## ***Intermediate determinants***

Substantial changes arising from conflict, globalisation and government policies and the structural changes emanating from them have had substantial effects on health and the provision of services for Indigenous peoples across the continent.

## Changing status and role of women

Erosion of traditional egalitarian social systems has increased Twa women's responsibility for children's well being and household provisioning. Women increasingly have to rely on begging of poorly paid work which does not provide sufficient income for adequate food [16]. Breakdown of traditional food sharing mechanisms makes children and pregnant women particularly vulnerable [17, 54].

Logging, road building and infrastructure projects, such as the Chad-Cameroon oil pipeline, increase STD transmission by employing transient male labourers who seek sexual services from the local women. Pygmy women are particularly vulnerable to

HIV infection due to the widespread belief of other ethnic groups that sexual intercourse with Pygmy women confers protection against back-ache, AIDS and other ailments, due to their special powers as forest dwellers (ref).

San women, and particularly those who have been forced off farms, have also gradually lost their equal status with men. Excessive alcohol consumption plays a major part in a rise in gender violence, a trend which Sylvain notes is an increasing problem amongst young people [32].

## Loss of land and the effects of closer settlement

As Indigenous peoples are forced off their land, substantial changes in their way of life have considerable effects on their health.

Pygmy communities pushed out of the forests spend more time in settlements closer to farming populations. Here they face increased risk of malaria due to greater exposure to infected mosquitoes and the build up of parasites due to increased population density and lack of adequate sanitation [17, 27]. Poor housing, sanitation and unsafe drinking water also increase risk of respiratory and parasite infections.

Contact and intermarriage with outside groups may increase the risk of HIV infection, and once it is introduced it may spread rapidly, as it is common, for example, for Pygmy men and women to have serial marriage partners. The lower rates of polygamy reported in Pygmy communities compared with neighbouring communities [16, 19] may nevertheless confer some protection on Pygmy women.

Loss of access to forest lands and resources also deprives Pygmy communities of their renowned traditional herbal pharmacopoeia used to treat a wide range of ailments [55].

Spiritual health also suffers as communities have less access to forests for traditional nocturnal singing and dance ceremonies to maintain harmony between the forest and the community. Social tensions, alcohol abuse and domestic violence against women increase [16, 17].

## Access to health care

The Commission for Africa [41] summarised the enormous problems in building the systems capable of delivering health care in Africa. Rural communities throughout Africa suffer from inadequate health care facilities. Reaching small, widely scattered communities living in remote areas is one of the most difficult challenges, and in general they are the least well provided for.

For Pymies, inability to pay, lack of ID cards and discrimination by health centre staff contribute to their exclusion [10, 50]. Pastoralists too remain marginalised, lacking political representation and access to public services [47] and there is little incentive for governments to provide them.

Some services are provided by missionaries, NGOs and logging and mining, but these are often outside the government service framework and prone to collapse either as a result of conflict or lack of funds [1].

## Conclusion

For many Indigenous peoples in Africa war, civil conflict and lawlessness are the overwhelming factors affecting their health. Outside these unstable areas health and well being are largely determined by a lack of recognition of their rights to self-determination and their freedom to maintain their lands, livelihood and culture. The structural determinants which flow from this, the loss of land and its resources lead to changes in living conditions which not only expose Indigenous peoples to greater health risks from changes in their location, but to far greater damage done by the destruction of culture and community.

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<sup>36</sup> The term ‘Pygmy’ can have pejorative connotations, but is used here as a term adopted by indigenous activists and support organisations to encompass the different groups of central African forest hunter-gatherers and former hunter-gatherers, and to distinguish them from other ethnic groups who may also live in forests, but who are more reliant on farming, and who are economically and political dominant.

<sup>37</sup> A term conventionally used for settled farming peoples, although these groups include Oubangian and Sudanic language speakers as well as Bantu language speakers.

<sup>38</sup> Data and references on Pygmy communities in this section drawn from Ohenjo et al [6] and Jackson [8]



# Chapter 8

## North America

### Introduction

*Health is the whole person... we don't need to think that we have an addictions problem here, a problem with teens there, Elders who are lonely, women who are depressed. We have to think: People don't feel good. Why is that?*<sup>39</sup>

A Métis key informant in a discussion of Métis health, NAHO [1]

The Indigenous peoples of Canada and the United States of America suffer a disproportionate burden of illness compared to the general population. Government policies in both countries have systematically undermined the capacity of Indigenous people to develop their own definitions of healthy communities. Colonization, poverty, violence, poor housing and environments of deprivation [2, 3] have broadly impacted the Aboriginal peoples<sup>40</sup> of Canada and the American Indians and Alaska Natives (AI/ANs) of the USA<sup>41</sup>. These disparities are related to economic, political and social inequities, highlighting the relevance of an approach based on the social determinants of health as outlined in this brief overview of existing knowledge in the region [4].

This working paper for the WHO Commission on the Social Determinants of Health attempts to present a brief, limited overview of some of the determinants of health related to Indigenous health in North America while in no way representing a systematic review. Limitations of note related to time and space constraints include an overemphasis on Canada versus the USA and missing data on Indigenous Peoples of Hawaii, hopefully addressed in the Pacific Islanders section but regrettably often missing in research as they represent the periphery of the periphery of Indigenous Health. The Social Determinants of Health discussed in this paper include the social and political context, structural and intermediate social determinants. Others of note but beyond the scope of this brief overview include: Social Services, Justice, Urban/Rural, Lands and Resources, Economic Development, Employment, Health Care, Remoteness and On/Away Reserve as discussed by the Assembly of First Nations (2005).

### **Data Gaps**

In a systematic review of Aboriginal health research Young identified several gaps in the literature including: a disproportionate lack of research involving Métis people, urban Aboriginal people, off-reserve First Nations people, and women and children and urban or off reserve communities [5]. In large part, this gap reflects the lack of data on groups other than status First Nations people who are registered under the *Indian Act* [2]. There was also an overemphasis on diet, genetics and contaminants while only 8 out of 254 papers selected for review dealt with injuries, which are the third cause of death among Aboriginal people in Canada [5].

Similarly in the U.S. there exists a lack of clear data on inequities in health as AI/AN data rarely collects accurate measures of socio-economic status, particularly across the

life course, and many surveys lack data on other determinants such as social exclusion, racism and gender [6].

Most importantly there exists a lack of research by Indigenous researchers and the community about their self-prioritized health needs and solutions for action on the determinants of health. However, notable organizations like the National Aboriginal Health Organization (NAHO), and the Canadian Institutes of Health Research Institute for Aboriginal Peoples Health are seeking to redress this imbalance with a focus on research that builds community capacity and engages aboriginal communities. Similarly, the principles of ownership, control, access and possession (OCAP), and the principles of Respect, Responsibility, Relevance and Reciprocity (The Four R's)<sup>42</sup>, which aim to represent Aboriginal self-determination in research, may be of use in addressing the imbalance [1].

## Demography

Canada's aboriginal population is diverse in ancestry, history and culture. There are 630 First Nations (Bands), comprising 52 Nations or cultural groups and more than 50 languages [2]. According to Canada's 2001 Census over 1.3 million people reported having at least some Aboriginal ancestry in 2001, representing 4.4 % of the total population (an increase from 3.8% in the 1996 Census) [7]. Although declining since the 1960s, the Aboriginal birth rate remains 1.5 times greater than the non-Aboriginal Canadian rate [4]. In part, this reflects the fact that the median age for the Aboriginal population remains well below the Non-Aboriginal median [4]. However, as Aboriginal people's life expectancy increases, and as the population ages, the trend will be toward higher rates of chronic illnesses, arthritis, and disabilities [4].

**Table 1: Estimated Adjusted Registered Aboriginal Population Distribution by Linguistic/Cultural Grouping 1991 (RCAP, 1996)**

	Adjusted Identity			Adjusted Identity	
	number	percentage		number	Percentage
Abenaki	1,385	0.3	Iroquois Confederacy	(35,910)	(7.3)
Algonquins	6,635	1.5	-Mohawks	25,175	5.7
Attikameks	3,320	0.8	-Cayugas	3,770	0.9
Beavers	1,390	0.3	-Onéidas	4,395	1.0
Bella-Coolas	890	0.2	-Onondagas	780	0.2
Blackfoot	11,845	2.7	-Sénécas	530	0.1
Carriers	6,260	1.4	-Tuscaroras	1,260	0.3
Tsilhqot'n	2,060	0.5	Kaskas	1,050	0.2
Coast Tsimshian	4,990	1.1	Kutenais	580	0.1
Comox	1,210	0.3	Kwakwa ka'wakw	4,440	1.0
Cree	137,680	3.4	Lillooets	3,790	0.9
Dakotas	10,570	2.4	Malecites	3,490	0.8
Delawares	1,400	0.3	Micmacs	16,965	3.9
Dene Nation	(20,100)	(4.6)	Montagnais/Naskapis	10,530	2.4

-Chipewyans	9 230	2.1	Nisg_a'as	3,705	0.8
-Dogribs	2,545	0.6	Nootkas	5,090	1.2
-Gwich'ins	1,970	0.4	Ojibwas	94,350	21.5
-Hares	1,170	0.3	Okanagans	2,605	0.6
-Slaveys	5,185	1.2	Potawatomis	140	0.03
Gitksan	4,210	1.0	Sarcee	900	0.2
Haida	2,560	0.6	Sechelt	695	0.2
Haisla	1,090	0.2	Sekani	745	0.2
Halkomelem	9,725	2.2	Shuswap	5,500	1.3
Han	,445	0.1	Squamish	2,235	0.5
Heiltsuk	1,465	0.3	Straits	1,855	0.4
Huron	2,155	0.5	Tahltan	1,410	0.3
			Thompson	4,170	1.0
			Tlingit	1,425	0.3
			Tutchone	2,290	0.5
			Wet'suwet'en	1,705	0.4
		<b>Total</b>		<b>438,000</b>	<b>99.6</b>

While the AI/AN share a common history of colonization, oppression, and economic, political and cultural marginalization , there exists a vast diversity in culture, geography and health in the over 450 federally recognized tribes (term used in the USA) and Alaskan Native villages [8]. According to the US Census Bureau the estimated population of American Indians and Alaska Natives is 4.5million, or 1.5 percent of the total US population[9]. The greatest concentrations of AI/AN populations are in the West, Southwest, and Midwest, especially in Alaska, California, Arizona, Montana, New Mexico, Oklahoma, and South Dakota [10]. Similar to the Canadian experience, the median age is younger and households are larger and poorer than the average family in the USA [8]. Unique to the US context is the lack of health insurance (greater than 30% reporting no basic insurance in the 2005 US Census) despite some AI/ANs qualifying for Indian Health Benefits[10].

**Table 2 AI/AN Population by Tribal Groupings 2000 (US Census Bureau, 2000)**

**Table 1. American Indian and Alaska Native Population by Selected Tribal Grouping: 2000**

(Data based on sample or information on confidentiality protection, sampling error, nonsampling error, and definitions, see [www.census.gov/prod/cen2000/doc/sf4.pdf](http://www.census.gov/prod/cen2000/doc/sf4.pdf))

Tribal grouping	American Indian and Alaska Native alone		American Indian and Alaska Native alone or in combination	
	Number	Percent of U.S. population	Number	Percent of U.S. population
<b>Total</b> .....	<b>2,447,989</b>	<b>0.87</b>	<b>4,315,885</b>	<b>1.53</b>
<b>American Indian, one tribal grouping<sup>1</sup></b> .....	<b>1,770,046</b>	<b>0.63</b>	<b>2,883,803</b>	<b>1.02</b>
Apache.....	57,199	0.02	104,556	0.04
Cherokee.....	302,569	0.11	875,276	0.31
Chippewa.....	110,857	0.04	159,744	0.06
Choctaw.....	88,692	0.03	173,314	0.06
Creek.....	40,487	0.01	76,159	0.03
Iroquois.....	47,746	0.02	89,371	0.03
Lumbee.....	52,614	0.02	59,488	0.02
Navajo.....	276,775	0.10	309,575	0.11
Pueblo.....	59,621	0.02	73,687	0.03
Sioux.....	113,713	0.04	167,899	0.06
<b>Alaska Native, one tribal grouping<sup>2</sup></b> .....	<b>96,998</b>	<b>0.03</b>	<b>120,766</b>	<b>0.04</b>
Alaska Athabascan.....	14,700	0.01	18,874	0.01
Aleut.....	12,069	-	17,551	0.01
Muskie.....	47,239	0.02	56,824	0.02
Tlingit-Haida.....	15,212	0.01	22,786	0.01
<b>One or more other specified tribal groupings<sup>3</sup></b> .....	<b>755,799</b>	<b>0.27</b>	<b>1,279,089</b>	<b>0.45</b>
<b>Tribal grouping not specified<sup>4</sup></b> .....	<b>452,697</b>	<b>0.16</b>	<b>1,017,222</b>	<b>0.36</b>

- Rounds to zero.

<sup>1</sup> The alone population includes people who reported only one American Indian tribal grouping. The corresponding alone-or-in-combination population includes people who reported one American Indian tribal grouping and one or more races.

<sup>2</sup> The alone population includes people who reported only one Alaska Native tribal grouping. The corresponding alone-or-in-combination population includes people who reported one Alaska Native tribal grouping and one or more races.

<sup>3</sup> The alone population includes people who reported one or more American Indian or Alaska Native tribal groupings not listed above or elsewhere classified and no other race, and people who reported 2 or more of the 14 specific tribal groupings listed above (Apache through Sioux and Alaska Athabascan through Tlingit-Haida) and no other race. The corresponding alone-or-in-combination population includes people who reported one or more other specified tribal groupings regardless of whether they also reported another race.

<sup>4</sup> The alone population includes people who checked the box "American Indian or Alaska Native" only. The corresponding alone-or-in-combination population includes people who checked the box "American Indian or Alaska Native" regardless of whether they also reported another race.

Note: For the 14 specific tribal groupings listed (Apache through Sioux and Alaska Athabascan through Tlingit-Haida), the alone population includes people who reported that one tribal grouping only. The corresponding alone-or-in-combination population also includes people who reported one or more tribal groupings and one or more races.

Source: U.S. Census Bureau, Census 2000 special tabulation.

## Epidemiology and inequalities

The long history of oppression and marginalization continues to take its toll on indigenous people's health and well-being[4]. For example, Indigenous communities of North America face higher levels of suicide, substance abuse, community and family violence, high rates of infectious and chronic diseases and tragic levels of injury[1, 11, 12]. In Canada life expectancy remains lower in the Aboriginal population than in the non-Aboriginal population (see Table 4.1[7]). The perinatal mortality rate remains almost twice as high for First Nations infants and the risk of sudden infant death syndrome (SIDS) remains three times the Canadian average [13]. Furthermore, significantly higher morbidity exists for injuries, pneumonia, tuberculosis, type 2 diabetes, obesity, STIs and HIV among other disorders[11, 13]. For instance, in the cohort studied by the *Vancouver Injection Drug User Study* Craib, et al found that the incidence of HIV in Aboriginal injection drug users was twice that of non-Aboriginal IDUs [14]. These health disparities are not the result of any factor inherent to Aboriginal populations, but rather, are related to long-standing economic, political, and social disparities [15].

Table 4.1	1996			2001		
	Registered Indians	Registered Indians On Reserve	Total Population of Canada	Registered Indians	Registered Indians On Reserve	Total Population of Canada
Life Expectancy -- Males (Years)	68.2	-	75.5	70.4	69.2	77.0
Life Expectancy -- Females (Years)	75.9	-	81.2	75.5	74.3	82.1
Crude Birth Rate (per 1,000) <sup>4a</sup>	24.4	-	12.4	21.7	25.3	10.8
Crude Mortality Rate (per 1,000) <sup>4a</sup>	5.0	-	7.2	5.3	5.5	7.1
Infant Mortality Rate (per 1,000) <sup>4b</sup>	-	-	5.6	-	7.2	5.2
Total Fertility Rate (TFR) <sup>4c</sup>	2.9	-	1.6	2.9	3.2	1.5
Crude Tuberculosis Incidence Rates (per 100,000) <sup>4d</sup>	43.2	-	6.3	34.4	-	5.5

**Table 3 from the Comparison of Socio-economic Conditions, 1996 and 2001 (Indian and Northern Affairs Canada, 2001)**

Similar inequities have been observed in America, although data is often reported against all other races including other groups and population who have experienced marginalization such as Black and Hispanic communities, which may dilute the effect of inequalities[16]. Nevertheless, the leading causes of death in the U.S. for AI/ANs remain higher than average and include heart disease, cancer, accidents, diabetes, stroke, liver disease, lower respiratory disease, suicide, pneumonia and influenza and homicide[17]. According to the National Institute of Health the Pima Indians of Arizona have the highest rate of diabetes in the world[12].

## Social determinants

While many of the social determinants of health outlined in the *WHO Conceptual Framework for Analysis and Action on the Social Determinants of Health* apply to the indigenous peoples of North America this section will attempt to briefly outline key determinants identified by several Aboriginal organizations and government policy documents including the National Collaborating Centre for Aboriginal Health, the Royal Commission on Aboriginal People (RCAP), Assembly of First Nations (AFN), the National Aboriginal Health Organization (NAHO), and the Indian Health Service in the USA.

### *The social and political context*

#### Background

Yvonne Boyers argues “the poor health status of Aboriginal people in Canada can be attributed to a variety of historical sources including the impacts of colonization, Canada’s legislation and policies of assimilation, the residential school system and imposed change from Indigenous lifestyles to those of Canada’s industrialized society” [18] (p. 7). Others have described the impact of colonization, the separation of children and families, poverty, discrimination and dispossession across North

America and Australia as “stolen generations” affected by the intergenerational transmission of trauma and loss [3]. Duran, et al further describe a “soul wound” resulting from the historical trauma and cultural genocide of Native American people [3].

## Culture

Culture and tradition are integral components of Aboriginal peoples holistic approach to health and well-being[13]. As well as being a source of identity and social cohesion/connectedness, language can impact wellness through the quality and accessibility of health services (e.g. need of interpreter, lack health of information in Aboriginal languages).

While there exists vast heterogeneity among the indigenous peoples of North America, there is room for common ground in their shared experiences of colonization and their attempts to rebuild their varied cultural traditions. For instance, Chandler and Lalonde found that communities with increased markers of cultural continuity such as self governance, language and traditional practices experienced an up to 85% reduction in suicides compared to communities with less cultural resilience[19]. Recent literature further suggests that distinct ethnic communities may provide a source of cultural strength and health-enhancing resources, as members of a defined community with potentially higher levels of social support and social networks[16], highlighting the need for Indigenous-led research and interventions to address social cohesion in communities.

## Self-Determination

There is a wealth of research to support the notion that populations with more direct control over their own lives and the resources for meaningful participation in decision-making processes have better health outcomes than those who have less control[1, 4, 16]. While there is a healthy debate of whether or not self determination is a health determinant itself or rather a critical ingredient for ensuring well being across all determinants, it is well represented in Canadian and Aboriginal literature[1, 18, 20]. Chandler and Lalonde’s research on Aboriginal youth suicide clearly outlines the links between self-determination within First Nations communities and a drastically reduced incidence of youth suicide[19]. However, others caution that self determination should not be used as an excuse for national governments to ‘offload responsibility’ for Aboriginal social services and to avoid redressing the injustices of the past [2, 21].

## Land, Environment, Environmental Stewardship

Aboriginal and AI/AN people’s health is particularly affected by contaminants in the air, soil and water because of their close relationship to the land and recent employment trends in forestry and mining ([1, 22]. Contaminants in food sources, international threats to biodiversity and environmental concerns are of particular relevance to Aboriginal people, especially in communities who rely on fishing and hunting for major food sources. Yet a view of ‘environment’ as a source of (socially mediated) ‘hazardous’ exposures, fails to represent the myriad positive, and culturally specific relationships between land, place and Indigenous peoples throughout North America.<sup>43</sup>

## ***The structural social determinants***

### **Poverty**

The Report of the Royal Commission on Aboriginal Peoples concluded:

Aboriginal people are at the bottom of almost every available index of socio-economic well-being, whether [they] are measuring educational levels, employment opportunities, housing conditions, per capita incomes or any of the other conditions that give non-Aboriginal Canadians one of the highest standards of living in the world.<sup>44</sup>

In Canada, one in four First Nations children live in poverty compared to one in six non-Aboriginal children [20]. According to the US Census Bureau the ratio of all AI/ANs living below the poverty level compared to the general population was more than two[9]. There exists a clear body of evidence to support the notion that economic disadvantage and ill health are connected at multiple levels[23]. Davey Smith describes the concomitants of poverty as poor nutrition; overcrowded and damp housing; difficulty maintaining basic hygiene; increased risk of infections and increased stress[24].

### **Education**

Indigenous Concepts of Learning:

“First Nations education is a life long learning process that begins in the cradle and continues through to old age. First Nations women and elders play a central role as the transmitters of their culture to the younger generations.”<sup>45</sup>

Although more First Nations and Métis students are staying in school longer than in the recent past, Aboriginal educational attainment remains significantly below that of non-Aboriginal students[4]. The *Statistical Profile on the Health of First Nations in Canada* reported only 48% of off-reserve Aboriginal children completed the mandatory minimum education level in Canada of Grade 12[25]. Although the US Census bureau reports 76% of AI/ANs have at least a high school diploma, recent findings note AI/AN youth report higher levels of poor school performance and a greater percentage (25%) of peers getting drunk at least once per week than other racial/ethnic groups [26]. Similar disparities exist in post secondary education, although recent funding and policy efforts to increase Aboriginal places in universities and increase Aboriginal studies and research are having some success in Canada[1]. The *First Nations Education Action Plan* highlights the urgent need for sustainable, long term funding and political support for education grounded in First Nations languages and cultural values with First Nations jurisdiction and control [27].

### **Gender**

Browne and Fiske [28] argue the colonial legacy of subordination of Aboriginal people places Aboriginal women at increased risk for multiple levels of disadvantage, including: individual and institutional racism, gender bias, and class discrimination. Porter[20] summarizes several gender statistics:

- Aboriginal women are less likely than Aboriginal men, and non-Aboriginal women, to be employed and the labour force participation rate is lower on-reserve (47%) than off-reserve (55%).<sup>46</sup>

- According to Statistics Canada<sup>47</sup> Aboriginal women are three times more likely than non-Aboriginal women to die as a result of violence.
- Aboriginal victims are more likely to state that they were beaten, choked, threatened with or had a gun or knife used against them, or were sexually assaulted;<sup>48</sup>
- As a result of the violence that Aboriginal women experience within their homes, they are at higher risk for alcohol and substance abuse, and are three times more likely to commit suicide.<sup>49</sup>

Laroque and others call for an increased emphasis on social, economic and cultural revitalization with a multi level approach targeting youth development to combat sexual violence (Adelson, 2005).

## ***The intermediate social determinants***

### **Housing**

Both reserve and off-reserve housing and more especially the lack and poor quality are to this day a central issue in contemporary aboriginal experience [29]. The findings of the Royal Commission on Aboriginal Peoples found that many Aboriginal people were living in over crowded and under serviced homes[2]. According to the Aboriginal Peoples Survey[4] in 2001, Aboriginal family homes are:

- 2 times more likely to be in need of a major repair
- 90 times more likely to have no piped water supply
- 5 times more likely to have no bathroom facilities
- 10 times more likely to have no flush toilet

Adelson notes that the same colonial interests in resource allocation that created the reservation and forced movements of peoples continues today and leaves a legacy of social upheaval, mental illness, violence, substance abuse and disease[4]. As people move to urban areas they may face further marginalization and lack of opportunities in cities, where there exists a desperate shortage of adequate housing, particularly for women and children.

### **Family and Child Welfare**

There exists a dangerous lack of social and community supports for Aboriginal parents recovering from the legacy of intergenerational trauma inflicted by the residential school system. According to the *Canadian Incidence Study of Reported Child Abuse and Neglect* (CIS) one in ten First Nations children are placed in foster care versus a rate of one in two hundred for non-Aboriginal children [20]. CIS reports the main factors for placing children in care are physical neglect due to poverty, poor housing and substance abuse. Similarly, there exists a growing body of research to support the negative effect of poor-socioeconomic circumstances in childhood on health outcomes in later life[24]. However, innovative programs like *Breaking the Cycle*<sup>50</sup>, *Sheway*<sup>51</sup> and *Warriors Against Violence*<sup>52</sup> work with families to build community capacity for parenting and community healing.

## Summary

A holistic view of health as central to the total well being of Aboriginal peoples in Canada is summarized by the Royal Commission on Aboriginal Peoples [2, 18]:

In the imagery common to many Aboriginal cultures, good health is a state of balance and harmony involving body, mind, emotions and spirit. It links each person to family, community and the earth in a circle of dependence and interdependence, described by some in the language of the Medicine Wheel.

As the industrialized nations and international power brokers come full circle in their definition of health as more than the absence of disease, one can't help but wonder, what took them so long to catch up to the strength and wisdom of Aboriginal people? When will we stop citing only the WHO definition of Health in 1946<sup>53</sup> or the Alma Ata Declaration<sup>54</sup> as defining moments in public health and instead reference the origins of these ideas in the complex and sophisticated knowledge indigenous people have held for centuries. However, one must be wary of the Euro-American stereotype of indigenous peoples as somehow more spiritual [30] than the majority, leaving the danger articulated by Newhouse [31] of an over endorsement of Aboriginal culture as "all singing, all dancing" at the expense of true self determination.

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39 From the National Aboriginal Health Organization (NAHO), 2002 as quoted in [20]. Working paper for the National Collaborating Centre for Aboriginal Health.

40 The term Aboriginal peoples is used here to refer to the Indigenous inhabitants of Canada including First Nations (formerly Native or Indians), Métis (descendants of First Nations and European ancestors with distinct cultural heritage) and Inuit (formerly Eskimo) peoples as defined in the Report of the Royal Commission on Aboriginal Peoples (1996). While one cannot separate data on Inuit peoples from much of the literature presented here, this paper will focus mainly on First Nations and Métis people as Inuit peoples are described in more detail in the Circumpolar Region section.

41 Although the term Indian is no longer used in Canadian literature the term American Indians and Alaska Natives (AI/ANs) is broadly used in the American literature and is the language used by the US Census Bureau to denote two distinct cultural groups of Indigenous People of America. Native Hawaiian and other Pacific Islander Indigenous Peoples are beyond the scope of this paper. When referring to data from both Canada and the USA we will use the broader term of Indigenous Peoples of North America.

42 Kirkness, V. J., & Barnhardt, R. (1991). First Nations and Higher Education: The Four R's - Respect, Relevance, Reciprocity, Responsibility. *Journal of American Indian Education*, (31).

43 Recognition of this positive relationship has begun to emerge in the literature as exemplified by recent work focused on the links between ecosystem health, berry harvesting and health in the North West Territories of Canada. (Parlee, 2005)<sup>43</sup>

44 RCAP, *Choosing Life*, Special Report on Suicide among Aboriginal People (Ottawa: Supply and Services, 1995), p.24.

45 From the Assembly of First Nations, *First Nations Education Action Plan* (2005). [www.afn.ca](http://www.afn.ca) as quoted in Porter (2007) *First Nations, Inuit and Métis Social Determinants of Health*. Working paper for the National Collaborating Centre for Aboriginal Health

46 *Aboriginal Women A Profile* from the 2001 Census, DIAND. [www.ina.gc.ca/pr/pub/abw\\_e.html](http://www.ina.gc.ca/pr/pub/abw_e.html)

47 Statistics Canada, *Family Violence in Canada: A Statistical Profile* (2005), [www.statcan.ca/Daily/English/050714/d050714a.htm](http://www.statcan.ca/Daily/English/050714/d050714a.htm)

48 Ibid.

49 Health Canada, Women's Health Bureau, *The Health of Aboriginal Women*, online: [www.hc-](http://www.hc-)

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sc.gc.ca/english/women/facts\_issues/facts\_aborig.htm>,pg.1.

50 Breaking the Cycle, a community collaboration to support pregnant and parenting women using substances and their children, see <http://www.breakingthecycle.ca/>

51 Sheway, a partnership initiative that brings together government and the Aboriginal community to provide comprehensive health and social services to women who are either pregnant or parenting with substance use history, see <http://www.vch.ca/women/sheway.htm>

52 The Warriors Against Violence Society is committed to ending family violence in Aboriginal communities see <http://www.wavbc.com/>

53 In 1946 the constitution of the World Health Organization (WHO) adopted a definition of health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”.

54 Declaration of Alma-Ata. International Conference on Primary Health Care, Alma-Ata, USSR, 6–12 September 1978. Available at <[http://www.euro.who.int/AboutWHO/Policy/20010827\\_1](http://www.euro.who.int/AboutWHO/Policy/20010827_1)>.

# Chapter 9

## Australia and New Zealand

### Introduction

#### *The region*

The Pacific Ocean covers approximately 28% of the planet and is larger than the total land area of the world. This great southern ocean extends between Asia, Australia and the Americas, and has tens of thousands of islands creating our regional cultural, linguistic and geographic seascape. It is upon this incredible seascape that we present our brief survey of the indigenous people of this region, and revise the context of recent history, the impact of colonisation and the effect of these factors in the broader role of social determinants and Indigenous health.

Colonisation of this region entangled the lives of people with the fortunes and luck of those in far away lands. Many European powers maintained their colonies during the 20<sup>th</sup> century, such as those of the French in French Polynesia and the US in Hawai'i and US Associated Micronesia. Britain, on the other hand, withdrew her dominion in New Zealand from 1852 and in Australia from 1901. And yet the shadow remains.

#### *The people*

Being indigenous is a label that has become associated with deprivation and marginalisation, however for many of the world's indigenous people, their identity is self-conferred by a long association with the lands they live and from which their ancestors derived their existence and identity, and a tradition of unity with the environment that is told in song, reflected in custom, evident in subsistence as well as approaches to healing and rituals associated with birth and death [1].

Accurate information about Indigenous peoples is generally very difficult to find, authenticate and assess for accuracy; census and health related information, for example, is often aggregated without distinction or reference to minority groups.

The multiplicity of languages spoken in Oceania is another important point of demarcation between indigenous groups. For the region of South East Asia, there are around 1,500 languages spoken today. About half of them are spoken in Indonesia, and about 271 of those are spoken in Papua, a relatively small nation. Timor Leste has 22 different indigenous languages, and Australia has well over 350. Many Indigenous people speak more than one language.

The population of the region today is diverse, and is estimated in 2005 by WHO to be 34,452,156. The following tabulates the proportions of each nation's Indigenous peoples, those less than 30%, those from 30 to 60% and those nations with over 60%.

<30% Indigenous People n = 25,351,210		30 to 60% Indigenous People n = 1,278,913	
<b>Australia</b>	<b>20,984,595</b>	Fiji	853,445
<b>New Zealand</b>	<b>4,274,588</b>	New Caledonia (Fr)	243,233
Northern Marianas Islands (USA)	84,228	Guam	169,879
Smaller Territories of Chile, Norway, UK And US (4 )	4,397	Nauru	10,065
Antarctica	1,446	Norfolk Island (Au)	1673
Christmas Island (Au)	1,600	Cocos (Keeling) Islands (Au)	618
Terres Australes	310		
Pitcairn Islands (Uk)	46		

>60% Indigenous People n = 7,822,033			
Papau New Guinea	6,157,888	Marshall Islands	60,422
Solomon Islands	492,170	American Samoa	57,291
French Polynesia	266,935	Palau	21,897
Vanuatu	222,606	Cook Islands	18,027
Samoa	184,633	Wallis And Futuna Islands (Fr)	15,352
Micronesia (Federated States)	114,100	Tuvalu	10,885
Tonga	104,057	Niue	1,722
Kiribati	92,533	Tokelau	1,515

Table One: Total population, by Indigenous proportion. **Source:** available from estimates provided by WHO at <http://www.wpro.who.int/countries/Countries.htm>

## ***New Zealand and Australia***

Knowing who we are is an important facet of our identity.[2, 3] We, amongst the many and diverse people of New Zealand [4] and Australia [5], remain distinctly different and identifiably Indigenous [6, 7]. The Indigenous peoples of Australia have continuously occupied this land for many more than the 40,000 years ascribed. The peoples of our two countries have been in contact with migrants for many years, but most change can be attributed to the arrival of European settlers in the late 18<sup>th</sup> century that tested our resilience.[8] It was contact with these people that affected and led to the decline to today's levels of relative deprivation and health inequality, which seem to characterise the Indigenous people of our two countries. Contrary to predictions that we would die out more than a century ago<sup>55</sup> [9], we continue to freely self identify as Indigenous people and work actively to protect and promote our cultures.

The experience of Australian and New Zealand Indigenous peoples has been different in some fundamental ways. We touch on some, including treaty, citizenship and population proportions, in the work that follows.

Despite these differences, Indigenous peoples in both countries systematically experience poorer health. Where evidence is available; it is denial of economic and health resources that explains most of these inequalities.[10] However, inequalities are social in nature and extend beyond routine indicators of health and economics.

## The Australian perspective

“I have come to realise health is not dependent on the physical well-being of individuals. It is also dependent on key indicators such as education, financial status, adequate housing, sanitation, diet, and access to a range of goods and services. When considering health you need a model that has a focus on structural inequities, not just a focus on personal stories of misfortune. Also you need a model that acknowledges a history of oppression and dispossession, and a history of systematic racism.”

*Lowitja O’Donoghue (2004).<sup>56</sup>*

In developing this chapter on Aboriginal peoples of Australia we are fortunate to have two major relevant sources to draw on. Firstly there is the work of the Australian Bureau of Statistics (ABS) and Australian Institute of Health and Welfare (AIHW) which provides detailed information on what is known from major routine data sets on the health and well-being of Aboriginal peoples of Australia.

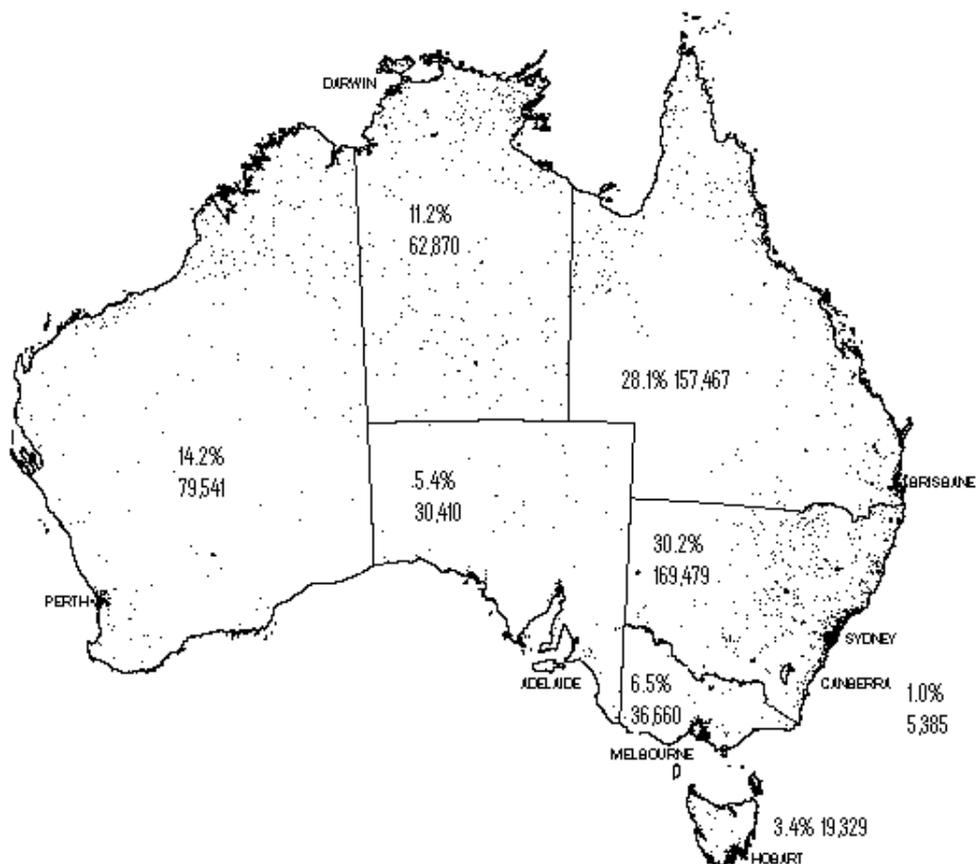
Secondly a book on the Social Determinants of Indigenous Health has recently been published that draws together much of the current information and debates on the potential positive and negative role of the social determinants of the health of Aboriginal people in Australia [11].

### **Demography**

As detailed in the map of Australia, it is currently estimated that in 2007 there are 561,387 Indigenous people living in Australia[12] and account for about 2.4%[13] of the total Australian population. Of this total, 90% identify as Aboriginal, six percent as Torres Strait Islander, and four percent as both Aboriginal and Torres Strait Islander [12].

New South Wales and Queensland have more than half of the Aboriginal population of Australia as residents. The Northern Territory has the highest proportion of Indigenous people (29% of all people in the NT) with only 12% of all Australia’s Indigenous people [14].

Only 25 % of Indigenous people live in rural and remote areas (see Table One) with the majority of Indigenous people living in urban settings. As the Indigenous population of in the major cities represent only about one percent, Indigenous people remain invisible to most Australians[15].



Map One: Distribution of the Aboriginal Population by State, (Estimates based on 2001 Census ABS Sept 2006[12]. Map courtesy Mark Harris.

ASGC Remoteness areas							
State/Territory	Major cities(a)	Inner regional	Outer regional(a)	Remote	Very remote	Total	Proportion of total state population (%)
NSW	56,773	43,697	25,922	6,178	2,318	134,888	2.1
Victoria	13,655	9,711	4,410	70		27,846	0.6
Queensland	31,208	22,995	41,318	11,513	18,876	125,910	3.5
WA	21,168	5,295	9,717	10,670	19,081	65,931	3.5
SA	11,789	2,197	5,910	1,220	4,428	25,544	1.7
Tasmania		8,869	7,911	402	202	17,384	3.7
ACT	3,901	8				3,909	1.2
			10,687	10,108	36,080	56,875	28.8
<b>Australia(b)</b>	<b>138,494</b>	<b>92,988</b>	<b>105,875</b>	<b>40,161</b>	<b>81,002</b>	<b>458,520</b>	<b>2.4</b>

Table Two: Aboriginal and Torres Strait Islander population, by remoteness area and state/territory Table 1.1 from AIHW Expenditures on health for Aboriginal and Torres Strait Islander peoples, 2001–02[16]. (a) Darwin is included as an outer regional area under ARIA (b) Includes populations of Christmas Island and Cocos Islands.

## **Epidemiology**

For those people who are identified in administrative data collections<sup>57</sup>, Aboriginal people experience greater levels of ill health resulting in higher levels of disability and reduced quality of life. Aboriginal people have significantly shorter average life expectancies than many people in the developing world<sup>[17]</sup> and of those Indigenous peoples of Canada, and the United States of America, and of the Maori of New Zealand <sup>[18]</sup>. The overall life expectancy was 59.4 years and 64.8 years for Aboriginal males and females respectively, compared to 76.6 for all males and 82.0 for female populations in the period 1996-2001.<sup>[12]</sup> In some parts of New South Wales, the average age of death of Aboriginal males was just 33 years of age.<sup>[19]</sup>

### ***Mortality***

For the period 1996–2001, differentials for life expectancy at birth for Aboriginal infants were around 17 years for both males and females. There were 7,387 people identified as Indigenous in WA, SA, NT and Queensland who died, accounting for 3.2% of all deaths. Death rates among Aboriginal people were higher than those recorded for the all-Australian population for most causes of death in every age category, and were almost three times as many deaths for all causes as would be expected based on the rates of non-Indigenous Australians.<sup>[12]</sup>

### ***Morbidity***

Quasi national data (see footnote two) suggests that Aboriginal people are about three times more likely to be admitted to hospital than other Australians. Non-communicable, chronic and notifiable disease all contribute to the greater burden of ill-health experienced by Aboriginal Australians.<sup>[12]</sup>

Indigenous peoples average rate of hospital separation is twice that of non-Indigenous people, however a larger proportion of lower cost interventions such as renal dialysis are noted.<sup>[16]</sup>

Mental health, social and emotional wellbeing in Aboriginal populations are still poor compared to other Australians, the impact of trauma, grief, racism and violations of human rights issues largely unrecognised.<sup>[20]</sup> Social and emotional well being issues are often misunderstood and considered to be a part of the larger realm of mental illness. There is increased recognition that individuals and communities with social and emotional wellbeing issues do not necessarily suffer mental illness.<sup>[21]</sup>

High rates of established behavioural health risk factors such as smoking, substance misuse, exposure to violence in the home and in the community, lack of exercise and have body mass indices of greater than 30 (technically obese) are well documented in Indigenous populations.<sup>[22]</sup> The resultant high rates of non-communicable diseases are “to a great extent preventable through interventions against the major risk factors and their environmental, economic, social and behavioural determinants in the population” (WHO 2000, cited in AIHW 2005<sup>[12]</sup>). It is generally recognised that this is not only a matter of individual responsibility but requires interventions at many levels by individuals, families, communities and the wider society to ensure that people are able to live healthy lifestyles through the provision of food, safe and supportive environments and access to supportive preventive services.

## ***Beyond Morbidity.***

Since the arrival of Europeans there has been very little formal recognition of the profound spiritual links of Aboriginal peoples to their Land. The common law principle of Terra Nullius -- a territory belonging to no one -- was applied unilaterally. The British "took possession" of the land because they considered it to be unoccupied. Moreover, unlike the experience of Maori in Aotearoa (New Zealand) or the indigenous peoples in both the United States and Canada, there has never been a formal treaty between the Aboriginal people and the newcomers to Australia. It has been argued that the absence of a treaty with Aboriginal peoples is causally associated with their poor health and social disadvantage [23].

The loss of land and marginalisation of Aboriginal people accompanied by individual and institutional experiences of discrimination and racism have placed heavy burdens of stress, alienation and loss of sense of control on many individuals, families and communities. Little work has been done in specific areas such as those associated with the forced removal of Aboriginal children from their homes and communities [24], the stripping of rights from returning Aboriginal servicemen [25] and relatively recent right to be counted in national census [26].

The strong and complex interrelatedness of individual behaviour, material deprivation and the psychosocial stressors is poorly understood, especially as they play out across generations and within the Aboriginal conception of health which is holistic and strongly linked to community well-being as well as individual health status [27]. Health does not just mean the physical well-being of the individual but refers to the social, emotional, spiritual and cultural well-being of the whole community. This is a whole of life view and includes the cyclical concept of life-death-life [28].

## **Information Gaps**

In this section we focus on two kinds of information gaps; those that are commonly seen in routine data collection systems, particularly health service data; and secondly, information that we need to answer some of the emerging questions to explain the continuing poor health of Aboriginal population of Australia.

### ***a) Those that are commonly seen in routine data collection systems, particularly health service data.***

Despite the identification issues, accurate differentials Aboriginal and majority population life expectancies are difficult to establish because of data quality issues with both the Indigenous data and the experimental nature of Indigenous population estimates.[29] A contributing factor is the under enumeration of Aboriginal people, especially the lack of identification of Aboriginal people in those states where there are large numbers of Aboriginal people but where they are a small, widely dispersed proportion of the population. While there are these limitations, the available statistics can provide a sense of mortality, morbidity and health, in comparison with those of the remaining Australian population. Despite this, all available evidence informs a picture of Aboriginal people suffering a disproportionate burden of ill health, but provides little data with which to understand the social determinants of health in routine collections.

As current data systems mature and become more reliable we need to explore a wider set of issues including:

- is there is social gradient in Aboriginal health?
- is there a systematic difference in the health of urban, rural and remote Aboriginal people?
- where are health gains being made?
- what are the patterns in health service use, especially between acute and preventive services.

***b) Information that we need to answer some of the emerging questions to explain the continuing poor health of the indigenous population of Australia.***

Ian Anderson, in his chapter on understanding the process through which the social determinants of health, [30] highlights many of the additional information we may need to ask:

- What is the significance of work, family, social connectedness and the other social determinants of health in Aboriginal social life and do these operate in a different way than in mainstream Australian society. For example there is some evidence that the health of employed Aboriginal people is poorer than those who are unemployed? How can financial responsibilities that Aboriginal people have to their family group impact on comparative measures of financial resources?
- What is the relationship between access to different models of health care (as a social determinant of health) and health outcomes?
- What is the impact of shifting relationships between an individual and society over the lifespan?
- What are the social processes that lead to the reproduction of disadvantage over generations?

What is the role of racism and discrimination in contributing to marginalisation and poor health of Aboriginal people.

## **The social determinants of health**

### ***Social and political context***

The poor health experience of Aboriginal people in Australia should also be understood in the historical context which put in context the structural determinants of health that have systematically reduced the opportunities of the Australian Aboriginal population to be self-determining and to have access to the opportunities for health that many other Australians take for granted.[31]

The impact of the continuing dispossession and discrimination on cultural identity and community functioning was recognised by government in the second half of the last century. This led to the development of Land Rights movements and the establishment of Aboriginal community controlled organisations, health and legal services, along with the politicalisation of the rights process.[32]

The innovation of the Decade of Reconciliation drew to a close in December 2000. It would have been reasonable to expect that the resources developed over a decade, including a Declaration Towards Reconciliation, a Roadmap for Reconciliation, National Strategies for Reconciliation and various recommendations would be undertaken Australia-wide, following on from public consultations led by the Council for Aboriginal Reconciliation, a statutory authority.<sup>58</sup> The Act set out, as a part of its preamble, reasons for the enactment of this extraordinary legislation. The preamble read (in part):<sup>[33]</sup>

- (a) Australia was occupied by Aborigines and Torres Strait Islanders who had settled for thousands of years, before British settlement at Sydney Cove on 26 January 1788; and
- (b) many Aborigines and Torres Strait Islanders suffered dispossession and dispersal from their traditional lands by the British Crown; and
- (c) to date, there has been no formal process of reconciliation between Aborigines and Torres Strait Islanders and other Australians; and
- (d) by the year 2001, the centenary of Federation, it is most desirable that there be such a reconciliation; and
- (e) as part of the reconciliation process, the Commonwealth will seek an ongoing national commitment from governments at all levels to cooperate and to coordinate with the Aboriginal and Torres Strait Islander Commission as appropriate to address progressively Aboriginal disadvantage and aspirations in relation to land, housing, law and justice, cultural heritage, education, employment, health, infrastructure, economic development and any other relevant matters in the decade leading to the centenary of Federation, 2001.

The Declaration and the Road Map, along with Councils ongoing recommendations, were presented publicly to the Prime Minister at the Corroboree 2000 meeting on 27 May 2000 in Melbourne. Many of these recommendations, as well as many of the policies related policies created during the previous decades were either substantially wound back or abolished altogether.

Prime Minister Howard refers to the recognition of past wrongs as the black arm band view of history for which he is unwilling to say sorry. He argues that he personally did not take Land, he did not kill anyone – it is a debated history that many people have trouble in accepting. His government favours “practical reconciliation” as an approach claiming this will lead to better outcomes. It is acknowledged by the government that Aboriginal Australians have poorer health, educational, employment and social outcomes, however the solutions that are to address these issues have little to do with the underlying causes.<sup>[34]</sup>

There is a fundamental struggle in recognising the causes of poor health between those who see the cause as an issue of only material deprivation (squalid housing, lack of basic health hardware such as running water, electricity) and those who see the causes as a combination of material deprivation and psycho-social stressors related to stress, alienation, discrimination and lack of control. Some commentators see this is a tension between material deprivation and symbolic reconciliation.<sup>[35]</sup> However, to see the acknowledgement of past wrongs as symbolic fails to acknowledge the profound psychological impacts that these past and current wrongs have on Aboriginal people sense of identity and our capacity to actively participate in Australian society.

Research on changes to the socioeconomic status of Aboriginal socioeconomic status between 1991-2001, a period that closely matches the decade of reconciliation, showed that in absolute terms it was difficult to differentiate statistically significant impacts of the varying government policies. However in relative terms the period 1991-1996 (symbolic reconciliation) clearly outperformed the period 1997-2001 (practical reconciliation), with only a slight improvement across core socioeconomic indicators such as unemployment rates, home ownership, or rates of post-school qualifications.[36] In part these gains appear small because of relatively larger gains by non-Indigenous Australians. Altman and Hunter observed that Indigenous socioeconomic problems do not seem to be amenable to solution, are deeply entrenched and are not abating in even during times of rapid economic growth.[34]

The rightful place of Aboriginal Australians as the original custodians of the Land is still to be routinely recognised and the past decade has seen increased funding but an unwinding of processes for self determination.

### ***The structural determinants of health***

A review of changes in socioeconomic status of Aboriginal Australians between 1971-2001 by the Centre for Aboriginal Economic Policy Research found that there have been slow improvements since 1971 but that Aboriginal Australians are still disadvantaged in comparison to other Australians. Slow improvement in disadvantage indicates that broad policy setting may be suiting most of Australia, but when the differentials close at a much slower rate, we cannot afford to be complacent while systematic differentials remain.

The table below clearly demonstrates that for most social indicators, Aboriginal Australians are less likely to have equivalent levels of income, employment, education, or level of home ownership.

Ratio of Indigenous to non-Indigenous outcomes, 1971-2001				
Variable	1971	1981	1991	2001
Unemployment rate (% labour force)	5.44	4.22	2.7	2.79
Employment to population ratio (% adults)	0.73	0.61	0.66	0.71
Labour force participation rate (% adults)	0.78	0.77	0.84	0.82
Full-time employment (% adults)	0.68	0.44	0.56	0.57
Private-sector employment (% adults)	0.65	0.42	0.50	0.48
Median income in \$2001 – Individual	n.a.	0.55	0.62	0.56
Median income in \$2001 – Household	n.a.	0.72	0.77	0.78
Home owner or purchasing (% population)	0.37	0.27	0.27	0.37
Household size	1.33	1.32	1.38	1.31
Never attended school (% adults)	39.32	14.42	5.21	3.14
15–24 year olds attending educational institution (% of non-secondary students)	n.a.	0.38	0.35	0.43
Post-school qualification (% adults)	0.13	0.18	0.30	0.44
Population aged over 55 years (%)	0.43	0.34	0.31	0.31

*Table Three: Ratio of Indigenous to non-Indigenous outcomes, 1971-2001 (Table 3 used from CAEPH Indigenous Socioeconomic Change 1971-2001: A Historical Perspective[34])*

Total spending on health services for Aboriginal Australians were estimated at 2.8% of national health expenditures, slightly higher than that spent on non-Indigenous people despite the greater burden of illness experienced by Aboriginal Australians. The average cost, per Aboriginal Australian, is estimated at \$3,901 (cf \$3,308 per non-Indigenous person). Aboriginal Australians use more publicly funded health services \$3,614 per person compared with \$2,225 per non-Indigenous person.

Services covered by Medicare (39% per person compared to non-Indigenous) and the Pharmaceutical Benefits Scheme (one third of the amount per non-Indigenous)[16].

There continues to be poor school retention rates for Aboriginal children in most parts of Australia. Recent research indicates that participation in mainstream education should be critically accepted as a pathway to improved health. The quality and cultural appropriateness of the education are important.

Baum has compared the current situation of Aboriginal people in relation to features of high social capital societies.[37] She identifies many gaps including institutional racism, few opportunities for interaction with other social groups (bridging social capital), high reliance on welfare payments making Aboriginal Australians different from other Australians. As well she notes signs of alienation in many Aboriginal individuals groups and communities and higher rates of suicide, mental illness and alcohol and drug misuse.

There is a profound lack of trust between many Aboriginal people and the Police and judicial systems. In the recent past, there have been a number of inquiries that have highlighted the extent to which Aboriginal human rights have been compromised, and include the report into Aboriginal deaths in custody[38] and the Bringing Them Home Report.[39] In 2003, 23,555 people were classified as prisoners in Australia, with 20 per cent of all prisoners identified as Indigenous (n=4,818). Over this time, 26 per cent of all deaths (n=10) were of Indigenous prisoners, representing a rate of Indigenous deaths in prison custody of 2.1 per 1,000 Indigenous prisoners (cf 1.6 per 1,000). Approximately one third of all prisoners were unsentenced prisoners on remand .[40]

### ***Intermediate social determinants***

Child abuse and neglect, domestic violence and high levels of inter-personal violence have been reported in many Indigenous communities and are often accompanied by alcohol and drug abuse.[41] Aboriginal people are more likely to have contact with the justice system irrespective of income. In NSW 40% of Aboriginal people aged 20-24 have appeared in court charged with a criminal offence.[42].

There is growing debate about the extent to which Aboriginal people, individually and as communities, need to take responsibility for many of the risk behaviours that lead to death, disability and poor health such as drug and alcohol abuse, inter-personal violence and injury. There is increased interest in building the capacity of individuals and communities to take responsibility for creating safe and sustainable communities.

However this emphasis on self-determination needs to be married with serious, long term investments in providing opportunities for health. For example the poor availability and expense of fresh food and vegetables in many remote communities, safety and security concerns and poorly maintained road and pathways are often beyond the resources of individual and communities without government and community support.

The living conditions for Aboriginal Australians in rural and remote areas remain a source of national shame with many communities living in extremely poor quality housing without access to basic infrastructure such as safe, running water, drainage, all weather roads and access to affordable, high quality food, particularly fruit and vegetables. As noted earlier, most Aboriginal Australians live in urban areas but even in this setting their housing is more likely to be overcrowded and poorly maintained.

There has been some recognition that housing for Aboriginal Australians needs to be differently designed to be compatible with family structures and lifestyle but progress in changing housing design has been slow.

## **The New Zealand perspective**

“The challenge facing public health, no matter how defined, is linked to navigating the relationship between peoples and their environments in order to achieve the best possible gains for health. [43]

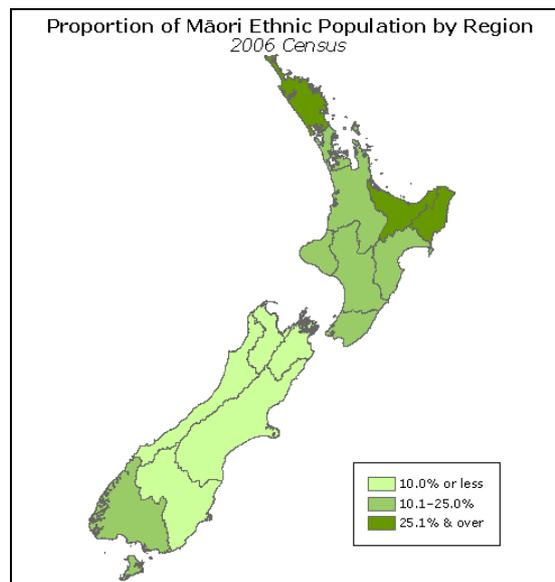
Durie (1998) provided a contemporary approach to indigenous health framing good health for Maori as a rightful legacy of citizens of the world and the result of the

*advantage of accumulated knowledge, the lessons of history to guide them, and the capacity to anticipate and prepare for the unexpected.* [9].

Health for Maori, the indigenous peoples of New Zealand, is an important feature of our culture; a feature that illustrates our unique view of the world we share with some of those around us. There is no doubt that by most measures of inequality Maori experience an unfair burden that stems from social, cultural and economic deprivation.

*E kai te manu o te miro, nona te ngahere, E kai te manu o te matauranga, nona te ao, ma te huruhuru ka rere te manu  
(A bird who thrives at home will venture close to home, a bird who thrives on knowledge will share the world, for a bird flies with feathers)*

We need others to live.



Map Two: Proportion of Maori Ethnic Population by Regions

## **Demography**

The 2006 census provides the most recent demographic information for New Zealand [44]. While the Maori population has grown along side that of the Asian and Pacific populations relative to the ‘European only population’, we have fallen as a proportion of the overall population by 0.5% in ten years [45, 46].

<b>Ethnic Group<sup>59</sup></b>	<b>1996<sup>3</sup></b>	<b>2001</b>	<b>2006</b>
European	2,879,085	2,871,432	2,609,592
Māori	523,371	526,281	565,329
Pacific Peoples	202,233	231,801	265,974
Asian	173,502	238,176	354,552
MELAA <sup>60</sup>	no data	no data	34,743
Other Ethnicity			
New Zealander (new in 2006)	no data	no data	429,429
Other 'Other' Ethnicity	16,422	24,993	1,491
Total <sup>61</sup>	16,422	24,993	430,881
<b>Total People</b>	<b>3,466,587</b>	<b>3,586,731</b>	<b>3,860,163</b>
Maori percentage of population	15.1%	14.7%	14.6%

Table One<sup>62</sup>: Ethnic Group Source: Statistics New Zealand Census 2006

Compared with data from the 1996 and 2001 censuses, replacement of the population has slowed with numbers of Maori children in the 0-4 year age group falling 1.68%. Maori remain a relatively young population group contributing to 29% of the births in the last calendar year (see table below).

<b>TOTAL POPULATION 2006</b>	<b>BIRTHS</b> Live births in the year ending September 2006.
Percentage of New Zealanders who identify themselves as a particular ethnic group.	<b>Number of births</b> 59,120
European	67.6% 70%
Maori	14% 29%
New Zealander	11.1%
Asian	8.8% 10%
Pacific	6.6% 15%

Table Two: Live births Source: Human Rights Commission (2007)

Education and language acquisition are important activities for the young [47, 48]. The average age for Maori has increased slightly (21.9 to 22.7 years) [49], however our children's access to the Maori language and education remains poor [50]. Educational attainment for Maori over the age of 15 years has improved since the last census with an 5.77% increase in the number of Maori gaining a school or higher certificate or qualification [46]. However, this improvement must be considered in the context of the relatively low baseline figures for Maori educational attainment. In 2004, 25% of Maori left school with no qualification at all. [51].

English remains the predominant language spoken in New Zealand [49], followed in descending order were Maori, Samoan, French, Hindi, Yue [Cantonese]. For Maori living in New Zealand, 23.7% indicated we could hold a conversation in Maori about everyday things. Alongside the capacity to speak our own language, there is the opportunity to participate in Maori medium education. In 2006, 89% of those participating in Maori medium education were Maori students. The Maori language is also taught outside Maori medium education to 8.3% of Maori students. In total approximately 39,852 students are being taught Maori, representing 24.5% of all Maori students are being formally taught our language [52].

## Languages Spoken (total responses)<sup>63</sup>

### for the Maori Ethnic Group<sup>64</sup>

2001–2006 Censuses

Languages spoken	Census year	
	2001	2006
English	494,679	530,892
Māori	130,482	131,613
Samoan	4,074	3,693
NZ Sign Language	6,549	5,538
Other	9,063	9,264
None (eg too young to talk) <sup>65</sup>	17,376	15,576
Total People Stated	518,730	554,355
Not Elsewhere Included <sup>66</sup>	7,554	12,072
<b>Total People</b>	<b>526,281</b>	<b>565,329</b>
<b>% speaking Maori</b>	<b>24.7%</b>	<b>23.3%</b>

**Note:** This data has been randomly rounded to protect confidentiality. Individual figures may not add up to totals, and values for the same data may vary in different tables.

*Table Three: Languages Spoken in New Zealand: 2001-06 Census* **Source:** Statistics New Zealand Census 2006

## Epidemiology

Compared with our non-Maori peers, Maori can expect shorter life expectancy (even when adjusted for low income) [10], fewer disability-free years, more preventable illness, a poorer prognosis for cancer when it is diagnosed and poorer access to health services. This situation has existed for some considerable time [53-55].

### **Mortality**

Life expectancy for non-Maori, Maori and Pacific men in 2000/02 was 77.2, 69.0 and 71.5 years respectively. Life expectancy for women was 81.9, 73.2, and 76.7 years respectively. When considering the length of life a person could expect to live a healthy life for non-Maori and Maori women were 68.2 and 59 years respectively, and 65.2 and 58 years for men [56].

### **Morbidity**

Although Maori experience high levels of morbidity in terms of hospital admission for preventable disease (ref) and injury in children [57], we do not always feature as those most at risk as indicated in Table 4.

We tend to carry the unfair burden of preventable ‘old world’ diseases, vaccine preventable disease and unintentional injuries. However looking at what is reported may not illustrate the whole picture. As we have already indicated Maori concepts of health and well being extend beyond the presence and absence of disease and include the mutual interaction of family-based relationship, spirituality and mental well being [58-62].

## Interaction of health determinants

In the first of three reports on ethnic mortality trends in New Zealand, Ajwani, Blakely, Robson, Tobias, & Bonne [63] described the disparity in life expectancy that grew between Maori and non-Maori throughout the 1980s and early 1990s. The disparity became more apparent after correcting for under-recording of Maori ethnicity. In their second report [64] Tony Blakely and his team investigated trends in mortality by socioeconomic position. Focusing on income they found that although all groups experienced declines in mortality, the ratio of mortality rates in low- to high-income groups had increased. The second report used age and ethnicity standardisation to examine socioeconomic inequalities in mortality (removing confounding by ethnicity). Controlling for ethnicity precluded the analysis of interactions between ethnicity and socioeconomic position in shaping inequalities in mortality and whether they were mediated by socioeconomic inequalities. The third report in the series described the effect of ethnicity and socio-economic position on mortality [10]. They found that Maori were over represented in lower socioeconomic groups over many measures. This implied that Maori carried a disproportionate health burden as consequence of lower socioeconomic status [10]. Combining the effect of relatively high rates of premature morbidity in fertility a youthful population provides Maori with a high dependency load.

Indicator	Males	Females	Total	Ethnic group (rate per 100,000, with standard error)			
				Maori	Pacific	Asian	European /Other
<b>1. Infectious disease</b>							
Infectious disease-related mortality, 2001–02, rate per 100,000 •	14.4 (13.3, 15.5)	12.0 (11.2, 12.7)	13.1 (12.4, 13.7)	<b>22.8</b> (19.1, 26.9)	<b>33.3</b> (26.3, 41.7)	12.3 (8.5, 17.2)	11.4 (10.8, 12.0)
Tuberculosis notifications, 2002–03, rate per 100,000 •	11.3 (10.2, 12.4)	10.4 (9.4, 11.5)	10.8 (10.0, 11.6)	17.1 (14.3, 20.3)	<b>45.5</b> (39.0, 52.7)	9.1 (8.3, 9.9) <sup>2</sup>	
Meningococcal disease notifications, 2002–03, rate per 100,000 •	18.4 (17.0, 20.0)	15.1 (13.8, 16.5)	16.8 (15.8, 17.8)	<b>24.4</b> (21.8, 27.2)	<b>37.4</b> (32.4, 42.9)	13.1 (12.1, 14.2) <sup>2</sup>	
Hepatitis B notifications, 2002–03, rate per 100,000 •	2.1 (1.7, 2.7)	1.4 (1.1, 1.9)	1.8 (1.5, 2.1)	<b>3.7</b> (2.6, 5.1)	<b>4.6</b> (2.7, 7.2)	1.4 (1.1, 1.7) <sup>2</sup>	
Rheumatic fever (initial attack) notifications, 2002–03, rate per 100,000 •	3.1 (2.6, 3.8)	2.3 (1.8, 2.8)	2.7 (2.3, 3.1)	<b>7.1</b> (5.8, 8.7)	<b>11.2</b> (8.5, 14.5)	0.6 (0.4, 0.8) <sup>2</sup>	
Campylobacteriosis notifications, 2002–03, rate per 100,000 •	404.3 (397.8, 411.0)	330.7 (324.9, 336.6)	367.0 (362.6, 371.4)	108.7 (102.4, 115.4)	63.7 (56.4, 71.7)	<b>496.6</b> (490.5, 502.8) <sup>2</sup>	
Cryptosporidiosis notifications, 2002–03, rate per 100,000 •	27.7 (26.0, 29.6)	26.6 (24.8, 28.4)	27.2 (26.0, 28.5)	7.7 (6.3, 9.4)	2.8 (1.6, 4.6)	<b>40.1</b> (38.2, 42.0) <sup>2</sup>	
Giardiasis notifications, 2002–03, rate per 100,000 •	46.8 (44.6, 49.1)	38.3 (36.4, 40.4)	42.6 (41.1, 44.1)	10.9 (9.1, 13.0)	4.1 (2.4, 6.5)	<b>59.1</b> (57.0, 61.3) <sup>2</sup>	
Salmonellosis notifications, 2002–03, rate per 100,000 •	49.1 (46.8, 51.5)	42.8 (40.7, 45.0)	46.0 (44.4, 47.6)	25.4 (22.5, 28.6)	14.0 (10.6, 18.2)	<b>61.3</b> (59.1, 63.6) <sup>2</sup>	

Table Four: Selected health risk factor indicators, New Zealand Source: Ministry of Health and Public Health Intelligence [65]

## Structural determinants of health

Access to culture, land and economic resources are priority determinants for Maori as we continue to negotiate to improve the provision of a wide range of services critical to health and economic investment. In Parliament and local bodies, the ground over which the rules of deciding how society's resources are distributed is constantly changing. Maori representation remains an admix of election to predominantly fixed positions complimented with nominations by Government to some District Health

Boards (DHB) to ensure Maori representation. Maori are now more likely to be represented in the Parliament<sup>67</sup> and on DHB<sup>68</sup> occupying 17.3% and 24.8% of the available seats respectively. Maori are however under represented in elections to many local bodies (including some DHB) [49]

## Education

Prior to 1847, Maori were taught in the Maori language at Mission Schools that brought about a very high degree of literacy in Maori when compared with their colonial peers. The Native Schools Act (1852) was passed which provided a subsidy for Maori schools that taught in English<sup>69</sup>. In 1899, the first Maori to graduate in medicine Dr Maui Pomare attended the American Medical Missionary College, Chicago [67], became Minister of Health in 1923. The first Maori to graduate in medicine in New Zealand was Peter Buck (known as Te Rangi Hiroa to Maori) graduated from The University of New Zealand in 1904 [68]. Both men were from the same area of New Zealand and both were knighted (op cit).

It took 120 years to establish teacher-training schemes for native Maori speakers and 120 years re-establish competent Maori language teachers before courses in Maori language were included in the curriculum of 5 Universities and 8 training school colleges. In 1981, the first Kohanga Reo (Maori language nest) pre-school Maori language immersion programme was established, led by Maori women. The aim was to make every Maori child bilingual by the age of 5 years old. By 1994 there were 809 Kohanga Reo<sup>70</sup> Schools established.

Indicator	Males	Females	Total	Ethnic group			
				Maori	Pacific	Asian	European /Other
School completion (Sixth Form Certificate or higher), 15+ years, 2001, percent	50.0 (49.7, 50.1)	50.2 (49.9, 50.3)	50.1 (49.7, 50.1)	30.5 (30.3, 30.7)	37.8 (37.5, 38.1)	69.6 (69.2, 70.0)	52.4 (52.0, 52.5)
Unemployment, 15+ years, 2001, percent	5.5 (5.5, 5.5)	5.4 (5.3, 5.4)	5.4 (5.4, 5.5)	<b>10.1</b> (10.0, 10.2)	9.2 (9.1, 9.4)	6.7 (6.6, 6.9)	4.2 (4.1, 4.2)
Low income, 15+ years, 2001, percent	21.4 (21.2, 21.4)	30.8 (30.6, 30.9)	26.2 (26.1, 26.3)	29.3 (29.1, 29.5)	30.9 (30.6, 31.2)	<b>43.3</b> (42.9, 43.6)	24.5 (24.4, 24.6)
No access to a telephone, 15+ years, 2001, percent	7.3 (7.2, 7.3)	6.7 (6.7, 6.8)	7.0 (6.9, 7.0)	12.2 (12.1, 12.3)	<b>15.6</b> (15.4, 15.9)	4.4 (4.3, 4.5)	5.8 (5.7, 5.8)
No access to a motor vehicle, 15+ years, 2001, percent	4.9 (4.9, 5.0)	7.1 (7.1, 7.2)	6.1 (6.1, 6.1)	<b>12.3</b> (12.1, 12.4)	<b>12.3</b> (12.1, 12.5)	6.0 (5.9, 6.1)	4.7 (4.7, 4.8)
Not living in own home, 15+ years, 2001, percent	47.0 (46.7, 47.1)	45.9 (45.6, 46.0)	46.4 (46.2, 46.5)	60.3 (60.0, 60.6)	<b>63.2</b> (62.8, 63.7)	54.4 (54.1, 54.7)	43.4 (43.1, 43.5)
Household crowding, all ages, 2001, percent	9.3 (9.3, 9.4)	9.9 (9.8, 9.9)	9.6 (9.6, 9.7)	19.1 (19.0, 19.2)	<b>38.3</b> (38.0, 38.5)	18.7 (18.5, 18.9)	4.2 (4.2, 4.2)

*Table Five: Socioeconomic indicators, New Zealand (age-standardised rates with standard error)*

**Source:** Ministry of Health, Public Health Intelligence from 2001 Census [65]

Illustrative of the notion of structural and intermediate social determinants is the Government's role in the reduction of access to our own language for more than 120 years. As early as 1852, the Government offered incentives to use the English language in the education system provided for all of New Zealand. After being found wanting by The Waitangi Tribunal in 1985, the Government, with constant prompting from Maori, had to redress the situation. Progress has been slow with 25% of Maori children learning our own language at school, there is considerable ground to make up for New Zealand's official language, helped in no small part by the leverage Maori representatives in the Parliament have been able to apply. Proportional representation has seen an increase in the number of Maori representatives in Parliament. Maori have become an effective minority lobby in Government, effective beyond the

proportion of the population the candidates identify with. The capacity to exercise the franchise to vote and have Maori in Government to pull on the levers of power has left Government with few excuses for their lack of efficacy. In short, Maori remain a minority that can simply be out voted when Parliamentary action was required.

Maori society is responsive to its environment; however as citizens, many people who identify as Maori continue to carry a disadvantage [63] that has strong elements of racism implicated in the genesis and maintenance of these inequalities and determinants of health [69]. Fewer Maori students leave school with a qualification (25%) or get a job [49], and those that go onto tertiary education are fewer in number and are less likely to graduate [51]. Maori remain under-educated, under-employed and under-paid. The Government has been unable to address to inequalities characterised by the limited quality and range of socioeconomic indicators available. When economic conditions led to higher unemployment in the 1990s, it was Maori who carried the excess burden of morbidity [10].

### ***Intermediate Social Determinants***

Many Maori conceive of health as being the balanced interaction of social, physical, spiritual and emotional aspects of our lives [59, 70] within a community with which we have reciprocal accountabilities and obligations between and across generations [2, 71, 72]. The rules and protocols that govern and regulate these processes have developed as times have changed for Maori society [73], sometimes to the disadvantage of some Maori, Maori have developed new resources to address our changing environment [74]—a determinants approach. A determinants approach to policy formulation was recently incorporated by Government into their policy [75] and monitoring reports [56, 76] for inter-departmental consistency [76].

Intermediate social determinants for Maori are characterised by inequalities that have a negative health dividend – poor housing and over crowding [77] with disease [78], or going to school hungry [79]. However we must also consider how interventions may be applied and therefore how cultural and linguist meaning can be accurately transmitted to improve health and well being. Therefore we must include our language because without our language we are no longer able to celebrate who we are in a manner that honours our cultures — our language cements our social capital. Integrating effective interventions into existing national strategies and goals is now an explicit part of health and social policy to improve the provision of resources to address inequalities [77].

## **Conclusion**

Persistent differentials in health and socio-economic status for the Indigenous peoples of Australia and New Zealand has its antecedents in the social and political context that characterised early stages of colonisation when structural determinants of health and well being were changed.

Government was established by arbitrary decree in Australia and with little effective Maori representation in New Zealand cementing in place new structural social determinants, diminishing the influence traditional strategies had on intermediate determinants brought about by land alienation and new, exclusive forms of education—traditional knowledge was no longer sufficient to meet the challenges to health in a cash economy.

As new challenges to health emerged with the intermingling of European and Indigenous people, the stress of rapid change, brought about conflict, left Indigenous populations susceptible to new infectious diseases that had been kept at bay by the distance and time it took to travel half way around the world, culminating epidemics that included the swathe of death carved by the 1918 Influenza Epidemic through out Oceania, devastating not only the Indigenous populations of Australian and New Zealand where there was contact with Europeans recently returned from Europe, but also devastating the islands where these ships stopped for respite.

There is evidence that over the past thirty years progress has been made to improve the social determinants of health of Australia's and New Zealand's Indigenous peoples. However, on many indicators, our health now remains unacceptably lower and at levels experienced nearly a century ago by our non-Indigenous peers.[80]

The influence that structural determinants have on inequities cannot be addressed without fundamental changes to the consequences of a history of colonisation. This is where our two countries diverge; New Zealand has begun a journey down a path of reconciliation, a journey the Government of Australia seems reluctant or unable to sustain. Inequalities experienced by the Indigenous peoples of Australia and New Zealand are significant and would be fundamental breaches of human rights if either Government was prepared to debate the notion of Indigenous rights; the same inequalities are a denial of autonomy – the right to self-determination, because they deny disproportionately more Indigenous people the right to development free of the dictates of hand outs.[81]

As noted by Latmans, Biddle and Hunter:

*Similar statistical outcomes can only result from similar resource endowments, histories, legacies, aspirations. Viewing Indigenous socioeconomic progress as a process that is seeking equality, in some simple statistical sense, within mainstream Australian norms is problematic and contestable[34].*

We suggest an alternative approach by Government because of the repetition of patterns of disadvantage with the emergence of new diseases of the 20<sup>th</sup> and 21<sup>st</sup> century. Without changes we can surmise that we are going to die earlier and get help later. When will we know that the chronic inequalities have been resolved? Reducing existing inequalities without producing new ones will be the metric by which success will be judged. How will these inequalities be addressed?

Restoring access to the cultural and social facilities that maintain social capital for the Indigenous peoples of Australia and New Zealand will do much to maintain resilience that is a defining character of all Indigenous people. Providing Indigenous people with sufficient resources to complete this transition in our own terms will encourage autonomy and therefore the opportunity own and solve emerging problems along the way. This cannot be undertaken without the help and support of the rest of society and without the shared wisdom that arises from a problem shared and understood.

As two of the countries we like to call God's Own, we will not travel far if we travel alone – separated by inequality.

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<sup>55</sup> See Durie (1998), page 30-31 for a fuller description

<sup>56</sup> Readers should note that for the purposes of this paper, we have used the term Aboriginal to refer to Indigenous Australians we describe in this paper, and includes the Aboriginal and Torres Strait

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Islander peoples. This is consistent with the protocol, as described in the NSW Health Department 2004 document *Communicating positively: A guide to appropriate Aboriginal terminology*. We have used the descriptor of 'Indigenous' when referring to status or data collections. When we speak of the Aboriginal and Torres Strait Islander peoples and the Maori peoples collectively, we use the term Indigenous.

<sup>57</sup> Data from the Northern Territory, Western Australia, South Australia and most recently Queensland are used to collectively create a quasi-national picture of Indigenous health statistics. These four jurisdictions alone are considered accurate enough to use in any ABS or AIHW statistical publications.

<sup>58</sup> The establishment of the Council for Aboriginal Reconciliation as a statutory authority occurred on 2<sup>nd</sup> September 1991 when the *Council for Aboriginal Reconciliation Act 1991* received Royal Assent. The first members to Council were appointed on 15<sup>th</sup> December 1991.

<sup>59</sup> Includes all of the people who stated each ethnic group, whether as their only ethnic group or as one of several ethnic groups. Where a person reported more than one ethnic group, they have been counted in each applicable group.

<sup>60</sup> MELAA = Middle Eastern, Latin American and African. This is a new category introduced for the 2006 Census. Previously, 'MELAA' responses were counted to the 'Other ethnicity' category.

<sup>61</sup> In 1996 and 2001 'Total Other Ethnicity' included MELAA.

<sup>62</sup> All data has been randomly rounded to protect confidentiality. Individual figures may not add up to totals, and values for the same data may vary in different tables.

<sup>63</sup> Includes all of the people who stated each language spoken, whether as their only language or as one of several languages. Where a person reported more than one language spoken, they have been counted in each applicable group.

<sup>64</sup> All figures are for the Māori ethnic group census usually resident population.

<sup>65</sup> Includes people who were too young to talk or unable to speak a language.

<sup>66</sup> Includes Don't Know, Refused to Answer, Response Unidentifiable, Response Outside Scope and Not Stated.

<sup>67</sup> Designated Maori seats were established in 1867 and a year later the first Maori representatives were elected. Maori men who owned land were granted the franchise to vote in 1853 alongside all other male land owners; however few Maori men had title to their land, so could not register to vote until the franchise was extended to all Maori men over the age of 21 in 1867. The same right was not granted to all other non-land owning men over 21 years old until 1879. In 1892, New Zealand again led the world in the application of social justice when women won the right to vote <sup>66</sup>.

Elections New Zealand. *History of the Vote*. 2005 3 April [cited 2007 28 March]; Available from: <http://www.elections.org.nz/history.html>.

<sup>68</sup> 11 of the 121 DHB members elected were Maori, the Minister of Health nominated a further 39 Maori of 78 people appointed to the District Health Boards.

<sup>69</sup> Interrupted by the New Zealand Wars that forced the closing of schools in 1865 and the abandonment of the mission schools, the Native Schools Act was extended in 1867 with the offer to communities of a school teacher, building and resources if land was provided to site the school.

<sup>70</sup> Indigenous language nests for pre-school children.

## Chapter 10

### Overview

It is impossible to capture the experience and views of the world's 350 million indigenous peoples living in some 5000 communities across the 70 countries. In this report we have attempted to look at as wide a range as possible in the time and with the resources we had available.

#### **Data**

In all sections of this report, insufficient data was reported as a major constraint. Very little is written about the social determinants of Indigenous health, largely because there is very little data available for analysis. In all but a very few places disaggregated demographic or health data are not collected or reported by governments and where they are, there are significant gaps.

In part the problem is related to the definition and identification of Indigenous peoples, as was recognised by the UN Permanent Forum on Indigenous Issues in its 2004 workshop on the subject [1]. However, lack of data is evident across the board even where Indigenous peoples are recognised, though there are differences. In some areas such as Australia where there is considerable data, there are still gaps particularly for small, widely dispersed communities, and the data do not allow for an understanding of the social determinants of the wide gap between Aboriginal people and other Australians exemplified by the difference in life expectancy. Similar problems exist in New Zealand, Canada and the United States where there is insufficient information to present a clear analysis of the causes of the differences in health outcomes.

For most countries, ranging from the Circumpolar region, to Africa, to Asia, and Latin America, there is little or no data. In some, such as the China and the Circumpolar region disaggregated data is either partially or totally omitted from national statistics, masking substantial differentials in countries with generally good indicators. Many Latin American countries do not collect or report systematic health data, although there are some census data and smaller scale studies available. Here other factors come into play including the division of peoples across administrative and national boundaries, and problems of self-identification as indigenous in situations where being the association is linked to discrimination and marginalisation.

Africa presents the most stark illustration of the problems. Governments are largely unwilling to recognise Indigenous peoples at home and have stalled international recognition. Weak governments, administration and health systems result in very weak data, and in remote, unstable and often violent parts of the continent data collection is very difficult indeed. The Johns Hopkins Study of mortality in the DRC demonstrates that data can be gathered in hostile environments, though some of the areas excluded for security reasons were home to small Indigenous communities [2]. In more stable countries such as Botswana disaggregated data is not collected in the interests of promoting a common national identity, thus in effect masking the dominance of the majority group. As Box 10.1 shows, data collection is not a neutral activity, and indigenous participation at all stages is crucial, from the analysis of the

social and political context, to which we now turn, through to the structural and intermediate determinants.

**Box 10.1: Who defines research on indigenous peoples, how and what for?**

Indigenous peoples have rarely been actively involved in deciding how or what should be studied about them and for what purpose. Political decisions are made on the basis of this research and often simplistic interpretations of data.

Two of the best known recent examples of scientific interest in indigenous peoples are the widespread pharmaceutical search for and patenting of indigenous plant knowledge to cure diseases of primary concern to the rich world while there is little concern with the health problems of Indigenous people. Second, the Human Genome Diversity Project sought to collect indigenous genetic data to reconstruct human evolutionary history before indigenous peoples disappeared, without adequate prior consultation and with little apparent concern for the culture and threats to the survival of the Indigenous communities who were to be studied. [3].

In many public health studies, decisions about what *is* researched and what is *not* often reflect the preoccupations of the dominant group rather than the priority areas identified by those being researched. Research ends up blaming communities for their ill health through wrong behaviours, poor knowledge, non-compliance and ignorance without examining social determinants that limit individual choices. For example:

- The few studies that deal with malnutrition among minority peoples in China stress poor child-rearing practices rather than contextual constraints [4-7] linked to government policy of identifying “healthy” and “unhealthy” behaviours and banning the latter [8].
- Australian efforts to encourage Aboriginal people to live healthier lifestyles referred to in this report, fail to address the problems of poverty and lack of availability of fresh food which prevent people from changing their diet in line with health promotion programmes.
- The focus on genetic and infectious disease research on Roma populations in Eastern Europe is associated with non-Roma concerns about “contagion” and avoidance [9, 10].

We argue here for more systematic data collection but it is important to look at the way in which decisions are made about what is studied and that data is open to interpretation; as the UNESCO remarked, “...statistics, although seemingly neutral, could be used both for the benefit and detriment of indigenous peoples” [1]. Definitions of data “categories” (for example “who is indigenous”?) need to be constantly re-examined, because they can be manipulated to support existing policies and practices rather than to understand a changing situation. Where discrimination already exists, evidence of health disparities can be, and has been, interpreted as evidence of marginalised peoples’ immorality and to justify their exclusion [9, 10].

## ***Inequalities***

The various regional chapters report substantial social, economic and health inequalities for indigenous peoples the world over. We find higher levels of infectious, and in some cases chronic, diseases, lower life expectancy and higher rates of infant and adult mortality; in several regions indigenous rates of suicide, alcoholism and substance abuse are above those of the national population. For some, disparities between indigenous and non-indigenous peoples appear to be increasing (Indonesia, Africa, NZ) in others comparable data is not available. In any case, in many regions, even within a single country we find large differences in health outcomes between peoples, so that even an aggregated “indigenous” category may mask some of the most severe effects. In those countries and regions where some disaggregated data for the different peoples is available, we find “gradients” in health (and other social and economic measures of wellbeing) between neighbouring

indigenous peoples which suggest that the social determinants of wellbeing do not affect all with the same intensity or in the same manner. There has been no research on this variability.

The factors and processes that we call social determinants of health are tightly interwoven and expressed differently at the local level so that it is difficult to untangle them. Many social processes act and have effects at the socio-political, structural and intermediate levels of the conceptual model and it is not clear whether this is the best way of categorising and relating the factors in order to understand them. For the purposes of this working paper we try to more or less fit the available evidence to the existing framework.

### ***Social and political context***

Substantial differences as well as common areas of concern emerge from the reports on the position of Indigenous communities across the world.

War and conflict are reflected either as a devastating current reality seen at its most extreme in the DRC, but also in local conflicts in areas where land and resources are contested so clearly demonstrated in the struggles over the forests of Latin America, Asia and Africa. Colonisation and its legacy of violent dispossession and decimation of enormous numbers of Indigenous people and communities continues as a backdrop to the struggle of Indigenous peoples and organisations to establish their rights to land, resources community and culture.

Globalisation and its accompanying demand for oil, electricity, timber and minerals increases pressure on the lands and environments of Indigenous peoples. International and national policies allowing exploitation of land for oil and minerals has had devastating effects on the environment and health of Indigenous peoples from Cameroon, to Peru, from Canada to Indonesia. Construction of dams as part of government programmes to meet energy needs, and supported by international financial institutions has displaced and disposed millions from China to Canada, from the DRC to India. Legal and illegal logging and forest clearance for timber and agriculture have resulted in the destruction of traditional economies and forced Indigenous peoples from their lands.

Prejudice, discrimination and marginalisation continue to be a reality. In terms of health the differences of life expectancy, burden of disease and access to services documented in the report are a reflection of Indigenous peoples' lack of power within the nation state. Policies aimed at assimilation have been halted in some places, but the drive to 'civilise' and incorporate Indigenous peoples, to bring them under the control of the modern nation state and the monetised economy continues.

Some countries, have initiated a process aimed at addressing the consequences of conquest and colonial oppression. In Latin America the Indigenous movement is a growing political force, and increasing recognition is reflected in the greater amount of information available on health. But in Asia and particularly in Africa recognition of Indigenous peoples and their collective and individual rights has hardly begun.

For Indigenous peoples and organisations involved in the growing Indigenous movement, the key lies in their right to self determination. The link between autonomy and health, is found in "... people's capability to lead a life they value" [11]. For Indigenous people, the right to self-determination is the core to addressing

the problems of land, culture, and marginalisation which underlie their poor health and well being. For them, and possibly far more widely, incorporating these concepts and their implications into the framework for describing the social determinants of health.

### ***Structural determinants***

The structural determinants of indigenous health that emerge from the sections in this report underscore the importance of land and community, with many authors also reporting on the more conventional socioeconomic measures of income, education and employment.

All contributing authors agree that land is a key component contributing to indigenous health, however they report very few studies that really aim to examine the impacts of indigenous peoples' relationship with land on their health. Land is clearly a key subsistence resource for indigenous hunter gatherers, pastoralists and farmers. However, in addition it is a space full of meaning for many peoples. Although the literature on peoples' relation to land is expanding, there is little reported evidence on how the changes and challenges to indigenous relations to their land may affect health. One apparent mechanism that begins to emerge from the regional evaluations is that traditional economic and resource management systems that are intimately linked to the land are so intertwined with notions of community, that threats to the land lead to a much more widespread collapse of social relations which has been associated with increasing rates of alcohol and substance abuse and suicide in many countries.

Much more research is needed into this area, since indigenous lands are under threat in every single region reported here: from extractive industries (oil, gas, mining, timber), mega infrastructure (highways, dams) and the expansion of settlers, commercial agriculture and industry. In most regions development policies favouring these activities are also to the detriment of indigenous land tenure legislation. These activities have led to pollution of land, air and water, affecting fauna and flora so that in many areas indigenous peoples are no longer able to live as they would choose.

Indigenous relations with the land are disrupted and their subsistence strategies made less and less viable. In addition, in many cases the presence of outsiders on ancestral lands brings new diseases, including malaria and STDs, as well as new behaviours: for example around alcohol and prostitution. As the relationship with the land is increasingly challenged, many peoples become increasingly dependent on money to satisfy basic needs.

Most contributors include accounts of poorer levels of income, education and employment for indigenous peoples in all regions, measures of socio economic status whose impact on indigenous health has been studied more. However, some also highlight the fact that these cannot be understood uncritically as pathways to health. Efforts in several regions to statistically "correct" for these social determinants (logistical regression analysis) to examine the effect of "indigeneity" on health outcomes may well be missing the point: most of these indicators probably have significant and perhaps uncontrollable interactions with indigeneity, mediated through exclusion and discrimination. In addition, many indigenous peoples still live to a varying extent outside the monetary economy, so monetary measures may be inappropriate or "indicate" something different to what is conventionally expected. Indigenous peoples also have different approaches and understandings of education

and health, which probably cannot be captured fully by the indicators used in most epidemiological studies.

The meaning of indicators has been raised in social determinants research before [12], but the little evidence available from indigenous peoples seems to suggest that these indicators can signify different kinds of social processes in different places because, although there are general commonalities between peoples, each indigenous people has a unique relationship with land, community, subsistence resources and health. Unless there is more clarity about the meanings of certain indicators such as “education” in different contexts, we will gain little understanding of the complex web of influences that contribute to health outcomes. New indicators will probably be needed that make more sense to indigenous peoples themselves. This kind of approach may also be valuable to social determinants research in general, in shaking up assumptions about the indication of measurements (or the measurement of indicators).

### ***Intermediate determinants***

As is the case with the contextual and structural determinants, there are both common areas and particular areas identified in the intermediate determinants that flow from them.

Indigenous peoples in areas affected by conflict face the trauma of war and displacement, though there is little by way of documentation on the physical and psychological effects on individuals or communities, especially in Africa but also in parts of Latin America and Asia.

Migration to urban areas or closer rural settlements is to a greater or lesser extent a theme everywhere. For forest-dwellers or pastoralists the destruction of land and the environment through war, commercial exploitation or incomers seeking to clear land to raise crops is a common theme in all parts of the developing world. Changes and increases in morbidity and mortality from communicable diseases are noted.

*“Well being is to live like other people and to fit in with them... proper houses, water and nice clean clothes would make me happy and that is what I need to be well”.*

Jamba, traditional Vasekele San

In both the developing and developed countries migration of Indigenous peoples is the result of increasing economic, social and political pressure. The adaptive mechanisms, which have sustained communities over long periods, collapse. Succumbing to the pressure on lands and livelihoods through migration into unfamiliar, poor urban environments results in psychological and material stress; and as the developed world examples show, this can persist over many generations. Poor housing, lack of education, inability to find work and where it is found, low wages and hazardous working environments put their lives and health at risk. Everywhere there is a substantial increase in non-communicable diseases especially in consumption of alcohol and domestic violence. This pattern to varying degrees applies across all the areas studied, from the long standing problems faced by Aboriginal peoples in the developed world, to the fast expanding economies of China and Asia, the middle income countries of Latin America, and the impoverished areas of Africa.

Where there is migrant labour, women, children and the elderly are left in increasingly impoverished rural areas struggling to survive. Social cohesion diminishes and stress and poverty increase.

*“In the first place, in our experience, what we do with our children is that we have an examination of conscience. And next, we send for a [traditional] curer who knows a lot, and we ask them what kind of illness it is, whether it’s the stomach, vomiting, fever, however it appears – there are many different kinds of illness. We ask the curer what remedy to use, or what kind of medicine. If the curer knows a lot, he or she will tell us that first of all we have to sort ourselves out, and then we can start to cure. If the patient doesn’t get better, then we can go to the doctor, because we have already had an indigenous treatment.”*

For Indigenous people, access to health services is a substantial problem, and again, it is almost universal though for widely different reasons. For communities in rural areas access is impeded by distance from facilities and the lack of trained staff to provide the service. Resources are concentrated on services for the better off. For many the recent imposition of charges through cost recovery or insurance schemes discriminates against them, while rude and inconsiderate staff

and a lack of cultural sensitivity effectively bar people from seeking access to services.

But perhaps the most crucial factor is the breakdown in traditional social structures, of culture and of language. While outsiders seek ways of reducing inequalities in the provision of services and changing behaviour to promoted healthy lifestyles, Indigenous people, as John Walden puts it in relation to New Zealand, are looking at “how cultural and linguistic meaning can be accurately transmitted to improve health and well being”.

## **Conclusion**

A wide range of authors from different backgrounds attempted to apply the draft framework for analysing social determinants prepared by the Commission. It has not been possible to resolve the range of approaches that have emerged, but it does illustrate the conceptual problems which need to be addressed.. There is certainly a lack of information and an urgent need for more data to be collected and analysed. But this has to be done within a conceptual framework agreed with Indigenous researchers and organisations. As the Commission on Social Determinants seeks to develop a new model, indigenous concepts and knowledge may provide ways of looking at the world that will enable a more flexible and inclusive framework to be developed. This report is only the beginning of a much longer and bigger project which needs to be undertaken in the future.

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## **Chapter 10: Overview**

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