

Indigenous Health 4

Disappearing, displaced, and undervalued: a call to action for Indigenous health worldwide

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“What sets worlds in motion is the interplay of differences, their attractions and repulsions. Life is plurality, death is uniformity. By suppressing differences and peculiarities, by eliminating different civilisations and cultures, progress weakens life and favours death. The ideal of a single civilisation for everyone implicit in the cult of progress and technique, impoverishes and mutilates us. Every view of the world that becomes extinct, every culture that disappears, diminishes a possibility of life!”¹

Indigenous peoples are the most potent example of our human diversity of culture, language, and spirit; yet they are often disadvantaged and marginalised. Who are the Indigenous and why do they have the worst health indicators? How can their health situation be improved? This final paper in the series on the health of Indigenous peoples addresses the complexity of the term Indigenous, describes the poor health indicators of such people, and helps to put Indigenous health into an international context. We discuss the importance of Indigenous peoples' contribution to worldwide wellbeing, and discuss ways to both understand and improve their health situation. Improved data for health and living conditions are needed to help create policies that lead to access to comprehensive, culturally appropriate health care services, health education, nutrition, and housing. Listening to Indigenous peoples, and responding to their priorities and ideas, is a crucial part of the policy equation.

We are concerned that major international policies such as the Millennium Development Goals might further marginalise Indigenous communities through their top-down and utilitarian approach to health policy-making—encouraging targets to maximise health benefits for the majority, while at the same time potentially demoting the minority. We describe the importance and value of Indigenous wisdom for the future of international health and medicine, and call for health professionals to support Indigenous peoples in their quest for equity and health.

Indigenous peoples have been the guardians of our environment and its medicines for thousands of years, built on a holistic communal view of humanity and its links to the ecosystem.² Yet they are among those most marginalised within many nation states and have the worst health indicators, and their knowledge is fast disappearing as their land is appropriated and their environment destroyed. This paper is the last in a series about Indigenous health, written in the first year of 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.”³

Other papers in this series have portrayed the health situation and policy context of Indigenous peoples in three different regions: Australia and the Pacific,⁴ where aboriginal peoples have long argued for their rights against a backdrop of well documented health disadvantage; Latin America and the Caribbean,⁵ where Indigenous peoples are increasingly active in pursuit of equity after years of unequal health and, in many settings, extermination; and Africa,⁶ where the existence of Indigenous peoples is challenged by some and where Indigenous peoples have some of the worst health indicators in the world.

A crucial issue for Indigenous peoples is that of representation. One of our key aims has been to ensure that Indigenous voices are heard in a journal whose usual writers and audience are the world's leading scientists. The series has been written by a group of international scientists and activists, many of them from Indigenous communities. This final paper is a call to action to policymakers and health professionals to support Indigenous peoples worldwide to achieve equity and ensure survival.

Definition of Indigenous

The notion of indigeneity is complex, and highly contested.⁷ After all, are we all not, in some sense, Indigenous to the lands where we were born? Two main areas of debate exist: how does one define what the idea of being Indigenous is, and who is Indigenous in any particular setting? Anthropologists disagree on the answers to these questions, and Indigenous peoples themselves have differing views.

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This is the last in a Series of four

articles about Indigenous health

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The term Indigenous is used in some contexts to refer to the aboriginal population of a nation or area—those who were the first-recorded human inhabitants. In countries such as Australia, New Zealand, North America, and Canada, and to a large extent Latin America, this interpretation is clear, drawing a distinction between native peoples and European colonial settlers.^{4,5,8} In other areas, including Asia and the Middle East, distinctions are less clear. Colonisation took place between ethnic groups within and between countries, and in some cases native populations were almost entirely eradicated. In other contexts, social hierarchies such as the Indian caste system establish categories of social position at birth, with some groups recognised as Indigenous or tribal on a sociocultural basis. In Africa, definition becomes even more complex. A European colonial history, coupled with more recent effects of apartheid, civil war, and genocide create a highly politicised platform for the discussion of indigeneity.⁹ Nowhere is the idea more disputed than in the African continent, where all Africans claim indigeneity against comparison with white colonists.⁶

A further area of discussion concerns what being Indigenous means. Stereotypical western imagery tends towards romanticised images of peoples untouched by modernity, with uniquely different cultural patterns and conceptual worldviews that challenge current conventional truths. There is a fine line between recognition of the positive aspects of traditional Indigenous lifestyles and

negative portrayals of primitive groups in some way inferior to mainstream society. In India, the commonly accepted term for Indigenous people is *Adivasi*, which refers to people living in tribal communities characterised by “distinct culture and dialect, geographical isolation, and simple pre-literate people living in forests and hills, sharing a symbiotic relationship with nature”.¹⁰ Sylvain, and many other anthropologists, notes that “despite the laudably flexible criteria for Indigenous status, at the local level...the criteria for Indigenous status tends to become ontologically saturated with essentialist and primordialist concepts of culture”.⁸

In reality, as many anthropologists have documented, Indigenous groups frequently share many aspects of modern political economies and social contexts,⁸ in many settings living on the margins of big cities with other excluded communities. Conversely, in some settings, notably the Americas, Indigenous peoples have established a strong position within modern nation states, with an identifiable presence in national, regional, and local government, academia, and society. However, strong features of Indigenous peoples’ self-identification include links to the physical environment, and a distinctive worldview. Indigenous peoples themselves, throughout the International Decade of Indigenous Peoples and the UN Permanent Forum of Indigenous Peoples, have consistently challenged the need for worldwide definitions of this idea, most recently expressed in a UN Permanent Forum workshop on data collection and disaggregation:

“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 Martinez Cobo study”.¹¹

Panel 1 shows the complexity of defining indigeneity, emphasising the importance of ancestral occupation of land, separation from colonising peoples, language, culture, self-identification, and group recognition.¹¹ Such complexity stems not only from the fact that Indigenous peoples are so culturally and linguistically diverse, but is also related to the political nature of defining indigeneity. In some countries, to be called Indigenous has changed over time from being pejorative and often life-threatening to being a term of pride, and has given people access to their rights and their land.

Although no universally agreed definition exists, development of clear definitions of indigeneity within each specific context is important, especially when discussing health. The factors most widely recognised by the communities are self-identification as Indigenous and group acceptance, and many governments have now included indices of this nature into national census exercises.¹² Such factors allow disaggregation of data by ethnic or cultural group, and a better understanding of many aspects of Indigenous demography and socio-economic status within nation states.

Panel 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 recognised 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”.¹¹



Figure 1: Mbya Guaraní children in Tekoa Yma village, Yabotí Biosphere Reserve, Misiones, Argentina, 2005

Children from Tekoa Yma, an isolated community of Mbya Guaraní indigenous people who live in northeast Argentina. Mbya Guaraní is their first language, which, with other variants of Guaraní, is spoken in Argentina, Brazil, Paraguay, and Bolivia.¹⁶ Tupi-Guaraní peoples once had extensive territories of what are now some of the world's largest nations.

Language is also a key indicator of indigeneity, and is a very important aspect of identity, even when many speakers are multilingual. Currently, Indigenous peoples number over 350 million in more than 70 countries, with more than 5000 languages and cultures.¹³ Language becomes more important when one appreciates the complex oral knowledge system within Indigenous culture. Oral tradition has trained Indigenous health practitioners for centuries and has preserved knowledge of some of the world's most promising health remedies.^{14,15} Many Indigenous children speak both their local community language and the mainstream national language, but the diversity of living languages in the world is decreasing as speakers of rare languages diminish through generations (figure 1).¹⁶

Indigenous health

In some countries, specifically Canada, Australia, and New Zealand, a large amount of reliable data on Indigenous health exists. In recent years these data have not solely been about Indigenous peoples, but have been gathered and published by Indigenous researchers. Internationally, peer-reviewed studies are scarce, and for some regions we searched for studies from non-governmental organisations, both local and international, and other unpublished sources. Some of these are sources from Indigenous organisations that have seen the value of these data for use in advocacy. Availability of health data is also affected by the geographical isolation of Indigenous peoples. In some cases, information is

obtained only when an epidemic has started and health professionals arrive and begin to treat patients.^{17,18}

In the world's most isolated regions, anthropologists have led work to improve understanding of Indigenous peoples and their living conditions. Although they do not aim to gather epidemiological data, many studies have documented demographic details of groups, including births and deaths.^{19–22} Through a lengthy process of gaining community trust and gradually gathering family histories, birth stories, and verbal autopsies, many anthropologists have been able to accomplish what most epidemiologists have not.

Availability of Indigenous health information is also affected by the nature of being a community within a nation state, and by the movement of individuals and families between rural and urban areas. Some communities cross national boundaries, which creates challenges for data collection, particularly if national datasets are used and indigeneity is defined differently in different states.^{11,23} At a national level, many countries do not break down their data in a way that reveals ethnic differences in health or socioeconomic conditions.

Despite these difficulties, the evidence shows that indicators of Indigenous health are consistently poorer than comparable indicators for non-Indigenous communities within the same country.^{4–6} Health differentials exist for a wide range of outcomes: in poorer regions of the world, Indigenous peoples have the same infectious diseases as their non-Indigenous counterparts but at much higher rates. Child and maternal mortality rates are also higher, even in regions with ubiquitously high

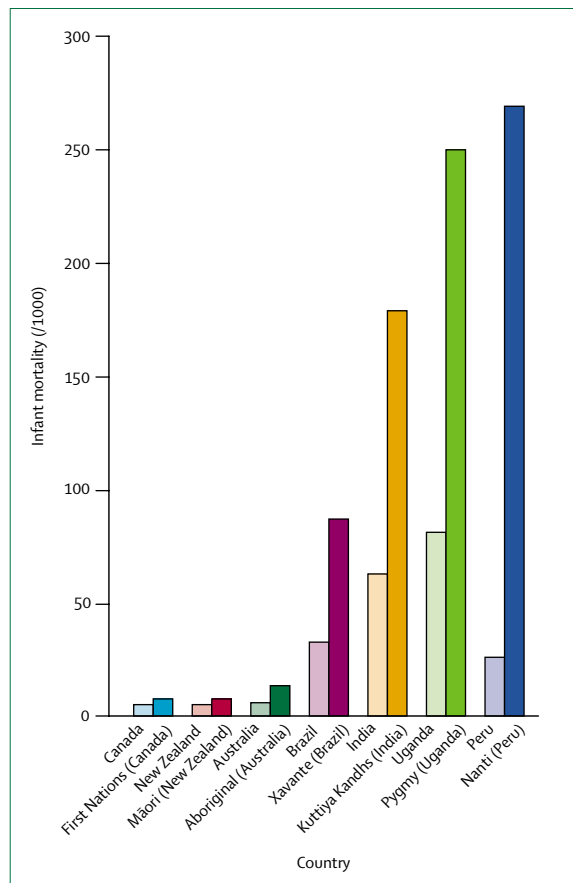


Figure 2: Infant mortality per 1000 in diverse indigenous communities^{9,17,44-49}

rates such as Asia and Africa.^{9,24,25} In wealthier countries, an infectious disease burden persists for Indigenous peoples with high rates of diseases such as tuberculosis, and inequality also exists in the prevalence of chronic disease, including diabetes and heart disease.^{4,26,27} In some settings, child mortality differentials between Indigenous and non-Indigenous populations are seen in perinatal and postneonatal mortality, accidents, birth defects, and childhood cancers.²⁸⁻³⁰ Socially related conditions, linked to displacement of groups from their land and social disadvantage in new settings, are also present in many regions. Suicides, and alcohol and drug related problems, are common in these communities, which is one of the key issues facing communities living in Canada, the USA, New Zealand, and Australia.^{26,31-33}

Many Indigenous communities find that the land they have treasured and defended has become contaminated, through mining, oil exploration, or agricultural chemicals.^{34,35} This contamination of the environment can affect even isolated communities when contaminants enter rivers or seas.^{34,36,37} In some settings, a search for resources, such as oil, to supply the already unsustainable modern ways of living and moving, not only threatens Indigenous peoples' access to land, but also pollutes the

environment, and introduces so-called modern diseases that can threaten community survival.¹⁸

Most studies reviewed in this series have shown major inequalities in health between Indigenous and non-Indigenous communities within countries, but these data should be put into international context. The best available way to illustrate this inequality is to consider child health outcomes, which have been the focus of major attention in recent years. *The Lancet* has devoted two series to the issues of child survival and neonatal mortality, in which authors discussed international inequalities and outlined major challenges in child survival policy.³⁸⁻⁴¹ A more recent series has been devoted to the Millennium Development Goals, which included targets to reduce child mortality.^{42,43}

Figure 2 shows examples of infant mortality rates for selected Indigenous communities internationally. Data for the Nanti in Peru, the Xavante in Brazil, the Kuttiya Kandhs of India, and the Pygmy peoples of Uganda are drawn from small-scale investigations, whereas national data are available for the Māori of New Zealand, the First Nation peoples of Canada, and Aboriginal peoples of Australia.^{9,17,44-47} For comparison, figure 2 also shows the latest national infant mortality estimates for these countries from the UN Millennium Indicators project.⁴⁸

These data for figure 2 are drawn from different types of database and from different times (1993-2003). The larger datasets (Canada, Australia, and New Zealand) could hide differences in infant mortality between communities within the country.⁵⁰ Apparent differences in mortality rates between or within countries might also be determined by variable data quality, even in wealthier countries such as Australia.⁵¹ The smaller datasets could indicate high rates of death in a small population and the effects of one or two major disease outbreaks at a particular time.¹⁷ The information was also obtained by different research communities: data from Canada, Australia, and New Zealand are from national databases, whereas the most reliable data in other regions are gathered by anthropologists, as is the case in some of these studies.

Figure 2 raises several important issues. Data show that although infant mortality rates are higher in Indigenous than in non-Indigenous peoples in all countries, these differences are greater in the poorer countries. There are major differences in infant mortality rates between Indigenous peoples internationally—in part indicating international inequalities in infant survival more generally, but also the partial epidemiological transition experienced by Indigenous peoples in countries such as Canada, Australia, and New Zealand. Infant mortality in Indigenous communities in countries such as Canada has been declining for some time, although an important difference still exists between Indigenous and non-Indigenous communities.^{30,52} Infant mortality rates for the Nanti, Xavante, Kuttiya Kandhs, and Pygmy peoples are much higher than national rates

within these poor countries, and even higher than data for socioeconomically deprived communities within these countries.^{40,53}

Another point illustrated by these data can best be understood by viewing these data less from the reductionist perspective of epidemiology and more from the contextual perspective of an anthropologist or an Indigenous community member. This point relates to the issue of small numbers and the importance of the individual and respect of individuals and groups of individuals. Thus, the data indicate, from an epidemiological perspective, rates based on small numbers of deaths in small populations, but this is the health dilemma of many Indigenous communities: even ten infant deaths in a year in a population of 200 can have devastating effects on community viability.

Figure 3 shows the effect on the Nanti of Peru, from 1997 to 2003. It is based on detailed life tables gathered by linguistic anthropologists working with the Nanti, who live in isolation at the headwaters of the Amazon.⁵⁴ In a population of just 255 people based in two neighbouring villages, 55 deaths in children younger than 5 years took place in the 6 years studied. 1998 saw the first malaria epidemic in the community, which killed 15 children and two adults. 2002 saw another epidemic of diarrhoeal disease.^{17,54} Although not large numbers, these figures show just how devastating a small number of deaths can be for an isolated and demographically fragile community.

These figures should be thought about in the context of the Millennium Development Goals, which are focused on big numbers and big targets at national and international levels.⁴³ Small numbers of deaths in minority populations will not affect the Millennium Development Goals at all, which might mean that they can be achieved even as Indigenous peoples gradually disappear from our world. And yet, while authors of previous *Lancet* series chronicled the health conditions of the poorest children in the world, there was no mention of Indigenous children, most of whom endure worse health conditions than even their poor non-Indigenous counterparts living within the same countries.^{55,56}

Addressing underlying causes

The reviews in this series show that 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 marginalisation. For example, in 1999–2000 around 25% of India's total population were living below the poverty line, but for the Scheduled Tribes living in rural areas this figure was 46%.⁵⁷ Even in wealthier countries, most Indigenous peoples live in worse socioeconomic conditions than their non-Indigenous counterparts.^{4,50}

European colonialism is at the heart of the creation of current reality for Indigenous peoples in many regions. Europeans appropriated land, created the stereotypes of

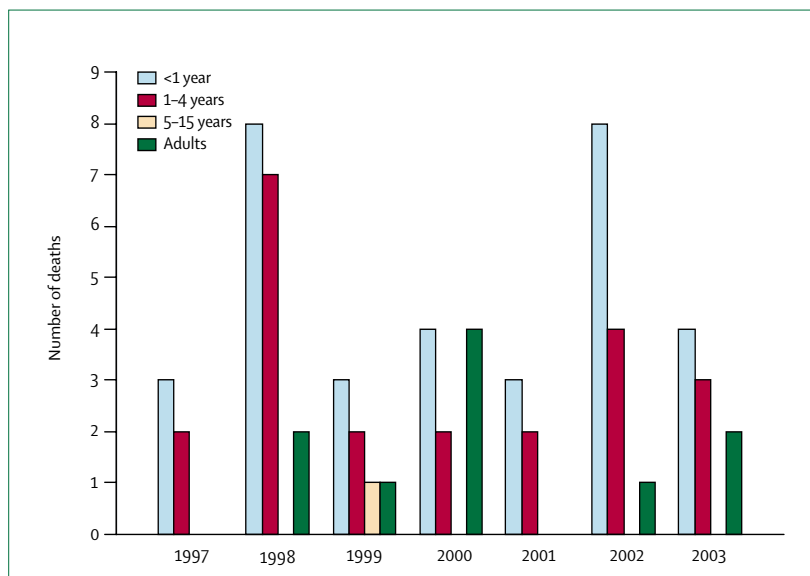


Figure 3: The health effects of epidemics on the Nanti in Peru¹⁷

tribal peoples, and in many cases, systematically eradicated large communities through wars and disease. To an extent, this pattern continues, not only through European descendants, but also through other dominant population groups within countries.

Similarities exist in the health problems facing Indigenous peoples internationally—they are some of the most marginalised in most countries and have related health problems. But there is perhaps also a broad difference between the health issues facing Indigenous peoples in Africa, Asia, and Latin America, and those facing communities in wealthier countries such as Canada, USA, Australia, and New Zealand. For the Indigenous communities in wealthier countries, colonial appropriation of land and extermination of whole groups is an historical reality with continuing repercussions. Many Indigenous peoples in these countries live in low-income urban areas and have the health problems of contemporary marginalisation. In other parts of the world, colonial contact also happened in the past, perhaps most notably in Africa and Latin America, with substantial effects on Indigenous peoples in those regions. But in remote areas, particularly those valuable to outsiders for natural resources, a process of contact and appropriation is continuing—with isolated peoples still being contacted, and often displaced—with diseases introduced, and living environments polluted.

Some simple solutions for public health are common to all poor peoples in the world, and Indigenous peoples share the need for such solutions. They can be achieved through improved health interventions, such as better maternal and child healthcare. But Indigenous health problems cannot be resolved solely through health interventions. Violent land appropriation and displacement is a major concern, and overt and covert

Panel 2: Community perceptions of underlying causes of Indigenous ill health in Cambodia

"A few years ago a Cambodian mining company began excavating gold on land belonging to our village. Neither the company nor the district authorities had asked permission from the village elders. The mines were closely guarded day and night we were strictly forbidden from entering the land on which the mining was taking place. Prior to the arrival of the miners we had seen little sickness in our village. Shortly after the mining started, villagers began to suffer from a range of health problems, which included diarrhoea, fever, headaches and coughing and vomiting with blood. The sickness mainly affected children but a small number of adults also were affected. 25–30 people came became ill, of which 13 eventually died. We feared that the village spirit had become angry, as outsiders were mining land, and this has been a taboo for a long time."

Diang Phoeuk, Pao Village Elder, Taveng Krom commune, Rattanakiri Province, Cambodia²

discrimination underpins many of the issues faced by Indigenous peoples. Many communities face "serious difficulties such as the constant threat of territorial invasion and murder, the plundering of their resources, cultural and legal discrimination, as well as a lack of recognition of their own institutions."⁵⁸

Panel 2 shows the links between outside intervention, land, and ill health from the results of an international qualitative study in Laos, Burma, Cambodia, Guatemala, and Namibia.² Results suggest that Indigenous peoples in all these settings shared a similar concern for environmental degradation and land exploitation, and relate their ill health to these underlying causes. Their view is supported by evidence in other papers in this series and by the UN Permanent Forum. Importantly, in the proposed strategy for the second International Decade, two of the four key policy areas for improved health are related to environmental degradation and to displacement (panel 3).⁵⁹

Panel 3: Priority health areas proposed by the Permanent Secretariat for Indigenous Peoples 2005⁵⁹

"All relevant actors are urged to adopt targeted policies, programmes, projects and budgets for indigenous health problems in strong partnership with indigenous peoples in the following areas:

- HIV/AIDS, malaria and tuberculosis;
- Cultural practices which have negative impacts on health, including female genital mutilation, child marriages, violence against women, youth, and children, and alcoholism;
- Environmental degradation that adversely affects the health of indigenous peoples, including use of indigenous peoples' lands for military testing, toxic by-product storage, nuclear and industrial exploitation and contamination of water and other natural resources;
- Health problems connected to forced relocation, armed conflicts, migration, trafficking and prostitution"

Improvement of Indigenous health does not mean only looking at underlying causes; it means taking a new approach, including Indigenous peoples in decision-making at all levels of policy. Thus, the UN argues that a major focus must be on improved data related to Indigenous peoples' health and living conditions, but this information can be obtained only with the full participation of Indigenous peoples.¹¹ Additionally, "access to comprehensive, community-based and culturally appropriate healthcare services, health education, adequate nutrition and housing should be ensured without discrimination".⁵⁹ A key issue is the incorporation of Indigenous knowledge and values into all policies that affect Indigenous peoples. Participation of Indigenous peoples in these policies is a linchpin of all proposed strategies for the future.

New research approaches

We have, in theory, entered a new decade of Indigenous peoples, and a real need for information related to their conditions and wellbeing remains.¹¹ The populations might be small within their countries and regions, but Indigenous peoples contribute largely to the world's cultural, linguistic, and intellectual diversity. Such information should also be seen in the context of their absence from most calls for action on international health. There cannot be improved advocacy for international Indigenous health without improved information to work with. Historically, and in common with other minority groups, Indigenous people have been seen purely as objects of scientific study, providing ethnographic accounts for early anthropologists and more recently blood and tissue samples for population genetics and biomedical research. During the 1990s, the proposed Human Genome Diversity Project was widely criticised by Indigenous groups who objected not only to the implications of the project but also to the attitudes of those involved.⁶⁰ Scientists emphasised the urgent need to obtain samples from disappearing "Isolates of Historical Interest".⁶¹ Their apparent absence of concern for the welfare of these vanishing peoples provoked angry responses:

"After being subjected to genocide and ethnocide for 500 years, the alternative is for our DNA to be collected and stored. This is just a sophisticated version of how the remains of our ancestors were collected and stored in museums and scientific institutions."⁶²

In 2004, UNESCO and the UN Permanent Forum organised an international workshop that discussed data collection and disaggregation.¹¹ 36 experts from the UN and other intergovernmental organisations, governments, Indigenous organisations, and academics participated in developing recommendations for states, non-governmental organisations, and research groups for Indigenous information. A key conclusion of the meeting was that "Indigenous peoples should fully participate as equal partners, in all stages of data collection, including

planning, implementing, analyzing and dissemination, access and return, with appropriate resourcing and capacity building to do so.” Research must also “respond to the priorities and aims of the Indigenous communities themselves.”

This level of community participation is far from the current model of research practised in most settings, let alone with the most marginalised peoples of the world. Most research published in leading medical journals could not claim anything close to these principles of participation. Yet, this recommendation stems from the legacy of past research, and in some Indigenous communities a model of this participatory nature already exists. Canada’s First Nations peoples, for example, have pioneered an Indigenous-led research agenda.^{63,64}

The health problems of Indigenous peoples should be incorporated into the Millennium Development Goals as fully as possible, potentially as a separate goal or at least with specific indicators developed with the involvement of Indigenous communities internationally.

Health services

Indigenous people do not have easy access to basic western health care when needed.⁶⁵⁻⁶⁷ Access is constrained by financial, geographic, and cultural barriers. Indigenous people are low on governments’ priority lists, especially when they live in remote areas where services are difficult and costly to provide. Where services are available, Indigenous people are often reluctant or afraid to use them because staff can be insensitive, discriminatory, and unfriendly.^{68,69}

All papers in this series have highlighted the importance of culturally appropriate health services. In many regions, a further step has been made towards appropriate services where Indigenous-controlled services exist with Indigenous medicine practised alongside allopathic medicine, examples of which are seen in Australia, New Zealand, and Canada, and in Colombia, Ecuador, and Peru.⁷⁰⁻⁷² Such services have been in existence for several decades in some settings and assessments point to their importance in improving diverse health indicators. One example is maternal care, where there is wide acceptance of the role of traditional healers, but the use of Indigenous health staff in allopathic treatment is also an important and widely accepted policy, with success in both monitoring health and supporting a reduction of health problems.⁷³⁻⁷⁶

Anderson and colleagues,⁴ and Montenegro and Stephens,⁵ suggest the importance of community controlled health services in Australia, New Zealand and the Pacific, and in Latin America and the Caribbean. In these regions there has been a major policy commitment to address Indigenous health inequalities, both at constitutional level and at the level of tailored participatory health services. In Africa the situation differs. Despite a desperate need for culturally sensitive health services, communities such as the San in Southern Africa remain marginalised and frequently ill-treated within the health system.⁶

The importance of Indigenous knowledge

Our final call to action is for all health professionals to respect Indigenous peoples for their wisdom, not argue for them as though they are problematic victims. As Reading notes “in the past and in the present, research studies and media reports have focused on pathology and dysfunction in aboriginal communities.”⁶³ Yet Indigenous peoples are the guardians of the natural world, protecting many of the plants that form the basis of our most important medicines. Indigenous peoples have sophisticated ideas of health and wellbeing, notions that are closer than most western views to the aspirational definition of the World Health Organisation. Health for many Indigenous peoples is not merely absence of ill health, but also a state of spiritual, communal, and ecosystem equilibrium and wellbeing.²

To complement this holistic idea of health, Indigenous peoples often have sophisticated and well established systems of traditional medicine, with tried and trusted remedies developed over centuries.⁷⁷⁻⁸⁰ All the papers in this series highlight this vital knowledge. Indigenous knowledge about these traditional remedies is not only valuable to Indigenous communities, but is also the foundation of many western pharmaceutical discoveries. Ironically, although Indigenous peoples themselves are not valued, their land and its resources often are. Exploitation of Indigenous lands is often because of high international demand for the very resources which Indigenous communities themselves have carefully managed and protected for centuries, including medicinal plants, forest products, and natural mineral resources.⁸¹⁻⁸⁵ Often, Indigenous societies’ highly prized ethnic medicines become contested goods in international markets.^{80,86-88}

In many cases these Indigenous knowledge systems have been fragmented over time but are gradually being rediscovered.⁸⁹⁻⁹¹ New remedies are being developed for so-called modern diseases, based both on the natural resources of Indigenous peoples and also their wisdom.^{14,92-94} Ethnopharmacologists have long called for a better integration of western and traditional pharmaceutical understanding, and as Indigenous communities disappear along with their wisdom, the call becomes ever more urgent.⁹⁵

Without Indigenous peoples’ knowledge, we might not be able to understand the full value of the ecosystem for health and medicine, not only for Indigenous health but also for us all. As a recent UN workshop on Indigenous knowledge points out:

“Indigenous knowledge, also referred to as traditional or local knowledge, refers to the large body of knowledge and skills that has been developed outside the formal educational system. Indigenous knowledge is embedded in culture and is unique to a given location or society. Indigenous knowledge is an important part of the lives of the poor. It is the basis for decision-making of communities in food security, human and animal health, education and natural resource management.”⁹⁶

Call to action

This second International Decade needs new policies for Indigenous health, all with a stronger emphasis on Indigenous rights.^{59,97} Only then will governments be held to account for continued exploitation of Indigenous peoples' lands. A key conclusion of the 2004 international conference on Indigenous Peoples Rights to Health was that "the right to land and a healthy environment is an indispensable part of Indigenous peoples health and well-being and should be recognised."⁹⁸

Political rights that counteract historical patterns of discrimination by dominant peoples are also important. A key priority is the inclusion of Indigenous peoples onto the international health and development agenda. The focus of the Millennium Development Goals on headline-capturing statistics of deaths has an effect on Indigenous peoples, both in terms of their international visibility and fund allocation. The issue was of such concern to that the UN Permanent Forum on Indigenous Issues devoted its Fourth Session to the Millennium Development Goals in 2005 and reported that:

"...unless the particular situation and voices of Indigenous peoples are taken into account, the MDG process may lead to accelerated loss of land and natural resources, and accelerated assimilation, thus prolonging and even worsening the marginalization, discrimination and further impoverishment of indigenous peoples."⁹⁹

Arguably, the Millennium Development Goals as they stand today could be achieved even while whole populations of Indigenous peoples disappear. Yet Indigenous peoples are affected by all the goals related to hunger, education, and ill health, even if they are invisible in all the indicators currently proposed. Indigenous peoples, more than any other group, are linked to goal seven on environmental sustainability.⁴² Perhaps for this reason the Permanent Forum last year issued the following statement:

"The Forum recommends that agencies and bodies of the United Nations and other inter-governmental organizations rethink the concept of development, with the full participation of indigenous peoples in development processes, taking into account the rights of indigenous peoples and the practices of their traditional knowledge."¹⁰⁰

We challenge the dominant view that action on international health demands strong international leadership, a model of decision-making that underpins the evolution and implementation of the Millennium Development Goals. Indigenous peoples often have sociocultural decision systems grounded in community discussion, iteration with other animals and plants in the ecosystem, and with spiritual reflection. Indigenous peoples might continue to be ignored by international health policy simply because they do not fit into the predominant lens of public health utilitarianism that

has predominated in the creation and action of health policy. The Millennium Development Goals are a result of this approach. Indigenous people have lived in and protected our most precious ecosystems and many of their ideas are vital to the survival of the environment on which we ultimately depend; we have much to learn from a view of the world that challenges our own.

The most appropriate call from this series is for greater respect for the views of Indigenous peoples and for their inclusion in the development of international and national policies.⁹⁵ The rights of Indigenous peoples are gradually climbing the international agenda. Perhaps this decade the Draft Declaration on the Rights of Indigenous Peoples will be ratified by the UN. Would Indigenous models of governance and health policy be really different? We may soon see in one country at least. As Evo Morales, Bolivia's first Indigenous President, commented on his election in 2006:

"We have been condemned, humiliated...and never recognised as human beings...The 500 years of Indian resistance have not been in vain...We are here and we say that we have achieved power to end the injustice, the inequality and oppression that we have lived under."¹⁰¹

References

- 1 Paz O. *The Labyrinth of Solitude*. New York: Grove Press, 1985.
- 2 Bristow F, Stephens C, Nettleton C. *Utz W'achil: Health and wellbeing among Indigenous peoples*. London: Health Unlimited/ London School of Hygiene and Tropical Medicine, 2003.
- 3 United Nations General Assembly. Draft programme of action for the Second International Decade of the World's Indigenous People. Report of the Secretary General. *Indigenous Issues: United Nations 2005*: 7.
- 4 Anderson I, Crengle S, Kamaka ML, Chen T-H, Palafox N, Jackson-Pulver L. Indigenous health in Australia, New Zealand, and the Pacific. *Lancet* 2006; **367**: 1775–85.
- 5 Montenegro R, Stephens C. Indigenous health in Latin America and the Caribbean. *Lancet* 2006; **367**: 1859–69.
- 6 Ohenjo No, Willis R, Jackson D, Nettleton C, Good K, Mugarura B. Indigenous Health in Africa. *Lancet* 2006; **367**: 1937–46.
- 7 Kuper A. Indigenous people: an unhealthy category. *Lancet* 2005; **366**: 983.
- 8 Sylvain R. Land, Water and Truth. *Am Anthropol* 2002; **104**: 1074–85.
- 9 African Commission on Human and Peoples' Rights (ACHPR). Report of the African Commission's Working Group on Indigenous Populations/Communities, 2005.
- 10 Government of India. *The Constitution of India*. New Delhi: Government of India, 1949.
- 11 United Nations. The concept of indigenous peoples: background paper prepared by the Secretariat of the Permanent Forum on Indigenous Issues. Document PFII/2004/WS.1/3, Department of Economic and Social Affairs, Workshop on Data Collection and Disaggregation for Indigenous Peoples, New York, 2004.
- 12 World Bank. HRO Dissemination Notes Number 8, June 7, 1993: Human Resources Development and Operations Policy, 1993.
- 13 International Work Group for Indigenous Affairs. *The Indigenous world 2000/2001*. Copenhagen: International Work Group for Indigenous Affairs, 2001.
- 14 Andrade-Neto VF, Brandao MG, Stehmann JR, Oliveira LA, Krettli AU. Antimalarial activity of Cinchona-like plants used to treat fever and malaria in Brazil. *J Ethnopharmacol* 2003; **87**: 253–56.
- 15 Maciel MA, Pinto AC, Arruda AC, et al. Ethnopharmacology, phytochemistry and pharmacology: a successful combination in the study of *Croton cajucara*. *J Ethnopharmacol* 2000; **70**: 41–55.
- 16 SIL International. *Ethnologue: Languages of the World*, Fifteenth edition. Dallas: SIL International, 2005.

- 17 Napolitano D, Stephens C. La salud de los pueblos indígenas y el Proyecto de Gas de Camisea Informe para la AIDSESP: London School of Hygiene and Tropical Medicine/Shinai Serjali, 2003.
- 18 Witzig R, Ascencios M. The road to indigenous extinction: case study of resource exportation, disease importation, and human rights violations against the Urarina in the Peruvian Amazon. *Health Hum Rights* 1999; 4: 60–81.
- 19 Sylvain R. San Women Today: inequality and dependency in a post-foraging world. *Indigenous Affairs* 2002; Indigenous Women 1–2/04: 8–13.
- 20 Pinos-Petersen M, Ruiz-Salguero M. [Demographic aspects in indigenous communities of 3 regions of Colombia]. *Salud Publica Mex* 1998; 40: 324–9.
- 21 Pennington R. Hunter-gatherer demography. In: Panter-Brick C, Layton R, Rowley-Conway P, eds. *Hunter-gatherers: an interdisciplinary perspective*. Cambridge: Cambridge University Press, 2001: 170–204.
- 22 Peters JF. The Shirishana of the Yanomami: a demographic study. *Soc Biol* 1980; 27: 272–85.
- 23 Jackson RH. [The creation and changing definitions of demographic knowledge: the case of mestizos in the indigenous communities of the Valle Bajo of Cochabamba, Bolivia]. *Cah Que Demogr* 1996; 25: 69–99.
- 24 Suzman J. An Introduction to the Regional Assessment of the San in Southern Africa. Windhoek: Legal Assistance Centre, 2001.
- 25 Hsu HJ. [Incidence of tuberculosis in the hunting tribe E-Lun-Chun in Northeast China]. *Pneumologie* 1990; 44 (suppl 1): 453–54.
- 26 Bramley D, Hebert P, Jackson R, Chassin M. Indigenous disparities in disease-specific mortality, a cross-country comparison: New Zealand, Australia, Canada, and the United States. *N Z Med J* 2004; 117: U1215.
- 27 Smeja C, Brassard P. Tuberculosis infection in an Aboriginal (First Nations) population of Canada. *Int J Tuberc Lung Dis* 2000; 4: 925–30.
- 28 Alessandri LM, Chambers HM, Garfield C, Vukovich S, Read AW. Cumulative mortality in children aged 1 to 6 years born in Western Australia from 1980–89. *Arch Dis Child* 1999; 80: 15–20.
- 29 Alessandri LM, Chambers HM, Blair EM, Read AW. Perinatal and postneonatal mortality among Indigenous and non-Indigenous infants born in Western Australia, 1980–1998. *Med J Aust* 2001; 175: 185–89.
- 30 Luo ZC, Kierans WJ, Wilkins R, Liston RM, Uh SH, Kramer MS. Infant mortality among First Nations versus non-First Nations in British Columbia: temporal trends in rural versus urban areas, 1981–2000. *Int J Epidemiol* 2004; 33: 1252–59.
- 31 Kirmayer LJ, Brass GM, Tait CL. The mental health of Aboriginal peoples: transformations of identity and community. *Can J Psychiatry* 2000; 45: 607–16.
- 32 Hunter E, Harvey D. Indigenous suicide in Australia, New Zealand, Canada, and the United States. *Emerg Med (Fremantle)* 2002; 14: 14–23.
- 33 Macdonald D, Molamu L. From pleasure to pain: a social history of Baswara alcohol use in Botswana. In: Peele S, Grant M, eds. *Alcohol and pleasure: a health perspective*. Philadelphia: Brunner/Mazel, 1999: 1–7.
- 34 Kuhnlein HV, Chan HM. Environment and contaminants in traditional food systems of northern indigenous peoples. *Annu Rev Nutr* 2000; 20: 595–626.
- 35 Van Oostdam J, Gilman A, Dewailly E, et al. Human health implications of environmental contaminants in Arctic Canada: a review. *Sci Total Environ* 1999; 230: 1–82.
- 36 Chiu A, Beaubier J, Chiu J, Chan L, Gerstenberger S. Epidemiologic studies of PCB congener profiles in North American fish consuming populations. *J Environ Sci Health C Environ Carcinog Ecotoxicol Rev* 2004; 22: 13–36.
- 37 Cabrera AD. Evaluación de matalas pesados en ribereños del río Pilcomayo Oeste formoseño. Tesis de Maestría. Resistencia, Chaco, 2003.
- 38 Black RE, Morris SS, Bryce J. Where and why are 10 million children dying every year? *Lancet* 2003; 361: 2226–34.
- 39 Lawn JE, Cousens S, Zupan J. 4 million neonatal deaths: when? Where? Why? *Lancet* 2005; 365: 891–900.
- 40 Victora CG, Wagstaff A, Schellenberg JA, Gwatkin D, Claeson M, Habicht JP. Applying an equity lens to child health and mortality: more of the same is not enough. *Lancet* 2003; 362: 233–41.
- 41 Rudan I, Lawn J, Cousens S, et al. Gaps in policy-relevant information on burden of disease in children: a systematic review. *Lancet* 2005; 365: 2031–40.
- 42 United Nations. United Nations Millennium Declaration: United Nations, 2000.
- 43 Sachs JD, McArthur JW. The Millennium Project: a plan for meeting the Millennium Development Goals. *Lancet* 2005; 365: 347–53.
- 44 Basu S. Health Status of Tribal Women in India. National Workshop on “Status of Tribal Women in India” organised by Council for social Development, New Delhi and sponsored by National Commission for Women, New Delhi (22–23 Dec 93). New Delhi: National Commission for Women, 1993.
- 45 Australian Bureau of Statistics. Year Book Australia 2002: Population. Special Article Indigenous populations of Australia and New Zealand: Australian Bureau of Statistics, 2002.
- 46 Souza LG, Santos RV. [Demographic profile of the Xavante Indian population in Sangradouro-Volta Grande, Mato Grosso]. *Cad Saude Publica* 2001; 17: 355–65.
- 47 Health Canada. A Statistical Profile on the Health of First Nations in Canada: Health Canada. First Nations and Inuit Health 2005.
- 48 United Nations Millennium Indicators. Infant Mortality Rate (0–1 year) per 1000 live births (UNICEF estimates): United Nations Department of Economic and Social Affairs, Statistical Division 2005.
- 49 Basu SK. A health profile of tribal India. *Health Millions* 1994; 2: 12–4.
- 50 Luo ZC, Wilkins R, Platt RW, Kramer MS. Risks of adverse pregnancy outcomes among Inuit and North American Indian women in Quebec, 1985–97. *Paediatr Perinat Epidemiol* 2004; 18: 40–50.
- 51 Cunningham J. Comparing indigenous health status across regions: a numerical example of uncertainty. *Aust N Z J Public Health* 2002; 26: 497–99.
- 52 Lum MK, Knutson LR, Hall DB, Margolis HS, Bender TR. Decline in infant mortality of Alaskan Yupik Eskimos from 1960 to 1980. *Public Health Rep* 1986; 101: 309–14.
- 53 Gupta R, Gupta BD, Singh RN, Mehta SC. Infant mortality—critical analysis of factors and new approach for calculation of IMR. *Indian J Matern Child Health* 1991; 2: 72–8.
- 54 Cabeceras Aid Project. Update. Cabeceras Aid Project, 2001: 1–3.
- 55 Lee JW. Child survival: a global health challenge. *Lancet* 2003; 362: 262.
- 56 Venis S. Child survival. *Lancet* 2003; 361: 2172.
- 57 United Nations Development Programme. Human Development Reports. Cultural liberty in today’s diverse world. New York: UNDP, 2004.
- 58 International Work Group for Indigenous Affairs. Indigenous Issues. <http://www.iwgia.org/sw155.asp> (accessed Feb 16, 2005).
- 59 United Nations. Advanced Unedited Draft Programme of Action for the Second International Decade of the World’s Indigenous People (Sixtieth session, Item 70). Geneva: UN, 2005.
- 60 King D. The Human Genome Diversity Project. *GenEthics News* 1996 (10).
- 61 Cavalli-Sforza L, Wilson A, Cantor C, Cook-Deegan R, King M. Call for a worldwide survey of human genetic diversity: a vanishing opportunity for the Human Genome Project. *Genomics* 1991; 11: 490–91.
- 62 Tauli-Corpuz V. Statement presented during the 2nd Session of the UN-CSD on behalf of the Cordillera Peoples’ Alliance, New York, 1994.
- 63 Reading J, Nowgesic E. Improving the health of future generations: the Canadian Institutes of Health Research Institute of Aboriginal Peoples’ Health. *Am J Public Health* 2002; 92: 1396–400.
- 64 Macaulay AC, Commanda LE, Freeman WL, et al. Participatory research maximises community and lay involvement. North American Primary Care Research Group. *BMJ* 1999; 319: 774–78.
- 65 Wilkinson D, Ryan P, Hiller J. Variation in mortality rates in Australia: correlation with Indigenous status, remoteness and socio-economic deprivation. *J Public Health Med* 2001; 23: 74–77.
- 66 Pal DK, Das T, Sengupta S, Chaudhury G. Help-seeking patterns for children with epilepsy in rural India: implications for service delivery. *Epilepsia* 2002; 43: 904–11.

- 67 Simmons D, Voyle JA. Reaching hard-to-reach, high-risk populations: piloting a health promotion and diabetes disease prevention programme on an urban marae in New Zealand. *Health Promot Internation* 2003; **18**: 41–50.
- 68 Palafox NA, Buenconsejo-Lum L, Ka'ano'i M, Yamada S. Cultural competence: a proposal for physicians reaching out to Native Hawaiian patients. *Pac Health Dialog* 2001; **8**: 388–92.
- 69 Escobar AL, Coimbra CE, Jr., Camacho LA, Portela MC. [Tuberculosis among indigenous populations in Rondonia, Amazonia, Brazil]. *Cad Saude Publica* 2001; **17**: 285–98.
- 70 Puertas B, Schlesser M. Assessing community health among indigenous populations in Ecuador with a participatory approach: implications for health reform. *J Community Health* 2001; **26**: 133–47.
- 71 Reategui J. Programa De Salud Indigena (Psi) De Aidesep, Durante El Periodo 1999–2002. *Voz Indigena*. Lima, 2003.
- 72 Reading J. The Canadian Institutes of Health Research, Institute of Aboriginal People's Health: a global model and national network for Aboriginal health research excellence. *Can J Public Health* 2003; **94**: 185–89.
- 73 Raunig L, Houston J. Midwives for midwives. Protecting the sacred circle. *Midwifery Today Int Midwife* 2002; 51–53.
- 74 Raden Sanusi HR, Werner R. The role of traditional healers in the provision of health care and family planning services: Malay traditional and indigenous medicine. *Malays J Reprod Health* 1985; **3**: S82–9.
- 75 Shephard MD, Gill JP. An innovative Australian point-of-care model for urine albumin: creatinine ratio testing that supports diabetes management in indigenous medical services and has international application. *Ann Clin Biochem* 2005; **42** (Pt 3): 208–15.
- 76 Rhoades ER, Mason RD, Eddy P, Smith EM, Burns TR. The Indian Health Service approach to alcoholism among American Indians and Alaska Natives. *Public Health Rep* 1988; **103**: 621–27.
- 77 Hickman MS, Miller D. Indigenous ways of healing guinea worm by the Soninke culture in Mauritania, West Africa. *Hawaii Med J* 2001; **60**: 95–8.
- 78 Crengle S. The development of Maori primary care services. *Pac Health Dialog* 2000; **7**: 48–53.
- 79 Fink S. International efforts spotlight traditional, complementary, and alternative medicine. *Am J Public Health* 2002; **92**: 1734–39.
- 80 Louw CA, Regnier TJ, Korsten L. Medicinal bulbous plants of South Africa and their traditional relevance in the control of infectious diseases. *J Ethnopharmacol* 2002; **82**: 147–54.
- 81 Barton JH. Ethnobotany and intellectual property rights. *Ciba Found Symp* 1994; **185**: 214–21.
- 82 King SR, Tempesta MS. From shaman to human clinical trials: the role of industry in ethnobotany, conservation and community reciprocity. *Ciba Found Symp* 1994; **185**: 197–206.
- 83 Calle R. Juridical and sociocultural problems on the definition of a law concerning property, usage and access to genetic resources in Colombia. *J Ethnopharmacol* 1996; **51**: 127–42; discussion 142–6.
- 84 King SR, Carlson TJ, Moran K. Biological diversity, indigenous knowledge, drug discovery and intellectual property rights: creating reciprocity and maintaining relationships. *J Ethnopharmacol* 1996; **51**: 45–57.
- 85 Merson J. Bio-prospecting or bio-piracy: intellectual property rights and biodiversity in a colonial and postcolonial context. *Osiris* 2000; **15**: 282–96.
- 86 Mail PD, McKay RB, Katz M. Expanding practice horizons: learning from American Indian patients. *Patient Educ Couns* 1989; **13**: 91–102.
- 87 Kong JM, Goh NK, Chia LS, Chia TF. Recent advances in traditional plant drugs and orchids. *Acta Pharmacol Sin* 2003; **24**: 7–21.
- 88 Trotti JL. Compensation versus colonization: a common heritage approach to the use of indigenous medicine in developing Western pharmaceuticals. *Food Drug Law J* 2001; **56**: 367–83.
- 89 Chang HK. Hawaiian health practitioners in contemporary society. *Pac Health Dialog* 2001; **8**: 260–73.
- 90 Cook BP. A call for respect and equality for indigenous scholarship in Hawaiian health. *Pac Health Dialog* 2001; **8**: 368–74.
- 91 Janes CR. The health transition, global modernity and the crisis of traditional medicine: the Tibetan case. *Soc Sci Med* 1999; **48**: 1803–20.
- 92 Souza AB, Souza AB. Forty years of Brazilian Medicinal Plant Research. *Journal of Ethnopharmacology* 2003; **39**: 53–67.
- 93 Duarte MC, Figueira GM, Sartoratto A, Rehder VL, Delarmelina C. Anti-Candida activity of Brazilian medicinal plants. *J Ethnopharmacol* 2005; **97**: 305–11.
- 94 Perazzo FF, Souza GH, Lopes W, et al. Anti-inflammatory and analgesic properties of water-ethanolic extract from *Pothomorphe umbellata* (Piperaceae) aerial parts. *J Ethnopharmacol* 2005; **99**: 215–20.
- 95 Etkin NL, Elisabetsky E. Seeking a transdisciplinary and culturally germane science: The future of ethnopharmacology. *J Ethnopharmacol* 2005; **100**: 23–26.
- 96 UNESCO. Best Practices on Indigenous Knowledge UNESCO, 2005.
- 97 UNICEF. Ensuring the Rights of Indigenous Children, Innocenti Digest 11. Florence: UNICEF Innocenti Research Centre, 2004.
- 98 London School of Hygiene & Tropical Medicine, Health Unlimited. Indigenous Peoples' Right to Health Conference and Public Meeting, London, 2004.
- 99 UN Permanent Forum on Indigenous Issues. Fourth Session: the MDGs and Indigenous Peoples. New York: UNUN Permanent Forum on Indigenous Issues, 2005.
- 100 UN Permanent Forum on Indigenous Issues. Millenium Development Goals and Indigenous Peoples E/C.19/2003/22, Report on the Second Session of the UNPFII, Para. 26: United Nations, 2006.
- 101 Schweimler D. Bolivia's new leader vows change. BBC News Online 2006. <http://news.bbc.co.uk/1/hi/world/americas/4638030.stm> (accessed March 24, 2006).