The Australian Indigenous HealthInfoNet—a model of knowledge sharing for the health sector

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INTRODUCTION

I’m really pleased to have the opportunity today of demonstrating how the Australian Indigenous HealthInfoNet aims “to contribute to improving the health of Australia’s Indigenous people by making relevant, high quality knowledge and information easily accessible” via the Internet (http://www.healthinfonet.ecu.edu.au). The effective sharing of knowledge is being recognised increasingly as critically important for the competitiveness of major corporations and the effectiveness of international organisations. Knowledge sharing also has enormous potential for diverse government-supported activities, like the health industry. However, despite the encouraging moves to establish a better evidence base for health care, very little attention has been directed to the active sharing of this and other relevant knowledge.

In attempting to address the knowledge needs of the variety of potential users of Australian Indigenous health knowledge, the HealthInfoNet researches and develops detailed overviews of specific health topics, introductory material about specific conditions, regularly updated summaries of Indigenous health, and brief answers to frequently asked questions. Knowledge of these types is complemented by useful information related to specific health areas. This information includes relevant policies and strategies, details of recent published and other resources, preventive and clinical guidelines, selected and general bibliographic information, and details of organisations involved in the specific area.

THE WORK OF THE HEALTHINFONET

In addressing the significant gulf between knowledge and its use by decision makers in Australia today, the HealthInfoNet’s work focuses on the generation and sharing of knowledge about a wide variety of issues of relevance to Indigenous health to the full range of decision makers. Of course, it is difficult to define just what type of knowledge a particular decision maker requires—there is considerable overlap

1 The terms “knowledge” and “information” (and sometimes “data”) are often used interchangeably, but there are clear differences. For the purpose of this presentation, knowledge is used to mean “information made actionable”, where information can be defined as data that are “organised, patterned, grouped, and/or categorised”. Thus, a journal article is really information for most people. The exceptions are experts in the area, who have the capacity to place the article in its context—making it actionable. The challenge is to translate information (such as journal articles) into knowledge by placing it within its context. This largely requires to synthesis of this new information with existing knowledge and information on the subject.
between categories of decision makers. So, rather than provide separate entry points to our Internet resource for different categories of decision maker, the HealthInfoNet prefers to present different types of knowledge and information within the specific topic area. But, rather than talk about this aspect, let me demonstrate our approach for different categories of decision maker. In doing so, I’ll borrow ‘the hats’ approach from Edward de Bono.

**Hat 1: Indigenous tobacco control officer**

The first ‘hat’ that I’d like you to wear is that of a newly appointed Indigenous health worker—say a 21 year old women taking up the position of tobacco control officer with your local community-controlled health service. What type of knowledge do you think you’ll need to ‘hit the ground running’? I suggest that one of the first things you’ll require is an understanding of the health consequences of tobacco smoking. And, if you (as the 21 year old Indigenous health worker) are like the majority of people, you won’t even realise that lung cancer is not the leading cause of death from smoking. No, heart disease is. And, of course, heart disease is the number one killer of young and middle aged Indigenous men and women. So, the first piece of knowledge in the HealthInfoNet’s section on ‘tobacco’ (accessible from the Home page by clicking on ‘Health’, then ‘specific aspects’, ‘substance use’ and ‘tobacco’) summarises the best epidemiological information about ‘the health consequences of tobacco smoking’.

This type of knowledge will no doubt help you (as the Indigenous health worker) when you need to talk to your first ‘client’—a 55-year-old man whose uncle died recently from heart disease. But it probably won’t help you as much with your second client—a 23 year old woman whose first attempt at starting a family ended recently with a miscarriage. The fear of heart disease is not likely to be prominent in her thinking, but she will almost certainly be interested in the impact of tobacco smoking on pregnancies. This knowledge—further down in the section on ‘the health consequences of tobacco smoking’—includes the facts that one in eleven miscarriages can be attributed to smoking, as can one in four cases of low birth weight.

It is essential, of course, that our health worker can rely on the knowledge available from the HealthInfoNet. And she can. Our knowledge is based on the best local and international scientific literature. In the case of ‘the health consequences of tobacco smoking’, the source of our knowledge is the world-class analysis of morbidity and mortality attributable to drug use undertaken by Dr Dallas English and colleagues at the University of Western Australia.

**Hat 2: Policy officer**

I’ll now get you to change your hat—to that of a policy officer within the Commonwealth Department of Health and Ageing’s Office for Aboriginal and Torres Strait Islander Health. Your current task is to work on the development of a national strategy addressing the continuing impact of *Haemophilus influenzae* type B (Hib) infection among Indigenous people.

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2 Hib is a serious vaccine-preventable disease, largely of childhood. It is still more frequent among Indigenous than non-Indigenous children, despite the availability since 1993 of an effective vaccine.
For a start—unless you’ve had a particular interest in infectious diseases—you’ll probably need to know general information about Hib—what type of organism it is? what age groups does it affect? what are its clinical presentation(s)? how is it treated? As with the tobacco example, this type of information is summarised in an introductory section (‘What is Hib?’, accessible from the Home page by clicking on ‘Health’, then ‘specific aspects’, the ‘Hib’ (included in list of infectious diseases)). But, you’ll need much more than that.

The following section entitled ‘Summary of Hib among Indigenous people’ provides you with much more of the knowledge you’ll require. It summarises evidence of Hib among Indigenous children, both before and after the availability of an effective vaccine, and considers factors contributing to the disease among Indigenous children. The section also provides information about other prevention and control measures for Hib, and about non-type B *Haemophilus influenzae* infection. And, of course, the section is fully referenced in a standard academic manner, so that you can explore relevant aspects in more detail.

Our aim is to ensure that all substantial sections like this undergo a peer-review process, but, as you may have noted at the top of the section, this summary of Hib is still in the process of peer review. In the longer term, our goal is for all of the substantial knowledge overviews and summaries to be written by the leading authorities in the area, and to be subject to peer review. In this way, we want to reassure you—as a policy officer or whatever your role in Indigenous health—that you can rely on the knowledge and information on the HealthInfoNet.

I think you’ll agree—wearing your policy officer hat—that this section would be of great assistance in your task of developing a national strategy addressing Hib infection among Indigenous people. But, you would also need to know something about the administrative context/structures through which your draft strategy would have to pass before it is accepted nationally. You would need to know about the ‘framework’ agreements in each State and Territory (involving the Indigenous community-controlled sector, the Aboriginal and Torres Strait Islander Commission and the Commonwealth and State/Territory health authorities (and, in Queensland, the Torres Strait Regional Authority)). You would also need to know about the Standing Committee on Aboriginal and Torres Strait Islander Health (SCATSIH), the high level group of government officials from the Commonwealth and each State and Territory. The HealthInfoNet also covers these aspects, as illustrated here with our summary about the establishment of SCATSIH (in the ‘Current topics’ section of the Australian Indigenous HealthBulletin, the HealthInfoNet’s peer-reviewed electronic journal—accessible from the Home page by clicking on ‘Bulletin’, then ‘Archive’ and ‘Health Bulletin 1(2)’).

**Hat 3: High school student**

But it’s now time for a change of hats—how about a baseball hat with the peak to the back? Yes, I’m asking you to be a 17 year old high school student. One encouraging...
development over recent years has been the need for most (if not all) high school students to study some issue about Indigenous people. Let’s imagine that your assignment is to look at births to Indigenous mothers. Our FAQ (frequently asked questions) section aims to provide brief information about various aspects of Indigenous health (the section is accessible via the Home page by clicking in ‘Key facts’ and then ‘FAQs’).

Before looking at the FAQs related to Indigenous births, you may need to clarify your understanding on how Australia attempts to identify Indigenous people—and how many Indigenous people there are. As you can see, information about each of these aspects is provided in the section of FAQs entitled ‘What do we know about Indigenous population characteristics and identification issues’. Now that you’re clear about these aspects, you can move on to ‘What do we know about Indigenous birth rates’, in which the HealthInfoNet summarises the most recent information about births to Indigenous mothers. You can see that birth rates for Indigenous mothers are much higher than those for non-Indigenous mothers in the 15–19 years and 20–24 years age groups, but thereafter are much the same. You will probably also be interested in the weights of babies born to Indigenous mothers. This information is summarised in the table in the following FAQ, which shows that the mean weight of babies born to Indigenous mothers in 1998 was around 3.17 kilograms—about 190 grams less than the mean weight of 3.36 kilograms for babies born to non-Indigenous mothers. Importantly, the table shows also that 11.8% of babies born to Indigenous mothers were of low birthweight (less than 2,500 grams), compared with 6.6% of those born to non-Indigenous mothers.

Our section on FAQs needs substantial expansion, but I think you’ll agree that it’s a valuable ways of summarising various aspects of Indigenous health—whether you’re a 17 year old high school student or not.

Hat 4: Minister for Health

I’m not sure whether she wears a hat or not, but I would like you to imagine now that you’re Senator Kay Patterson, the Commonwealth Minister for Health. And, Minister, your plane leaves tomorrow for Geneva. You’ve been told that a few countries are gearing up to give you a hard time about the health status of Australia’s Indigenous peoples. One thing you’ll need is a (very) thorough briefing about current health status. Fortunately, the HealthInfoNet regularly updates its ‘Summary of Indigenous health’ (accessible from the Home page by clicking on ‘Key facts’ and then ‘Summary’). This summary, drawing on the best and most current sources (and some special analyses), includes sections on population, births and pregnancy outcome, mortality, hospitalisation, selected health conditions (cardiovascular disease, respiratory disease, cancer, injury, etc.), and health expenditure. You’ll see that this summary was updated only about two weeks ago. We don’t have a regular schedule, rather updating it when substantial new information becomes available—usually around three to four times a year. To make it easy—for the Minister and other people—we provide the Summary as a downloadable PDF document as well as the on-line HTML version.

We could go on swapping hats, but I think that the four examples I’ve used will give you an idea of how the HealthInfoNet addresses the knowledge needs of the wide variety of people who will be making some kind of decision about Indigenous health.
OTHER ASPECTS ABOUT INTERNET-BASED MATERIALS

Quality and timeliness

Two aspects, in particular, should be borne in mind in assessing any material on the Internet. I’ve already touched on both of these to some extent. Most importantly, the material needs to be accurate and reliable. The HealthInfoNet addresses this requirement in a number of ways. First, as noted above, we have rigorous procedures that ensure that all materials have been subjected to quality control checks before being added to our site. Second, we are developing a full peer review process for all substantial reviews, overviews and summaries before their inclusion on the site. This will apply even to the substantial contributions by recognised authorities in the various areas. This means that people accessing our knowledge will be able to have the same confidence as they would have in reading an article in a peer reviewed journal. Third, we are negotiating with a number of specialist agencies for them to take overall responsibility for sections of the site within their areas of expertise.

The second aspect which needs to be borne in mind is the currency of the material. In other words, does it reflect/include the most recent new knowledge in the area. Unlike similar synthesised knowledge in journals and other hard-copy media, the Internet provides the opportunity for this knowledge to be completely up to date. I’ve already drawn attention to this aspect when demonstrating our summary of Indigenous health. It is theoretically possible for all materials to be updated in a similar manner. For example, if important new knowledge becomes available about some aspect of Hib, our ‘Summary of Hib among Indigenous people’ can be updated readily. Ideally, summaries like these—and other substantial materials on the site—should be updated within a few months, at the most, of important new knowledge becoming available.

Facilitating the use of Internet-based materials

Making authoritative knowledge available on the Internet in a timely fashion is, of course, not enough in itself. It is important also to facilitate its use and to make it even more widely available. So, as well as making the knowledge available on the Internet, the HealthInfoNet works directly with Indigenous people to provide them with the skills to access Internet-based knowledge and information. By promoting our site to Indigenous people we attempt to reduce the disparities between Indigenous and non-Indigenous Internet access. Internet and related training is provided to Indigenous health workers and other staff and students from Indigenous organisations to enable them to take advantage of the wide range of relevant information available on our site and the Internet more generally. This has included the provision of Internet

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4 At present, not all reviews, overviews and summaries have been subjected to this process.
5 The capacity to respond this quickly will, of course, depend on the availability of people and resources to undertake the updates.
introduction and training sessions to employees and students from a variety of Indigenous agencies and organisations.\(^6\)

To reach an even wider audience, we also conduct HealthInternet cafés at relevant conferences, such as the one at this Conference. The cafés are designed to introduce conference participants to online services and technology that provide knowledge and information on Indigenous health. They are conducted in a supportive and culturally appropriate manner and pay particular attention to the needs of participants with limited computer or Internet experience.

Internet access is undoubtedly increasing across urban and regional areas of Australia, but rural and remote areas continue to be under-served. As well, Internet access in many organisations—including Indigenous community-controlled health services—is often restricted to senior staff, perhaps only the Chief Executive Officer. This means that our 21-year-old Indigenous tobacco control worker may not have ready access to the knowledge that would help her to ‘hit the ground running’. But, as long as she has access to a reasonably recent computer, this limitation can be overcome by the use of a CD-ROM—which I am using for this demonstration. We don’t have the resources at present to support the regular reproduction and distribution via CD-ROM of the HealthInfoNet’s Internet site. A relatively small amount of funds would be required for this reproduction and distribution, which would go a long way toward addressing inequalities in access to our knowledge and information.

**Internet site development**

It is worth adding that we also assist Indigenous and other relevant agencies with Internet site development, thus making their information more accessible. Examples include the initial sites for NACCHO (National Aboriginal and Community Controlled Health Organisation); the Koori Health Research and Community Development Unit; and the Nganampa Health Council. We have also developed and maintain for Queensland Health a substantial site on Aboriginal and Torres Strait Islander health in that State.

Substantial sites are undertaken on a cost-recovery basis, and our site development process employs a fully participative process. Organisations are assisted with the development of the site, and, if required, training in web authoring is provided to organisation employees. The site is hosted and maintained by the HealthInfoNet until such time as the organisation acquires sufficient expertise to manage the site independently.

In addition to the dissemination of this synthesised knowledge and information, the HealthInfoNet is starting to facilitate the sharing of knowledge among members of ‘communities of practice’ (CoP) within specific areas of Indigenous health. Fully operational CoPs will enable members to share their knowledge and information about case studies and other ‘lessons learned’, and engage in electronic discussion groups with other members.

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\(^6\) The HealthInfoNet’s core funds, provided by the Commonwealth Department of Health and Ageing’s Office for Aboriginal and Torres Strait Islander Health, do not include resources for these training sessions, or for the conduct of HealthInternet cafés. These are undertaken from funds acquired from other sources or specifically for the session or café.
CONCLUSION

In the years since the Australian Indigenous HealthInfoNet was established in September 1997, it has emerged as the major source of knowledge and information about the health of Aboriginal and Torres Strait Islander people.

The knowledge and information generated and disseminated by the HealthInfoNet has been recognised internationally as an innovative use of technology in bridging ‘the digital divide’, and at being at the forefront of knowledge sharing in the health sector. This recognition has been achieved despite the fact that the Internet site is less than 25% complete, based on the extent of coverage of individual health issues (for example, renal disease, mental health, health workforce, etc.) for each category of decision maker.  

The enormous potential of the HealthInfoNet will not be realised, however, until the coverage of individual health issues for each category of decision maker is complete, and a full range of dissemination strategies is exploited.

The HealthInfoNet addresses a small, but vitally important, area of health within Australia. Importantly, it provides also a model for the more widespread sharing of knowledge within the health sector.

PRESENTER

Neil Thomson is Director of the Australian Indigenous HealthInfoNet and Edith Cowan University’s Foundation Professor of Public Health.

Neil’s long-term involvement in public health, with a particular focus on Indigenous health, is based on tertiary training in medicine, public health, mathematics, anthropology and public health. After five years of clinical medical practice, Neil has had more than 20 years experience in various areas of public health. His special interests have been in the development of health information and its translation for health policy making, planning and service delivery, particularly in the area of Indigenous health.

In 1997, he was responsible for the establishment of the Internet-based Australian Indigenous HealthInfoNet (www.healthinfonet.ecu.edu.au), an innovative way of making comprehensive, up-to-date knowledge and information accessible to people interested in the health of Indigenous Australians.

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7 I ask you to bear this fact in mind when you explore the site for areas of your interest – you’ll have a 75% chance of going to an area where the coverage is incomplete!