The health status of Australia’s Indigenous population is a testament to the failure of a highly developed country to provide for its people in an equitable manner. In a nation where most people can have a reasonable expectation of becoming octogenarians, it seems unthinkable that the average life expectancy of Indigenous Australians is some 20 years lower than that of their non-Indigenous counterparts.

The term Indigenous Australians refers to people of Aboriginal or Torres Strait Islander background who live in Australia. In 2001, Indigenous Australians comprised 2.4% of the total population. Only 30% of Indigenous people live in major cities, leaving 70% in rural and remote areas. This paper is concerned primarily with Indigenous people in rural and remote areas.

A challenge in the detection and management of shortcomings in Indigenous health is the lack of complete Indigenous identification of medical records throughout Australia. In recent years, the cancer registries in Queensland, the Northern Territory and Western Australia have undertaken specific initiatives to maximise Indigenous notification. The NT has reported completeness of Indigenous identification. Where possible, data from these states have been used in this paper.

Cancer in Australia

The word cancer inspires fear in the hearts of many. Malignant disease affects both Indigenous and non-Indigenous populations, though not in the same proportions. In 2004, malignant neoplasms were the largest underlying cause of death in Australia, accounting for 28.7% of deaths.\(^1\) Malignancy accounted for 16.6% of all Indigenous deaths, rendering it less of a burden on this population than on the rest of the Australian people. However, this statistic is deceptive insofar as it fails to identify the most worrisome aspect of cancer death within the Indigenous population. Among non-Indigenous people, the most lethal malignancies are those of the lung, breast, prostate and colon/rectum. These are cancers of which early detection is not always possible for several reasons, including insidious onset and high metastatic potential.

In stark contrast, Indigenous Australians are dying mostly of neoplastic disease of the lung, female genital organs (most commonly cervical carcinoma) and liver (hepatocellular carcinoma) respectively. These are cancers whose prognoses among non-Indigenous people have been dramatically improved by prophylactic screening, immunisation and superior treatment options.

Cancer in Indigenous Australia

While lung cancer has a poor five-year survival rate in the general Australian population, its prognosis in Indigenous Australians is far worse. Mortality from lung cancer is currently 3.6 times higher in Indigenous populations. This has been attributed mostly to the higher prevalence of tobacco smoking, which will be explored later, and a lack of early detection.\(^2\) Symptoms such as haemoptysis and pleuritic chest pain may remain without investigation due to insufficient access to primary health care.

Fifty years ago, cervical cancer was the leading cause of cancer death in women of the developed world. Today, it does not even feature in the top 10 causes of cancer mortality. This considerable advance has been achieved by the corollary of biennial screening of women who have ever been sexually active via the Papanicolaou (Pap) smear test.

While cervical cancer is still the eighth most common cancer in Australian women, screening allows the early detection and treatment, resulting in the prevention of up to 90% of cervical squamous cell carcinomas. However, Indigenous women have 10 times the risk of dying from cervical cancer, which seems in large part to be associated with a low rate of participation in screening. A recent study conducted in Queensland found that participation in screening was, on average, 30% lower among Indigenous women than the rest of the female population in that state.\(^3\)\(^4\)\(^5\)

Between 1991 and 1995, death rates due to chronic liver disease and cirrhosis were four times higher among Indigenous people compared to the rest of Australia. In 2003, Indigenous Australians were 12 times more likely to die of hepatocellular carcinoma (HCC) than the general population. These conditions all share one important aetiological agent: the Hepatitis B Virus (HBV).\(^6\)

In 90% of cases, early childhood infection with HBV progresses to chronic infection which increases an individual’s risk of HCC 200-fold. Serological studies...
conducted during the 1980s and early 1990s in the NT indicated that 46.9% of Aboriginal school children in that state carried markers of HBV infection. Vaccination was introduced in Aboriginal communities in the NT in 1998 and has succeeded at lowering the rates of active infection in infants. However, end stage liver failure and other sequelae develop decades after infection and hence those who were infected prior to the availability of vaccination may well suffer complications in the future. The burden of HBV infection shall be felt for many decades to come.

The high prevalence of alcoholism within Indigenous communities compounds the threat posed by HBV infection. While Aboriginal and Torres Strait Islanders are less likely to consume alcohol than non-Indigenous Australians, those who do are more likely to drink to hazardous levels. In the National Drug Strategy Survey, 79% of Indigenous people who consumed alcohol at least weekly did so to a harmful degree compared to 12% of the non-Indigenous population.

It is thus evident that a combination of lifestyle factors and inadequate primary health care is responsible for the natural history of cancer in Indigenous Australians.

**Addressing cancer control in Indigenous Australia**

Currently there are several axes of disadvantage which contribute to the poorer outcome of malignancy in Indigenous populations. The three main challenges in achieving equality in Indigenous health status are: access to primary health care centres for the early detection of malignant disease; education; and a health workforce which is sensitive to the needs of the Indigenous population. In order to meet these objectives, the essential element is sufficient government funding. Successful government support of the Indigenous health system would involve both adequate levels of expenditure and appropriate use of the funds.

In 2002, government funding of Indigenous health was 22% higher than the expenditure for non-Indigenous Australians. It is commendable that the Federal Government has now recognised the need for unequal per capita funding in favour of Indigenous Australians. However, in a population with a disease burden three times that of the general Australian population, the current level of expenditure is simply inadequate. In a paper commissioned by the Australian Medical Association (AMA) in 2002, Professor John Deeble recommended that an equitable allocation of resources would only be reached by an increased annual expenditure of $250 million.

The Medicare Benefits Scheme (MBS) and the Pharmaceutical Benefits Scheme (PBS) receive a large portion of the Federal health budget. These funds are of little consequence to Indigenous Australians as they have limited access to general practitioners (GPs) and community pharmacies. A high proportion of Indigenous Australians do not have a Medicare card or number and are therefore precluded from access to mainstream health services.

Access to healthcare is a major determinant of health status. While only 2% of non-Indigenous Australians live in regions described as remote or very remote, these areas are home to 25% of Indigenous people. Per 100,000 people in these areas, there are only 113 medical practitioners, compared to 318 in capital cities. Twelve and a half per cent of discrete Aboriginal communities are located more than 100 kilometres from the nearest hospital. In a population where motor vehicle ownership is low, distance can be a significant impediment to the pursuit of medical care.

Fortunately, most of these localities offer community healthcare centres, funded by the Federal Government. The National Aboriginal Controlled Community Health Organisation (NACCHO) is part of the Indigenous Health Taskforce established by the AMA and has provided 51 primary health care centres in rural and remote areas. In these centres, 70% of staff is of Indigenous background and the goal is to ‘deliver holistic, comprehensive and culturally appropriate health care to the community which controls it’. However, the network of these centres is not consistently spread throughout the country and more are required.

The following will address the specific challenges and opportunities in the reduction of mortality from lung, cervix and liver cancer.

Improvement of lung cancer survival rates in Indigenous people is dependant upon two factors. Firstly, accessibility of primary healthcare is essential for early assessment of symptoms, as discussed above. Secondly, tobacco smoking must be discouraged. Just over half of Indigenous people are everyday tobacco smokers, twice the number of non-Indigenous Australians. As a result, Indigenous populations have higher mortality rates from all smoking related cancers. Amongst the non-Indigenous population, advertising campaigns and availability of nicotine replacement therapy (NRT) have seen a reduction in tobacco smoking. In order for these approaches to have an effect on Indigenous populations, they must be ‘culturally customised’. Some Indigenous people have indicated a need for NRT, but this must be provided at an affordable price.

Increased cervical screening of Indigenous women is critical in the reduction of cervical cancer mortality. The Federal Government's latest cervical screening initiative is an example of failure to adequately target the Indigenous population. In the 2001/2002 budget, the Government announced a four-year program worth $72 million to increase cervical screening of high-risk communities. The initiative centred upon offering monetary incentives to GPs for maximising the number of Pap smears performed. This program has been criticised for its failure to specifically name Indigenous populations as a 'high risk' category and for insufficient consideration of the current operation of Indigenous healthcare centres. Most NACCHO services are not GP-
participation in screening and check-up consultations. In addition, a quota-based funding system will simply reward centres within communities where women are younger or more willing to undergo screening, while diverting funding away from older or less willing women who may be at the highest risk.17

A proportion of the funds would be better spent in education of Indigenous women of the benefits of cervical screening. A lack of female health workers has also been implicated in the low participation rates, hence incentives for women to work in such services may also help. It would also be necessary to extend education about screening to younger girls. A study conducted between 2000 and 2002 in WA found that 44% of Indigenous youth had their first sexual experience at age 16, compared to 23% of their non-Indigenous counterparts.18

Strategies to reduce the incidence of liver cancer in the Indigenous population should focus on elimination of the two major aetiological agents: HBV and alcoholism, as well as protection of those people who are already at risk.

Vaccination has been successful in reducing the rates of infection in children and should be made available in all Indigenous communities. The management of those chronically infected with HBV is critical. Antiviral therapy has been successful in preventing the progression to HCC. Serum α-fetoprotein testing of ‘at risk’ individuals can be conducted at community health care centres as a means of screening. This has proven successful in the reduction of HCC mortality among Indigenous Alaskans.19

The issue of alcoholism is complex as it is intertwined with history and social status. “Governments encouraged Aborigines to drink. Then Aborigines were forbidden to drink. Then they allowed some Aborigines to drink and not others. Then prohibition for all Aboriginal people ended. By this time drinking had become a symbol for equality and citizenship.”20 It is necessary to educate Indigenous people about the detrimental effects of alcoholism in order to contradict these long standing misconceptions. Counselling and support during abstinence is paramount.

Insufficient funding and education may not be the only obstacle to improvement of Indigenous health status. A lengthy history of marginalisation and racism lies in the background of interactions between Indigenous and non-Indigenous Australians. The reluctance of the former population to believe that the same administration that had previously stripped it of rights is now interested in its salvation is understandable.21

Hence, establishment of a healthcare workforce that empathises with and caters to the cultural and social needs of Indigenous Australia is vital in order to increase participation in screening and check-up consultations. The requisite knowledge and experience of these workers should include: cross-cultural practice; chronic illness management; integrated population and clinical care service delivery; and the provision of emotional and social health services.22 In view of this definition, it is evident that Indigenous health workers are best equipped to service Indigenous populations. Nevertheless, in 2005, Indigenous Australians constituted a mere 1% of healthcare workers in the country, which is not even proportionate to Indigenous representation within the Australian population. Increasingly, universities are attempting to maximise Indigenous participation in healthcare professions by offering scholarships and access schemes. There is also a greater emphasis on Indigenous health issues in university curricula. These measures will hopefully translate into a more culturally appropriate health workforce in the future.

While it is evident that there is a great shortage of medical professionals in rural areas, the caseloads for specialist staff would be quite low, meaning availability of such services in remote areas would be an expensive and inefficient allocation of resources. However, effective treatment of malignant disease requires access to a multidisciplinary team including oncologists, surgeons and allied health professionals. In order to overcome this problem, specialist outreach programs combined with shared-care have been proposed. These programs would involve the patient travelling to a major centre for initial treatment, following which local care can be arranged via community health centres. This approach has proved to be effective in the treatment of breast cancer in rural areas.23

Final word

One can conclude that Indigenous Australians are dying of cancers from which other Australians are increasingly protected. Australian governments have been unsuccessful thus far in ensuring that the technologies which have allowed these advances reach all Australians equally. In order to bridge the resultant gap in health status, more healthcare resources must be directed to rural and remote Australia. Indigenous people must receive education on prevention of malignant disease. They must have access to primary care centres which facilitate early diagnosis and treatment of neoplastic changes. It is the responsibility of current and future healthcare professionals to educate and provide Indigenous Australians with healthcare that is catered to their needs. It is the responsibility of state and federal governments to provide us with the resources to do so. Our task, as medical practitioners of the future, is clear.

*This article is the winning essay in The Cancer Council Australia’s student essay competition. As the winner, Ujvala Jagadish attended the World Health Organisation’s Collaborating for Cancer Education’s Oncology for Medical Students summer school.
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