**SETTING UP CHRONIC DISEASE PROGRAMS: PERSPECTIVES FROM ABORIGINAL AUSTRALIA**

**Objective:** To share some perspectives on setting up programs to improve management of hypertension, renal disease, and diabetes in high-risk populations, derived from experience in remote Australian Aboriginal settings.

**Principles:** Regular integrated checks for chronic disease and their risk factors and appropriate treatment are essential elements of regular adult health care. Programs should be run by local health workers, following algorithms for testing and treatment, with back up from nurses. Constant evaluation is essential.

**Components:** Theses include testing, treatment, education for individuals and communities, skills and career development for staff, ongoing evaluation, program modification, and advocacy. Target groups, elements, and frequency of testing, as well as the reagents and treatment modalities must be designed for local circumstances, which include disease burden and impact, competing priorities, and available resources. Pilot surveys or record reviews can define target groups and conditions. Opportunistic testing will suffice if people are seen with some regularity for other conditions; otherwise, systematic screening is needed, preferably embedded in primary care streams. The chief goal of treatment is to lower blood pressure, and if the patient is diabetic, to control hyperglycemia. Many people will need multiple drugs for many years.

**Challenges:** Challenges include lack of resources, competing demands of acute care, the burden of treatment when disease rates are high, problems with information systems, and in our setting, health worker absenteeism.

**Funding:** Businesses, altruistic organizations, and pharmaceutical and biotechnology companies might fund feasibility studies. Where governments or insurance companies already support health services, they must ultimately commit to chronic disease services over the long term. Effective advocacy requires the presentation of an integrated view of chronic disease and a single cross-disciplinary program for its containment. Arguments based on preserving the economic base of societies by preventing or delaying premature death will carry most weight, as will the costs of dialysis avoided in countries that already support open-access programs. (Ethn Dis. 2006;16 [suppl 2]:S2-73–S2-78)

**Key Words:** Australian Aborigines, Chronic Diseases, Renal Disease, Hypertension, Diabetes, Cardiovascular Disease, Detection and Prevention Programs

**BACKGROUND**

Control of emerging chronic diseases is important for many minority populations and developing countries and is critical for those also facing excess illness and death from other causes.1-4 The Western world has much to learn as such programs are developed.

An epidemic of hypertension, diabetes, renal disease, and cardiovascular disease appeared among Aboriginal people in Australia in the early 1980s. Those living in remote areas are most severely afflicted. Nationwide, age-standardized death rates are 2 to 3 times those of non-Aboriginal Australians, and entry into renal replacement programs is elevated 10 times, but in some remote regions deaths are increased six-fold, and the annual incidence of treated end stage renal disease varies from 1500 to >3000 per million.5-9 Renal disease, hypertension, diabetes, and cardiovascular disease are intimately related in this environment.10-14 Among the evolving mix of factors contributing to this epidemic are changing lifestyle under conditions of serious socioeconomic disadvantage,15 improved survival of low birthweight infants in the last 40 years,16,17 and reduced competing deaths from other causes.18

In Australia, tertiary care for Aboriginal people (hospital care, complex procedures, renal replacement therapy) is of a reasonable standard. However primary healthcare services, which rely on a complex and sometimes inscrutable mix of federal, state, and territory funding and with a wide range of operational models, have been under-funded, chaotic, and woefully insufficient. Deficiencies in chronic disease management have been particularly severe because of belated recognition of the problem, a failure of the medical community to articulate solutions, lack of national leadership, and for the one third of Aboriginal people who live in very remote areas, the tyranny of distance. Distance imposes extra costs and delays, impairs access to services and information, weighs against professional and political advocacy, and causes high turnover of non-Aboriginal staff.

In the last 10–12 years, however, information has been accruing. Regional patterns of hospitalizations, renal failure, and deaths have been defined.6 Dialysis is now, overwhelmingly, the single most common hospital procedure for Aboriginal people, and the costs of maintaining individuals on this treatment have been assessed.19 Surveys of chronic disease have been performed in several regions,10,11,13,20-26 and various guidelines have been formulated for its containment.10,27-30 The sensitivity of blood pressure to good treatment is clear.10,31 Better diabetes care has reduced hospitalizations of people in the Torres Strait.32 Renal and non-renal deaths fell in one community with a systematic screening and treatment.

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