Telehealth in remote Northern Territory: bridging the gap

To the Editor: The very real challenges of distance and travel facing people with disabilities in rural and remote Australia were recently highlighted by Samera in this Journal.[1] Here at Katherine Hospital, the barriers to care described by Samera are being overcome through the innovative use of telehealth. For example, a 47-year-old Aboriginal woman was admitted to this hospital after suffering a right-sided intracerebral bleed, leaving her with a dense left-sided hemiplegia and severe cognitive deficits.

To facilitate community placement, the woman needed a wheelchair. Customised wheelchair design is undertaken by the Seating Equipment Assessment and Technical (SEAT) service in Darwin, which visits Katherine only once every 4 months. To overcome this, telehealth appointments were arranged by the SEAT occupational therapist at Royal Darwin Hospital, who remotely guided the occupational therapist at Katherine Hospital through the complex patient assessments that were necessary. As a result, a customised wheelchair was delivered to Katherine Hospital within 6 weeks.

What would previously have taken many months, including two dedicated aeromedical flights to and from Darwin and multiple transfers between hospitals, was all achieved while the patient remained in her room at Katherine Hospital.

Telehealth for Aboriginal patients in remote areas is an ideal model of culturally safe care. It enables a patient to use speciality services in familiar local environments and in the company of their family and trusted health care providers, resulting in greatly improved cultural and language communication and decision making.

Telehealth also overcomes the dynamic challenges of distance, travel and extreme weather that are so problematic in northern Australia, and it delivers real benefits in a highly cost-effective and sustainable manner. It is being applied to an increasingly diverse range of clinical interactions, providing highly valuable improvements in health care delivery to patients. Telehealth is rapidly becoming a community expectation, the new paradigm of equitable access to health care in remote Australia.

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Strongyloides stercoralis infection and antenatal care

To the Editor: *Strongyloides stercoralis* is a soil-transmitted helminth infection that affects more than 100 million people worldwide. It is known to be common in the Indigenous communities of northern Australia, with recorded prevalence often in the region of 30%–40%.[1]

Reliable enzyme-linked immunosorbent assay (ELISA) testing for the worm means that a sensitive and specific test is now available.[2] However, ELISA testing is currently only performed in central laboratories, resulting in inevitable delays in diagnosis.

> “Telehealth is rapidly becoming a community expectation”
>
> Quilty et al

> “unanswered questions remain over the prevalence of the infection in women of childbearing age”
>
> Hays et al

Strongyloides infection in pregnancy presents at least a theoretical threat to the mother's health. While chronic *Strongyloides* infection can be relatively symptom-free, hyperinfection syndrome can ensue in immunocompromised patients, resulting in proliferation of infection, subsequent septicaemia, and a high mortality rate even in the best of circumstances. The administration of systemic steroids is known to be a common iatrogenic cause of the condition.[3] In theory, should a woman require treatment with a steroid in the course of her pregnancy (for example, in the treatment of premature labour), then administering the drug in the presence of *Strongyloides* infection represents a considerable risk.

A recent report from the United States outlines such a case.[4] A Haitian patient, 25 weeks pregnant and not known to be carrying a worm infection, presented to a New York hospital in premature labour, was administered steroids for the benefit of the fetus, and subsequently developed *Strongyloides* hyperinfection. The fetus was delivered stillborn, and the mother died of overwhelming sepsis.

S. stercoralis screening is already included in the routine health assessment of some refugee and migrant populations entering Australia, and is employed in well adult checks in some Aboriginal communities. Many unanswered questions remain over the prevalence of the infection in women of childbearing age, the possible effects of infection on the course of a normal pregnancy, and the safety of the principal treatment, ivermectin, during pregnancy.[5] However, given the evidence currently available, we believe that all relevant authorities involved in the antenatal care of women resident in the communities of northern Australia should consider adding *S. stercoralis* ELISA testing to their routine antenatal and preconception screening.

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Recent warnings of a rise in crystal methamphetamine ("ice") use in rural and remote Indigenous Australian communities should be heeded

To the Editor: Recent surveys indicate growing disquiet among health professionals nationally about the use of "ice" in some Indigenous communities,[1] but with no clear evidence, as yet, of a feared general surge in its use.

During 2013 and 2014, we interviewed 304 key community leaders and service providers about alcohol controls in Queensland's rural and remote Indigenous communities. A number of these people offered diverging views about the use of amphetamine-type stimulants (ATS), including ice (Box). In parallel surveys in eight rural and remote communities, with participants recruited opportunistically, 953 community residents provided their views about trends in local drug use. Consistent with the information provided by the interviews, 393 residents (41%) asserted that new drugs were being used in their communities, 106 (11%) nominating ATS as the drugs involved, and 55 (6%) specifically nominating ice. A previous study[2] indicated that no similar reports had appeared in surveys of alcohol, tobacco, cannabis and other substance use during the preceding 15 years in far north Queensland. The same applies to similar settings in Arnhem Land (Northern Territory), where few participants (< 1%) reported that they had ever tried any ATS, and none had used ice.[3]

It is of interest that cannabis appeared to have become endemic in around 4 years in Indigenous communities in both the NT[4] and far north Queensland (ARC, unpublished data). Its widespread use followed a rapid rise from the late 1990s[5] and early 2000s,[4] enabled by locally embedded trafficking links with illicit drug suppliers outside the communities.[5] Enforcement agencies have long held concerns that such links could also facilitate the marketing of ice. A similar, 4-year window of opportunity may, therefore, be all that is available to reduce the impacts of ice if demand for it emerges.

> "preventive services ... have been seriously reduced in Queensland and elsewhere"
>
> Clough et al

Effective prevention strategies and appropriate treatment approaches will require:

- improving community-level understanding of ice and its health and social consequences (Box);
- participatory research to better understand the resilience and protective factors that protect particular Indigenous individuals, families and groups from using ice, and to support the recovery of those who do use the drug;
- studies to determine the extent of the problem; and
- epidemiological studies to document current patterns and styles of ATS use, the precise nature of the substance used, and to monitor trends and patterns in the demand for novel substances such as ice among Indigenous Australians.

This will all require not only improved clinical capacity, but a sustained reinvestment in preventive services that have been

Selected comments about recent changes in the use of amphetamine-type stimulants (ATS), including "ice", in Indigenous communities in rural and remote Queensland from statements made by 304 key community leaders and service providers interviewed during 2013–2014 about the impacts of alcohol controls in regional centres and affected communities in rural and remote Queensland

Interview participant characteristics	Selected comments by interview participants
Health service provider Female, Aboriginal, 25–50 years	"People are wanting education about ice. They know nothing about it. They put it on top of bongs. We have ice users in [nearby regional town]."
Health service provider Male, non-A&TSI, over 50 years	"In recent times, [community names] Queensland Health Clinics have NOT received any referrals due to amphetamine usage."
Social welfare worker Male, TSI, aged 25–50 years	"There is talk of ice here but there is more marijuana. I have heard of "snow cones"; marijuana laced with some powdered drug."
Local government worker Male, non-A&TSI, 25–50 years	"There is a rumour that ice is in the community."
Drug and alcohol treatment worker Female, Aboriginal, 25–50 years	"They are being introduced to ecstasy, ice, when they go in to [nearby town]. Utensils were found in the school ground last year, needles. They are opened up to another world of drugs."

A&TSI = Aboriginal and Torres Strait Islander. TSI = Torres Strait Islander. ◆

seriously reduced in Queensland and elsewhere.

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Differing trends in thickness and survival between nodular and non-nodular primary cutaneous melanoma in Victoria, Australia

To the Editor: Australia has the highest incidence of melanoma in the world, with more than 12 500 new cases diagnosed each year.[1] Despite advancing techniques in diagnosis and management, mortality remains high, with around 1500 deaths each year.[1]

We performed a retrospective review of four 1-year cohorts including all cases of cutaneous melanoma reported to the Victorian Cancer Registry during 1989, 1994, 1999 and 2004. We reviewed 5775 cases of primary invasive melanoma and 3649 cases of in situ melanoma. Mortality data were available for all patients, and were collected up to 31 December 2013, providing adequate follow-up time.

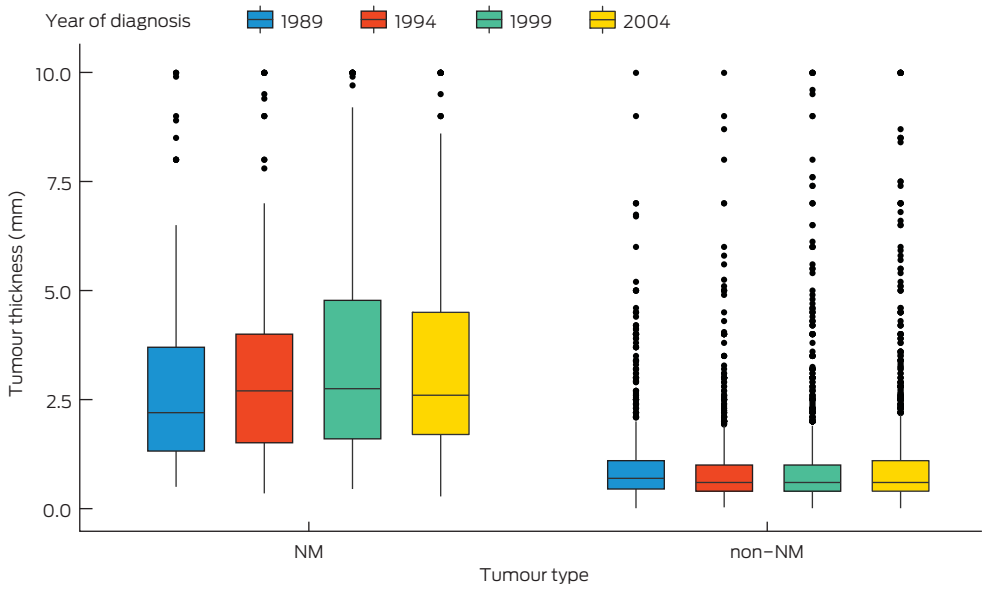
> "the clinical features of nodular melanoma ... are often distinct and differ from the ABCD diagnostic criteria"
>
> Smithson et al

In an earlier study of these same cohorts we showed that nodular melanoma (NM) accounted for 43% of all melanoma deaths, despite comprising only 13.5% of all invasive melanomas.[2]

To further understand trends over time associated with NM as a distinct entity from other melanomas, all melanomas other than NM were grouped together (superficial spreading melanoma, 42%; lentigo maligna melanoma, 33%; desmoplastic melanoma, 1%; acral lentiginous melanoma, 1%; and other less common subtypes[3]) and classified as non-nodular melanoma (non-NM). Trends were compared between the two groups.

The incidence of all types of melanoma increased over time. The proportion of in situ melanomas increased from 33% in 1989 to 43% in 2004. As previously reported, NMs were thicker at diagnosis[2] (median Breslow thickness of 2.6 mm, compared with 0.6 mm for invasive non-NM). The thickness at diagnosis of invasive non-NM decreased over

Distribution of Breslow thickness for nodular melanoma (NM) and invasive non-nodular melanoma (non-NM) diagnosed during 1989, 1994, 1999 and 2004*



* Box plots show interquartile ranges (IQRs). Horizontal bars within represent median values and whiskers extend to the last value within 1.5×IQR of the 1st and 3rd quartiles. The thickness of non-NM decreased with time (age-adjusted trend, − 0.5% per year [95% CI, − 0.89% to − 0.11% per year]; $P = 0.01$). The thickness of NM did not show evidence of a decrease over time (age-adjusted trend, 0.5% [95% CI, − 0.42% to 1.43%] per year; $P = 0.28$). ◆

time, whereas NM thickness did not change (Box).

For all melanomas there was a significant association between increasing thickness and decreasing survival ($P < 0.001$). Survival among patients with non-NM improved over time (crude hazard ratio for diagnosis year, 0.98 [95% CI, 0.97–1.00]; $P = 0.04$). This was explained by the decreasing trend in thickness (thickness-adjusted hazard ratio for diagnosis year, 1.00 [95% CI, 0.98–1.02]; $P = 0.94$). For NM, there was no evidence of a change in survival over time.

This analysis highlighted that although patients with non-NM were being diagnosed earlier, when lesions were thinner, and had improved survival outcomes, this was not true for patients with NM.

Since 2004, and particularly in the past 5 years, we have come a long way in the treatment of metastatic melanoma, with targeted therapies and checkpoint inhibitors offering an improved prognosis for patients with advanced disease (be it from NM or non-NM primary cancers). However, our best opportunity to reduce melanoma mortality still lies with early detection. While public health education and improved screening have led to earlier diagnosis of non-NM, greater awareness of the clinical features of NM (which are often distinct and differ from the ABCD [asymmetry, border, colour, diameter] diagnostic criteria[4]) is still required to reduce overall melanoma mortality.

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