Priorities for Aboriginal Primary Health Care in the Northern Territory

Aboriginal Medical Services Alliance NT (AMSANT)

May 2016

Key messages

1. **The Aboriginal community controlled health sector is the largest provider of primary health care to Aboriginal people in the NT, delivering more than half of all episodes of care and contact with Aboriginal patients.**

2. **There have been impressive health gains for Aboriginal people in the NT over the last three decades which have exceeded gains achieved in other jurisdictions.**

3. **Progress in the NT has been achieved against a health status that has historically been significantly worse in the NT compared to national figures, with current life expectancy for Aboriginal people in the NT still the lowest in the nation and the gap the widest.**

4. **A key factor in the nationally significant progress achieved in the NT has been the eighteen-year partnership—through the NT Aboriginal Health Forum (NTAHF)—between the Commonwealth and NT governments and the Aboriginal community controlled health services (ACCHSs) sector, represented by AMSANT.**

5. **The Forum has overseen the development and reform of best-practice Aboriginal primary health care (PHC) and continues to drive reform through its shared vision of effective and efficient service delivery based on strong, regionalised ACCHSs closely coordinated with government tertiary services and health system supports.**

6. **The ACCHSs sector has led innovation in Aboriginal PHC and our services are leaders in delivering PHC services to remote and regional areas.**

7. **The strongest prospects for continued cost-effective improvement in Aboriginal health in the NT are to be found in maintaining investment in the planned development and ongoing reform of Aboriginal PHC through the NTAHF, including the expansion and enhancement of regionalised Aboriginal community controlled PHC services.**

8. **Action on PHC must occur in parallel with stronger action on the social determinants of health, which research shows are the most significant drivers of health and wellbeing.**

Contents

Key messages 1

Background 3

Role of AMSANT 4

Size of the Aboriginal community controlled health sector in the NT 5

Priorities for improving outcomes in Aboriginal health in the NT 6

1. Regionalisation reform of primary health care service delivery 6

Progressing regionalisation priority areas 7

2. Expanding the core services of PHC 7

Early childhood 8

Social and emotional wellbeing (including mental health and alcohol and other drugs) 9

Prevention and health promotion. 10

Family support programs 10

3. Achieving equitable and adequate core PHC funding 11

Preferred provider status vs competitive tendering 12

Consolidation of core Aboriginal PHC funding under the C'wlth Health Department 12

4. Rising prevalence of chronic disease 13

Earlier onset of chronic disease 13

Ageing of the population 13

5. Continuous Quality Improvement 14

6. eHealth 15

Clinical Information Systems (CIS) 15

Electronic Medical Record Sharing 16

Information Communications Technology (ICT) & Information Management (IM) 16

7. Aboriginal employment in health delivery 17

8. Addressing the social determinants of health 18

References 20

Background

There have been impressive health gains for Aboriginal people in the NT over the last three decades which have exceeded gains achieved in other jurisdictions. This has represented one of the fastest health improvements ever recorded (Caldwell et al. 1995), and for a period placed the NT as the only jurisdiction broadly on track to close the life expectancy gap by 2031.[1]

To place this in perspective, this progress has been achieved against an historically significantly worse health status in the NT compared to national figures, with current life expectancy for Aboriginal people in the NT still the lowest in the nation and the gap the widest. The challenges in the NT will require sustained commitment and investment from government.

As progress achieved in the NT has been nationally significant, it is important to understand the key drivers of this improvement to ensure that future investment is effectively targeted. While improvements in the hospital sector and acute care have contributed, the principal factor to this success has been the steady, planned improvement in Aboriginal PHC over the past two decades. Key aspects of this have included:

- **Sustained, increased Commonwealth Government PHC funding** since 2001 to address historically inadequate and inequitable funding, including markedly lower per capita rates of utilisation of Medicare benefits and subsidised medicines through the Pharmaceutical Benefits Scheme (PBS). The Primary Health Care Access Plan (PHCAP) and Expanding Health Service Delivery Initiative (EHSDI) policies significantly improved PHC funding, based on an adequate per capita funding benchmark allocated on a regional basis to agreed Health Service Delivery Areas (HSDAs). This process remains a work-in-progress and funding inequity remains in some regions.

- **Strategic leadership of the Northern Territory Aboriginal Health Forum (NTAHF)**, now in its eighteenth year of operation. The NTAHF is a jurisdictional Aboriginal PHC planning body comprising all key stakeholders—the NT and Commonwealth governments, AMSANT and the NT PHN. The NTAHF functions to plan and implement an efficient and effective service delivery model for Aboriginal PHC, to ensure clear lines of responsibility, and to avoid unnecessary duplication. The NTAHF has endorsed Aboriginal community control as the preferred model of primary health care delivery under the *Pathways to Community Control* model (NTAHF 2009).

- **Leadership and innovation of the Aboriginal community controlled health sector and its peak body, AMSANT**, in developing the model of comprehensive primary health care and best-practice, evidence-based systems for the delivery, evaluation and management of Aboriginal PHC services. The ACCHSs sector in the NT has led developments in areas such as eHealth and continuous quality improvement (CQI) systems. Adopting these new technologies has driven improvements in the efficiency, accountability and quality of health services.

- **Increasing capacity and skills in both the community controlled and government sectors**. The decision of the NTAHF that there should only be two providers of Aboriginal PHC in the NT—the

[1] Latest available figures from 2012 show a deviation from the long-term trend which will need to be reviewed against subsequent data (AIHW 2015, p102).

community controlled sector and the government sector—has increased collaboration and reduced duplication and fragmentation of service delivery and allowed both sectors to develop capacity and expertise. This includes areas such as cultural security, Information Communications Technology (ICT), CQI, chronic disease management, relationships with communities and development of a skilled Aboriginal health workforce.

- **Key NTAHF policies improving the scope and quality of PHC.** These include the core primary health care services policy (a set of agreed core services which should be available at all locations), mandatory key performance indicators, and allocating a proportion of core PHC funding to provide clinical quality improvement services and support.

- **Use of common compulsory clinical protocols** by all ACCHSs and government remote primary health care services as set out in the Central Australia Remote Practitioners Association (CARPA) and Women's Business manuals.

- **Investment in eHealth including clinical information systems (CIS)** to drive efficiency and quality improvement and provide good health data. The ACCHSs sector elected to use a single system (Communicare), maximising investment in ongoing improvements to the system. The MeHR (NT shared electronic health record) has contributed improvements in efficiency, quality and continuity of care which it is hoped will be continued by the national My Health Record.

- **Development of regional ACCHSs in remote areas** over the last twenty years (Katherine West Health Board, Sunrise Health Service and expansion of Miwatj Health Service and Anyinginyi Health Service). The regionalisation reform process supported by PHCAP and EHSDI with the support of the NTAHF will create a network of regional health services with economies of scale and capacity to provide a wider range of services than smaller ACCHSs but which still have strong connections to community and Aboriginal governance. This remains a priority for the reform agenda (see below under 1).

Continued investment in the planned development and ongoing reform of Aboriginal PHC in the NT led by the NTAHF is essential given the significantly worse health status of NT Aboriginal people. Despite the very significant improvements over the past three decades, the NT Aboriginal life expectancy gap (16 years for men compared to national non-Indigenous figures and 14 years for women) is still the largest in the nation by a significant margin (AIHW 2015).

Recent research has also demonstrated that optimal PHC access in the NT has reduced hospitalisation significantly, suggesting that PHC has had a major role in health improvements (Zhao et al. 2013), and also confirming its potential to significantly reduce expensive tertiary health costs.

Role of AMSANT

AMSANT plays a key role in Aboriginal PHC in the NT, principally as the peak body for ACCHSs with a critical member service support role, spanning areas from accreditation and CQI to eHealth, workforce support, public health, policy, research and advocacy. AMSANT also represents its members on the NTAHF, NACCHO and other relevant contexts.

AMSANT has led the improvement in standards and quality of governance and service delivery by the community controlled (and government) sector, including in the areas of eHealth and CQI. AMSANT itself has ISO 9001 organisational accreditation and assists our member services to obtain both clinical and organisational accreditation.

Accreditation of Quality Management Systems, particularly at the organisation level, is regarded by AMSANT as an important element of improving the quality of governance and management and of providing appropriate assurance and accountability to government and other funders.

Size of the Aboriginal community controlled health sector in the NT

The Aboriginal community controlled health sector is the largest provider of PHC to Aboriginal people in the NT and provides a far greater proportion of overall health care to the Aboriginal population than is provided by similar services in other jurisdictions. Over half of all the episodes of care (53%) and contacts (55%) in the Aboriginal PHC sector in the Northern Territory are provided by ACCHSs (NTAHKPI Report 2014/15). The other major provider is NT Government health services.[2]

The size of the ACCHSs sector in the NT will continue to grow under the *Pathways to Community Control* policy, agreed by the NTAHF, that will see NT Government-run health services transitioned to Aboriginal community control over time. Transition to community control is currently occurring in three regionalisation priority areas identified by the NTAHF (see below under 1)

[2] Darwin is the only location where private general practice is a significant provider of care to Aboriginal people although Danila Dilba Health Service in Darwin has expanded rapidly almost doubling episodes of care in the last five years with nearly 7000 regular clients.

Priorities for improving outcomes in Aboriginal health in the NT

The priorities for improving outcomes in Aboriginal health in the NT must build on the key elements of the successful development and reform of Aboriginal PHC in the NT, comprising:

- **collaborative health planning** under the NTAHF focused on regional HSDAs served by
- **regional Aboriginal community controlled health services (ACCHSs)** delivering
- **comprehensive primary health care (CPHC)** which includes
- **an agreed range of core primary health care services** funded according to
- **an evidence-based per capita funding model** with
- **a skilled Aboriginal health workforce**, and
- **robust health data** provided through
- **clinical information systems** and **eHealth** technology supported by
- **continuous quality improvement (CQI)** programs to underpin evaluation and service quality.
- **The social determinants of health** must be tackled in parallel with improving PHC if we are to see sustained improvements in Closing the Gap in health and disadvantage.

1. Regionalisation reform of primary health care service delivery

Regionalisation of Aboriginal community controlled PHC services based on agreed Health Service Delivery Areas (HSDAs) is a key reform for improving Aboriginal service delivery and health planning outcomes. It is a health system improvement that provides more cohesive, efficient and effective services resulting from local community involvement and governance and integration of a wider scope of services into an holistic comprehensive PHC framework. Regional health planning allows areas of duplication and poor inter-service coordination to be identified and addressed and for local priority-setting in service delivery. In addition, regionalisation enables significantly increased sustainable Aboriginal employment and leadership capacity in the health sector.

Regionalisation includes the transfer of NT Government clinics into regional ACCHSs under a single Health Board. This offers the Commonwealth savings in directly funding regional Health Boards with flatter, more streamlined structures rather than funding the NT Government to operate government-run clinics with additional administration and management costs. Increased efficiency and effectiveness of health services is also to be gained from rationalising vertical programs under regional Health Boards rather than through multiple external NGO providers.

The regionalisation process in the NT offers significant opportunity to improve the integration, coordination and efficiency of PHC services in those remote parts of the NT, especially in Central Australia, where there are both small ACCHSs (servicing up to 1000 people) and multiple government clinics that are managed centrally. The latter have high management overheads, weak or non-existent mechanisms for local decision making by the community and a more limited range of programs and supports. Some locations continue to have both government and community controlled services operating out of the one site, however experience in the NT shows this is less effective and efficient than one well-managed provider operating the health service.

Similarly, inefficiencies are experienced where there is an over-reliance on visiting services that are not well connected to PHC clinics, resulting in a patchwork of services with both duplication and gaps in service delivery and poor coordination and communication. Too much time must be spent coordinating the visiting services, reducing clinical time to patients. In smaller services the reduced scope of primary health care limits capacity for disease prevention and for provision of holistic care (including addressing aggravating and underlying factors and tackling the determinants of health in conjunction with other sectors, e.g. education and the local store). This in turn causes clinicians to feel dissatisfied and contributes to high turnover. Over-reliance on specialist services when primary health care is poorly resourced can detract from quality and continuity of care (Gruen et al. 2002), while uncoordinated care provided by high-turnover staff increases preventable hospitalisations (Nyweide et al. 2013). Properly resourced regional ACCHSs can avoid such outcomes.

Progressing regionalisation priority areas

The regionalisation process stalled in September 2011 under the previous Commonwealth Government, compromising the potential of this strategy to contribute to health gains through improved PHC services. 2015 saw some progress towards the release of funding to continue the process.

Three regionalisation priority areas have been agreed through the NTAHF in East Arnhem (Miwatj), West Arnhem (Red Lily Health Board), and Central Australia (Alyawarr). AMSANT developed a business case for the priority areas that was submitted to the Commonwealth and the NTAHF, with further discussion continuing through the NTAHF, its partners and at the regional level.

The release of Commonwealth regionalisation funds will enable further consultation with communities on regionalisation plans and work to be undertaken with government on the transfer to community control of the NT Government clinics in the priority HSDAs agreed to by the NTAHF. Confirmation and completion of the assessment and approval processes for Final Regionalisation Plans by the NTAHF is also required to ensure progress continues.

The Commonwealth and NT governments should ensure that their current reforms are consistent with regionalisation and transition to community control and avoid outcomes that may inadvertently hinder the process.

2. Expanding the core services of PHC

The capacity of PHC to fully realise its potential to create more efficient and effective health outcomes requires the expansion of the suite of core funded services of PHC to include early childhood programs, mental health and alcohol and other drug (AOD) services, family support and comprehensive chronic disease prevention programs. Larger ACCHSs already provide these programs effectively, although funding is inconsistent through siloed programs, including from outside the health department.[3] Smaller ACCHSs and government remote clinics do not have the economies of scale to implement these programs (apart from prevention) and are often inadequately serviced

[3] For example, AOD and SEWB programs are funded by the Department of Prime Minister and Cabinet through competitive tendering under the Indigenous Advancement Strategy. See section 3.

through visiting outreach programs delivered centrally or via fly-in-fly-out NGO providers. Regionalised ACCHSs will enable the incorporation of these programs into local PHC services across the NT providing more effective, culturally appropriate and cost-effective services.

The Commonwealth Government should ensure that adequate funding is provided to ACCHSs to deliver the expanded suite of core PHC services through the consolidation of existing funding within the health portfolio and ensuring ACCHSs are afforded preferred provider status (see 3 below).

The following outlines the evidence for expanding core PHC services in these areas:

Early childhood

There is now overwhelming evidence that factors in pregnancy and early childhood have profound influence on adult outcomes, including development of chronic disease, mental health issues and social and educational outcomes (Centre on the Developing Child at Harvard University 2010, National Scientific Council on the Developing Child 2006, CDC 2013). Several early childhood programs have very solid evidence of improving these outcomes, including the Nurse Family Partnership Program (NFPP) (Olds et al. 1997).

Despite significant policy attention on areas such as early childhood, there is a plethora of poorly coordinated programs—many of them with little evidence base and/or inadequate provision to really make a difference (Havnen 2012). Most are provided by visiting outreach services, many with weak links to the community. A few NT urban ACCHSs provide crisis-based family support services but only one service, Central Australian Aboriginal Congress (CAAC), delivers the Nurse Family Partnership Program (NFPP), a comprehensive population-based early childhood program aiming to improve outcomes for both mother and child, which has been successfully adapted to make it more effective in the Aboriginal context. CAAC delivers this program in Alice Springs and also in two remote communities. The NFPP has been shown to be cost saving in the USA principally through increasing mothers' employment and less use of welfare, reduced child abuse and neglect, reduced offending in children and improved early childhood outcomes (Olds et al. 1997, Dalziel et al. 2013, Eckenrode et al. 2000, Eckenrode et al. 2010). It is currently also being delivered by two other ACCHSs in Australia and is being expanded to ten additional sites including at least one in the NT.

The Abecedarian program also has a sound evidence base and has been implemented in the NT to a limited extent (mainly at CAAC but also as part of a broader but lower intensity program—Families as First Teachers). It is an enriched child care program that improves cognitive and social development if provided at sufficient intensity (up to 30 hours a week). Long-term outcomes include improved school retention and employment and reduced need for special education programs (AMA 2013). It complements the NFPP which has the strongest results in reducing child abuse and neglect. It is a targeted program but given the degree of disadvantage especially in remote communities, the majority of NT Aboriginal children should be eligible.

We believe Aboriginal leadership is critical in program areas such as the NFPP, requiring a high degree of trust and cultural security to work effectively, and given that many Aboriginal families have been affected by generational child removal and may not trust mainstream NGOs or government agencies. It has been found that some mainstream parenting programs do not retain

Aboriginal participants well or achieve optimal outcomes in Aboriginal community settings (Emerson et al. 2015). There is a strong case for preferentially providing this program through ACCHSs.

AMSANT believes that regional ACCHSs should progressively be resourced to implement these evidence-based programs—moving funds away from the multiple mainstream organisations that often have little experience of implementing programs in the challenging contexts of remote communities. Hub support around implementation will be required (for example, as currently provided for the NFPP).

Social and emotional wellbeing (including mental health and alcohol and other drugs)

Mental health conditions are estimated to account for 12% of the life expectancy gap between Indigenous and non-Indigenous Australians, with suicide contributing another 6% and alcohol another 4% (Vos et al. 2007). This is consistent with a recent AIHW report on Indigenous health expenditure that revealed mental health and behavioural disorders were the second most expensive category of hospitalisations for Aboriginal people (AHIW 2013). In the NT, rates of Aboriginal suicide are significantly higher than national Aboriginal suicide rates and the gap between Aboriginal and non-Aboriginal rates of mental health hospitalisation is larger than nationally (with Aboriginal rates being more than 3 times non-Aboriginal rates) (AIHW 2015). In addition, social and emotional wellbeing (SEWB) issues contribute to compromised overall health, difficulties managing chronic diseases and high rates of chronic disease risk factors such as smoking and alcohol misuse, difficulties in pregnancy and early childhood and a range of family and social issues (AIHWa 2011, AIHWb 2011, Zubrick et al. 2004, Garvey et al. 2008).

These confronting statistics underscore the critical role of SEWB programs that incorporate broad prevention and community development approaches to improving SEWB along with clinical mental health and alcohol and other drug (AOD) programs. The Mental Health Commission in its recent report has highlighted Aboriginal and Torres Strait mental health as a key national priority and also found that mainstream service delivery had largely failed Aboriginal people. The Commission emphasised the central role of SEWB/AOD and mental health service delivery in ACCHSs as a key component of closing the 'mental health gap' (National Mental Health Commission 2014).

Larger urban ACCHSs have SEWB programs that are relatively under resourced and rely largely on 'Bringing Them Home' funding. Some also have specific AOD program funding but again this is often inadequate. The recent expansion of the remote AOD workforce is welcome, however, in many communities there are no resident AOD workers and in others there is only a single worker. AOD treatment is frequently limited to residential rehabilitation in an urban centre. Residential rehabilitation (whether mandatory or voluntary) with no counselling/diversion support in communities has a high relapse rate and is not cost effective as a stand-alone treatment service (DoHA 2010, Taylor 2010, Gray et al. 2010). This ineffective model is a factor in many people drifting back to town where there is ready access to alcohol. The majority of remote communities also have no resident mental health services.

Lack of SEWB services (including both mental health and AOD services) limits capacity for community-based prevention, early intervention and relapse prevention in these critical areas. Lack of effective treatment of mental health and AOD problems also greatly hinders effective treatment

of chronic physical disease in the high proportion of people where these conditions coexist (Nagel et al. 2011, Brown 2012).

Regional ACCHSs should be resourced to provide a comprehensive SEWB program (incorporating mental health and AOD) as outlined in AMSANT's policy (AMSANT 2011). Our policy recognises that AOD issues and mental health problems frequently coexist, have similar causes and usually require similar long-term treatments (evidence-based and culturally appropriate counselling along with rehabilitation). Consequently, a workforce that is skilled across these two areas is required to maximise effectiveness and efficiency. Funding now going to vertical outreach services could be redirected to ACCHSs to provide an integrated service offering both prevention and treatment. Entry-level positions for Aboriginal people (with opportunities to undertake further training) should be provided. This model should be progressively implemented as regionalisation progresses across the NT.

Prevention and health promotion.

Given very high and rising rates of chronic disease, prevention and health promotion are essential, not optional. Risk factors for chronic disease are high, with Aboriginal smoking rates in the NT being the highest in the nation at 50%, with the next highest being Queensland at 41.5%. High rates of food insecurity are also more common in remote areas (ABS 2015). Community-based programs aiming to support people across all age groups to remain healthy are not provided consistently across all services due to lack of funding. Support should be targeted across the community including those with and without chronic disease and across all age groups including young people.

COAG Closing the Gap (CTG) funding has provided a workforce (eg. healthy lifestyle and tobacco workers). This investment has been welcome however is not sufficient to be rolled out across the NT and has had significant funding cutbacks. The COAG program is also very prescriptive (unlike Stronger Futures funding which gives services greater autonomy). The evidence suggests that community-driven and based health promotion programs that involve Aboriginal people in the design and implementation are most likely to be successful (Tilton et al. 2011). Canadian evidence also shows that services that are given greater autonomy are more effective at reducing hospitalisations (Lavoie et al. 2010). Some services did choose to use EHSDI/Stronger Futures funding for health promotion/prevention but services below the funding benchmark would have found this difficult given the acute care workload (Allan and Clarke 2011).

Actions to increase access to effective prevention programs should include ensuring all services are at the minimum benchmark along with incorporating current vertical prevention programs (such as components of MOICD or specialist outreach funding and some NT Government hub funding) into primary health care as regionalisation progresses and allowing greater flexibility with the COAG CTG chronic disease funding stream. Funds pooling has worked very successfully in Katherine West Health Board and Sunrise Health Board.

Family support programs

There are many vulnerable or at risk families in remote communities which require support—but they often do not get help until there is a crisis at which point they may be referred to an overwhelmed child protection system where the response is too often child removal. Some larger

ACCHSs are providing intensive family support to vulnerable families. We believe that regional ACCHSs with the capacity to provide this service should be funded to do so, with a broadened scope to include families who have some risk factors (e.g. young parents lacking family support) but who are not at crisis point.

The scope should also include programs to educate communities about child development and prevention/detection of child abuse. Education about child abuse is currently provided as a component of a vertical outreach program (MOS Plus—a Commonwealth program implemented by the NT Government providing community education and counselling services to children suffering from trauma) but we believe community education should be incorporated into primary health care over time.

3. Achieving equitable and adequate core PHC funding

The record improvements in Aboriginal health in the NT were made possible by the Commonwealth's actions to address historically inadequate and inequitable funding for Aboriginal PHC, including markedly lower per capita utilisation of Medicare benefits (MBS) and subsidised medicines (PBS). In 2012, per capita MBS and PBS usage in the NT was only 53% and 34% respectively of national usage rates, with funding gaps (i.e. the difference between actual spending in the NT and the national average) of $37 million and $54 million respectively**.** Remote medicines (S100) expenditure accounted for one third of the PBS gap which actually widened between 2009 and 2012, whilst the MBS funding gap decreased by 12% over this period (Health Gains 2013). A significantly higher under-utilisation rate of MBS and PBS by the NT Aboriginal population is expected given its worse health status and more remote distribution (Maloyn 2010, Deeble 2009).

Additional Commonwealth funding offset this under-utilisation of MBS/PBS, achieving an increase in grant-based funding to ACCHSs, delivered through the PHCAP and EHSDI programs, managed through the NTAHF, utilising mechanisms including funds pooling and allocation according to evidence-based funding benchmarks applied regionally to HSDAs. Under the EHSDI program, from 2008 funding was increased towards a funding benchmark weighted for remoteness and English literacy. However, significant funding inequity remains with regions such as Maningrida and East Arnhem having only two thirds of the per capita funding of the benchmark. Most areas are still significantly below the NTAHF benchmark (Allan and Clarke 2011). The Allan and Clarke review of EHSDI suggested that the benchmark per capita funding may not be sufficient given the burden of disease and higher rate of inflation in remote areas, and that the scope of PHC should be widened. They recommended a costing study to review the benchmark and ongoing regular reviews.

AMSANT recognises the pressure on the Commonwealth budget, however evidence shows that investing in PHC now will save considerable costs in acute care and other parts of the system as well as improving progress on Closing the Gap commitments. In all regions below the funding benchmark there are expensive visiting outreach services, the funding for which could be redirected into regional ACCHSs, significantly offsetting the need for new funding. Therefore AMSANT recommends a staged approach with:

- Action to bring all services gradually up to the current benchmark over a three-year period.

- A costing study to be conducted for incorporating expanded core services (health promotion, family support, SEWB/AOD and early childhood programs) into all regional ACCHSs over time. This should include the transfer of visiting outreach services to ACCHSs, apart from those that are too specialised to incorporate into PHC (e.g. psychiatry, specialist allied health).
- Review of the costing study and implementation of the expanded core services of Aboriginal PHC over five years.

Preferred provider status vs competitive tendering

Importantly, as noted, the additional investment required to expand Aboriginal PHC can in part be sourced by redirecting existing funding into the ACCHSs sector. In some health and related areas current funding mechanisms utilising an Approach to Market (ATM) based on competitive tendering are producing inefficient and suboptimal outcomes from existing government expenditure, and have at the same time impeded the development of Aboriginal comprehensive PHC. This has seen non-Indigenous NGO service providers and the NT Government funded to deliver siloed programs in areas such as mental health and AOD, early childhood and family programs and health promotion.

It has been noted that the NTAHF's 'two providers policy' for Aboriginal PHC in the NT—which limits funded PHC services to the community controlled sector and the government sector—has increased collaboration and reduced duplication and fragmentation of service delivery. This has occurred in the context of recognition by the NTAHF of Aboriginal community controlled health services as the preferred model of PHC delivery under the *Pathways to Community Control* policy.

Through the 'two providers policy' and Pathways to Community Control, as well as EHSDI and the previous PHCAP program, ACCHSs have been afforded preferred provider status. This has resulted in the delivery of a wider suite of more culturally appropriate and effective services integrated into an holistic comprehensive PHC framework.

This same approach now needs to be applied to the range of comprehensive PHC service areas funded by and externally from the Commonwealth Department of Health—including AOD, SEWB and mental health funding being managed through the Department of Prime Minister and Cabinet and mental health and suicide prevention, AOD, chronic disease and allied health funding being directed through the new PHNs.

Commissioning and/or purchasing of such services should be carried out through direct tender or select tender processes targeted at ACCHSs. This includes for the Indigenous Advancement Strategy (IAS) and PHNs. ACCHSs should be recognised as preferred providers on the basis of demonstrated capacity and performance.

Consolidation of core Aboriginal PHC funding under the C'wlth Health Department

Ultimately, however, it is the sector's view that funding for these services should be included in the core funding for ACCHSs based on the principles outlined above.

AMSANT has strongly advocated for funding streams transferred to the Department of Prime Minister and Cabinet from the Department of Health be repatriated to Health and made available for inclusion into ACCHSs' core funding.

4. Rising prevalence of chronic disease

A strong argument for the need for more efficient use of health expenditure is the rising prevalence of chronic disease. The building epidemic of Indigenous chronic disease threatens to overwhelm health budgets and infrastructure, particularly in the acute sector. High quality PHC is critical to reducing and further preventing the escalating health impacts and costs of chronic disease.

Rates of chronic diseases in Aboriginal people in the NT are at alarming levels with rates of treated end stage kidney disease being twenty times higher than in non Aboriginal people in the NT (Australian Indigenous HealtInfonet 2016b) and with death rates from diabetes and renal disease being six and nine times higher respectively than in non-Aboriginal people (Australia Indigenous Health*Infonet* 2016b, AIHW 2015). The mortality rate ratio (death rate in Aboriginal people vs non-Aboriginal people) is highest in the NT compared to any other jurisdiction (using 2009-2013 data) with a rate ratio of 2.4 (against a national rate ratio of 1.7). Two thirds of the mortality gap is due to chronic disease (Australian Indigenous Health*Infonet* 2016a).

A cohort study in Central Australia demonstrated that more than 70% of Aboriginal men and 60% of Aboriginal women would develop heart disease during their lifetime (Wang et al. 2013). A similar Central Australian study found that the lifetime risk for developing diabetes was one in two for men and two in three for women (Wang et al. 2010). The 2012 ABS biomedical survey found that 32% of NT Aboriginal adults had renal disease compared to 18% nationally with the figures for diabetes being 18% in the NT and 11% nationwide (ABS 2014).

High and increasing rates of chronic disease are being driven by earlier onset of chronic disease and the ageing of the Aboriginal population. This is in turn driving high rates of hospitalisation with the NT Aboriginal rate of hospitalisation being 506 per 1,000 compared with the national rate for Indigenous Australians of 393 per 1,000 (AIHW 2015). There are particularly high rates of hospitalisations for kidney disease (twice the national Indigenous rate) but hospitalisations are high across most chronic diseases. There has been some success with death rates dropping significantly for heart disease—the most common single cause of death over the last 10 years (AIHW 2015).

Earlier onset of chronic disease

An NT study found that the age of onset of heart disease in a remote community was 48 for men and 49 for women: much younger than the median age of onset in mainstream Australia (Wang et al. 2013). A Central Australian study found that central obesity and other risk factors for early onset chronic disease were increasing markedly in young people (McDermott et al. 2000). Rates of diabetes in teenagers and young adults are also increasing along with rising rates of diabetes in pregnancy (Azzapardi et al. 2012). Diabetes in pregnancy increases the risk of early onset of diabetes in children thus causing transgenerational transmission of early onset chronic disease (International Diabetes Federation 2012, Azzapardi et al. 2012).

Ageing of the population

The proportion of the Aboriginal population in the NT aged over 50 is expected to triple by 2036 (McConville et al. 2013). A recent comprehensive review of chronic disease prevalence in remote NT demonstrated a much higher prevalence than had been detected in ABS surveys (that rely on self

reporting). In Aboriginal people aged 50 and above, the prevalence of kidney disease was more than 50%, diabetes 40%, Chronic Obstructive Pulmonary Disease 30% and Ischemic heart disease above 20% (Zhao et al. 2008), and the majority with chronic disease had more than one disease (McConville et al. 2013).

The effect of this growing burden of chronic disease on the acute and specialist sector is very concerning. A recent AIHW report on health expenditure demonstrated high and increasing costs for hospitalisations in Aboriginal people, with overall rates of hospitalisation double those of non-Aboriginal people in remote areas (AIHW 2013).

There is both international and NT evidence that high quality community controlled PHC can reduce hospitalisations and will be crucial in keeping the health system sustainable. Local evidence from the coordinated care trials that were the foundation of Katherine West Health Board, demonstrated a 19% reduction in hospitalisations with implementation of a community controlled model (NTAHF 2007). Community controlled health services in Canada were found to significantly reduce avoidable hospital admissions with the greatest reductions in services with higher levels of autonomy over funding (Lavoie et al. 2010). It is well known that screening for and treating renal disease in primary health care is cost saving (Vos et al. 2010, Hoy et al. 2003). This is critical in the NT where the system is barely coping with the numbers of people on dialysis—more than 700 and still growing.[4]

However, the NT primary health care system requires adequate resourcing to achieve significant savings through reducing demand on dialysis. This includes maintaining funding of renal care coordinators in regional health services to provide population screening and treatment (including intensive case management of people with more severe disease).

Prevention programs (both in the health and social determinant areas) are also essential given that biomedical risk factors and broader social risk factors (such as poverty and low educational attainment) are all amenable to interventions as demonstrated by the recent reduction in Aboriginal smoking in Australia (ABS 2013). Again, community controlled health services are the best model for integrating health promotion within PHC as health promotion is most effective when it is community driven—which is much more likely to be achieved in a local regional ACCHS compared with a large government service (Tilton et al. 2012).

Overall, investment in high quality PHC is critical if the acute care sector is not to be overwhelmed.

5. Continuous Quality Improvement

CQI programs are essential to improving the overall efficiency and effectiveness of health services. This is achieved through a structured approach to improving health service delivery, including the use of clinical data to assess changes in health outcomes achieved with quality programs.

The NT Aboriginal PHC sector has been a pioneer in the development of CQI systems and Clinical Information Management Systems to support CQI. In 2009 the NTAHF decided to allocate $2 million per annum from the EHSDI investment to support clinical quality improvement programs across

[4] Expected to increase to over 1000 in the next few years according to kidney specialist, Dr Alan Cass, of Menzies School of Health (ABC Online News 10 February 2016).

Aboriginal PHC (both government and community controlled). The resulting CQI strategy has been led by two positions within AMSANT providing support, professional development and mentoring to a network of CQI positions in both ACCHSs and NT Government services enabling all to participate in formal CQI programs.

Prior to the CQI strategy, uptake was patchy and the benefits of a structured quality approach were not fully realised. The CQI program has also improved the quality and accuracy of reporting of clinical data, including NTAHKPIs and nKPIs. The NTAHKPIs in particular, have proved to be an essential tool for clinical staff, managers, boards and funders. They are used to inform and evaluate CQI activities, identify gaps in current service delivery, and plan for future improvements in service design and delivery.

The CQI approach in the NT guides CQI activity within services and provides training to PHC teams, to build their knowledge and skills to assist them to undertake CQI activity. Opportunities for shared learning and transfer of successful CQI approaches is supported through CQI Collaborative workshops delivered each year. Evaluation in 2013 showed the strategy to be successful, emphasising that an ongoing reasonably intensive process is required to embed quality frameworks into a high turnover workforce (many of whom are new to remote Aboriginal PHC) whilst operating in a complex cross cultural environment (Allen and Clarke 2013).

The NT CQI Strategy and experience of implementing CQI across the Territory has had a strong role in informing the development of a National CQI Framework. This reflects the experience of AMSANT and the Aboriginal PHC sector generally in the NT that CQI is an essential rather than optional element for continuing improvements in efficiency and quality of PHC and it is strongly recommended that its funding be maintained.

6. eHealth

eHealth is now a core component of efficient and effective PHC, and a key enabler of improved health care delivery and health outcomes. Over the past 10 years AMSANT and NT ACCHSs have led Australia in the intelligent and innovative use of technology in health. AMSANT's key contributions include delivering expertise, knowledge, experience and services to our members to support them in the adoption and use of eHealth. AMSANT also works collaboratively with the system owners (NT and Commonwealth Departments of Health, and NT ACCHSs) to ensure the systems provide appropriate access and interoperability from both inside and outside government firewalls.

Clinical Information Systems (CIS)

Clinical Information Systems (CIS) are the fundamental building block of eHealth. AMSANT member services have been using CISs for over 10 years, some for over 17 years. The advantages of electronic systems over paper records has brought about a revolution in data analysis and allowed ACCHSs to:

- Ensure patients receive best practice health care and follow up treatment and reduce over and under servicing of patients
- Better safeguard and secure patient data
- Monitor population health outcomes
- Better plan, evaluate and improve service delivery through data analysis & quality improvement

- Participate in e-Health activities including record sharing
- Report accurately at the push of a button to NT and National health KPIs
- Provide uniform National KPI reporting through the OCHREStreams web portal.

Use of the CIS 'Communicare' by NT ACCHSs has allowed data analysis and CQI programs to be embedded in clinical practice, with clinical KPIs used to provide a snapshot on health and quality improvements and to target, plan, monitor, evaluate and improve health service delivery.

Increased investment is required to improve data quality of CISs. Inaccuracy of data is a major issue for health services and is largely due to inconsistency in data entry and a lack of systematic processes for cleaning and data quality (Baile et al. 2014). High staff turnover, the cost of training in the use of CISs and inadequate resources are major barriers. Good data quality is integral to patient care, ensuring correct diagnosis, treatment and follow up, including in relation to shared medical records, and underpins the effectiveness of CQI processes and use of KPIs.

Ongoing development of CISs' data fields is essential to ensure accurate recording and reporting of patient data required for best practice treatments and follow up care. AMSANT works collaboratively with our member services and the developers of Communicare to ensure its functionalality and appropriateness for the Aboriginal PHC sector. This is important and ongoing work, ensuring that the tool keeps pace with the needs of NT ACCHSs.

Electronic Medical Record Sharing

AMSANT members were pioneers of electronic medical record sharing with the first electronic records sent to the NT Government repository in 2005 from a trial involving the ACCHSs and hospital in the Katherine region. The "My eHealth Record" (MeHR) became an essential tool in NT PHC enabling better care continuity through secure patient information sharing (ie diagnostic, medications, pathology and imaging, allergies, follow up care, and referrals to specialists and hospitals or back to the patient's health centre). In the month of September 2015 there were:
• 177,682 events received; • 84,282 events viewed; • 1,501 individual users of the system.

The success of the MeHR in the NT was the genesis of the national My Health Record (formerly the PCEHR) and AMSANT supports its vision. NT ACCHSs have the technical ability to connect to the national system with compliant software, including for secure messaging, but require assistance with training and support to ensure its use becomes embedded in their PHC practice.

AMSANT has led the national ACCHS sector in the area of eHealth systems such as the 'My Health Record'. In 2012, AMSANT led development of the national ACCHS peak bodies (NACCHO) 10-year national eHealth strategy to guide the sector's uptake of best practice eHealth, Information Communication Technology (ICT) and Information Management (IM) standards. Unfortunately after one year the program's funding ceased due to the establishment of the national eHealth Review.

Information Communications Technology (ICT) & Information Management (IM)

Our members run ICT systems in some of the harshest and most remote environments in the world on minimal budgets. AMSANT has supported our members on ICT/IM issues for the past 9 years, including in the adoption of best practice data security and system management, centralised CISs and software to integrate business systems, better manage workflows and support accreditation.

Good communications infrastructure is essential for remote health settings and is a priority technical issue for ACCHSs in the NT, who generally lack access to reliable broadband outside the major centres[5] As use of technology increases and reliance on eHealth becomes essential (telehealth, centralised databases, secure sharing of patient information, live Medicare claiming) demand for reliable internet bandwidth increases. Functionality of the ICT systems deployed by our members is held back by a lack of internet access, which remains the biggest barrier to advances in eHealth in remote settings. AMSANT works with relevant bodies to address this issue, including NT and Commonwealth Departments, the NBN, NeHTA and Telstra and other internet and network providers. AMSANT also sits on the executive of the national Broadband for the Bush Alliance.

Health technology is a rapidly developing specialised area requiring focused support and coordination along with constant effort to ensure that systems continue to function effectively and remain fit for purpose. For the past nine years AMSANT has been funded to fulfil this role. AMSANT's eHealth Unit has demonstrated leadership in eHealth and continued funding support is a priority.

7. Aboriginal employment in health delivery

Aboriginal and Torres Strait Islander people are significantly under-represented in the health workforce. International studies suggest that people prefer to have health professionals from the same ethnic background (Powe et al. 2004). Indigenous health professionals can better ensure culturally appropriate and improved healthcare to Indigenous Australians (Anderson et al. 2009). Increasing the size of the Aboriginal and Torres Strait Islander health workforce is fundamental to closing the gap in Indigenous life expectancy.

The potential for the PHC sector to become a major source of employment for Aboriginal people and entry point into a health career is not being met. This is despite the fact that employment in the health sector is economically sustainable (unlike other more market dependent sectors such as tourism, hospitality, agriculture and mining) and that in the NT the health care and social assistance sector is the second largest employment sector at around 12% of the workforce (ABS 2015b).

In 2011 there were 534 Indigenous people employed in selected health-related occupations in the NT, representing 1% of the Indigenous population—the lowest proportion of any other jurisdiction (AIHW 2015). Aboriginal people made up only 8% of the total health workforce in the NT in 2011 despite comprising one third of the population—representing an employment rate almost five times less than that of non-Indigenous Territorians (AIHW 2015).

There is significant evidence for the positive role played by Aboriginal health professionals in community controlled PHC settings (Schierhout et al. 2010). "Home grown" professionals are also more cost effective than high turnover staff from external providers (AMA 2011, Schierhout et al. 2010). An added synergy is that the training and employment of Aboriginal health professionals increases general health literacy within communities, especially in the areas of smoking, nutrition and early childhood. Increased employment levels are a major contributor to improved health outcomes and to reducing socioeconomic inequality.

[5] Access to reliable broadband outside the major centres requires paying commercial rates—with monthly costs of $1,500 and more being beyond the budgets of remote health services.

There is a critical need for more Aboriginal Health Practitioners (AHPs) in our sector yet the numbers of this profession continue to decline each year. Deficits in numeracy and literacy are major obstacles to Aboriginal people entering and progressing in the health workforce as is the lack of culturally appropriate training models, particularly for rural and remote sites. Other barriers include limited opportunity to offer entry-level positions and traineeships in health due to funding capacity and limited capacity within services for staff to develop career plans and undertake relevant professional development in order to apply for higher-level positions, particularly management.

This represents a significant lost opportunity to provide skilled employment and to contribute to improving social determinants, and also reduces effectiveness of Aboriginal PHC and increases the reliance on an increasingly expensive short-term workforce (Schierhout et al. 2010, Ridout 2010).

Targeted additional support and investment in the Aboriginal health workforce is required if we are to realise the opportunity to significantly increase the number of sustainable jobs for Aboriginal people in the health industry (Ridout 2010). This includes the need—particularly in remote communities—for foundational literacy and numeracy training along with community based training and mentoring to support entry into health careers including as AHPs or in administration and management. Trainee AHPs are currently unpaid but an apprenticeship scheme has been very successful in the past and should be reinstituted. Wurli Wurlinjang Health Service has demonstrated that paying and supporting trainee AHPs can substantially increase graduation and subsequent retention in the workplace. The recent introduction of fees to enrol in the Certificate IV in ATSI Primary Health Care Practice through Batchelor Institute in 2016 is likely to result in a further reduction in students and graduates, with the student/employer required to pay almost $3000 to become an AHP. Scholarships must be made available to help ease the burden this additional cost will have on an already declining and ageing workforce.

8. Addressing the social determinants of health

The contribution of the social determinants to the health gap is significant. Australian research suggests that socio-economic factors accounted for between one-third and one-half of the gap in health status between Indigenous and non-Indigenous Australians (Booth and Carroll 2005).

Despite its significance, progress on addressing the social determinants of health has been painfully slow. There remain very high rates of overcrowding (55% across NT rising to 62% in remote areas in 2012) which are much higher than national Aboriginal rates (23%) and remote rates outside the NT (45%). The proportion of houses classified as being of an acceptable standard dropped from 72% to 64% from 2004 to 2012. NAPLAN scores remain very poor for Aboriginal children and school attendance actually fell in 2013 in higher grades. Year 12 graduation rates were still much lower although improving. Poverty levels remain very high with high rates of food insecurity (34%), and lower rates of Aboriginal labour participation than in other jurisdictions (AIHW 2015).

The evidence also tells us that without effective action on social determinants, such as early childhood services, education, employment and housing, we will in time see a stagnation and reversal of health improvements achieved so far and are likely to continue to see a tide of chronic diseases occurring at younger and younger ages, requiring expensive life-long treatment and

reducing the capacity of people to work and care for their families. Although ostensibly outside the scope of the health portfolio, it is critical that there is investment in social determinants **and** comprehensive primary health care: it must not be a choice between one or the other.

Comprehensive PHC can also achieve improvements in the social determinants of health. For example, we know that a high proportion of the population have chronic disease or are likely to develop it over the next ten years. With high quality comprehensive PHC supported by secondary care—the majority of people with chronic disease can remain well and productive for longer periods including being productive in the workforce. Similarly, expansion of the scope of Aboriginal PHC in the areas of early childhood, SEWB, mental health and AOD, and family support programs, will have a positive and cost effective impact on related social determinant outcomes. And, of course, PHC offers a significant opportunity to increase sustainable Aboriginal employment.

However, the evidence is overwhelming that comprehensive action in relation to the social determinants is essential if we are to eliminate the health and disadvantage gaps faced by Indigenous Australians, including the rising prevalence of chronic disease. In terms of the situation of Aboriginal people in the NT, critical areas for urgent and improved action and investment are:

- **Empowerment:** Empowerment and control of life circumstances are critical determinants of health and wellbeing, underpinning the ability of individuals to participate and engage productively in the community and for communities to prosper. Government policy must be realigned towards individual and community empowerment, including a greater role for Aboriginal communities and organisations in the design and delivery of services and programs.
- **Alcohol control**: Alcohol and other drugs are causing major harms to individuals and communities and must remain a focus of Government and community action, particularly in working with the NT Government to implement effective population level supply reduction measures.
- **Education**: High quality education—from early childhood through to Year 12—provides a foundation for improved health outcomes, employment and income prospects and wellbeing across the lifespan. Government has a responsibility, which is not being fulfilled, to ensure quality education is provided for all Aboriginal children, including in remote areas.
- **Employment**: Employment rates for Aboriginal people in the NT remain at unacceptably low levels, particularly in remote areas. Government policies targeting employment should align with priorities to increase the role of Aboriginal communities and organisations in the provision of services and programs, and developing local enterprises and sustainable livelihoods.
- **Housing**: The continuing poor state of Aboriginal housing in the NT has significant environmental health and general health and wellbeing implications, with high levels of overcrowding increasing exposure to hazards, stress, disruption of sleep and study, and household violence. Increased and sustained investment is required, particularly in reducing overcrowding and increasing Aboriginal community housing options with greater involvement of Aboriginal communities in the construction, repairs and maintenance and management of housing.

References

ABS (2013). *Australian Aboriginal and Torres Strait Islander Health Survey: First Results, Australia, 2012-13*. Accessed at ww.abs.gov.au/ausstats/abs@.nsf/mf/4727.0.55.001

ABS (2014). *Australian Aboriginal and Torres Strait Islander Health Survey, Good Health our Future. NT results.* Australian Bureau of Statistics, Canberra.

ABS (2015). *Australian Aboriginal and Torres Strait Islander Health Survey: Nutrition Results - Food and Nutrients* (cat. no. 4727.0.55.005).

ABS (2015b). 6291.0.55.003 - Labour Force, Australia, Detailed, Quarterly, Nov 2015.

Allen and Clarke (2011), *Evaluation of the Child Health Check Initiative and the Expanding Health Service Delivery Initiative: Final report*, Department of Health and Ageing, Canberra.

Allen and Clarke (2013). *Evaluation of the Northern Territory Continuous Quality Improvement (CQI) Investment Strategy: Final report*, Department of Health, Canberra

AMA (2011). AMA Indigenous Health Report Card. *Best Practice for Primary Health Care for Aboriginal people and Torres Strait Islanders*. Accessed at https://ama.com.au/aboriginal-reportcard2010-11.

AMSANT (2011). *A model for integrating alcohol and other drugs, community mental health and primary health care in Aboriginal Medical Services in the Northern Territory*. Aboriginal Medical Services Alliance Northern Territory, Darwin.

Anderson I, Ewen S. & Knoche D. (2009). Indigenous medical workforce development: current status and future directions, *Medical Journal of Australia* 190(10):580–1.

Australian Indigenous Health*InfoNet* (2016a). Overview of Australian Aboriginal and Torres Strait Islander health status 2015. Retrieved from http://www.healthinfonet.ecu.edu.au/health-facts/overviews

Australian Indigenous Health*InfoNet* (2016b). Overview of Australian Aboriginal and Torres Strait Islander health status 2015/Selected health conditions/Kidney health (renal disease). Retrieved from http://www.healthinfonet.ecu.edu.au/health-facts/overviews/selected-health-conditions/kidney-health

Australian Institute of Health and Welfare (2015). *Aboriginal and Torres Strait Islander Health Performance Framework 2014 Report - Northern Territory.* Australian Institute of Health and Welfare, Canberra.

Australian Institute of Health and Welfare (2013). *Expenditure on health for Aboriginal and Torres Strait Islander people 2010-11: an analysis by remoteness and disease*. Health and welfare expenditure series no. 49. Cat. no. HWE 58. Canberra: AIHW.

Australian Institute of Health and Welfare (2011). *The health and welfare of Australia's Aboriginal and Torres Strait Islander people, an overview 2011*. Cat. No. IHW 42, AIHW, Canberra, 2011, p.86

Australian Institute of Health and Welfare (2009). *Expenditure on health for Aboriginal and Torres Strait Islander people 2006-07.* Health and welfare expenditure series no. 39. Cat. no. HWE 48. Canberra: AIHW, 2009.

Australian Medical Association (2013). *Best Practice and Good News Stories: 2012-13 AMA Indigenous Health Report Card - "The Healthy Early Years - Getting the Right Start in Life"*, 10 Dec 2013.

Azzopardi P, Brown A, Zimmet P, Fahy R, Dent G, Kelly M, Kranzusch K, Maple-BrownL, Nossar, V, Silink M, Sinha A, Stone M and Wren S. (2012). Type 2 diabetes in young Indigenous Australians in rural and remote areas: diagnosis, screening, management and prevention. *Med J Aust* 2012; 197 (1): 32-36.

Baile, R., Baile, J., Chakraborty, A. and Swift, K. (2014). 'Consistency of denominator data in electronic health records in Australia primary healthcare services: enhancing data quality'. *Australian Journal of Primary Health*. http://dx.doi.org/10.1071/PY14071

Booth, A. and Carroll, N. (2005). *The health status of Indigenous and non-Indigenous Australians*, Discussion Paper No. 486, Centre for Economic Policy Research, ANU, Canberra.

Brown A, Scales U, Beever W, Rickards B, Rowley K, O'Dea K (2012). Exploring the expression of depression and distress in Aboriginal men in Central Australia. A qualitative study. *BMC Psychiatry*. 12.97

Caldwell, J.C., and Caldwell, P. (1995). 'The Cultural, Social and Behavioural Component of Health Improvement: The Evidence from Health Transition Studies'. In: Robinson, G. (ed), *Aboriginal Health: Social and Cultural Transitions,* Darwin: Northern Territory University Press: 167-177.

CDC. (2013). *Adverse Childhood Experiences (ACE) Study* [Online]. Atlanta: Centres for Disease Control and Prevention. Available: http://www.cdc.gov/ace/findings.htm [Accessed 02/04/2013 2013].

Center on the Developing Child at Harvard University. (2010). *The Foundations of Lifelong Health are built in Early Childhood*. http://www.developingchild.harvard.edu .

COAG Reform Council. (2013). *Indigenous Reform 2011-2012. Comparing performance across Australia.* Report to the Council of Australian Governments.

Dalziel, K. & Segal, L. (2013). Home visiting programmes for the prevention of child maltreatment: cost-effectiveness of 33 programmes. *Archives Dis Child*, 97, 787-798.

Deeble J. (2009). *Assessing the health service use of Aboriginal and Torres Strait Islander peoples.* Discussion paper submitted to the National Health and Hospitals Reform Commission. Accessed at http://www.nhhrc.org.au/internet/nhhrc/publishing.nsf/Content/discussion-paperson 27 August 2009

Department of Health and Ageing (2010). Australian Treatment Guidelines for Alcohol problems

Eckenrode, J., Campa, M., Luckey , D. W., Henderson, C. R., JR., Cole, R., Kitzman, H., Anson, E., Sidora-Arcoleo, K., Powers, J. & Olds, D. (2010). Long-term effects of prenatal and infancy nurse home visitation on the life course of youths: 19-year follow-up of a randomized trial. *Arch Pediatr Adolesc Med*, 164, 9-15.

Eckenrole, J., Ganzel, L, B., Henderson, C. R., JR., Smith, E., Olds, D. L., Powers, J., Cole, R., Kitzman, H. & Sidora, K. (2000). Preventing child abuse and neglect with a program of nurse home visitation: the limiting effects of domestic violence. *JAMA*, 284, 1385-91.

Emerson, L., Fox, S. & Smith, C. (2015). *Good Beginnings: Getting it right in the early years.* The Lowitja Institute, Melbourne.

Gray D, Saggers S, Wilkes E, Allsop S, Ober C. (2010). Managing alcohol-related problems among Indigenous Australians: what the literature tells us. *Aust N Z J Public Health*. 2010 Jul; 34 Suppl 1:S34-5.v

Gruen R, Weeramanthri TS, Bailie RS. (2002). Outreach and improved access to specialist services for indigenous people in remote Australia: the requirements for sustainability. *J Epidemiol Community Health*. 2002 Jul;56(7):517-21.

Havnen, O. (2012). Office of the Northern Territory Coordinator-General for Remote Services Report June 2011 to August 2012. Darwin, NT.

Health Gains, Department of Health. *Fact Sheet, Medicare and PBS Usage 2003-2012.* Health Department. Northern Territory Government accessed at http://digitallibrary.health.nt.gov.au/prodjspui/bitstream/10137/573/1/Medicare%20and%20PBS%20usage%202003%20to%202012.pdf on 21/2/2016.

Hoy, Wendy E, Zhiqiang Wang, Philip R A Baker and Angela M Kelly. (2003). Reduction in natural death and renal failure from a systematic screening and treatment program in an Australian Aboriginal community. *Kidney International* (2003) 63, S66–S73; doi:10.1046/j.1523-1755.63.s83.14.

International Diabetes Federation. Early onset of diabetes. Accessed at ww.idf.org/sites/default/files/Policy_Briefing_EarlyOrigins.pdf

Lavoie JG, Forget EL, Prakash T, Dahl M, Martens P, O'Neil JD. (2010). Have investments in on-reserve health services and initiatives promoting community control improved First Nations' health in Manitoba? *Soc Sci Med*. 2010 Aug; 71(4):717-24. Doi

Maloyn R, Zhao Y and Guthridge S (2010). *Medicare Benefits Schedule and Pharmaceutical Benefits Scheme Utilisation in the Northern Territory, 1993-94 to 2008-09*.

McConville V, Dempsey K, Tew K, Malyon R, Thompson F, Guthridge S, Bhatia B. (2013). *The health and wellbeing of older Territorians.* Department of Health: Darwin.

McDermott, Robyn, Kevin G Rowley, Amanda J Lee, Sabina Knight and Kerin O'Dea. (2000). Increase in prevalence of obesity and diabetes and decrease in plasma cholesterol in a central Australian Aboriginal community. *Med J Aust* 2000; 172 (10): 480-484.

Nagel T, Kavanagh D, Barclay l, Trauer T, Chennal R, Frendin J, Griffin C. (2011). Integrating treatment for mental and physical disorders and substance misuse in Indigenous primary care settings. *Australian Psychiatry*. 19) S1. S17-19.

National Mental Health Commission 2014. *Contributing Lives, Thriving Communities - Report of the National Review of Mental Health Programmes and Services*, National Mental Health Commission.

National Scientific Council on the Developing Child. (2006). *Perspectives: Stress and the Architecture of the Brain* [Online]. Cambridge USA: National Scientific Council on the Developing Child. Available: http://developingchild.harvard.edu/activities/council/publications/ [Accessed 19/03/13 2013].

Northern Territory Aboriginal Health Forum. Indigenous access to Core primary health care.

Nyweide, David J., Denise L. Anthony, Julie P. W. Bynum, Robert L. Strawderman, William B. Weeks, Lawrence. P. Casalino, and Elliott S. Fisher. (2013). Continuity of Care and the Risk of Preventable Hospitalisation in Older Adults. *JAMA Intern Med*. 11; 173(2

NTAHF. (2009). *Pathways to Community Control*. Northern Territory Aboriginal Health Forum, Darwin.

Olds, D. L., Eckenrode, J., Henderson, C. R., JR., Kitzman, H., Powers, J., Cole, R., Sidora, K., Morris, P., Pettit, L. M. & Luckey, D. (1997). Long-term effects of home visitation on maternal life course and child abuse and neglect. Fifteen-year follow-up of a randomized trial. *JAMA,* 278, 637-43.

Powe NR & Cooper LA, 2004. 'Diversifying the racial and ethnic composition of the physician workforce', *Annals of Internal Medicine*, vol. 141, no. 3, pp. 223-4.

Ridout, L, Pilbeam V. (2010). Final Report. Aboriginal Health Worker Professional Review. Human Capital Alliance for the Department of Health and Families, Northern Territory Government.

Schierhout, G. Brands, J. Bailie, R (2010). *Audit and Best Practice for Chronic Disease Extension Project . 2005-2009. Final report.* Menzies School of Health Research, ABCD, Lowitja Institute.

Taylor K, Davis R and Thompson S (2010). Delivering culturally appropriate residential rehabilitation for urban Indigenous Australians: a review of the challenges and opportunities *Aust NZ J Public Health*. 2010; 34:S36-40.

Tilton E and D. Thomas (2011). *Core functions of Aboriginal primary health care. A framework for the Northern Territory*. (Northern Territory Aboriginal Health Forum).

Vos, T., Barker, B., Stanley, L., et al. (2007). *The burden of disease and injury in Aboriginal and Torres Strait Islander peoples 2003*, School of Population Health, University of Queensland, Brisbane, 2007, p2.

Vos, Theo, Rob Carter, Jan Barendregt, Cathrine Mihalopoulos, Lennert Veerman, Anne Magnus, Linda Cobiac, Melanie Bertram, Angela Wallace. (2010). *Assessing Cost-Effectiveness in PreventionACE–Prevention*. Accessed at http://www.deakin.edu.au/strategic-research/population-health/assets/resources/ace-prevention-report.pdf. University of Queensland and Deakin University.

Wang Z and Hoy W (2013). 'Lifetime risk of developing coronary heart disease in Aboriginal Australians: a cohort study'. BMJ Open. Jan 30;3(1). pii: e002308. doi: 10.1136/bmjopen-2012-002308.

Wang Z and Hoy W (2010). 'Incidence of type 2 diabetes in Aboriginal Australians: an 11-year prospective cohort study'. BMC Public Health. 2010 Aug 17;10:487. doi: 10.1186/1471-2458-10-487.

Zhao Y, Connors C, Wright J, Guthridge S, Bailie R. (2008). Estimating chronic disease prevalence among the remote Aboriginal population of the Northern Territory using multiple data sources. *Aust N Z J Public Health.* 2008 Aug; 32(4):307-13. doi: 10.1111/j.1753-6405.2008.00245.x.

Zhao, Yuejen, Jo Wright, Steven Guthridge, Paul Lawton. (2013). The relationship between number of primary health care visits and Hospitalisations: evidence from linked clinic and hospital data for remote indigenous Australians. *BMC Health Services Research 2013*, 13:466 doi:10.1186/1472-6963-13-466.