

Evaluation

of the Child Health
Check Initiative and
the Expanding
Health Service
Delivery Initiative

Summary Report

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This report has been independently prepared for the Australian Government Department of Health and Ageing by Allen and Clarke Policy and Regulatory Specialists Limited, trading as Allen and Clarke, and does not necessarily represent the views of the Australian Government.

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

LIST OF ABBREVIATIONS

ACCHO	Aboriginal Community Controlled Health Organisation
ACW	Aboriginal Community Worker
AHW	Aboriginal Health Worker
AIDA	Australian Indigenous Doctors' Association
AIHW	Australian Institute of Health and Welfare
AMSANT	Aboriginal Medical Services Alliance of the Northern Territory
CCT	Coordinated Care Trial
CHCI	Child Health Check Initiative
CHC	child health check
CQI	continuous quality improvement
DHF	(Northern Territory) Department of Health and Families
DoHA	(Australian Government) Department of Health and Ageing
ENT	ear, nose and throat
EHSDI	Expanding Health Service Delivery Initiative
FaHCSIA	(Australian Government) Department of Families, Housing, Community Services and Indigenous Affairs
GAA	Growth, Assessment and Action
HSKAK	Healthy School Age Kids
HSDA	Health Service Delivery Area
KPI	key performance indicator
MBS	Medicare Benefits Schedule
MoU	memorandum of understanding
NT	Northern Territory
NT AHF	Northern Territory Aboriginal Health Forum
NT AHKPI	Northern Territory Aboriginal Health Key Performance Indicator
NTER	Northern Territory Emergency Response
OATSIH	Office for Aboriginal and Torres Strait Islander Health
PHC	primary health care
PHCAP	Primary Health Care Access Program
PHRG	Primary Health Reform Group
PIRS	patient information and recall system
RaDU	Reform and Development Unit
RAHC	Remote Area Health Corps
RSC	regional steering committee

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1 MAIN MESSAGES

These main messages are the key lessons from this evaluation for decision makers. Section 5 of this report has a set of specific recommendations.

The Child Health Check Initiative (CHCI) and the Expanding Health Service Delivery Initiative (EHSDI) were designed to address the health needs of people living in remote Aboriginal communities in the Northern Territory (NT). These needs remain critically high and there is a significant need for improvement in the health system to meet these needs.

Expanding and reforming health services is complex with many challenges and risks. The overall message is that the program is heading in the right direction. The partnership between the governments and the Aboriginal community controlled health sector is critical. There has been significant progress to date which, given sufficient time and adequate resourcing, is likely to bring improvements in health service delivery and outcomes.

The Child Health Check Initiative

- Before developing and implementing child health screening programs the responsible agency needs to develop rigorous policies which fully engage with existing programs, initiatives and processes.
- Setting up new programs is expensive. The costs and benefits of new programs, initiatives and processes need to be thoroughly weighed up against the costs and benefits of continuing or enhancing existing initiatives.
- Child health initiatives should first identify gaps in existing service delivery and target these areas for development. In the CHCI the gap that became visible was at the primary care–referred services interface. Regardless of the initiative, the patient’s experience of the health system is a critical consideration.
- Continued resourcing, including initiatives to overcome workforce barriers, is essential for sustaining and expanding CHCI successes—such as efficient service delivery models for dental, hearing and ear, nose and throat (ENT).
- Child health initiatives need to include specific measures to address the underlying social determinants of health including housing, education and poverty.
- The CHCI made the health needs of Aboriginal children in remote areas of the NT more visible at a political and administrative level. Ongoing policy, planning and delivery of child health initiatives would benefit from having access to regular and comprehensive information on the needs of Aboriginal children and the capacity of the system to respond to these needs.

The Expanding Health Service Delivery Initiative

- The EHSDI was based on engaging with existing processes in the NT and through building effective partnerships between the Australian Government, NT Government and Aboriginal community controlled sectors. This is in contrast to the approach taken with the CHCI.
- While the EHSDI has added significantly to the remote health workforce in the NT, there are still ongoing difficulties with recruitment, Aboriginal Health Worker training, staff accommodation shortages and high staff turnover. A comprehensive workforce strategy is required to address these concerns at a system level.
- A long-term funding pathway is essential for continued expansion and reform of the remote NT primary health care (PHC) system. This should be based on an accurate costing model for providing core PHC services in the NT.

- The NT Aboriginal Health Forum partners need to reconfirm their agreement on the aims, purposes and goals of changing to regional health services under Aboriginal community control, as a central component of the EHSDI. The regionalisation process then needs to be re-scoped to clarify the tasks involved, the resources required and who is most appropriate to undertake the tasks.
- Policy capacity in the NT needs to be enhanced to give full effect to the intended reform agenda under the EHSDI and to ensure that the pace of implementation can be sustained.
- Further reform of the remote NT PHC system should consider broadening the scope of primary care to include a wider range of services and a stronger link with social determinants of health.

2 EXECUTIVE SUMMARY

This report provides findings and recommendations from an evaluation of the Child Health Check Initiative (CHCI) and the Expanding Health Service Delivery Initiative (EHSDI). The evaluation, commissioned by the Australian Government Department of Health and Ageing (DoHA), has been undertaken independently and the interpretation, conclusions and recommendations in this report are those of the authors.

This summary report outlines the key findings and recommendations of the full evaluation report. The summary report is more practically oriented than the full report and includes a set of main messages (Section 1) designed for people who make decisions on running the Northern Territory (NT) primary health care (PHC) system.

The CHCI and the EHSDI were contrasting approaches to addressing the health needs of remote Aboriginal communities in the NT. The programs were implemented as part of the Northern Territory Emergency Response (NTER).

The CHCI was launched as a centrally driven program. There was a lack of policy development process or consultation with stakeholders outside central government. Policy decisions focused on the clinical and logistical aspects of the child health checks, and engagement with the NT health sector was largely about specific implementation issues. The lack of suitable policy development meant there was insufficient regard for the diversity of the people, systems and processes already operating in the NT and insufficient focus on existing bottlenecks in the NT health system.

The program achieved some credible successes in areas such as dental, hearing and ear, nose and throat (ENT) health; however, its overall impact was dulled by a lack of precision in the way it interacted with communities and the existing health care system.

The EHSDI, on the other hand, is an ongoing program being built on a rich history of innovation and health system development in the NT. The Australian Government, the NT Government and Aboriginal Community Controlled Health Organisations (ACCHOs) are playing an active part. The program is building on commendable models of Aboriginal controlled PHC services as well as governance, quality and accountability approaches that have been developed in response to the specific context of providing PHC in NT remote Aboriginal communities. While the program faces ongoing challenges, the EHSDI's achievements to date are a cause for celebration.

There is still a considerable gap between the health outcomes of the Indigenous people of the NT and non-Indigenous Australians in the NT and across Australia. The developing PHC service models in the NT have the potential to contribute to closing this gap provided they are sustained and adequately resourced.

2.1 Key findings—the Child Health Check Initiative

The design of the CHCI did not follow normal policy protocols

The CHCI arose from an intense national political process that precluded the development of any specific policy documents. Medicare Benefits Schedule (MBS) item 708 (an existing health check program for Aboriginal and Torres Strait Islander children aged less than 15 years) became the de facto policy for the child health checks; however, it was not designed for the specific conditions in remote NT communities and is usually carried out as part of an ongoing relationship between a child and a health clinic or health practitioner. This was not the case in the delivery of the CHCI.

The lack of adequate policy processes meant that the child health checks did not follow international best practice for screening programs. There is no evidence of officials using best practice guidelines for designing screening programs such as those issued by the World Health Organization (Wilson and Jungner 1968).

There was a 'bottleneck' in referral systems

Approximately 70 per cent of all children who had a child health check received at least one referral to follow-up care. The NT health system, which was not coping with the existing number of referrals from PHC, did not have the capacity, processes, infrastructure or workforce to provide an increased volume of follow-up health services in a short time frame. This aggravated a 'bottleneck' in the pathway to referred services. The proportion of children who had been given a referral from a child health check but had not been seen by the follow-up service was 19.6 per cent for PHC services, 34.2 per cent for ENT specialist services, 39.8 per cent for dental services, 42.0 per cent for paediatric services, 45.4 per cent for tympanometry and audiometry services, and 57.4 per cent for other specialist services.

The CHCI brought considerable resources into the NT health system

The NT remote PHC sector had long been under-funded (McDermott et al 1997; Rosewarne and Boffa 2004; Mooney and Henry 2004) and the extra financial resources that accompanied the CHCI were welcome and needed. From 1 July 2007 to 30 June 2010 a total of \$54.469 million was spent on the initiative (\$17.935 million on the child health checks and \$36.535 million on follow-up services). This represents an average cost per child of \$1,691 for the child health checks, and an average cost per follow-up service of \$1,181 for dental services and \$1,842 for hearing/ENT services.

By way of comparison, the benefit paid for the MBS Item No. 708 child health check is around \$200 per child and research suggests that the average cost of a 60-minute face-to-face medical consultation in remote Aboriginal communities in the NT in 2003–04 was around \$504. While these costs are not directly comparable, it does suggest that the CHCI, as a new health screening program, involved a substantial financial outlay (including administrative costs) and that the benefits that occurred in areas such as follow-up dental and hearing services could have been achieved more directly.

There was a lack of engagement with and disruption to existing systems

The centrally-driven approach to the CHCI meant that there was insufficient consideration of the needs of the people, systems and processes already operating in the NT. The checks were often conducted by teams of visiting professionals in a 'fly-in/fly-out' model. Many of these teams appeared to do their best to engage with local health service staff and the community. Nevertheless, for many health services the checks were a disruption to normal clinic business and other services were sometimes suspended while the checks were carried out. This represented a significant opportunity cost as staff attention was diverted to conducting the checks, supporting visiting teams or working to overcome community scepticism and fear about the checks.

Those who received a child health check were more likely to have been previously hospitalised and more likely to participate in existing child health screening programs

The CHCI achieved an overall coverage rate of between 57 and 65 per cent of the total eligible population. Coverage was higher in small communities and among children aged 2–9 years and lower in large communities and among children aged 14–15 years. While not directly comparable the coverage rate for younger children, estimated at between 56.4 and 69.4 per cent, compares with a 69 per cent coverage rate for the routine but less comprehensive NT GAA¹ program.

Comparison of the health characteristics of the populations who did and did not receive a health check suggests that there was little difference in the health status of the two groups. Those who received a child health check were more likely to have been previously hospitalised and more likely to have attended existing child health screening programs in the NT, compared to the population who did not receive a check.

¹ The GAA (Growth Assessment and Action) program is the NT Government's ongoing program aimed at improving the growth and nutritional status of children 0–4 years of age who live in remote areas. It involves routinely collecting measurements of children's weight, height/length and haemoglobin. Since March 2009 the NT Department of Health and Families began piloting a new program called Healthy Under 5 Kids. This program complements the GAA.

New service delivery models for hearing/ENT and dental were program successes

Funding provided through the CHCI enabled the development of new service delivery models for hearing/ENT and dental services. Improved case management practices in hearing/ENT services have resulted in more precise tracking of children through the system, reducing the risk of children falling through the gaps. A new dental service delivery model helped overcome workforce shortages during the roll out of follow-up services. These new models have the potential to provide more efficient service delivery, providing these services continue to be funded and are developed within the context of a comprehensive PHC approach.

Data generated was used effectively to focus attention on the NT

The CHCI added a significant amount of data to the PHC system. There is evidence that the CHCI data has been used to focus Australian Government attention on the needs of Aboriginal children in the NT. DoHA has regularly been asked at Senate Estimates hearings about the progress of the checks and follow-up referrals, as well as the prevalence of the specific conditions found. The CHCI dataset provided the basis for DoHA responses to the committee. The CHCI data provided decision makers with quantifiable, tangible and timely evidence of the health needs of Aboriginal children and of health services' ability to meet these needs, in a way that was not previously possible.

There is evidence that larger NT health providers have made use of CHCI data to improve programs and to inform reviews on the treatment of some conditions; however, smaller providers do not have the capacity to make use of the data. There is a widespread view among NT health professionals that the data did little to increase local understanding of the population health needs of Aboriginal children as this information was already well known to health providers.

2.2 Key findings—the Expanding Health Service Delivery Initiative

Engagement with existing processes

An important feature of the EHSDI is its engagement with existing reform processes in the NT. The EHSDI was preceded by a 15-year period of development in the NT health system under programs such as the Coordinated Care Trials and the Primary Health Care Access Program, the establishment of the NT Aboriginal Health Forum (AHF) and the Pathways to Community Control (NT AHF 2008) framework to support the transition to community control. The EHSDI was built on the successes of and lessons learned from these initiatives.

The EHSDI significantly increased funding to the NT remote health system

Like the CHCI, the EHSDI significantly increased the financial resources available to the NT health system. The initiative added around 17 per cent to remote PHC funding in the NT in 2008–09 and around 29 per cent in 2009–10. The health workforce increased by 251 full-time equivalent positions over a two-year period. EHSDI funding enabled increased investment in remote health infrastructure such as staff accommodation and clinic buildings.

The Remote Area Health Corps (RAHC) added to workforce capacity in the NT remote health sector

The RAHC model focuses on one workforce issue—recruiting health professionals for short-term placements—and has been successful in deploying 439 health professionals to more than three quarters of all NT remote health services. Other longstanding workforce issues remain including the difficulty in recruiting and retaining permanent staff. The current arrangements for recruiting, training and supporting Aboriginal Health Workers (AHWs) are also a major concern. The future of the RAHC needs to be considered within the context of effectively and sustainably addressing these wider workforce issues.

Regionalisation was under-scoped and under-resourced

The NT PHC sector is engaged in a complex process of change. There is an attempt to balance the health system's need for efficient health service provision based on economies of scale, with the desire for greater community control of health services. Regionalisation processes have been under-scoped and under-resourced, and there is a lack of clarity on the tasks involved, actions required and who should undertake them.

Communication within and across the NT AHF partners concerning increasing Aboriginal community control and regionalisation has not been consistent and there appear to be varying degrees of acceptance of the concept. The process will remain problematic while mixed messages from the leading organisations persist.

There is insufficient policy capacity in the NT

The EHSDI reform process has not been accompanied by sufficient increased policy and administrative capacity in the key partner organisations in the NT. The bulk of the implementation policy work has been undertaken by the Primary Health Reform Group (PHRG); however, the existing policy capacity is insufficient to sustain the pace and effectiveness of the reform agenda. The organisations involved in implementing the PHC reforms need to re-assess where the current policy capacity is being applied and ensure that there is sufficient policy capacity in the right place to effect the intended changes.

Existing governance frameworks in the NT have served the developments in the sector well

The NT AHF has an important role in the strategic governance of the EHSDI and the PHRG has been formed to oversee the implementation of the program. The extensive development of structures and relationships before the EHSDI meant that the sudden increase in resourcing could be managed within existing frameworks. The commitment to partnership between the Australian Government, NT Government and Aboriginal community controlled health sector, and to NT-based decision making, is commendable.

The system is moving towards more equitable distribution of financial resources

Before the EHSDI, health services received funding from a number of sources including DoHA program funding, DoHA Regional Health Service funding and the NT Government. The specific amounts received by each service varied considerably with some providers receiving much higher levels of funding per head of population than others. The EHSDI funding for service expansion was distributed using a benchmark methodology to determine which proposed Health Service Delivery Areas (HSDAs) were priorities for additional funding. This contributed to a more equitable distribution of resources at a regional level.

The benchmark will need further development before it can be routinely used as a costing model for delivering services in remote areas. There is still a considerable way to go before the health services for remote populations have the funding required to provide a full range of PHC services.

The NT Aboriginal Health Key Performance Indicators (NT AHKPIs) are a significant achievement of the current reform process

The NT AHKPIs are a unique feature of the NT remote health system, providing a system-wide tool for gathering data on health service activities and outputs. With further development, including expanding the scope of the indicators and supporting health service staff to use the results to inform health service planning, the NT AHKPIs have the potential to both support continuous quality improvement (CQI) activities and strengthen accountability purposes.

3 THE REPORT

3.1 Context

This report presents the findings of an evaluation of two programs implemented as part of the Northern Territory Emergency Response (NTER)—the CHCI and the EHSDI. These programs were contrasting approaches to improving the health status of Aboriginal and Torres Strait Islander people in the NT.

On 21 June 2007 the NTER was announced by the Australian Government in response to concerns about widespread sexual abuse of children in Aboriginal communities. Central to the NTER was the release of the report of the Northern Territory Board of Inquiry into the Protection of Aboriginal Children from Sexual Abuse, known as *Ampe Akelyernemane Meke Mekarle—Little Children are Sacred* (Anderson and Wild 2007). The NTER comprised a range of measures intended to protect children, stabilise communities, normalise services and infrastructure, and provide longer-term support to communities. The CHCI and EHSDI are part of the ‘improving child and family health’ component of the NTER.

3.1.1 The Child Health Check Initiative

The CHCI was one of the first NTER measures to be implemented. The program, which began in July 2007, provided free health checks and follow-up care for all Aboriginal and Torres Strait Islander children aged 15 years and under who were living within the remote communities covered by the NTER. The specific objectives of the CHCI were to:

- provide medical teams to conduct voluntary health checks and follow-up health care for Indigenous children 0–15 years of age living in the areas prescribed under the NTER
- deliver a broad range of follow-up services including primary health care, allied health and specialist services to Indigenous children 0–15 years of age living in the areas prescribed under the NTER.

The child health checks involved a series of health assessments and questions for the child and/or parent or caregiver, focusing on a range of aspects of health and wellbeing including height, weight, haemoglobin level, hearing and vision, previous medical history and vaccination status. The health checks also gathered information about the child’s determinants of health and social wellbeing such as education, housing, smoking and parental wellbeing. In addition, checks for adolescents aged 12–15 years included questions on drug and alcohol use. All health checks were voluntary.

The child health checks were generally delivered by teams comprising a doctor, up to three nurses and administrative staff. The teams were placed in Aboriginal communities and worked alongside local services for up to three weeks at a time. In some communities the local health services used their own teams to deliver the checks.

Initially the program only included the health checks and was scheduled to take place from 1 July 2007 to 30 June 2008—known as Phase 1 of the CHCI. Later it was extended to 30 June 2009 and expanded to include follow-up care. Follow-up treatment for ENT conditions was then extended until 31 December 2010. Follow-up hearing and dental services will continue for an additional three years until 30 June 2012. The extension of the child health checks and the expansion to include follow-up services is known as Phase 2 of the CHCI.

Up to 30 June 2010, \$75.688 million was allocated for the child health checks and follow-up services, and actual expenditure totalled \$54.469 million.

3.1.2 The Expanding Health Service Delivery Initiative

The EHSDI is about expanding and reforming PHC in remote Aboriginal communities in the NT. The main objectives and goals of the EHSDI can be summarised as:

- expanding PHC to improve access to core health services
- improving the quality of remote PHC services
- developing regional approaches to planning and delivering PHC services
- increasing Aboriginal community control and participation in regional health service planning and delivery.

The EHSDI has the following five components for achieving these objectives and goals:

- expanded PHC services
- development of regions (regionalisation) and movement towards Aboriginal community control
- the Remote Area Health Corps (RAHC)
- capital and infrastructure
- evaluation.

The EHSDI builds on and extends a long-term reform agenda for the remote NT PHC system that the NT AHF had been working on before the NTER. The process is supported by other system-wide reforms in the NT. These include agreement on a set of core PHC services, CQI, NT AHKPIs and developing leadership and governance frameworks.

The EHSDI officially began on 1 July 2008 with a planned time frame of two years. Funding was later extended to June 2012 (an additional two years). Elements of the wider NT PHC reform process were progressing before July 2008 and have continued alongside the specific components of the EHSDI.

As at 30 June 2010, \$181.688 million had been allocated to the EHSDI for the period 1 July 2008 to 30 June 2012. Expenditure to 30 June 2010 was \$88.572 million.

3.1.3 Purpose of this evaluation

DoHA commissioned this evaluation to better understand the process of developing and implementing the CHCI and EHSDI, their outcomes and, where possible, the impact the CHCI and EHSDI have had and continue to have on Aboriginal and Torres Strait Islander people in the NT.

The purpose of the evaluation, as established by DoHA, is to provide a formative and summative assessment of the performance of the CHCI and EHSDI on the following aspects of the programs:

- effectiveness—to improve the health of remote Aboriginal and Torres Strait Islander people in the NT
- efficiency—to deliver the services in a cost-effective manner
- appropriateness—to ensure the right services are delivered in the right way to the target population in a timely manner and in accordance with Australian Government priorities and policy.

A set of evaluation objectives for both the CHCI and EHSDI were established before Allen and Clarke was engaged to undertake the evaluation. These objectives are included in Appendix A. In addition to these objectives, we were asked to develop theoretical models for PHC system reforms and for future child wellness checks and/or services to guide future monitoring and evaluation of such initiatives.

3.1.4 Governance of the evaluation

In implementing the evaluation, Allen and Clarke has reported to the MoU Management Committee and its Indigenous Advisory Group. Box 1 shows the main agencies and inter-agency groups that have a role in the programs and/or this evaluation.

3.2 Evaluation approach

The approach taken in evaluating the two programs differed. The CHCI was a summative evaluation while the EHSDI evaluation was formative.

Summative evaluations generally take place at the conclusion of a program and describe what happened as a result of the initiative—the changes, impacts or outcomes. This approach was chosen for the CHCI as it recognises that the initiative is nearing completion. The evaluation documents and reports on the impacts and lessons from the program and can be used to support future improvements to wellness checks and child health in general.

A formative assessment occurs relatively early in the life of a project and is intended to help shape the program by engaging with the development of the initiative—its implementation, inputs, and procedures. The EHSDI is very much a ‘work in progress’ and the measures implemented are part of a long-term reform process. There is an expectation that the shape and structure of the programs under the EHSDI will continue to evolve. The formative evaluation approach provides information that can support ongoing improvements to the EHSDI. The evaluation team has engaged with those responsible for implementing the program at regular intervals to identify and discuss current issues affecting implementation and to share interim evaluation findings.

Box 1: Main partners and roles in the CHCI and EHSDI evaluation project

A number of agencies and inter-agency groups have a key role in the CHCI and EHSDI programs and this evaluation. This includes the three main evaluation partner agencies:

- the Australian Government **Department of Health and Ageing (DoHA)**, through the Office for Aboriginal and Torres Strait Islander Health (OATSIH), has overall responsibility for funding, accountability and evaluation of the CHCI and EHSDI
- the NT **Department of Health and Families (DHF)**¹ has responsibility for planning and delivering PHC services, implementing change management strategies in support of expanding and reforming services and monitoring the health status of the NT population
- the **Aboriginal Medical Services Alliance of the Northern Territory (AMSANT)** represents the Aboriginal community controlled health sector and provides support to Aboriginal communities in working towards regional health services.

It also includes the structural groups set up to oversee monitoring and evaluation of the expansion and reform of NT PHC, and additional (to the three partners above) members of this group:

- the **Memorandum of Understanding (MoU) Management Committee**, which has representatives from the three partners above, provides advice on the implementation of the CHCI and EHSDI evaluation design, consultation and communication with key stakeholders, and on the preparation of evaluation reports
- an **Indigenous Advisory Group (IAG)** provides independent advice to the MoU Management Committee and to Allen and Clarke as the independent evaluators of the CHCI and EHSDI
- the **Australian Institute of Health and Welfare (AIHW)** is the data custodian for the CHCI data collections, and is also a member of the MoU.

The evaluation project also includes inter-agency groups responsible for planning and implementing the NT PHC system reforms:

- the **Northern Territory Aboriginal Health Forum (NT AHF)**, which has representatives from the three partners above, provides strategic direction for progressing the NT PHC reforms
- the **Primary Health Reform Group (PHRG)**, which has representatives from the three partners above, has been established under the NT AHF to support the NT PHC reforms.

¹ From 1 January 2011 the Department of Health and Families became known as the Department of Health.

3.2.1 Methods

The evaluation was conducted from June 2009 to March 2011 and involved four key phases of work:

- **Phase 1: Design**—this involved developing an evaluation design to address each of the evaluation objectives. The design is outlined in the Evaluation Design Report and is available at www.allenandclarke.co.nz
- **Phase 2: Implementation**—the evaluation objectives were addressed through a mixed-method design that included key informant interviews, case studies, workshops on EHSDI-related issues and analyses of health datasets.

- **Phase 3:** Consultation, communication and dissemination; and **Phase 4:** Analysis and reporting; overlapped and involved feedback and consultation with a range of audiences to check for consistency of findings, increase the utility of findings, improve the accuracy of the report and review and refine any future evaluation plans. The feedback and consultation has informed the drafting of the final evaluation report.

These phases and the key activities undertaken at each phase are illustrated in Appendix B.

3.2.2 Data sources

The evaluation used a mixed-method design, drawing on multiple sources of information. The methods used in the evaluation included:

- key informant interviews with people who played a key role in the NTER, the CHCI, the EHSDI or the wider PHC system reform
- case studies of five communities within four regions (Barkly, Central Australia, East Arnhem and Katherine East), involving interviews, observation, questionnaires and document review
- workshops on EHSDI-related issues with the program partners (AMSANT, DHF and DoHA). The workshops identified and discussed issues and ideas relating to 'hot topics' to provide feedback to those working on the EHSDI programs to help improve its ongoing implementation
- analysis of existing population health datasets with regard to the CHCI. This included analysis of whether the population of children who received a child health check was similar to the population eligible for a health check but who did not have one
- review and analysis of program and program-related data such as financial data on the CHCI and EHSDI, deployment data collected on the RAHC, workforce data relating to the EHSDI and health workforce and population data more generally
- review of program documents and research literature including the *Little Children are Sacred* report, submissions on the 2008 review of the NTER (FaHCSIA 2009), program documents, policy papers and research literature on PHC in remote communities and Indigenous health.

3.2.3 Data analysis

The evaluation analysis focused on bringing together qualitative information from interviews and literature, validating findings from the various sources and evaluation methods used, and corroborating the quantitative analysis (particularly on the CHCI) with the qualitative information such as case studies and interview findings.

The body of evidence—the story of the CHCI and the EHSDI—grew progressively from single sources and methods (individual interviews or case studies) to multiple sources and methods (multiple interviews and cross-case analysis). The process included corroborating interview findings with program data, workshop discussions and research literature and, for the CHCI, the information from the analysis of health datasets. We continually revisited our findings to check whether and how the supporting and relevant evidence fitted with the emerging findings.

Generally, we considered data or evidence to be more valid, and therefore gave it more importance, when we could validate it with data collected from other sources and/or by other methods; however, we remained conscious of the importance of context and the risks of generalising. We looked for areas of convergence (that is, does it fit the story?) but also for areas of divergence, and then we asked whether differences could be explained by different contexts.

4 RESULTS

4.1 The Child Health Check Initiative

This section includes a summary of our findings in relation to the:

- development of the CHCI
- coverage of the child health checks
- delivery of follow-up services
- impact of the CHCI on health service delivery and the health system
- impact of the CHCI on health status.

4.1.1 Development of the CHCI

The CHCI arose from intense political pressures and through an unusually rapid process. The initial announcement of the NTER measures included compulsory checks for all Aboriginal children aged 0–15 years to identify and treat health problems and any effects of sexual abuse (Brough 2007). Widespread criticism from the medical profession on the compulsory aspect of checks prompted intense discussion between ministers, officials and professional organisations. A change in policy, stating that child health checks would not be compulsory, was announced by the Health Minister on 28 June 2007. An official announcement on 5 July 2007 confirmed that health checks would be voluntary, carried out with the consent of parents or carers and that forensic examinations for sexual abuse would not be part of the standard health check.

The final form of the child health check was a response to the health sector's concerns, moving from an activity that it perceived as unethical, towards a response that still fulfilled the broader intent of the Australian Government's original policy position of examining children, but now not for sexual abuse.

An existing program, MBS Item No. 708, provided a de facto policy platform and an alternative approach to assessing the health of Indigenous children. This provides health checks for Aboriginal and Torres Strait Islander children aged less than 15 years and is intended to facilitate early detection, diagnosis and intervention for common and treatable conditions. Although MBS Item No. 708 became the policy basis for the child health check program it was not designed for the specific conditions in remote NT communities. Its focus was the whole of the Australian Aboriginal and Torres Strait Islander population and it assumes that a GP will be the main provider of care, involving other health practitioners in a PHC team as appropriate, and that the check is carried out as part of an ongoing relationship with a health clinic or health practitioner. This was not the case in the delivery of the CHCI.

There is no record of government officials engaging in a policy discussion on whether the individual items in the child health checks conformed to established criteria for the design and operation of screening programs, such as those issued by the World Health Organization (Wilson and Jungner 1968). This is not unusual—many 'health check' programs are implemented without adhering to the WHO principles, despite the desirability of doing so. Similarly, we could find no evidence of consideration of appropriate approaches to Indigenous communities, specifically of the acknowledged and previously common practice of consulting with communities before a health initiative is undertaken by someone outside the community. While child health checks had long been a feature of the NT health system there was no analysis of the strengths and weaknesses of these checks before the design and launch of the CHCI. This information should have been part of any policy consideration before the CHCI was implemented.

4.1.2 Coverage of the CHCI

This section addresses CHCI evaluation objective 1—assess the extent to which the child health checks reached the target population.

The estimated overall coverage rate of the child health checks is between 57–65 per cent of the total eligible population (Table 1) depending on the data definitions used.

Table 1: Number and proportion of children who had a child health check (July 2007 to 30 June 2009)

	Number of children who had a CHC ^(a)	Eligible population	Proportion of eligible population who had a CHC
Analysis of CMI linked data ^(b)	8,415	14,647	57.5%
AIHW analysis of CHCI data ^(c)	10,605	16,259	65.2%

^(a) Figures exclude 4,000 checks provided under the MBS (item 708). These checks were not specifically funded through the NTER.

^(b) The Client Master Index (CMI) is an NT-wide database of all clients accessing public health services within the NT. Estimated eligible population based on the Australian Bureau of Statistics definition of excluding urban areas, and on the population aged 0–15 years at the child health check finishing time in each region.

^(c) Estimated eligible population based on Australian Bureau of Statistics Indigenous resident population figures for 2006 for children aged 0–15 years who live in communities and town camps covered by the CHCI.

Source: DHF analysis of CMI data; AIHW and DoHA (2009).

Coverage of the child health check varied markedly by region (Table 2) from 28.9 per cent in Darwin Urban to 63.4 per cent in Barkly and East Arnhem. AIHW and DoHA (2009) also report a variance in coverage by region of between 52.2 per cent in Darwin Rural to 77.4 per cent in Barkly/Katherine.

Table 2: Number and proportion of children who had a child health check and coverage by region (July 2007 to 30 June 2009)

Region	Children who had a CHC		Coverage of CHCs	
			Eligible population	Proportion of eligible population who had a CHC
	Number	Per cent	Number	Per cent
Alice Springs Rural	1,926	22.9	3,202	60.1
Alice Springs Urban	96	1.1	256	37.5
Barkly District	610	7.2	962	63.4
Darwin Rural	2,073	24.6	3,842	54.0
Darwin Urban	63	0.7	218	28.9
East Arnhem District	2,045	24.3	3,227	63.4
Katherine District	1,602	19.0	2,940	54.5
All regions	8,415	100.0	14,647	57.5

Source: DHF analysis of CMI data.

Child health check coverage rates for the five case study communities are shown in Table 3. Two estimates are provided—one based on the child health check dataset and associated estimates from the Australian Bureau of Statistics/DoHA and the other on community level data, including community level population estimates. This further highlights the challenge in estimating coverage rates.

Table 3: The proportion of children in the five case study communities who received child health checks according to different eligible child population estimates (July 2007 to 30 June 2009)

Community	Population aged 0–15 years		Number of children who had a child health check		Coverage (%)	
	Australian Bureau of Statistics/DoHA estimates ^(a)	Community level estimates ^{(b)(c)}	AIHW data ^(a)	Community level data ^{(b)(c)}	AIHW estimates ^(a)	Alternative estimate based on community data
A	85	107 ^(b)	102	109 ^(b)	120.0	101.9
B	713	1,167 ^(c)	520	588 ^(c)	72.9	50.4
C	108	76 ^(b)	75	64 ^(b)	69.4	84.2
D	242	356 ^(b)	196	190 ^(b)	81.0	53.3
E ^(d)	157		139		88.5 ^(e)	

^(a) AIHW analysis of CHCI data.

^(b) DHF data as at 3 September 2009.

^(c) Health service estimate dated 31 August 2008. Population estimate as at the commencement of the CHCI. The number is likely to include records for children who also use the services of a nearby Homelands health service (an Australian Government taskforce team is said to have travelled to one Homeland community only, otherwise children living in Homelands communities were checked at the health service in Community B); children who periodically come and live in the community and use the service; visiting children; and children who have since moved to live in other communities.

^(d) HIC MBS Item No. 708 Child Health Check.

^(e) Health service staff in this community believe that a coverage rate of approximately 89 per cent accurately reflects the proportion of children who received checks.

By comparison, the DHF's GAA program for children 0–4 years of age living in remote communities had an overall coverage rate of 69.0 per cent² for the period October 2008–April 2009 (DHF 2009). The coverage rate for the child health checks for children aged 0–4 years was between 56.4 per cent³ (data supplied by DHF, 20 July 2010) and 69.4 per cent.⁴ As the GAA was an established routine health program, it may be reasonable to expect coverage rates to be higher than for the CHCI; however, the publicity around the NTER and CHCI and the level of resources expended may have boosted coverage rates.

Child health check coverage was higher among 2–9 year olds and lower for children aged 14–15 years and children who were less than one year old. These results support the experience of health service staff working in one of the case study communities—eligible children in the older age ranges, for a number of different reasons, did not wish to have a child health check. It may indicate that older children are more likely to access health care when they see a reason to (for example when they are ill or injured). The low coverage among the under one-year-old age group may be due to the carers of these children choosing not to attend an additional check-up on top of other checks already attended for newborn children.

² This percentage is based on the total number of resident children measured as part of the GAA program, as a proportion of the total number of resident children.

³ Eligibility based on residence in DHF's Client Master Index and ABS definition of identifying population in prescribed areas.

⁴ Estimate based on child health check dataset and pro-rata of the ABS population estimate of Indigenous children aged 0–5 years living in prescribed areas.

Other reasons given for why children did not get a check include:

- children were living in another community at the time the child health check team visited
- some guardians felt frightened by the early media coverage and controversy surrounding the intent of the checks (that is, the initial focus on checking for signs of child sexual abuse)
- some guardians felt their children did not need a check as they had recently been checked.

We compared specific characteristics of those children who received a health check and those who did not. The results show the following findings:

- Children who received a child health check were significantly more likely to have previously been hospitalised than children who did not have a check. For the period 1 July 1991–30 June 2007, age-adjusted hospitalisation rates (per 1,000 population) were 253 for the group of children who had a check and 207 for the group of children who did not. Actual (non-age-adjusted) rates for the two groups over this period show an average of 3.4 hospitalisations per child for the group of children who had a check, compared to 2.8 hospitalisations per child for the group who did not have a health check.
- Children who received a child health check were significantly more likely to have participated in the GAA program than children who did not get a check, with an average number of attendances of 3.5 compared to 1.9 for children who did not have a health check.⁵
- There was no significant difference in the proportion of children with low birth weights between the population who received a child health check and the population who did not.⁶
- There was little difference between the two groups in the reasons for hospitalisation.

The difference in hospitalisation rates could mean that the population who received a child health check had poorer health status than the population who did not; however, hospitalisation rates are difficult to interpret as reliable indicators of the presence or severity of a condition in a population. Communities with easier access to hospital services will tend to be hospitalised more often whereas a person living in a remote location with a comparable condition may be less likely to be hospitalised. Conversely, children living in remote communities may be more likely to be hospitalised for acute conditions because of concern about sudden deterioration in a remote community, whereas a child living locally may be observed and then discharged.

The difference in GAA participation rates suggests that children who received a child health check are more likely to attend checks and that the CHCI was, therefore, not an effective mechanism for reaching children who did not already attend check-ups. The data on low birth weights does not strongly suggest that either population (the checked or the non-checked) is healthier than the other.

⁵ This data is based on participation in the GAA program delivered by DHF service providers between 1992–93 and 2008. Data from all NT service providers for the period 2003–06 shows a similar result.

⁶ We looked at low birth weight because it is an important indicator of both the immediate health of the newborn and of the long-term risk of adult chronic disease.

4.1.3 Delivery of follow-up services

This section addresses CHCI evaluation objective 3—assess the extent to which requested primary care, allied health and specialist follow-up services have been received, the gaps in existing health service delivery and barriers to completing follow-up treatment.

The proportion of children receiving at least one referral from the child health checks was 69.5 per cent (AIHW and DoHA 2009). The most common referrals were for: PHC (38.6 per cent); dental (35.1 per cent); tympanometry and audiology (14.0 per cent); and paediatrics (12.1 per cent).

At the time of writing, many children had not received the services to which they had been referred through the CHCI (see Table 4). As at 2 November 2009, 19.6 per cent of children referred for PHC follow-up, 42.0 per cent referred to paediatric services, and 57.4 per cent referred to other specialist services had not been seen by these services. By 19 July 2010, 39.8 per cent of children referred to dental services, 34.2 per cent to an ENT specialist and 45.4 per cent to tympanometry and audiometry services had not been seen by these services.

These outcomes are not unexpected given the large number of referrals, the existing (pre-CHCI) service patterns for the main referral areas, the already high workloads of some specialists, the time constraints and the rush to establish systems, the need to procure infrastructure and recruit staff, and general logistical problems. Not all these referrals, however, will be outstanding. Some children will no longer require the service they were referred to, and some children will not be able to be traced for follow-up (for example they will have moved out of the prescribed areas).

Overall, the number of follow-up services actually provided is likely to be greater than indicated in Table 4, because in some cases children received services but no chart review was completed and some received additional referrals as a result of their initial specialist consultation.

In any screening program, there is a moral and ethical duty to follow up on the conditions identified. The level of follow-up from the CHCI, as at July 2010, ranged from 42.6–80.4 per cent, depending on the type of referral (Table 4). The total number of referrals was 10,404, of which 6,677 (64.2 per cent) had been followed up and 3,727 (35.8 per cent) had not been followed up.⁷

It seems that there was no system in place that could capture whether follow-up services were received outside the more traditionally recognised PHC or secondary health care services. This was a significant deficiency, particularly given the critical role of services such as family, community, housing and social support in addressing the broader needs of Aboriginal children.

⁷ These figures refer to the number of referrals and not the number of children. A child may have multiple referrals.

Table 4: Number of children with a child health check referral and number of referrals provided (July 2007–July 2010)

Community ^(a)	Children with a referral from check ^(b)	Children with a referral from check and chart review completed ^(c)	Children seen at least once by referred service (number of referrals provided) ^(d)	Children seen at least once (%) ^(d)	Children who have not been seen (%) ^(d)
Primary health care (at 30 June 2009; chart review data at 2 November 2009)					
A	63	53	49	92.5	7.5
B	226	9	2	22.2	77.8
C	27	25	15	62.5	37.5
D	59	61	58	95.1	4.9
All NTER areas	3,622	2,678	2,154	80.4	19.6
Paediatrician (at 30 June 2009; chart review data at 2 November 2009)					
A	14	9	3	33.3	66.7
B	84	3	0	0.0	100.0
C	12	12	8	66.7	33.3
D	19	19	18	94.7	5.3
All NTER areas	1,131	864	501	58.0	42.0
Dental (at 19 July 2010)					
A	73		45	61.6	38.4
B	221		49	22.2	77.8
C	23		10	43.5	56.5
D	48		38	79.2	20.8
All NTER areas	3,223		1,939	60.2	39.8
ENT specialist^(c) (at 19 July 2010)					
A	63		35	55.6	44.4
B	66		22	33.3	66.7
C	30		24	80.0	20.0
D	29		28	96.6	3.4
All NTER areas	1,625		1,070	65.8	34.2
Tympanometry and audiometry (at 19 July 2010)					
A	61		13	21.3	78.7
B	57		45	78.9	21.1
C	30		16	53.3	46.7
D	14		11	78.6	21.4
All NTER areas	1,291		705	54.6	45.4
Other specialists (at 30 June 2009; chart review data at 2 November 2009)					
A	44	32	4	12.5	87.5
B	52	1	0	0.0	100.0
C	8	8	4	50.0	50.0
D	15	15	8	53.3	46.7
All NTER areas	947	723	308	42.6	57.4

^(a) The CHCI in community E used non-standard forms and the referral information was not available for analysis, so is not included in this table.

^(b) The number of children with referral does not equal the number of referrals because one child can have multiple referrals. Dental, and tympanometry/audiometry referral is based on the number of referrals made at the first child health check. ENT referrals also include referrals received at chart review.

^(c) For PHC, paediatric and other specialist referrals, only children who received a chart review can be identified if they have or have not been seen by these follow-up services.

^(d) For PHC, paediatric and other specialist referrals, number and percentage is based only on those who had a chart review completed. For dental, ENT and tympanometry/audiometry, the data comes from separate dental and audiology data collections. The dental data does not include follow-up services provided by ACCHOs independent of NTER funding.

Source: AIHW and DoHA (2009); Data supplied by AIHW (August 2010).

There were a number of barriers to completing follow-up services. Some local service providers lacked the capacity and resources to complete the requested PHC follow-up. Funding for some follow-up services was 'drip fed', being extended by relatively short time frames (such as three or six months) which led to uncertainty in funding and an inability to plan ahead.

Initially there were inadequate processes for administering and organising referrals for specialist follow-up services that had been transferred from local service providers to the DHF. Specialist follow-up services were delivered through visiting or outreach services and workforce shortages meant that these services were often supply driven (that is, driven by the availability of specialists rather than the demand for services). For example in case study community B, paediatric follow-up services were referred to the DHF paediatrician who provided routine visits to the community, which at the time were scheduled for approximately one day every three months. The number of referrals (approximately 84), on top of an existing waiting list, proved to be an overwhelming workload for the single paediatrician. No additional paediatric services were forthcoming and the CHCI follow-up referrals were largely not acted upon.

The NT remote health system also lacked the necessary infrastructure to provide specialist services. For example, the funding agreement between DoHA and DHF for dental services stipulated 'a visit to each prescribed community with treatment provided as required, assessing and treating as required 100 per cent of eligible children' (DHF, correspondence, September 2008). However, case study community B did not receive dental facilities and equipment until late 2009, preventing a large number of children from receiving follow-up services under the funding agreement.

New service delivery models for hearing/ENT and dental services may contribute to overcoming barriers to the delivery of services to remote communities. CHCI funding enabled DHF to develop a comprehensive case management service delivery model for a range of services for children identified with ear disease and hearing impairment. The case management model tracks children through all parts of the system.

DHF established a new unit with DoHA funding called the Helping Hands Child Oral Health Program to deal with the large number of dental referrals. To overcome the workforce shortage a new service delivery model was developed based on recruiting staff from interstate for three-week placements to provide mobile dental services, outreach services and secondary hospital (surgical) services.

While these service delivery models are positive developments, it would be beneficial to monitor and evaluate the models once they are fully operational to assess what impact they are having on health outcomes. The effectiveness and sustainability of these new service delivery models would be enhanced by integrating care with PHC, including health promotion.

It is not possible to report on the quality of the child health check assessments and how many unnecessary follow-up referrals may have been made. The differences in referral patterns between some visiting child health check teams working in the same community indicate inconsistencies in referring between different doctors. Variation in aspects of clinical practice is common in all health systems, leading to different referral patterns. Interviews with a number of NT health professionals suggested that some over-referral occurred and this is likely to reflect inexperience and a lack of confidence of some doctors working outside their normal scope of practice.

4.1.4 Impact of the CHCI on health service delivery and the health system

This section addresses CHCI evaluation objective 4.1—whether the CHCI has led to improvements in health service delivery.

Impact on staff and services

The impact of the CHCI on existing health services and staff varied significantly. Where the child health checks were done as part of a Medicare item 708 check, the clinics continued to deliver these Medicare checks and the CHCI had no noticeable effect on how they were delivered. Where a clinic recruited its own dedicated staff to do the child health checks, other services had to be suspended for a week so the staff could focus on doing the checks. This put staff under pressure to get the checks completed so normal services could resume as soon as possible.

In other cases, the child health checks were done by visiting Australian Government task force teams with other services running as normal. In three of the four communities we studied that involved visiting task force teams, the resident teams worked closely with the visiting teams to provide support, advice and direction, as well as continuing to provide normal services. This led to heavy workloads for resident teams. However, it also helped to integrate the checks into normal clinic business and for members of the community this often meant that the checks were almost indistinguishable from normal clinic services.

Several negative impacts on staff and services were apparent, including the need to reassure the community about the child health checks and to overcome feelings that ranged from general scepticism about the checks to real fear that people's children would be taken away. We found evidence of tensions between visiting teams and resident staff, who in some cases were angry that outside staff were being brought in to do the checks. There were also tensions between members of the visiting teams who were not used to working together or used to the conditions in remote communities. The additional workload and stress at the time of the CHCI was an issue for resident health workers.

The lack of engagement between the CHCI and the people and structures in various parts of the health system at the policy and planning stage, before the child health checks started, appears to have been quite destructive. For example, this led to children being viewed by health services as 'your kids' or 'our kids' depending on whether they were accessing a service through a child health check referral or a referral from normal service delivery. Staff morale and motivation at various levels suffered within the system and within both the government and ACCHO sectors. In its health impact assessment, the Australian Indigenous Doctors' Association (AIDA) identified disempowerment of local services as one of eight negative impacts of the CHCI, quoting a senior Aboriginal official:

It disheartened a lot of people who'd been doing a lot of hard work in the Northern Territory for a long time. I think that was negative. People feeling, you know who've worked for 10, 15 years, working very hard, suddenly felt that you know their contribution wasn't valued. (AIDA and Centre for Health and Equity Training, Research and Evaluation 2010)

There were opportunity costs associated with the CHCI and these were raised by participants in a number of interviews. Although we are unable to quantify these costs across the system, they appear to fall in the following general areas:

- closing clinics and/or suspending normal PHC services in order to deliver the checks
- duplicating assessments when the child health checks were not coordinated with existing services including routine health checks of children (AIDA and Centre for Health Equity Training, Research and Evaluation 2010)
- the administrative burden associated with processing child health check forms and managing referrals (which generally fell on the existing service)
- existing specialist follow-up appointments being 'bumped' by referrals generated by child health checks

- over-referrals taking up the time of specialists
- the loss of capacity of staff, particularly Aboriginal, who either left the workforce or whose morale was damaged as a result of feeling disempowered or stigmatised by the NTER process.

Case study participants also noted a number of positive impacts of the CHCI including:

- the extra resources were welcome, particularly capital infrastructure in clinics, audiology equipment and additional staff time for follow-up services
- noticeable improvements in the delivery of some health services such as more dentists on the ground and improved audiology services
- sharing of health knowledge between the staff and visiting teams.

In Health Impact Assessment of the NTER (2010), the AIDA identified two similar positive impacts of the CHCI:

- substantial investment in addressing child health problems
- improved access to medical, dental and specialist health care services.

Impact on the NT PHC system

Any improvements in the NT PHC system seem to be only noticeable for follow-up services. The CHCI program model explains a number of limitations. While the CHCI provided a one-off surge in capacity, there was not always the organisation or infrastructure within the system to respond to this sort of surge. As a result, there was a 'bubble' of Aboriginal children aged 0–15 years who had a child health check but were in a system that was not sufficiently organised to provide a clinical pathway through to secondary and tertiary care. The 'fly-in/fly-out', one-off service model did not always achieve sufficient engagement with the existing staff and services to have any real, ongoing influence on either the staff and services or the PHC system more generally.

While the CHCI's more immediate impacts on staff and services were largely negative, the program has evolved to achieve some successes which have the potential to bring positive impacts at the systems level. The follow-up phase of CHCI has left a legacy of system infrastructure, including additional audiology booths and dental equipment. The CHCI follow-up phase also led to the development of new service delivery models, such as the hearing/ENT and dental delivery models outlined previously, which are having a positive effect at the NT PHC system level.

The CHCI has added a lot of information and data to the PHC system. During the case studies, we heard that larger organisations with more resources have been able to use the data to improve programs and to review the treatment of some conditions. This includes the DHF which, as the main provider of oral health services in remote communities, has used data from the CHCI dental collection to plan regular oral health services. Smaller organisations and providers with fewer resources, however, do not have the capacity to make use of the CHCI data. There is a widespread view among NT health professionals that the CHCI data has 'told us nothing we didn't already know', leaving no legacy to the system for increasing knowledge of disease and treatment in Aboriginal children.

There is evidence that the CHCI data has been used to support greater understanding, particularly within the Australian Government, about the needs of Aboriginal children in the NT and the extent to which the services and systems are able to respond to this need. Since the CHCI was implemented, DoHA has regularly been asked at Senate Estimates hearings about the progress of the checks and follow-up referrals, as well as the prevalence of the specific conditions found. The CHCI data provided the basis for responses to the committee. In responding to a series of questions on the progress of the CHCI at the Senate Standing Committee on Community Affairs, a DOHA senior manager made the link between the data, better understanding and the PHC reforms in the NT:

It [the regular analysis and publication of CHCI data] is part of the reason why the significant change in primary health care is taking place in the Northern Territory and remote services—partially in response to a better understanding of the types of conditions that children have and the types of services that primary health care needs to be able to deliver (Commonwealth of Australia 2009).

It is likely that the regular CHCI progress reporting, coupled with the use of CHCI data in Senate hearings and similar fora, provided decision makers with quantifiable, tangible and timely evidence of the needs of Aboriginal children in ways that had not occurred previously. This information motivated the Australian Government and the NT Government to address the issues that the children face.

While the CHCI itself may not have been the most effective or appropriate initiative, the sustained media and political attention generated by the initiative ensured that NT remote health remained visible on the political agenda and eventually led to the announcement of the EHSDI, which has the potential to have a longer-term impact on health outcomes. A significant challenge for the future will be to ensure that the health needs of Aboriginal children remain visible and high priority for both the Australian Government and the NT Government.

4.1.5 Impact of the CHCI on health status

This section addresses CHCI evaluation objectives 4.2 and 4.3—consideration of the health status of children in relation to the social determinants of health and consideration of treatment outcomes.

Health services, both local and visiting, provided a significant amount of treatment during the child health checks. Just over half (53.2 per cent) of all children were treated with at least one medication, while 6.7 per cent of children were given a vaccination (AIHW and DoHA 2009). Of the 4,346 children who received a dental check as part of the CHCI, 59.6 per cent received oral health education, 52.2 per cent received treatment for previously untreated caries and 25.5 per cent received treatment for inadequate dental hygiene including plaque and calcification (data supplied by AIHW, August 2010).

While many of the diseases found and treated during the CHCI could potentially impact on population health status within the time frame of the evaluation, there is limited data on these impacts.

There were 1,091 children who had two or more audiology checks as at 19 July 2010 as part of the CHCI. The average period of time between the first and last check was 164 days (around five and a half months). Table 5 shows that for the 514 children who had at least some hearing impairment at the time of their first audiology check, the degree of hearing impairment improved for around half (54.5 per cent) and deteriorated for around a third (34.1 per cent) of all children.

Table 5: Changes in the degree of hearing impairment between the first and latest check for Aboriginal children who had at least two audiology checks (19 July 2010)

Degree of hearing impairment	Number	Per cent
Improved	280	54.5
Deteriorated	175	34.1
No change	36	7.0
Missing	23	4.5
Total	514	100.0

Source: Data supplied by AIHW (August 2010).

Any changes in the degree of hearing impairment may be attributed to the treatment provided through the CHCI, factors that affected diagnosis (such as the doctors' knowledge of diseases and the equipment used for testing), or changes associated with social determinants. It is important to note that the biggest variable is the natural history of audiology conditions which tend to be chronic and recurrent rather than deteriorating, so some fluctuation in the degree of hearing impairment between checks is to be expected.

The general view among case study participants was that children's health had not changed since the NTER. There was a feeling that oral health had improved due to the services that were provided and given that the baseline in access to dental services was so low before the CHCI. There was also a feeling that the dental services were focusing on treating symptoms rather than causes and that improvements may not be sustainable. There was also a view that the large number of audiology checks and improved access to specialist care may have temporarily reduced the prevalence of ear disease, but that the small amount of surgery done was, as expressed by one health professional interviewed, 'nothing that would change the long-term health of the population'.

While the CHCI may impact on the health of individual children in the short term, intervention while poor social conditions continue will have little impact at a population level as children simply get re-infected or continue to live in conditions that promote or exacerbate chronic illness. Case study participants identified poor quality housing as a critical issue. We used a social determinants of health assessment tool, developed by the Menzies School of Health Research (MSHR 2006), to get a baseline measure of where each case study community sat on a range of indicators. The results matched the stories we heard about the poor condition of housing, with the 'healthy housing' indicators scoring, on average, as 'poor' and significantly lower than the other factors.

It is vital to take a holistic approach to health care, with a focus on acute and preventative care and engagement with wider social determinants. While we acknowledge that the NTER involved a wide range of measures including housing, income support, and education, in practice there did not appear to be a strong relationship between the CHCI and these other initiatives. Future policy needs to focus on the broader aim of relieving poverty and improving the economic and social conditions in remote Aboriginal communities. Provision of access to quality medical care, linked with better housing, education and employment opportunities is critical to improving Aboriginal health at a population level.

4.2 The Expanding Health Service Delivery Initiative

This section includes a summary of our findings in relation to the:

- context from which the EHSDI arose
- impact of the EHSDI on PHC services and infrastructure
- leadership and governance of the EHSDI
- regionalisation and Aboriginal community control
- impact of the RAHC on the NT remote health workforce
- collection and use of information.

4.2.1 Context from which the EHSDI arose

Reform of the NT remote health system commenced before the announcement of the NTER. Preceding the intervention, there had been a 15-year period of intermittent development in which innovation was occurring both in the development of individual ACCHOs as well as in NT-wide organisational arrangements. Developments included:

- **Coordinated Care Trials (CCTs)**

These aimed to improve the coordination of health care services to Aboriginal communities. Three NT-based services were included over the two trial periods. Two of these, Katherine West Health Board and Sunrise Health Service, continue to operate as regional health boards which have been externally recognised as examples of good governance.

- **Primary Health Care Access Program (PHCAP)**

This was intended to increase funding to local health services in Aboriginal communities in areas identified as having the highest relative need.

- **NT Aboriginal Health Forum**

This is comprised of representatives of AMSANT, DHF and DoHA. Before the EHSDI, the NT AHF agreed on a set of core PHC services and to move towards community control of remote health services. The AHF developed Pathways to Community Control (NT AHF 2008) as a framework in support of this, developed system-wide NT AHKPIs for Aboriginal health and oversaw the implementation of an electronic patient information and recall system (PIRS).

4.2.2 Impact of the EHSDI on PHC services and infrastructure

This section addresses the EHSDI evaluation objective 1—impact and sustainability of the EHSDI on PHC service delivery and equitable distribution of resources.

The EHSDI saw a significant increase in the flow of funding into PHC in the NT. From 1 July 2008 to 30 June 2010 a total of \$37.717 million was paid directly to health service providers, with \$17.807 million spent in 2008–09 and \$29.910 million spent in 2009–10. This represents a significant addition to the existing annual NT PHC system funding of \$104.4 million⁸—an increase of 17.0 per cent in 2008–09 and 28.6 per cent in 2009–10.

Funding for service expansion was allocated to HSDAs on the basis of an EHSDI funding allocation model—this methodology was agreed on and endorsed by the NT AHF. This involved establishing a per capita EHSDI funding benchmark for each proposed HSDA which was determined by multiplying the national average MBS payment with an agreed remoteness factor, fluency in English language factor and NT cost of service delivery factor for each HSDA. The sum of these factors created the final benchmark. This formula was developed as a means of distributing the available EHSDI funding equitably amongst the HSDAs, rather than representing the total amount of funding required by each area.

The benchmark methodology was used by the NT AHF to prioritise regions for additional funding. The per capita figure was compared to existing levels of funding from all sources (including both Australian Government and NT Government recurrent funding) to determine final allocations. As a result of the application of the EHSDI funding methodology, the funding difference between HSDAs is now much smaller. Before the EHSDI, PHC funding for 2008–09 ranged from 36.3 per cent (Darwin Urban) to 108.1 per cent (Darwin Rural) of the regional EHSDI benchmark—a difference of 71.8 per cent. Including the EHSDI funding, PHC funding for 2008–09 ranged from 53.5 per cent (Darwin Urban) to 108.1 per cent (Darwin Rural) of the regional EHSDI benchmark—a difference of 54.6 per cent. In other words, regions that were furthest from their benchmark were making greatest gains towards it.

The use of a structured and transparent funding model ensures that decisions are based on a clear rationale. The current benchmark was developed as a means of distributing available funding and is not necessarily an accurate reflection of the costs required to deliver comprehensive PHC services to remote communities. The methodology will need further development before it can be used as a costing model for delivering services in remote areas.

Impact on PHC service delivery

The additional funding enabled the creation of 251 full-time equivalent (FTE) positions in the remote PHC workforce. This included 176.6 FTE positions in 2008–09 and a further 74.4 FTE positions in 2009–10. Of the positions funded in 2008–09 the largest number were for Area Service Manager/Trainer/Coordinator/Business Manager roles (50.0 FTEs). Of these, 45 FTEs were employed by DHF clinics and five were employed by ACCHOs. This initial investment in non-clinical staff by DHF may have been a response to the transition to new service models under the EHSDI. Regionalisation processes will result in previously independently

⁸ This includes funding from OATSIH, DoHA Regional Health Service funding, and NT Government funding.

run, community level ACCHOs moving towards a more consolidated model for each region. In contrast DHF services, which have previously been managed from Darwin or Alice Springs, are decentralising with regionally based managers (Area Service Managers).

Workforce investment in 2009–10 saw a greater focus on ‘front-line’ staff. Of the 251 FTE positions, 97.2 were AHWs or Aboriginal Community Workers (ACWs), 46.9 were doctors, nurses or mental health workers and 34 were regional level hubs and hearing health positions. Of the 2009–10 positions, 35.5 were management or administration focused.

In most case study communities we found that it was too early to measure tangible impacts as a result of the new positions. Larger health services did report a perceptible increase in staffing numbers allowing the provision of additional services such as health screening, immunisation or paediatric services. The EHSDI funding enabled the employment of additional core service staff and relieved previously understaffed services. Informants from smaller and more remote clinics reported only a slight increase in staffing numbers, such as a visiting medical professional coming for an extra half day per week. While many of the new positions have a focus on population health and preventive care, a number of health service staff spoke about the extra resources being diverted into acute care because of the continued need for resources in front-line clinical care.

Recruiting and retaining staff remains an ongoing challenge in the case study communities with a number of services stating that they were unable to fill the positions they had received funding for. Informants reported that AHW roles were particularly difficult to fill. The number of registered AHWs in the NT has declined from a peak of 431 in 1999 to 302 in 2008 (AHW Registration Board of the NT). This appears to be due to a lack of promotion of the AHW role and a lack of locally-based training and professional development opportunities. The current emphasis on regionally-based block training is a barrier for Aboriginal staff who expressed a preference for on the job, apprentice-style training.

Impact on remote health infrastructure

In the 2008–09 and 2009–10 financial years, a total of \$14.855 million of the EHSDI funding was spent on capital and infrastructure. Of this, \$13.141 million was spent in 2008–09 and \$1.714 million in 2009–10. This funding was used on projects such as constructing or refurbishing staff accommodation, maintaining clinics, information technology and purchasing vehicles.

The initial roll out of capital and infrastructure funding lacked a clear investment strategy and there was a lack of alignment with the release of funding for service expansion. While the majority of expanded service funding agreements (18 out of 30) were signed in December 2008, most capital and infrastructure funding agreements were not signed until June 2009. This, combined with the pressure to spend funds quickly under the initial two-year EHSDI time frame, led to inefficient spending in many cases. For instance, several informants stated that they were allocated funding for additional staff members but did not have accommodation to house them. This resulted in the construction of temporary buildings—a short-term fix rather than a sustainable solution.

4.2.3 The EHSDI reforms—leadership and governance

Governance of the EHSDI was initially managed through the Chief Executive Officers’ Group (CEOs’ group), which comprised top-tier managers of the three NT AHF partners—DoHA, DHF and AMSANT. This group provided high-level strategic direction for the increased health services funding in the NT as part of the NTER. In September 2008 responsibility for the strategic governance of the EHSDI was delegated from the CEOs’ group to the NT AHF. This was in marked contrast to the decision making in the CHCI, which was retained in Canberra, and indicates a degree of recognition of the capacity and trust in the NT remote health sector which was not apparent in the lead up to the CHCI itself.

The partnership between the Australian Government, the NT Government and the Aboriginal community controlled health sector under the NT AHF is a significant achievement in inter-agency collaboration. These existing governance arrangements have strengthened the sector’s ability to respond to the developments which occurred under the EHSDI. The extensive development of both structures and relationships prior to the EHSDI meant that the sudden increase in resourcing could largely be managed within existing frameworks. Existing NT AHF structures were used to oversee the implementation of the major EHSDI components, enabling the \$88.572 million of EHSDI funding to be managed into the system relatively effectively.

The PHRG, a group of senior policy and clinical officials from the NT AHF partners, was formed to oversee the implementation of the EHSDI. This included the expectation that the PHRG would address any strategic issues associated with the EHSDI, including guiding PHC reform activities, overseeing the regional reform process and developing policy frameworks to guide the EHSDI implementation (*EHSDI Governance Arrangements*, paper for NT AHF meeting no. 41, September 2008). The NT AHF governance group has chosen not to establish a joint policy capacity. The existing policy capacity in the PHRG member organisations is either insufficient to address implementation policy requirements related to the reform process, or not enough capacity is being directed at supporting the reforms. This issue will need to be addressed if the current reform process is to be sustained.

It is critical that there is a continuing partnership between governments and the Aboriginal community controlled health sector, and between federal and territory agencies. Several issues need to be considered to ensure that governance continues to be effective. The NT AHF needs to focus on governance and oversight, rather than the practical, operational implementation of the reforms. The NT AHF should consider options for a higher level of independent consumer representation (that is, consumer voices not aligned to any of the partners) within sector-wide governance arrangements.

AMSANT is a peak body and ACCHOs, while they represent the community, are too close to service delivery and funding to be the only consumer voice. Existing mechanisms for consumers' voices, such as the Health Complaints Commission, could be strengthened to act as a vehicle for communicating consumers' experience of health services. The NT AHF could formally consider reports from these organisations as a means of consumer input into its decisions.

Future considerations for the EHSDI

The future of the EHSDI will be strongly influenced by the 2010 Australian Government decision to broaden the scope of PHC approaches.

Our evaluation findings, especially for the CHCI, suggest that there is a bottleneck between primary and secondary care and other referred services in the NT remote health system. There needs to be an effective link between primary and referred services for the health system as a whole to be effective. This requires a people-centred approach to healthcare which moves away from the focus on layers (PHC and secondary health care) and their respective institutions (health centres and hospitals) towards PHC as a comprehensive and continuous set of services that people are guided through. There would also need to be a wider range of services included as part of PHC such as mental health, alcohol and drug, aged care and disability services.

Broadening the scope of PHC will mean considering the extent to which the PHC system influences wider determinants of health such as poverty and other social determinants of health. Providing strong and interlinked health, housing and social services has been shown to strengthen the overall impact of each separate initiative.

The existing leadership and governance arrangements, if supported by an enhanced policy capacity, are well-positioned to engage with these wider systems issues as part of the ongoing program of reform.

4.2.4 Regionalisation and Aboriginal community control

This section addresses the EHSDI evaluation objective 2—the extent to which Aboriginal and Torres Strait Islander people were engaged and empowered to contribute to health service planning.

The regionalisation of PHC services has been a vision of the NT AHF for some time. Regionalisation processes are expected to support improved health service delivery, greater efficiency and a united Aboriginal PHC sector. The NT discussion about regionalisation also includes a commitment to greater community control. The Pathways to Community Control document describes a framework that supports Aboriginal communities' control in planning, developing and managing primary health care. The framework shows how community control might be realistically achieved taking into account a community's capabilities, supporting its aspirations and still meeting the objective of achieving an efficient, effective and equitable health system.

The EHSDI funding provided the opportunity for the NT AHF partners to start planning for, and taking action to achieve increased community control and regionalisation. The NT AHF initially estimated that there would need to be 14–17 HSDAs based on population catchment areas (ideally between 3,000–6,000 people), cultural identity and language groups, communities' current and past affiliations and existing DHF regions and DoHA planning region boundaries. The number of HSDAs and their boundaries were to be decided after wide community consultation, with no forced amalgamations of health services.

EHSDI funding totalling \$826,633 in 2008–09 and \$1.437 million in 2009–10 was provided to AMSANT to establish and run the Reform and Development Unit (RaDU). Major regionalisation activities under the EHSDI to be supported by RaDU include:

- negotiating HSDA boundaries
- building leadership and governance capacity and conducting training
- negotiating HSDA governance and leadership arrangements
- identifying the strengths, preferences, values and objectives of HSDA residents in consultation with community members
- supporting the development of health plans
- undertaking risk management analysis (AMSANT 2009a).

Regionalisation is a complex process. It will involve moving towards a centralised regional governance structure for many community-level ACCHOs, while DHF services will move from a centralised management structure to a regional model. The process will also see DHF services move from NT Government control to Aboriginal community control and will involve merging existing community controlled organisations and establishing new ones. Past experience with the successful development of Katherine West Health Board and Sunrise Health Service suggests that negotiating these processes can take a long time.

In early 2011 three proposed HSDAs appeared to be progressing towards increased community control and achieving a regionalised model of PHC service delivery. In East Arnhem there are proposals to establish a regionalisation unit that will be auspiced by an existing ACCHO. In West Arnhem a regionalisation unit has operated for around 18 months and an interim health board is expected to be fully incorporated by 1 July 2011. In Barkly the NT AHF has formally agreed that an existing ACCHO will be the regional service provider and it plans to become the fund holder for this HSDA from 1 July 2011 and the sole service provider in the region by 1 July 2013.

The Regionalisation of Aboriginal Primary Health Care Guidelines (DoHA 2010) describe consultation and engagement at the community level and determining readiness for regionalisation as the first step in the regionalisation process. From August 2008 to September 2010, 90 public meetings were held in most of the proposed HSDAs, which were attended by representatives of the NT AHF partners. Getting community members to engage has been challenging and the turnout at meetings has generally been low. Few community members or leaders interviewed at the case study sites could recall attending such meetings, or if they did remember the event, they could not remember what was discussed. A consistent message from community members and a number of service providers was that the administrative processes of regional steering committee (RSC) meetings were inadequate—minutes of meetings were not sent to attendees and there was a general lack of communication to participants and the community on the outcomes of these meetings.

In the case study communities, as at April 2010, one health service which was already managed by a regional ACCHO had established processes to facilitate input from community members on health service planning and other activities. The other four communities, which were at the early stages of the regionalisation process, had not been as successful in engaging community members in health service planning. Several informants mentioned that community members seemed pre-occupied with issues that more directly affect their everyday lives, such as housing, and have little interest or ambition to have input into health services. Several community members said that their main concern was being able to access a community health service when they or a family member are unwell, regardless of who was running the service.

RaDU has not yet been required to provide formal governance and other training and capacity building activities for RSCs. The RSCs in two HSDAs (West Arnhem and Barkly) will soon require this training and capacity building to be able to meet the standards set out in the draft *Regionalisation Competency and Capability Support Framework* (DHF 2010). It is currently unclear what processes and resources RaDU will draw on to deliver this training, but experience from existing models (such as Sunrise Health Service) could inform approaches to supporting communities in their governance role.

The evaluation found a lack of clarity among the partners about the role of RaDU and whether it had the capacity to fulfil its roles. In early 2009 AMSANT began developing the Regionalisation Toolbox (AMSANT 2009a) which describes the progression towards achieving regionalisation as levels or stages; however work on this document has now stopped. There appears to be disagreement about the lack of progress on the template. DoHA and DHF feel that the document lacked sufficient detail to efficiently direct the process of increasing community control and regionalisation. They believed that AMSANT/RaDU would develop more detailed documentation to accompany the template and were disappointed when this did not occur. AMSANT stated that work stopped when they realised it would be necessary to identify approval processes for Aboriginal health boards seeking control of PHC delivery in an HSDA. This would offer formal assurance of the competence and capability of the board to gain the endorsement of Australian Government and NT Government ministers. AMSANT did not feel in the best position to identify the specific government requirements that an aspiring regional health provider would need to comply with to be accepted as competent and capable.

DoHA responded to the need for system-wide consultation, negotiation and approval processes by seconding two senior staff to a project to prepare appropriate documentation. The resulting guidelines, developed with the assistance of partner-based workshops, laid down the steps for achieving regionalisation, based on the process outlined in *Pathways to Community Control*. These guidelines did not include a competency and capability framework for RSCs. The NT AHF partners agreed in late 2008 that DHF would lead the development of this. At the time of writing, a draft Competence and Capability Framework has been completed but is yet to be endorsed by the NT AHF.

The delay in developing full documentation on the regionalisation process appears to have contributed to a lack of clarity among the partners about the aims of regionalisation and how to achieve these. Some informants expressed concern that the broader principles in *Pathways to Community Control* were becoming lost in the push for establishing regional ACCHOs. This concern was reflected in little or no engagement with community members.

AMSANT/RaDU has also raised concerns about the challenge that resourcing the process presents to their organisation. They saw RaDU's role as being focused on the governance aspects of regionalisation, but feel this has since broadened to include regional health planning, for which they have limited capacity. RaDU had advocated for a development process that would be supported by a local evaluator in each region to 'hold a mirror up to the process' and enable wider learning across regions and the system (as was undertaken in Katherine West as part of the CCTs). This proposal was rejected by the NT AHF.

While the written policy directions are now relatively clear, it became obvious to the evaluation team that among the NT AHF partners there was still ambivalence about transforming the NT PHC system and establishing regional ACCHOs. Communication between NT AHF partners about increasing community control and regionalisation has been inconsistent, and there appear to be varying degrees of acceptance of the concept. There seems to be a lack of agreement among the partners about regionalisation aims and this was indirectly reflected in what we observed on the ground. RaDU's role in leading the process will remain problematic while mixed messages from the leading organisations persist.

It appears that many of the issues that have arisen during regionalisation processes are due to the regionalisation component of the EHSDI being under-scoped and under-resourced. The roles of the partners have often been unclear and they are not currently 'speaking with one voice'. There needs to be further discussion between the partners to confirm agreement on the aims, purposes and goals of regionalisation. Once this happens, the partners need to clearly identify the tasks involved in regionalisation, how these will be met and resourced and who is most appropriate to undertake these. Regionalisation needs to be broken down into its component parts and strategies developed to address each of these. This includes:

- merging ACCHOs and building community capacity to contribute to the planning, management and governance of health services
- decentralising and moving to community control of DHF clinics
- expanding and supporting the new regional structures
- repositioning the system's policy capacity to focus on implementation issues.

Planning should be informed by the principles contained in *Pathways to Community Control*, the *Regionalisation Guidelines*, and the *draft Regionalisation Competency and Capability Support Framework*. Much has been achieved and we would conclude that the reform is on the right track, but that the process needs to be reinvigorated, supported by united leadership, and appropriately resourced.

4.2.5 Impact of the RAHC on the NT remote health workforce

This section addresses the EHSDI evaluation objective 3—the impact and sustainability of the RAHC on health workforce availability and sustainability in the NT.

The NT faces difficulties in recruiting health professionals. There is a high turnover of population and general workforce in the NT, particularly in smaller communities and more remote areas. The RAHC was established as part of the EHSDI to supply health professionals for short-term deployments to fill temporary vacancies in remote NT. In August 2008 Aspen Medical Pty Limited was contracted to establish and operate the program. Initially the RAHC recruited and deployed doctors, nurses, and allied health professionals. From July 2009 this was extended to include dentists, dental therapists and dental assistants.

There were 439 deployments by 227 individual health practitioners between 4 December 2008 and 31 May 2010. The average length of deployment was 3.8 weeks. These times include travel and training days—the actual length of time in the community is usually one or two days shorter. The longest deployment was a little over 17 weeks; the shortest one day. Of the 439 deployments, 261 (59 per cent) were nurses, 46 (10 per cent) doctors, 50 (11 per cent) allied health workers and 82 (19 per cent) dental practitioners. When dental practitioners were included in the second year (from 1 July 2009 to 31 May 2010) they made up 22 per cent of deployments. Up to 31 May 2010, 48 per cent of all deployments were undertaken by practitioners who had undertaken at least one previous RAHC deployment.

The RAHC was used by almost 75 per cent of services, though less so by DHF and smaller centres. ACCHO clinics have used considerably more RAHC practitioners than DHF clinics. On average, ACCHO clinics that used the RAHC had 9.8 placements to May 2010, compared to 4.2 for DHF clinics. The average length of deployment also differed—an average of 40.2 weeks of deployment for each of the ACCHO clinics compared to 14.4 for DHF clinics.

In interviews, ACCHO and DHF managers differed when commenting on the suitability of staff that the RAHC recommended. ACCHO managers generally thought that the RAHC was able to recommend suitable practitioners to fill vacancies and that, with only rare exceptions, the program had improved over time and the practitioners generally worked out well. All the DHF managers interviewed, on the other hand, thought that most RAHC recommended nurses and doctors did not have suitable experience and qualifications. For example, small and isolated clinics required nurses to have a high degree of clinical responsibility (for situations such as a major road injury or a complicated pregnancy), as well as being able to manage a range of PHC services such as immunisations and preventive care. Managers of such clinics (which are the rule in DHF services in the Central Australia region) were only prepared to accept nurses who had significant previous experience in remote Aboriginal communities. Several commented that the RAHC thought that a couple of weeks' experience as part of a team during the CHCI counted as significant experience, whereas this was inadequate preparation for the broad role of a remote clinic nurse.

The Australian Government appears to be paying the RAHC the same as it would pay another agency for similar services—around \$14 for each hour of deployment. With a growing number of repeat deployments and a growing corps of experienced practitioners, the cost per deployment for the RAHC may be expected to decrease.

Both DHF and ACCHO managers reported that the RAHC had made very little impact on overall workforce pressures in the NT. This is not surprising since the RAHC was only ever intended to supply short-term staff. Recruiting and retaining a permanent workforce is still the major concern for the NT particularly in its remote communities. The main workforce issues identified included the:

- continued high level of reliance on agency nurses
- need to resolve issues with AHW recruitment, training and support
- need to overcome literacy barriers for AHWs and ACWs
- lack of male AHWs and nurses
- lack of accommodation being a barrier to recruiting permanent staff
- competition to employ suitable local staff (for example from shire councils and schools).

There is a lack of coordination between the RAHC and other workforce planning and development initiatives. The future of the RAHC needs to be considered within the context of wider workforce issues in the NT.

4.2.6 Collection and use of information

This section addresses part of the EHSDI evaluation objective 5—consideration of the NT AHKPIs project. It also addresses the EHSDI evaluation objective 6.3—impact of the regional reform process on information systems and planning capacity.

The EHSDI reform agenda includes a focus on improving information systems to support health service delivery. Data availability at the system level is critical for monitoring health system performance. Good quality information is needed on the state of NT Aboriginal population health and the functioning of PHC services.

Good quality data and information can be used to promote the efficient and effective operation of the NT remote health system. The collection, analysis and sharing of data across the sector can support goal setting and strategy development. The data can be used to inform policy, to direct resources, and to assist in planning new or targeted initiatives. The collection of system-wide information can also be used to examine the impact of initiatives on health outcomes.

Continuous quality improvement

CQI is considered a key component of PHC system reform and service improvement under the EHSDI. A total of \$3.001 million of EHSDI funding has been spent on CQI to date. An EHSDI CQI strategy was endorsed by the NT AHF in March 2009, with the core aim of building on existing quality improvement activities to support long-term, coordinated and sustainable service improvement across the NT remote PHC sector. The strategy has five major components (AMSANT 2009b):

- recruitment of two CQI Coordinators (Top End and Central) to be based at AMSANT to provide expert leadership in developing the sector-wide CQI model, and training and supporting CQI positions in the HSDAs
- recruitment of a CQI Facilitator for each HSDA to assist health services with implementing CQI, and supporting and mentoring practitioners in the use of CQI
- development of a CQI model which will provide consistency and sustainability in the NT with the flexibility to allow for local circumstances
- establishment of a CQI program planning committee to provide advice, develop the NT CQI model and monitor implementation
- evaluation of the CQI program to inform future development and CQI investment.

To date, there has been some progress towards implementing CQI activities as part of the EHSDI. The two lead CQI Coordinator positions have been filled, and a CQI planning committee has been set up and meeting regularly since mid-2009. A CQI model for NT Aboriginal PHC was developed by the committee and endorsed by the NT AHF. The recruitment of CQI Facilitators in each HSDA had been slow with most positions not yet filled at the time of the evaluation case studies. This was due to the slower than expected distribution of funding, and negotiations regarding the role of the Facilitators within HSDAs with multiple providers or where existing positions included some CQI responsibilities. These issues have largely been resolved and, as at February 2011, 10 of the positions had been successfully filled and three were vacant (*CQI briefing paper to PHRG, February 2011*).

The majority of informants we spoke to (over February–April 2010), including both health service staff and health centre managers, indicated that their knowledge of, and experience in, CQI was limited. The initial delay in recruiting CQI Facilitators meant that many health service staff received little information and assistance in implementing CQI activities. This has led to mixed feelings among informants, with some articulating cautious enthusiasm, while others felt anxious about their ability to put CQI systems into practice. There needs to be further investment in training at both a regional and local level, and for health service boards, managers and staff. This would be complemented by developing a resource (such as a manual or website) outlining the features of the various available CQI systems, costs, guidance on appropriate settings for using the tool and ways of celebrating and publicising CQI success stories and a peer-support system.

NT Aboriginal Health Key Performance Indicators

The NT AHKPIs were developed in response to an identified need for a common set of indicators to establish a baseline for measuring Aboriginal health outcomes. While they were developed before the EHSDI, the NT AHKPIs are seen as a critical system-wide tool for supporting CQI activities under the EHSDI. The indicators are meant for use at all community-based health services in the NT including both DHF and ACCHO services. The goal of the system is to improve PHC services by providing data on aspects of health service functioning and on measures of population health. The information gained through the indicators aims to present a NT-wide view of processes and activities in Aboriginal PHC, and to highlight trends at both a regional and NT-wide level to inform Aboriginal health planning and policy development.

In 2003 the NT AHF agreed on 44 NT AHKPIs of which 19 have been developed. The 19 KPIs include 12 quantitative indicators of health services and seven qualitative indicators. These qualitative indicators cover management and support services (four indicators), linkages, policy and advocacy (one indicator) and community involvement (two indicators). Data has been systematically collected against the 12 quantitative KPIs, but the seven qualitative KPIs have yet to be finalised. Health service activities and outputs are tracked at regular intervals, with reports for each community and proposed HSDA produced twice each year.

At the time of writing, three NT AHKPI reporting cycles have been completed. All cycles achieved good coverage (over 95 per cent), but there are some problems with data integrity and technical issues. These include: incomplete data collection at health centres without electronic data collection systems; under-reporting of some data; irregularities in interpreting indicators; and incomplete data for some sites due to data entry backlog. In December 2009 a system review and assessment structure was formed to ensure that the biannual reports will continuously improve in quality, and develop in content and scope. Subsequent reporting cycles are therefore likely to be more useful and accurate.

Interviews with government officials suggested that they generally view the NT AHKPIs positively as a tool with the potential to inform Aboriginal health planning and decision making. For example, the NT AHKPIs could be used to establish a benchmark from which to measure progress towards health system goals and an evidence base on which to build policy decisions.

Evaluation participants raised several suggestions regarding how the NT AHKPI data could be more effectively disseminated. Informants stated that there had been a lot of negative media coverage of Aboriginal health and that getting news of achievements out remained a challenge. Gains revealed through the NT AHKPI data could be used to highlight successes at a local level to increase community pride, and at a national level to encourage further investment in Aboriginal health.

Informants also emphasised the need for greater communication with the Australian Government concerning health issues in remote NT communities. It was felt the Australian Government considered quantitative data most useful. Once issues with data quality are resolved NT AHKPI data has the potential to provide clear and concise evidence to highlight health needs in Aboriginal communities.

The NT AHKPIs monitor activities and quantifiable outputs, such as the number and proportion of underweight children, but do not provide data on the impacts or health outcomes of such activities. They offer a tangible means of reporting on health service outputs via numbers and trends, but cannot provide sufficient data to evaluate the performance of health services and the impact on Aboriginal health.

The NT AHKPIs are currently in the development and implementation phase, and the emphasis has been on ensuring systems and processes are in place and functioning effectively. The seven qualitative indicators are still in development and data has not been systematically collected against these. Such data (such as on unplanned staff turnover) would help to put the clinical data into context. As the system matures, consideration could be given to expanding the scope of the indicator set to include outcome and impact measures. These measures would need to be carefully chosen so that they are sensitive to change in PHC performance. Adding these to the existing process or 'quality of care' indicators would enable a more comprehensive picture of Aboriginal health in the NT and would enable the tracking of progress towards desired health outcomes.

4.3 Overarching evaluation objectives

This section addresses the overarching evaluation objectives of effectiveness, efficiency and appropriateness and includes a discussion on sustainability.

4.3.1 Effectiveness

The CHCI has delivered health services and treatment to Aboriginal people living in remote communities in the NT. Evidence suggests that those who received a health check were already accessing the health system through existing health screening programs available in the NT. This suggests that the CHCI was not an effective mechanism for reaching the unscreened population. Data on health improvements is currently limited and conflicting.

Inefficient processes are likely to have limited the effectiveness of the CHCI. More efficient processes for arranging and delivering hearing/ENT and dental follow-up services have the potential to contribute to the effectiveness of these services providing they are developed within the context of a comprehensive PHC approach. There remains a significant need for effective health service delivery to remote Aboriginal communities.

It is too early to assess whether the EHSDI has been effective in improving the health of remote Aboriginal and Torres Strait Islander people in the NT. The considerable increase in funding and the health workforce (FTE staff) suggest that, over time and with continued investment, the EHSDI has the potential to deliver health improvements.

4.3.2 Efficiency

The CHCI evaluation found evidence of inefficient processes including inadequately developed administrative processes (such as for referrals) and delays in delivering follow-up services. Assessing the cost-effectiveness of the CHCI is problematic in the absence of clear evidence of effectiveness other than the services delivered.

Table 6 shows the average costs of delivering the child health checks, hearing/ENT and dental follow-up services. Average total costs range from \$1,181 (dental) to \$1,842 (hearing/ENT) per service delivered.

Table 6: Average costs of CHCI services (30 June 2010)

	Service delivery costs to 30 June 2010 (million)	Total costs ^(a) to 30 June 2010 (million)	Number of children (CHC) or services (hearing/ENT and dental)	Average cost (service delivery only)	Average cost (total)
CHC	\$12.543	\$17.935	10,605	\$1,183	\$1,691
Hearing/ENT	\$9.935	\$15.595	8,467	\$1,173	\$1,842
Dental ^(b)	\$6.881	\$11.067	9,374	\$734	\$1,181

^(a) Includes capital and infrastructure, administration, training, data collection and other costs (but not travel and accommodation). Excludes DoHA and DHF planning and administrative costs, and ADF support costs.

^(b) Excludes costs of RAHC in managing dental follow-up services under the Child Oral Health Program.

Source: DoHA (4 August 2010), NT related health measures—allocation and expenditure in greater detail 2007–08 to 2011–12; AIHW and DoHA (2009).

By way of comparison, the benefit paid for MBS Item No. 708 (health check for Aboriginal and Torres Strait Islander children) is around \$200. This check is comparable to the NTER child health check in scope but the costing does not include all capital, training and other costs. Research on the average cost of a face-to-face medical consultation produced an estimate of \$168 based on a 20-minute consultation and adjusted for the 2003–04 financial year (Zhao et al 2006). Assuming a comprehensive health check involved an hour's consultation, this would equate to \$504. This cost estimate is based on wages and staff, occupancy costs, office expenses, other practice costs, travel costs, working capital expenses and professional indemnity insurance. Unlike the child health check it does not include the costs associated with training, data collection systems, capital and infrastructure; however, it still compares favourably to the average child health check service of \$1,183 per child for delivery only.

There are fixed costs associated with setting up any new program and the total cost of a program per unit (in this case per child) can be expected to decline over time as the level of service use increases. The total costs for the CHCI were significant—an average of \$1,691 per child for the child health checks—and given the short time frame for the program (two years for the health check component) the level of service use is capped. There will therefore be no efficiency gains other than for those follow-up services which are still being delivered.

Efficiency is a core objective of the regionalisation element of the EHSDI, although it is likely to be some time before this benefit can be realised. The ability of regionalised services to achieve gains in efficiency does not, however, appear to have been thoroughly analysed by the EHSDI partner organisations.

The lack of timeliness in allocating EHSDI funding for service expansion and infrastructure contributed to some inefficiencies; however, we acknowledge that the system as a whole is unlikely to have the capacity to spend large increases in funding in short time frames. The efficiency of the EHSDI was enhanced by its ability to build on existing reform initiatives and lessons, and to use existing governance structures and partnerships. For health service providers the EHSDI represents one of many sources of finance and was often viewed as 'another grant on top of everything else'. Multiple funding sources and contracts can contribute to inefficiencies (such as from multiple reporting requirements and contractual negotiations) and distract providers from their core business of delivering services to the community.

The RAHC appears to offer similar efficiencies to existing service models for recruiting agency staff, although many DHF health managers would argue that staff recruited through the RAHC are not as effective as more experienced practitioners recruited through other means.

4.3.3 Appropriateness

The evaluation found that the CHCI was not an appropriate response to the health and wellbeing needs of remote Aboriginal communities in 2007. Clearly these needs were high—and continue to be—and the existing health service was not adequate in meeting these needs. The lack of participation from Aboriginal communities and the existing NT service providers and health professionals in the planning and delivery of the CHCI was not appropriate. The evaluation has found that there was insufficient focus on identifying and specifically targeting existing gaps in health service delivery. We also found that the biggest gap was at the primary care–referred services interface rather than access to PHC. There needs to be greater attention on improving a patient’s journey through the system.

There does not appear to be a single, clear explanation of whether the CHCI created a bottleneck at the primary care–referred services interface, or whether there was an existing bottleneck. Service providers already knew about the needs of the Aboriginal child population and a large proportion of this population was already accessing PHC services. We suggest that the explanation is probably a combination of the following points:

- before the CHCI, service providers knew about many of the children with the most serious needs and these children were accessing PHC and follow-up services; however, knowledge about the high needs of other Aboriginal children was at a population level, rather than knowledge of individual cases, so not all these children were accessing services
- before the CHCI many service providers were experienced in dealing with some follow-up needs themselves without having to refer to follow-up services
- before the CHCI, service providers may have considered referrals inappropriate because these services would not lead to a sustained benefit for an individual child if the child was going back to the same environmental conditions (such as overcrowded housing). Rather than taking a purely clinical perspective they were taking account of a broader population health perspective resulting in only the most serious cases being referred
- before the CHCI, service providers may have been discouraged from referring children because they were unlikely to be seen in time to benefit from the service, again resulting in only the most serious cases being referred
- some existing service providers and local health service staff may have become desensitised to the health needs of Aboriginal children and only referred the most serious cases
- the system was not coping with the existing number of referrals and so the bulge in referrals from the CHCI made the bottleneck to referred services more visible and severe
- it would appear likely that there were some over-referrals from the visiting child health check teams, probably due to several reasons. These may have included the inexperience of some doctors in remote Aboriginal child health and an inability of doctors to complete some follow-ups themselves because of the short time they were in the community. Together these may have led to doctors taking a precautionary approach to assessments and referrals.

We are unable to determine the extent to which these factors may explain referral patterns and have contributed to the bottleneck between primary care and referred services.

While the CHCI and its associated data collections made the gap in existing service delivery between primary care and secondary and some other referred services more visible, the same cannot be said for other potential service responses to address child health. For example, the CHCI and its data collections did not effectively ascertain the level of need for a wide range of other PHC services such as parenting support, health promotion, mental health services and alcohol and other drugs services.

Similarly the CHCI was not used effectively to ascertain the need for social services including family, community and housing services. The CHCI data shows that, out of 9,373 children, just 43 were referred to mental health services, 53 to family and housing services and 65 were referred to a social worker (AIHW and DoHA 2009). We assume this significantly under-estimates the need for these services. The CHCI model was,

therefore, inappropriate for ascertaining the need for these broader services. The content of the health check was certainly comprehensive. It was, however, often delivered by visiting doctors and nurses who were not familiar with the child, their carer, or their community. This contributed to a clinically and medically-focused screening program despite the efforts that many visiting teams and resident health staff made to work together to encourage a more holistic approach to the checks.

The EHSDI's focus on core PHC services and building relationships with Aboriginal communities appears to be an appropriate approach. The components of the EHSDI are part of a long-term and ongoing reform process which builds on previous initiatives within the NT health system. This has facilitated the development of a context-specific approach to PHC reform, informed by past learnings and premised on engagement with local processes. The decision to decentralise the planning and governance of the EHSDI to the NT is in keeping with the aim of building a remote PHC system appropriate to the NT context.

Regionalisation, with its focus on Aboriginal community control and participation, has a sound rationale and is an appropriate way to plan and deliver health services in these parts of Australia. As discussed earlier, the partner agencies need to speak with a consistent voice about the aims of regionalisation. They need to work on all the components of regionalisation so they can fully implement the policy and change management process.

4.3.4 Sustainability

For many of the agencies and people involved in planning and implementing the CHCI and the EHSDI, sustainability has been a central consideration from the start of the NTER. Many have looked at how to build on the CHCI to achieve increased funding for the NT PHC system. The NT PHC system has demonstrated resilience—a key characteristic of a sustainable system—in responding to the 'shock' of the NTER.

The key issues affecting the sustainability of services and outcomes for the CHCI are:

- the need for ongoing resourcing (both funding and staffing) of the models of follow-up service delivery that have evolved from the program in order to complete all outstanding referrals as well as providing for new referrals
- the need to address the poor social conditions that limit longer-term impacts.

Future funding for delivery of follow-up ENT/hearing services needs to recognise the complex and recurrent nature of ear disease in Aboriginal children. These children often require multiple referrals and interventions over the long term requiring long-term funding. Future sustainability of these new service delivery models will also be enhanced by integrating care with PHC and health promotion.

At the system planning and policy level, there is a need to sustain the benefits of the CHCI by increasing understanding of the health needs of the population and the ability of services to meet these needs. The further development and implementation of the NT AHKPIs, in addition to data collection and reporting on individual programs such as the GAA/Healthy Under 5 Kids, needs to incorporate appropriate measures to ensure this increased awareness is not lost.

The evaluation identified a number of areas of focus to enhance the sustainability of reforms through the EHSDI. There needs to be a continued focus on building strong relationships and partnerships within and between agencies to enhance the sustainability and continued development of the remote PHC sector. This includes between the three partner agencies of DoHA, DHF and AMSANT, service providers, health consumers and communities.

There is also a need for a long-term funding solution. The lack of long-term funding for the EHSDI is a concern as the gains made through the reform process cannot be sustained without continued financial investment. As well as financial resources, additional policy capacity will need to be directed towards implementing the reforms to sustain the pace of change.

Other aspects of sustainability that should be considered for the EHSDI include the need to engage more directly with other sectors to address social determinants of health. Any improvements to providing remote health services under the EHSDI will have limited long-term impact if there is no explicit engagement with these wider determinants of health, particularly housing.

There is a need to manage risks by planning for failures (such as service providers collapsing) to ensure the system does not fail as a result, and to ensure that the system adapts and learns from both successes and failures.

4.4 Longer-term monitoring and evaluation approach

We have developed theoretical program models for child wellness checks and the PHC system reform to inform major issues and questions for future monitoring and evaluation and the ongoing implementation of the reforms. While the models have limitations (such as the risk of over-simplifying and de-contextualising the programs), they are a useful way of illustrating relationships between different parts of the health system and focusing on the key issues underpinning these relationships.

4.4.1 Child wellness checks

In constructing a theoretical model and identifying issues and questions for future monitoring and evaluation of child wellness checks, we have assumed a programmatic response. There are other ways of delivering child wellness services and the majority of PHC is likely to be provided outside formal screening programs, such as when a child presents at a clinic with an illness. Children's journeys through the system should be the same and access to services and outcomes need to be monitored for children who receive services through a wellness check program and children who receive services outside the program. The child wellness check model, therefore, sits within this broader context of child wellness services and the health system.

The theoretical model for future child wellness checks is shown in Figure 1. The child wellness check, as the principal activity, is at the centre of the model and involves a cyclic process of checking, treatment, referral and follow-up treatment. In this model the wellness check includes the whole treatment pathway and not just the screening element. Importantly, there is an element of prevention and early detection in child wellness checks (that is, identifying conditions before they are symptomatic and preventing illnesses from happening) and not all children will require treatment and referral. The model then sets out the main elements of the development process (inputs) and the hierarchy of anticipated outputs and outcomes, from both a health service perspective (left side of model) and population health perspective (right side).

There is a focus in the model on the development process for wellness checks, reflecting a number of the central themes from the CHCI evaluation. This is depicted by the two central (and closely related) ideas (and their component parts) shown within the central and corresponding outer circles on either side of the model. The collection and analysis of information should address the following:

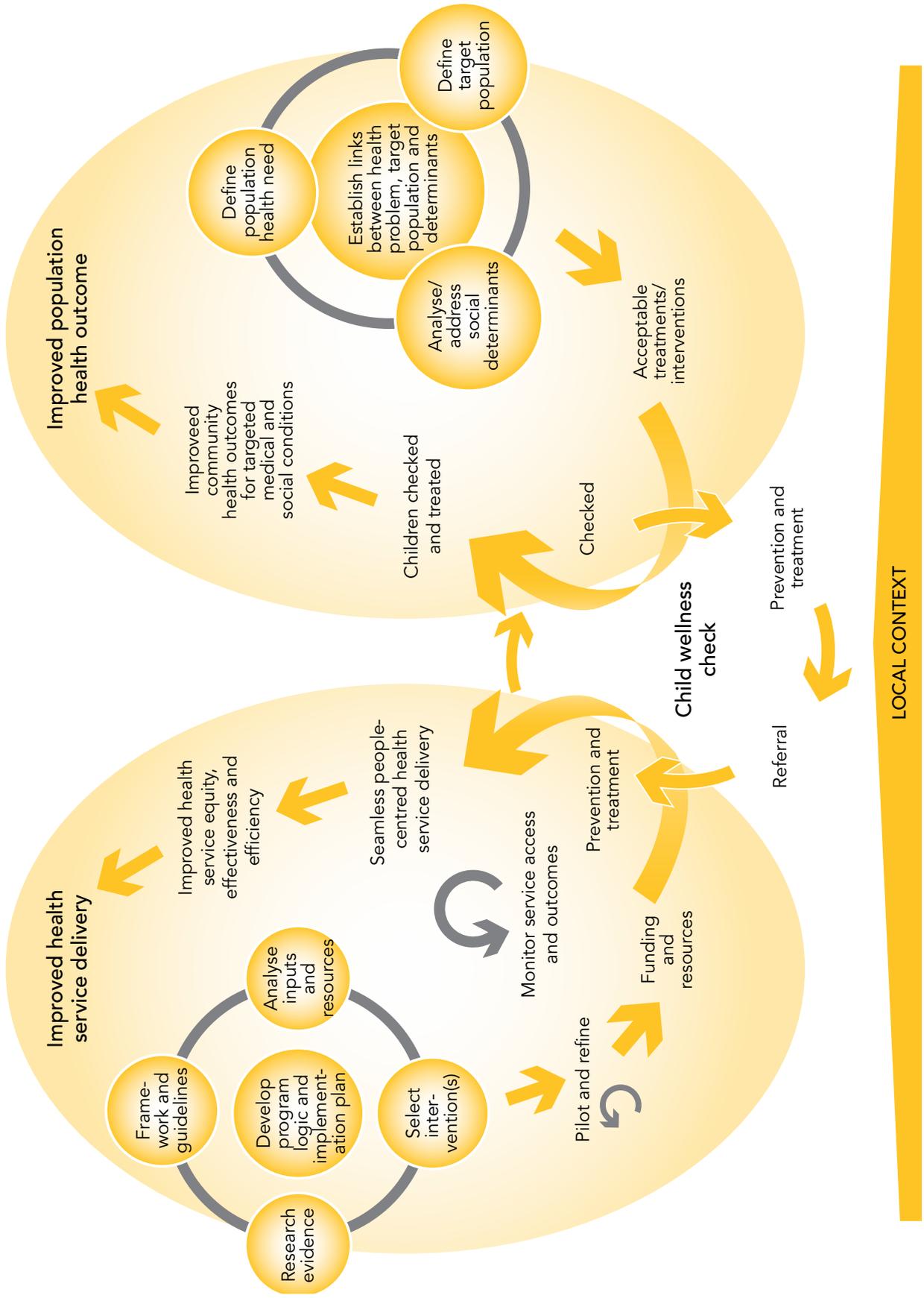
- the nature of the health problem
- the population group that needs to be targeted for the health problem
- the determinants of health associated with the health problem and the target population and which need to be addressed
- the nature of any inequalities that exist in the target population and the types of intervention that will reduce these inequalities
- the types of intervention regarded as effective in addressing the health issue and which of these are acceptable to the target population
- how considerations of cost, cost-effectiveness, workforce, infrastructure and the operating environment will affect any interventions that might be selected
- the sustainability of any interventions that might be selected.

Many of the monitoring and evaluation questions we have identified for child wellness checks test some of the assumptions that need to be addressed at this developmental stage and which have been identified by others (such as Wilson and Jungner 1968). Table 7 lists these assumptions and questions.

Table 7: Monitoring and evaluation questions for child wellness checks

Assumptions	Key monitoring and evaluation questions
The wellness check focuses on condition(s) which are important for the target population (i.e. the population health need is defined)	<ul style="list-style-type: none"> • Are the conditions that are checked for related to the gap in health status experienced by the target population? • What outcomes were planned and were these achieved? • Were the services planned as a result of the check coordinated with services aimed at addressing health determinants? • How does the check complement and add value to existing health services, including existing wellness checks for children and other population groups?
The target population is defined	<ul style="list-style-type: none"> • Does the check reduce any inequalities that exist in the target population? • How do the outcomes for the checked population compare with outcomes for the non-checked population? • What are the barriers to accessing the check?
There is a suitable test specific to the condition(s)	<ul style="list-style-type: none"> • Are the health professionals undertaking the tests experienced in the specific tests and in Indigenous child health? • What in the design of the check adds value to existing services and interventions (e.g. does it add more specialist skills)?
There is an acceptable treatment/intervention for the condition(s)	<ul style="list-style-type: none"> • Are guidelines for the condition(s) relevant to the target population? • How has the check supported the patient journey through health services? • How have/are local communities and service providers involved in planning and implementing the check? • How satisfied are local communities with the check?
Early treatment is better than later	<ul style="list-style-type: none"> • Are guidelines specific for each individual condition? • Are guidelines relevant to the target population?
Facilities for diagnosis and treatment are available	<ul style="list-style-type: none"> • Are referral and recall processes clear, understood and used consistently? • Are the referral and follow-up processes efficient and is the length of time between referral and follow-up acceptable for the condition(s)? • Have system interfaces and the coordination of care across the health care continuum (e.g. between primary care and secondary/specialist/allied follow-up) improved over time? • Are there any barriers in the patient journey through the system? • Are follow-up services sustainable?
The resources are economically balanced in relation to possible expenditure on medical care as a whole	<ul style="list-style-type: none"> • Is the check cost-effective? • Is the resourcing sustainable? • What alternative approaches might deliver the same result?
Data is collected and used to improve service delivery	<ul style="list-style-type: none"> • How does data collected in the wellness check combine with other patient information to support health care management? • How is data collection and analysis shared across the sector and with other sectors to improve service delivery? • How do health service use and outcomes compare between the checked and non-checked populations?
The wellness check is part of a continuous process and not a one-off project	<ul style="list-style-type: none"> • Is the availability of the check and treatment services suitable for the condition(s) being checked? • Is the approach sustainable?

Figure 1: Model of program theory for a child wellness check



4.4.2 NT PHC system reform

The theoretical model for the NT PHC system reform is shown in Figure 2. The model reads from bottom to top, beginning with identifying assumptions and context, and then the system level 'enablers', which are the inputs and resources required for each of the health systems building blocks. The next level requires appropriateness, effectiveness and efficiency in planning, managing and delivering services.

Shifting to the service level, the model details the types of outcomes that might be expected in the short term (1–3 years). The next level considers the changes that might be expected in community development and capability over the medium term (3–5 years). Beyond this the model moves to longer term (5–10 years) outcomes for community members or individuals, with the Council of Australian Governments (COAG) outcomes for Aboriginal and Torres Strait Islander health as the ultimate outcome.

Down the right-hand side of the model are four deeper, cross-cutting themes that apply across all levels of the system:

1. partnership, capacity and communication
2. improved partnerships/relationships with Aboriginal communities
3. improved coordination of services
4. sustainability of inputs, activities and outcomes.

We have developed questions for future monitoring and evaluation of each of the building blocks considered in this evaluation. These questions and associated information sources are detailed in the full evaluation report. The following summary outlines the key issues for monitoring and evaluation:

Service delivery

- service availability and use against the core PHC service framework
- equity in access to core PHC services
- coordination of health care across the health system (for example between primary and specialist services) and of health care with other social services such as child protection, corrections, housing and special education.

Leadership and governance

- the effect of regionalisation models on: health service utilisation and acceptability/satisfaction; the engagement of Aboriginal communities in health service governance, planning and delivery; and efficiency
- the capacity for systems-wide approaches to health strategy, policy and data collection, analysis and use
- the effectiveness of partnerships and engagement with other sectors and departments.

Workforce

- progress against any agreed workforce strategies
- the impact of additional positions created under the EHSDI on the scope of PHC services and service utilisation
- the effectiveness of systems and processes for recruiting, training and supporting AHWs and for supporting Aboriginal employment and career pathways within the PHC system more generally.

Financing

- progress against any agreed funding targets, funding equity between regions and the ability of the system to spend resources effectively.

Information

- the effectiveness of CQI activities and of the collection and use of information and data to support health service planning and delivery at a local level.

Long-term health and wellbeing outcomes

- To what extent has the gap in life expectancy between NT Aboriginal and non-Aboriginal people been reduced?
- To what extent has the gap in mortality rates for NT Aboriginal and non-Aboriginal children under five years of age been reduced?
- To what extent have health and wellbeing improved, for whom, how and why, and what else happened?
- To what extent have social determinants improved, for whom, how and why, and what else happened?

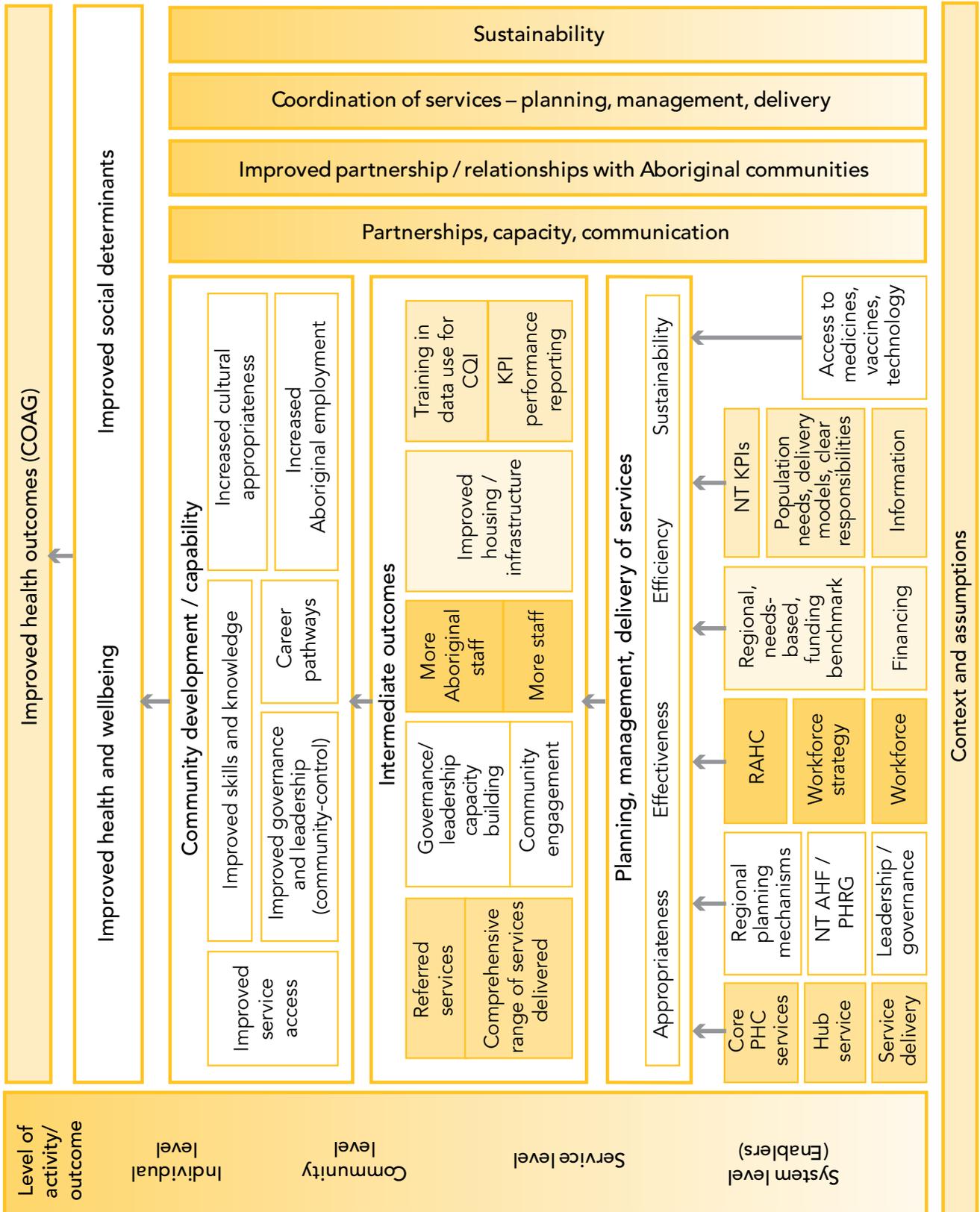
4.4.3 Further evaluation considerations

Evaluation, like other aspects of service delivery, can become something that is 'done to' communities rather than a tool in which they are actively engaged and empowered. Future evaluation approaches need to see the regionalised community controlled organisations as a main reference point and as active participants in the evaluation process. A formative approach, and one in which the participants are active players in all aspects of the process, is recommended.

The need for the Australian Government to determine whether it is getting value for money from its investment in NT remote PHC services has been a major driver of this evaluation. Future evaluation must not only meet these needs, but give a more predominant role to the questions coming from remote communities.

Our conclusion from this evaluation of the CHCI and the EHSDI is that formative evaluation approaches, which are longer-term and more interactive with the participants, are likely to be most valuable.

Figure 2: Model of program theory for NT PHC system reform



5 RECOMMENDATIONS

The health needs of Aboriginal people living in remote NT communities remain critically high, as does the need for significant improvement in the ability of health services to meet these needs. The evaluation of the CHCI and the EHSDI has identified 17 recommendations which will support the development of a PHC system that can meet the needs of remote Aboriginal communities.

Recommendation 1—Before developing and implementing child health screening programs or other initiatives to improve child health, the responsible agency must develop a program logic and implementation plan to establish links between the health problem, the target population, the health system and social determinants of health.

The analysis should include identification of the strengths and weaknesses (including bottlenecks) within the current system and its interfaces (such as between primary and secondary care), to ensure effective and timely follow-up of referrals and to avoid duplicating services or exacerbating existing gaps. Planning should include a thorough analysis of the costs and benefits of new programs, initiatives and processes, measured against the costs and benefits of continuing or enhancing existing systems (including systems for providing routine care outside formal programs). An analysis of the acceptability of the program to local populations should also be undertaken. Actions to positively influence the social determinants that give rise to health conditions should be an integral part of any program.

Recommendation 2—Child health screening programs should monitor and report on service use and outcomes of both the population that accesses the program and the eligible population that does not access it.

This information will allow ongoing assessment of the needs of all children in the eligible population and enable assessment of the effectiveness of program implementation and the capacity of the system to respond to these needs.

Recommendation 3—Ensure that the elements of improved referred service provision gained through the CHCI can be sustained with adequate funding and a sufficient workforce.

Rather than relying on short-term special program funding, the Australian Government and the NT Government need to agree on core, long-term funding for providing these services (especially for paediatrics, hearing and dental health). This funding needs to be coordinated to enable provision over the full care pathway from primary care to secondary and other referred services and specialist care. In the short term, there is a need to develop and implement transition plans for each type of CHCI follow-up service for which there are any outstanding referrals that still require follow-up at the end of the current funding arrangements. This may require reviewing all the outstanding referrals with PHC providers to ensure that transition plans apply only to children who still have a clinical need for follow-up services.

Recommendation 4—Develop a national policy and accompanying guidelines on child health screening specific to remote Aboriginal communities, in consultation with these communities and drawing on the experience of the NT health sector in delivering relevant programs (such as the CHCI, GAA/Healthy Under 5 Kids and HSAK) before implementing any new child health screening programs.

Recommendation 5—The NT AHF should develop an accurate costing model for delivering core PHC services to remote areas.

The costing model should incorporate regular reviews to ensure that it remains valid, accurate and appropriate. These reviews should be linked to reviews of national health funding systems, such as the MBS, to ensure that NT remote health funding increases in line with mainstream health funding. The model needs to include measures of funding equity, both between the NT and the rest of Australia and between NT regions. To be equitable, the model will need to correct for the costs associated with service delivery to geographically remote Aboriginal communities and the magnitude of improvement in health status that would be needed for people in remote Aboriginal communities to achieve the same health outcomes as other Australians.

Recommendation 6—The Australian Government and the NT Government should agree to a financing model that:

- provides a funding pathway that enables the provision of core PHC services in all proposed HSDAs on the basis of the costing model (recommendation 5) within five years
- commits to ongoing funding for three to five years to enable health providers to plan for the longer-term provision of core PHC services.

Recommendation 7—The NT AHF partners should review current governance and leadership arrangements focusing on the need to bring coherence to functional areas including policy and funding. As part of this review, we recommend:

- that the governance function, which should continue to be provided by the NT AHF, focus on providing strategic leadership across the health sector including primary and secondary care and monitoring the reform process
- considering mechanisms for strengthening consumers' voices (such as the Health Complaints Commission) to act as vehicles for communicating consumers' experience of health services. The NT AHF should formally consider the Health Complaints Commission's reports as a means of consumer input into its decisions, outside the interests of provider organisations
- increasing policy capacity in the NT to sustain the pace and effectiveness of the reform agenda and to effect the intended changes. This might involve establishing a combined AMSANT, DHF and DoHA capacity or increasing the capacity of individual partners in the NT with strong inter-agency protocols and processes for efficient and effective policy development
- implementing the NT AHF communications strategy. This will support a more consistent and coherent approach between partners so consistent messages are communicated to stakeholders about the reforms.

Recommendation 8—In further reforming the NT remote health system, the NT AHF partners should consider:

- further expanding the scope of PHC to include a wider range of services
- taking responsibility for linking health development with the wider social determinants of health
- adopting a stronger focus on people-centred care and the patient journey through the health system.

Future reforms need to be consistent with current Australian Government health reforms.

Recommendation 9—Under the direction of the NT AHF, re-scope the regionalisation process and the NT AHF partners' expectations to more clearly identify:

- the tasks involved
- the actions and resources required
- who should undertake the work
- a delivery time frame that is consistent with the communities' wishes.

This exercise should consider the following components of regionalisation:

- the merger of ACCHOs and building community capacity to contribute to the planning and governance of health services
- decentralisation and a move to community control of DHF clinics
- establishing and supporting new regional structures
- repositioning the system's policy capacity to focus on the issue of implementation.

Recommendation 10—Develop a comprehensive workforce strategy for the NT remote PHC sector including strategies to increase Aboriginal employment in the PHC sector. The strategy will need to reflect new and proposed regional service delivery models, including the responsibilities of regional ACCHOs.

Recommendation 11—Address the current inadequacies within the system for recruiting, training and supporting AHWs.

Recommendation 12—The future of the RAHC model should be considered by the three NT AHF partners within the context of the wider workforce issues in the NT to ensure a coordinated approach to workforce issues across the system (such as for DHF/ACCHO sectors, short-term/permanent and clinical/non-clinical) and within the context of the future recruitment needs of the 14 proposed regionally-based Aboriginal controlled PHC services.

Recommendation 13—Consideration should be given to establishing a health service purchasing body that funds all health services in the NT and consolidates PHC funding so that providers only report to a single program funding source.

This will address issues associated with the inefficiencies of multiple contracts and funding sources.

Recommendation 14—Continue to invest in CQI, giving priority to providing training for all levels of health service staff, developing resources and tools for supporting its use and undertaking a formative evaluation of the CQI program to determine future development and investment.

Recommendation 15—Once the integrity of the NT AHKPI data at the system level can be assured, the NT AHF should use the data to supplement a more contextualised description (including of the likely impact of any other factors on service activities and health outcomes), to report to decision makers on the population health needs of remote Aboriginal communities and the progress of services in responding to these needs.

This is in addition to the primary use of the data to report to health boards and communities.

Recommendation 16—Ensure there is sufficient capacity at all levels of the PHC system (centrally, regionally and locally) to enable the effective use of data.

This should take into account:

- developing data access protocols in partnership with ACCHOs
- refocusing the orientation of data collections to enable and promote the use of data at all levels of the PHC system
- supporting health services to use data on a broad range of PHC and social support services (not only clinical data) for planning and reporting.

Recommendation 17—The NT AHF partners should engage with key stakeholders across the NT PHC system to identify the purpose of, and priority questions for, future monitoring and evaluation of the different elements of the system reform.

This should take into account:

- the existing EHSDI goals and objectives, the PHRG's health systems planning framework and this report's evaluation findings
- stakeholders' current expectations of program success criteria and anticipated program outcomes
- establishing specific indicators to monitor the progress of key elements of the reform program (such as efficiency indicators for regionalisation and workforce and funding indicators).

6 CONCLUSIONS

Although the CHCI is largely complete, child wellness checks are part of the core PHC services in the NT. Many of our key findings and recommendations for the CHCI may be relevant to other existing or future child screening programs.

There was a lack of policy development at the federal level during the design phase of the CHCI due to the 'urgency' of the NTER. Consequently there was inadequate consultation with communities and health workers in the NT, the checks did not follow international guidelines for screening programs and inadequate attention was given to the existing strengths and weaknesses of the NT PHC system. Before developing and implementing child health screening programs there should be thorough policy development and this needs to fully engage with existing programs, initiatives and processes.

The CHCI brought constructive attention and resources to the NT remote health system. A large number of children were checked and received treatment and/or follow-up services; however, the NT health system did not have the capacity to provide follow-up services to many of children who were referred through the health checks. The number of children who did not receive follow-up care ranged from 19.6–57.4 per cent depending on the type of referral. The interface between primary care and referred services in the NT health system needs to be strengthened to facilitate efficient patient flow through the system from PHC to specialist follow-up care.

The CHCI funding has enabled the development of new service delivery models for dental and hearing/ENT. These models have the potential to contribute to more efficient and effective service delivery, providing these services continue to be funded and are developed within the context of a comprehensive PHC approach.

The time-limited 'blitz' nature of the CHCI is unlikely to be effective in addressing the chronic nature of the health needs identified among Aboriginal children. Future child health initiatives need to have a long-term focus on the underlying social determinants of health including housing, education and poverty.

In contrast to the approach taken to the CHCI, the EHSDI was premised on engagement with existing processes in the NT. The initiative built on earlier reform efforts and made use of established governance frameworks and partnerships. This cooperative approach built on existing developments such as the introduction of system-wide NT AHKPIs and the Pathways to Community Control framework.

The EHSDI has added significantly to the remote health workforce in the NT. The RAHC has provided health professionals for short-term placements while expanded service funding has enabled the creation of a range of additional positions across the health system. There are ongoing difficulties with recruitment, AHW training, staff accommodation shortages and high staff turnover. A comprehensive approach is required to address these concerns at a system level.

The EHSDI has substantially increased financial inputs into the NT remote PHC system and enabled it to partially address the inequitable distribution of funding across the NT. A long-term, realistic funding pathway is essential for the continued development of services. Increased efficiency could be achieved by consolidating multiple funding streams to bring greater coordination in program delivery thereby relieving the administrative burden on community health services.

The regionalisation component of the EHSDI has been under-scoped and under-resourced and the partners are not currently united about the reform and its aspirations. The process of regionalisation, and the partners' expectations of the process, need to be re-scoped so that the principles of regional Aboriginal community control of health services, equity of access and quality of services are sustained.

Policy capacity within the NT PHC system is currently insufficient to address the implementation of the EHSDI reform agenda, or not enough capacity is being directed to support the reforms. This will need to be enhanced if the pace of reform is to be sustained.

Further reform of the NT remote health system should consider a stronger emphasis on people-centred health care. This approach emphasises people as partners in the pursuit of health and broadens the scope of PHC to be seen not as a 'layer' of a health system but as a comprehensive and continuous set of services which people are guided through. The approach also supports more explicit engagement by the health system with the social determinants of health.

REFERENCES

- AIDA & Centre for Health Equity Training, Research and Evaluation 2010, *Health impact assessment of the Northern Territory Emergency Response*, Australian Indigenous Doctors' Association, Canberra & University of NSW.
- AIHW and DoHA 2009, *Progress of the Northern Territory Emergency Response Child Health Check Initiative: Final report on results from the child health check and follow-up data collections*, Australian Institute of Health and Welfare, Canberra.
- AMSANT 2009a, *EHSDI Tool Box: A guide for remote communities*, draft mk 3, Aboriginal Medical Services Alliance Northern Territory (internal document).
- AMSANT 2009b, *EHSDI CQI Continuous Quality Improvement Strategy*, Aboriginal Medical Services Alliance, Northern Territory.
- Anderson P & Wild R 2006, *Ampe Akelyernemane Meke Mekarle: Little Children are Sacred*, Northern Territory Government, Darwin.
- Brough M 2007, National emergency response to protect Aboriginal children in the NT, media release, FaHCSIA.
<http://www.formerministers.fahcsia.gov.au/malbrough/mediareleases/>
- Centre for Community Child Health 2002, *Child health screening and surveillance: a critical review of the evidence*, National Health and Medical Research Council, Canberra.
http://www.nhmrc.gov.au/files_nhmrc/file/publications/synopses/
- DHF 2009, *Healthy Under Five Kids Data Collection (GAA) Program: NT Annual Report 2009*, second release, Department of Health and Families, Darwin.
http://www.health.nt.gov.au/library/scripts/objectifyMedia.aspx?file=pdf/18/21.pdf&siteID=1&str_title=Growth%20Assessment%20and%20Action%20Program.pdf
- DHF 2010, *Regionalisation Competency and Capability Support Framework*, Department of Health and Families, Darwin.
- DoHA 2010, *NT regionalisation of Aboriginal primary health care guidelines: supporting a pathway to regional Aboriginal community control*, Department of Health and Ageing, Canberra.
- FaHCSIA 2009, *Australian Government and Northern Territory Government Response to the Report of the NTER Review Board*, Department of Families, Housing, Community Services and Indigenous Affairs, Canberra.
http://www.fahcsia.gov.au/sa/indigenous/pubs/nter_reports/response_to_reportNTER/Pages/default.aspx
- Li SQ, Guthridge SL, Tursan d'Espaignet E & Paterson BA 2007, *From infancy to young adulthood: health status in the Northern Territory 2006*, Department of Health and Community Services, Darwin.
- McDermott R, Beaver C & Zhao Y 1997, 'Outcomes-based resource allocation for Indigenous health services: a model for Northern Australia?', *Health Policy* 39(1), pp. 67–78.
- Mooney G & Henry B 2004, 'Funding Aboriginal primary health care', *Australian Journal of Primary Health* 10(3), pp. 46–53.
- MSHR 2006, *The healthy community assessment tool for small rural town and remote communities*, Menzies School of Health Research, Darwin.
- NHMRC 2007, *NHMRC standards and procedures for externally developed guidelines*, National Health and Medical Research Council, Canberra.
- NT AHF 2008, *Pathways to community control: an agenda to further promote Aboriginal community control in the provision of primary health care services*, Northern Territory Aboriginal Health Forum, Darwin.
- Rosewarne C & Boffa J 2004, 'An analysis of the Primary Health Care Access Program in the Northern Territory: a major Aboriginal health policy reform', *Australian Journal of Primary Health* 10(3), pp. 89–100.
- Wilson JMG & Jungner G 1968, *Principles and practice of screening for disease*, World Health Organization, Geneva.
- Zhang X, Dempsey KE, Johnstone K & Guthridge S 2010, *Trends in the health of mothers and babies, Northern Territory: 1986–2005*, Department of Health and Families, Darwin.

APPENDIX A: EVALUATION OBJECTIVES

The CHCI evaluation objectives

The objective of the evaluation of the CHCI is to measure the implementation of the CHCI and its impact on and outcomes for the target population. The objectives of the evaluation are as follows:

1. Assess the extent to which the child health checks reached the target population.
2. Identify the prevalence and, if possible, the severity of the health conditions found through the child health checks and validate these findings with data from other sources.⁹
3. Assess the extent to which requested primary care, allied health and specialist follow-up services have been received, gaps in existing health service delivery, and barriers to the completion of follow-up treatment.
4. Explore the possibility of undertaking more complex evaluative analyses which could include questions about:
 - 4.1 whether the CHCI has led to improvements in health service delivery for Aboriginal and Torres Strait Islander children
 - 4.2 the health status of children in relation to the social determinants of health and access to comprehensive PHC
 - 4.3 treatment outcomes.

The EHSDI evaluation objectives

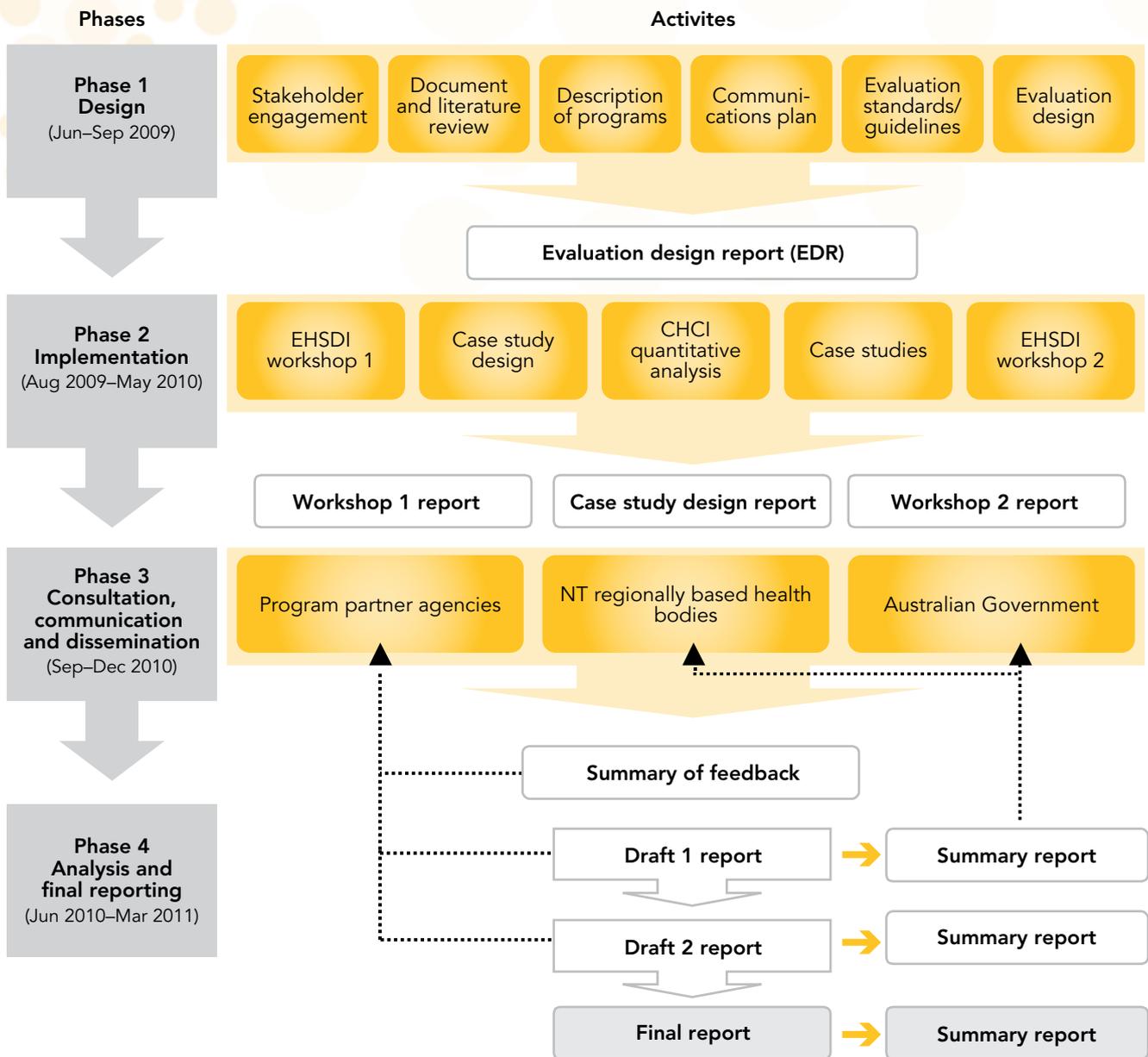
The EHSDI evaluation will achieve the following:

1. Assess the impact and sustainability of the EHSDI on PHC service delivery and equitable distribution of resources. This will include measurement against indicators relating to the number, range, and accessibility of services compared with agreed standards for primary care across the NT.
2. Assess the extent to which Aboriginal and Torres Strait Islander people were engaged and empowered to contribute to health service planning, governance and responsiveness of services.
3. Assess the impact and sustainability of the RAHC on health workforce availability and flexibility in the NT. This will include measurement against indicators of workforce supply across all locations and the effectiveness of clinical governance structures.
4. Assess the efficiency of the EHSDI and how well it has maximised health service delivery with the available funds.
5. Assess the effectiveness of the EHSDI in achieving change in health status. This will include measurement against primary care related health indicators as developed through the NT AHKPIs project and the analysis of the NTER child health check program.
6. Assess the impact of the regional reform process on ¹⁰:
 - 6.1 efficient and effective operation of health services
 - 6.2 clinical governance, including quality of health services delivery
 - 6.3 information systems and planning capacity.

⁹ This objective has been largely addressed by the AIHW in the process of monitoring and reporting on the progress of the CHCI. For further reference see AIHW and DoHA (2009).

¹⁰ The regional reform process has not progressed sufficiently to assess its impact on these matters. However, the evaluation does consider the impact of other aspects of the reform process on these matters.

APPENDIX B: EVALUATION PHASES AND ACTIVITIES



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All information in this publication is correct as of May 2011