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HEALTH, AGEING AND HUMAN SERVICES

Norfolk Island Health Service Plan

Department of Infrastructure and Regional Development

October 2015

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Executive Summary

Background

Norfolk Island is a remote island community of approximately 1,400 people located in the Pacific Ocean 1,600km north east of Sydney and 1,456km east of Brisbane.

Following many reviews into the governance and financial sustainability of Norfolk Island, the *Norfolk Island Legislation Amendment Act 2015* was passed in May 2015. This resulted in the removal of elements of self-governance that have existed since the 1970's but will also give Norfolk Island residents access to Medicare and social security payments from 1 July 2016, and a range of other programs.

Aim

In recognition of the legislative changes, the aim of this Health Service Plan is to provide the Department of Infrastructure and Regional Development (DIRD) with:

- a health service plan that provides a realistic and sustainable strategy for the development of health services on Norfolk Island;
- advice on the most appropriate model for the local community and priority areas, such as aged care; and
- recommendations, including an implementation plan.

Existing health and aged care services

The existing health and aged care services on Norfolk Island are largely provided by the Administration of Norfolk Island via a statutory entity, the Norfolk Island Hospital Enterprise (NIHE), with some limited private sector services and non-government organisations. Most of the services are provided from the Norfolk Island Hospital which includes general practice, emergency care, acute admitted care and residential aged care. A small amount of community based services are available.

The quality and effectiveness of the health and aged care services have been previously reviewed by the *Joint Standing Committee on the National Capital and External Territories* and other parties and found to have significant limitations and quality issues compared to mainland Australian standards.

Proposed service profile

The proposed service profile reflects the changing demography of the population. It should develop as a vertically integrated health care system that provides the population with a range of affordable health, aged and support services that are targeted to the specific needs of the community with its growing aged person cohort and corresponding prevalence of chronic disease.

The challenge of provision to small and isolated communities has prompted a range of innovative service models in other Australian communities. The Multipurpose Service (MPS) model used in some Australian States was established as a response to a range of health and aged care challenges in rural communities, consistent with those on Norfolk Island, including:

- isolation from mainstream services;

- cost inefficiency in delivery of discrete services to small populations;
- lack of local residential aged care services; and
- duplicate and inconsistent accountability for the multiple funding streams available to small services.

The facility profile for the delivery services should evolve to reflect the changing service mix (Table A).

Table A: Proposed Norfolk Island health facility profile

Facility model	2015 Existing	2020	2025
Primary care			
Consulting rooms	3	4	4
Emergency bay	2	2	2
Acute beds	8 physical 3 occupied	6	6
Residential aged care beds			
High care	12 physical 8 occupied	18*	23*
Low care	3		
Total	*11*	*18*	*23*
Procedural spaces			
Birthing room	1	0	0
Operating room	1	0	0
Procedure room	0	1	1
X-ray room	1	1	1
Dental chairs	2	2	2
Allied health	3	3	3

Source: KPMG

**The distinction between high and low care beds has been removed from the Commonwealth funding instruments in July 2014. The physical configuration of the proposed demand should be determined in the capital planning phase, as all the beds do not need to be collocated.*

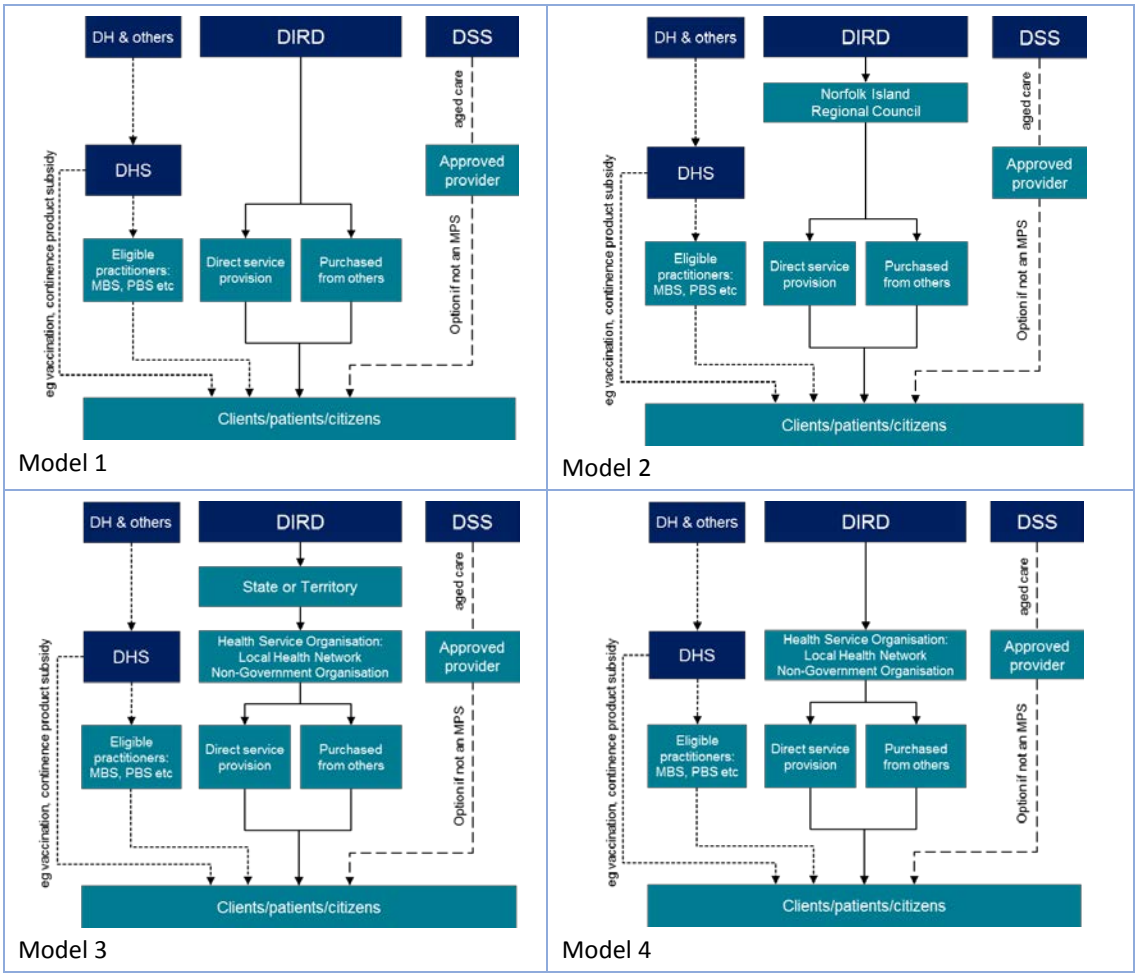
Delivery options

The provision of the desired services requires an effective governance structure and provider to enable them to be delivered to the expected standards and level of accountability. The delivery model is additionally influenced by:

- changes to the governance of Norfolk Island as a result of *Norfolk Island Legislation Amendment Bill 2015*;
- the opportunities that the legislative changes present in providing access to additional funding sources; and
- the level of market interest and transitional risk in selecting and engaging with providers.

A number of delivery models are available for the ongoing delivery of health services (Figure A).

Figure A: Schematic representation of potential funding flows with delivery models



The preferred approach for the management of the primary care, acute care and residential aged care services is to transition to an approach consistent with the expectations of a local health district on mainland Australia. This is most suited to Models 3 and 4, with other options suitable for transition.

The period of transition cannot be currently defined but is expected to be more than 12 months as some elements will take more than one year of development. This approach will provide a trajectory for development and an increasing assurance to stakeholders of the quality and effectiveness of the service and responsiveness to community needs.

Opportunities for the non-government sector (profit or not-for-profit) in the delivery of clinical or support services should be encouraged within the overall model to enhance the pool of available resources, and competitive tension.

Implementation Actions

A number of actions have been developed to guide the implementation of the Service Plan. These are described in Table B and provide an expected timeframe for implementation from the short to long term.

These actions and the overall implementation of the Service Plan should be monitored within an appropriate governance structure to be developed by DIRD.

Table B: Implementation requirements

No.	Strategy group	Task	Timeline Short/ Med/ Long
1	Quality	Align clinical governance and credentialing to mainland Local Health Network requirements.	Medium
2		Obtain general practice accreditation with RACGP for access to the PIP scheme.	Short
3		A community pharmacy should obtain accreditation requirements for PBS billing.	Short
4		Norfolk Island Hospital reporting systems to align to NHPA and State and Commonwealth requirements.	Medium
5		Obtain hospital accreditation through ACHS.	Medium
6		Obtain aged care accreditation through the Aged Care Quality Agency.	Long
7		A local or other agency should obtain Approved Provider status for the Commonwealth Home Support Program.	Medium
8		Obtain Approved Provider status for residential aged care funding.	Long
9	Governance and management	Develop a communications strategy to engage and communicate with the community regarding the service directions.	Short
10		Engage a State Government to develop a partnership in the management of Norfolk Island health system though a Local Health Network.	Short
11		Link Norfolk Island with a mainland Primary Health Network to support general practice and primary health programs.	Short
12		Issue Medicare numbers to eligible consumers.	Short
13		Establish a reporting and governance mechanism to monitor the implementation of the Service Plan.	Short
14	Telemedicine	Explore feasibility of local call costs between Norfolk Island and mainland Australia for telephone based health support services.	Short
15		Explore feasibility of establishing internet bandwidth of 384kbs at health care facilities for telemedicine applications.	Short
16		Develop feasibility study and business case for telemedicine linkages with tertiary health care provider.	Short
17		On issuing Medicare cards, seek enrolment of the population in the PCEHR.	Short
18	Public health	Investigate the alignment of Norfolk Island alcohol and tobacco duty free limits to Australian mainland levels.	Short

No.	Strategy group	Task	Timeline Short/ Med/ Long
19		Enact NSW legislation regarding tobacco sales and advertising restrictions.	Short
20		Incorporate vaccination histories in Australian Immunisation Registers.	Short
21		Obtain agreement with a breast cancer screening provider for provision of services.	Short
22		Enrol population in the NBCSP once Medicare numbers are issued.	Short
23		Review population growth and age profile assumptions following 2016 census. Review the facility requirements once these data are available.	Medium
24	Infrastructure	Develop a design, cost plan and feasibility study for the replacement of health service and aged care facility.	Short
25		Develop business case for replacement of the health service and residential care facility.	Medium
26		Develop business case for the outsourcing of laundry, and hospital and home delivered meals.	Short
27		Complete asset audit of hospital based medical equipment and engineering plant.	Short
28	Consumer support	Establish a patient travel and accommodation scheme aligned with interstate models.	Short
29		Further develop, agree and communicate referral pathways with secondary and tertiary care providers.	Short

Legend:

Short term: FY2016; Medium term: FY2017; Long term: after FY2017

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1 Glossary and abbreviations

Abbreviation	Term
ABS	Australian Bureau of Statistics
AEDI	Australian Early Development Index
AIHW	Australian Institute of Health and Welfare
ANI	Administration of Norfolk Island
CSSD	central sterile services department
DIAS	Diagnostic Imaging Accreditation Scheme
DIRD	Department of Infrastructure and Regional Development
DIST	Diagnostic Imaging Services Table
DSS	Department of Social Services
DRARDLG	Department of Regional Australia, Regional Development and Local Government
HILDA	Household, Income and Labour Dynamics in Australia (HILDA) Survey
LHD	Local Health District
LHN	Local Hospital Network
MBS	Medicare Benefits Schedule
MPS	Multipurpose Service
NATA	National Association of Testing Authorities, Australia
NATIN	Norfolk Assists Those In Need Inc
NBN	National Broadband Network
NI	Norfolk Island
NIHE	Norfolk Island Health Enterprise
NHPA	National Health Performance Authority
PBS	Pharmaceutical Benefits Scheme
PCEHR	Patient Controlled Electronic Health Record
PHN	Primary Health Network
PIP	Practice Incentives Payments
RACGP	Royal Australian College of General Practice
SEIFA	Socio-Economic Indexes for Areas
SWPE	Standardised Whole Patient Equivalent

2 Introduction and scope

This project has been established in the context of a long period of investigation into the governance, social and financial frameworks operating in Norfolk Island. The most recent inquiry into economic development on Norfolk Island was tabled in parliament in October 2014,[1] identifying a range of longstanding economic and financial issues and recommended changes to governance arrangements.

These difficulties have resulted in the Administration of Norfolk Island being unable to meet the cost of providing ongoing essential services without continuing financial assistance from the Commonwealth of Australia.

As a consequence, the Australian Government recently passed legislation (*Norfolk Island Legislation Amendment Bill 2015)* resulting in the following key changes:

- integration of Norfolk Island with the mainland tax and social security systems, including access to Medicare and the Pharmaceutical Benefits Scheme. Immigration, customs and quarantine services will also be extended
- the Australian Government will assume responsibility for funding and delivering national and state level services. As a result, the Norfolk Island Administration will transition to the Norfolk Island Regional Council on 1 July 2016. An interim Advisory Council was established in June 2015 to support the transition.[2]

The aim of this Health Service Plan is to provide the DIRD with:

- a health service plan that provides a realistic and sustainable strategy for the development of health services on Norfolk Island;
- advice on the most appropriate model for the local community and priority areas, such as aged care; and
- recommendations, including an implementation plan.

[1] www.aph.gov.au/Parliamentary_Business/Committees/Joint/National_Capital_and_External_Territories/Norfolk_Island/Report

[2] http://www.regional.gov.au/territories/norfolk_island/reforms/

2.1 Planning approach

The approach to developing this service plan builds on the extensive research and consultation that preceded KPMG's engagement. This involved a structured approach to developing an understanding of the health needs of the community and articulating an approach to the delivery of services that is sustainable and affordable.

It is acknowledged that health *needs* can take several forms and are represented through qualitative and quantitative approaches (Table 1). Health needs were identified using these approaches with high priority issues identified through triangulation across multiple information sources.

Table 1: Types of need

Type of need	Definition
Felt	The subjective experience of need, a need seen as important by the person concerned. Felt need is the basis of, but may or may not translate into, expressed need.
Expressed	The vocalised needs or how people use services, often referred to as demand for (or utilisation of) service.
Normative	Typically defined by experts and professionals. Regarding health, this is usually expressed in terms of acceptable minimum and maximum population health status and/or levels of service provision.
Comparative	Determined by comparing populations based on certain indicators; it is underpinned by the concept of equal allocation of resources.

2.2 Methodology

The report was developed in a number of stages between May and July 2015. These stages included:

- Stage 1: Project initiation and planning
- Stage 2:
  - Data and documentation review and analysis
  - Consultations
  - Identification of service directions
  - Documentation of model of care
- Stage 3: Options assessment and draft of Service Plan
- Stage 4: Finalisation of Service Plan

3 Context

3.1 Overview of Norfolk Island

Prior to June 2015, Norfolk Island operated as a substantially self-governing Territory under the *Norfolk Island Act 1979.* The Island's laws represented a mix of Commonwealth laws and those passed by the elected Legislative Assembly. The Administrator is appointed by the Governor-General of Australia and administers the Island as a Territory under the authority of the Commonwealth of Australia.

Under the interim arrangements of the *Norfolk Island Amendment Act 2015*, the Minister for Territories, Local Government and Major Projects is responsible for many decisions affecting the Administration of Norfolk Island. These were previously made by Norfolk Island ministers under Norfolk Island laws.

In terms of health service provision, the Norfolk Island Hospital Enterprise (NIHE) represents the only on-island healthcare facility and is a body corporate established under the *Norfolk Island Hospital Act 1985*. NIHE operates outside the Australian health care system and, as residents are not covered by Medicare they need to contribute towards health care costs through levies to the Norfolk Island Government and direct payments for services.

The April 2013 funding agreement under the *Roadmap* between the Commonwealth and Norfolk Island was specifically concerned with health service reform on Norfolk Island. Specifically, the agreement provided Commonwealth funding for the achievement of three key milestones in 2013-14:

- Accreditation of the Island's health services
- A review of the Island's health services legislation
- Development of a health services plan for the Island.

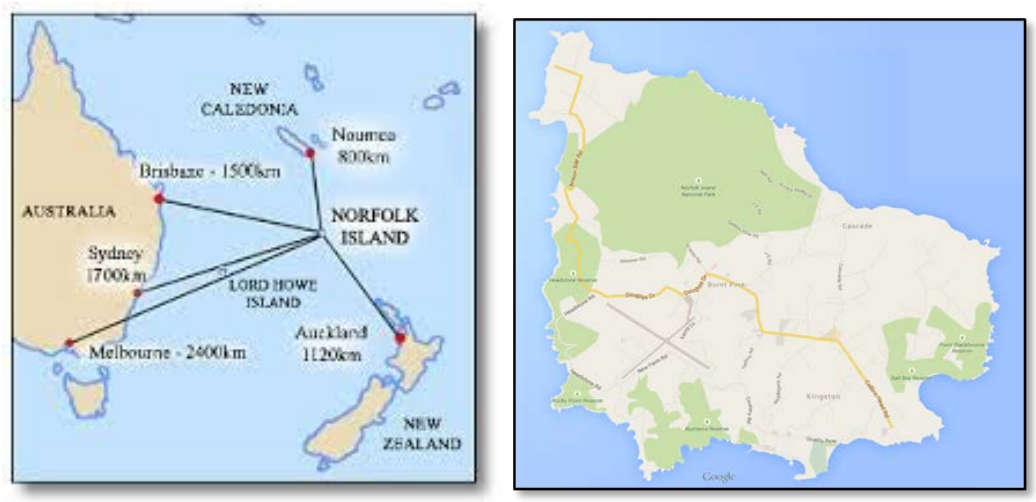
3.2 Location

Norfolk Island is located approximately 1,600km north east of Sydney and 1,456km east of Brisbane. It is approximately 8km long and 5km wide and includes two small, uninhabited islands (Nepean Island and Phillip Island) which are located south of the Norfolk Island main land.

It has been an Australian territory under the Commonwealth of Australia since 1 July 1914. Prior to this date, Norfolk Island had been under the administration of New South Wales. Norfolk Island is one of Australia's oldest territories and is of importance to the nation as a convict settlement spanning the era of transportation to eastern Australia from 1788-1855.[3] In 2010, Norfolk Island was included on the World Heritage List as part of the Australian Convict Sites inscription.

[3] http://www.regional.gov.au/territories/norfolk_island/fact-sheets/Norfolk-Island-overview.aspx.

Figure 1: Map of Norfolk Island location

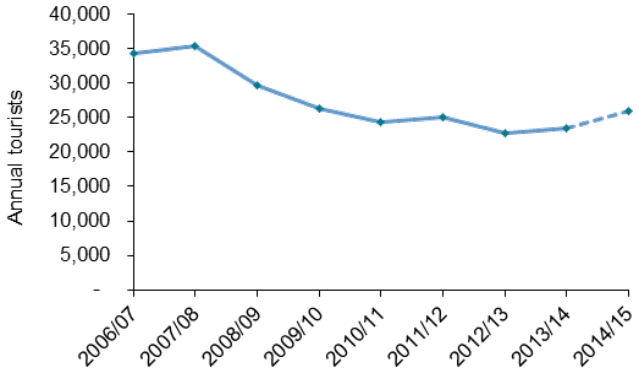


3.3 Local industries and employment

The Norfolk Island economy is mainly structured around tourism and government enterprise delivery. Tourism accounts for 41 per cent of the Gross National Product, but has deteriorated in recent years with a decline in the number of tourist arrivals from 35,000 in 2006/07 to approximately 25,000 in 2014/15 (Figure 2).

The employment system has structural differences when compared with Australia in that it has no personal income tax and no universal social security entitlements.

Figure 2: Norfolk Island annual tourist arrivals 2006-07 to 2014-15



Source: http://www.norfolkisland.gov.nf/reports/Statistics/Visitor%20Statistics/

3.4 Policy context

The Norfolk Island financial position is subject to growing debt with a forecasted unfunded annual budget deficits for the government of between $7.4 million and $7.8 million.[4] *Deloitte Access Economics* stated that the severe recession required emergency funding from the Australian Government to the amount of $33 million since 2010-11.[5]

[4] The Parliament of the Commonwealth of Australia, '*Same country: different world: the future of Norfolk Island*' – Joint Standing Committee on the National Capital and External Territories 2014, 4.
[5] Deloitte Access Economics, 'Norfolk Island Government Business Analysis', November 2014.

The Joint Standing Committee on the National Capital and External Territories "*Same country: different world - The future of Norfolk Island*" noted that over the past four decades, there has been a large number of reviews and reports undertaken by experts and outgoing reports from former administrators. This Report made eight recommendations to improve Norfolk Island's economic future and included a new governance model, infrastructure investment and a framework for new economic opportunities.[6]

The *Norfolk Island Legislation Amendment Act 2015* will give Norfolk Island residents access to Medicare and social security payments from 1 July 2016, and a range of other programs. The mainland income tax system will also be fully applied to Norfolk Island.

Further alignment of Australian Government laws, programs and services will be phased in from 1 July 2016, as will an applied law regime based on NSW legislation. From 1 July 2016, responsibilities for customs, quarantine and immigration will also revert to the Australian Government. The legislation provides for the establishment of a Regional Council elected by residents. The Regional Council will be responsible for local government matters from July 2016.

3.5 Chronology of health service planning

The Norfolk Island community and health service provision has been subject to a wide range of reviews and studies. The key reports are listed in Table 2.

Table 2: Key reports into Norfolk Island health services

Report	Year	Results
Griffith University	2000-current	Epidemiological studies into the health status of the community including genetic elements.
The Parliament of the Commonwealth of Australia, Joint Standing Committee on the National Capital and External Territories: *"In the pink or in the red?' Inquiry into the provision of health services on Norfolk Island"*	2001	This enquiry identified a range of issue relating to the availability of health services for the community including governance, funding methodology, workforce sustainability and physical infrastructure inadequacies.
Deloitte Access Economics: Wellbeing Report – Norfolk Island	2011	Provided base information on the economic and social wellbeing of the Norfolk Island population as at March 2011, compared with Australian Census 2006 and the Household, Income and Labour Dynamics in Australia (HILDA) 2006.
Gillian Calvert AO and Marie Connolly: 'Review of Existing Child and Family support Services on Norfolk Island'	2012	Economic hardship was evident in almost all conversations with community members on Norfolk. Norfolk Island residents should become part of the same income security, employment, taxation, child support scheme and benefit systems as other Australians. The Australian Government should provide relief for vulnerable children, young people and families living on Norfolk Island.

[6] Report- Same country: different world – The future of Norfolk Island Commonwealth of Australia, 20 October 2014.

Report	Year	Results
		Include Norfolk Island in key national information collection activities, such as the Australian Bureau of Statistics (ABS), Australian Institute of Health and Welfare (AIHW) and Australian Early Development Index (AEDI) programme data collections.
Review of Norfolk Island Health Legislation	Jun 2013	An opportunity to consolidate legislation into a smaller number of Acts. Obsolete, inappropriate or inconsistent legislation and/or terminology needs to be addressed. Adoption of the mainland national law for registration and regulation of key health professional groups could be considered. The legislative framework and governance for NIHE needs significant improvement. Role separation is required for key positions.
Nexus Management Consulting, 'Draft Health Services Plan: Norfolk Island'	Oct 2013	Norfolk Island Hospital should develop as a Multi-Purpose Service (MPS) that includes residential care beds, acute care beds, community health services and outpatient services. The MPS should host primary health care and community health services appropriate to community needs with priority given to aged care, mental health, drug and alcohol services. Health services should be contracted to an off-shore position, in line with the model for police and school education.
The Parliament of the Commonwealth of Australia, Joint Standing Committee on the National Capital and External Territories: '*Same country: different world: the future of Norfolk Island*.	2014	Commonwealth Government should repeal the *Norfolk Island Act 1979* (Cth) and transition Norfolk Island to a local government type body.
ACHS EQuIPNational Organisation-Wide Survey: Norfolk Island Hospital Enterprise	Mar 2014	The NIHE was not able to meet base satisfactory assessment ratings. The survey team identified a large number of significant patient and staff safety risks to be addressed through the Advanced Completion 90 day process. Some of the risks are attributable to ageing infrastructure which has been assessed as no longer fit for purpose and in need of upgrade.
Health Services Survey Report (R & S Muller Enterprise Pty Ltd)	Feb 2015	Population based survey on the health status of the community and experience with the health care system.
NIHE: Response to the Draft Health Services Plan (R & S Muller Pty Ltd)	Feb 2015	Staff and community consultation process to review the recommendations made in the Calvert Connolly and the Nexus reports.

4 Demographic analysis

4.1 Population description

The last population census was conducted in 2011, recording a population of 2,302 people, with 1,220 females and 1,082 males. This equated to 78 per cent (1,795) ordinarily residents and 22% (507) visitors. [7] Data from the ANI since that time indicates a continued decline from the census but a recent stabilisation of the residential population and some increase in visitor numbers[8] (Figure 3).

The graph below illustrates a decline in population from the 2001 to 2015. There was a reduction of 8.8 per cent in population between the 2001 and 2011 census collections, [9] with a further decline in the residential population from that time. The data from 2013-2015 is provided from the Norfolk Island Immigration data collection and indicates that there has been a further reduction in the residential population from 2011 but it has stabilised since 2013. There was an average of 1,448 resident people in June 2015.

Figure 3: Norfolk Island resident and visitor population 1986-2013

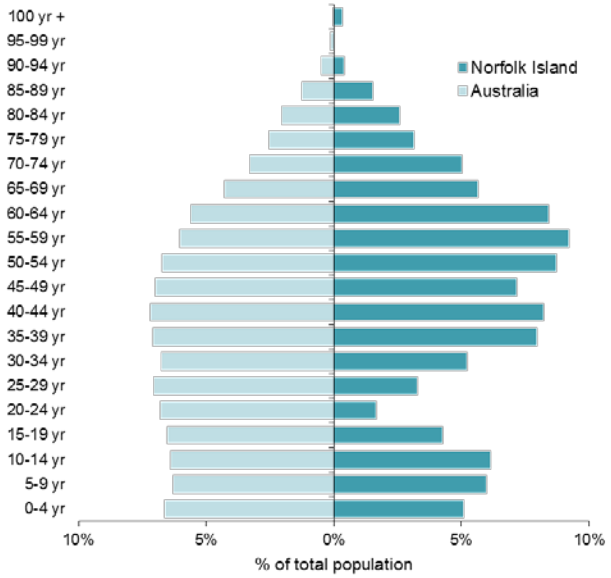
Source: Norfolk Island: Census of Population and Housing, 2001, 2006, 2011 and www.norfolkonlinenews.businesscatalyst.com/statistics.html for 2013-2015 data

Figure 4 illustrates the age distribution of the 2011 Norfolk Island community compared with the Australian population. The age distribution of the Norfolk Island community is notable for the decline in the proportion of people aged between 15 and 35 years. This is seen to be attributable to the interstate migration for educational and employment opportunities during early adulthood.

The decline in the population between 2006 and 2011 census periods has been in many age groups with the highest proportional decline in the younger age groups (Figure 5).

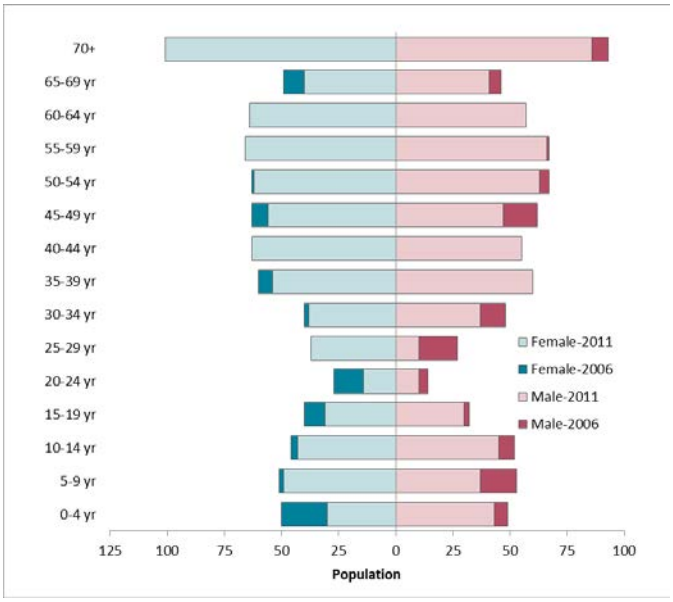
[7] Administration of Norfolk Island, 'Report on the 2011 Census on Population and Housing' (2011) 6.
[8] Population for 2013 -2015 is based on the Depart of Immigration data as recorded on 9/8/13, 8/8/14, and average for June 2015. No data are available for 2012.
[9] Administration of Norfolk Island, 'Report on the 2011 Census on Population and Housing' (2011) 6.

Figure 4: Population distribution by age group, Australia and Norfolk Island, 2011



Source: DRARDLG, Norfolk Island Basic Community Profile 2011
ABS, Basic Community Profile, Australia, 2011

Figure 5: Population distribution by age group and sex, Norfolk Island, 2006 and 2011



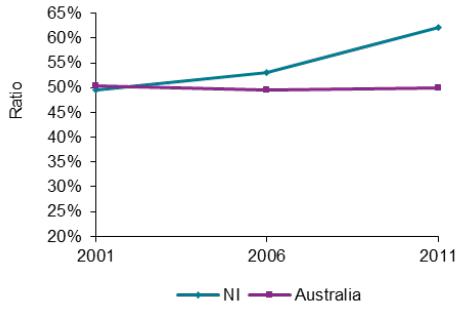
Source: DRARDLG, Norfolk Island Basic Community Profile 2011
Administration of Norfolk Island, Census of Population and Housing, 8 August 2006

A population dependency ratio is commonly used in health, social and economic planning contexts to illustrate the dependency of the population on the taxation base of the working population.[10] Figure 6 and Figure 7 illustrates that this ratio has increased relative to the

[10] The dependency ratio is an age-population ratio of those typically not in the labour force (the dependent part) and those typically in the labour force (the productive part). It is used to measure the pressure on productive population. As the ratio increases there may be an increased burden on the productive part of the population to maintain the upbringing and pensions of the economically dependent. This results in direct impacts on financial expenditures on things like social security, as well as many indirect consequences.

Australian population since 2001, indicating increasing financial stress on the economy. This effect is compounded by the declining absolute numbers of working age residents.

Figure 6: Norfolk Island Dependency Ratio (total), 2001-2011

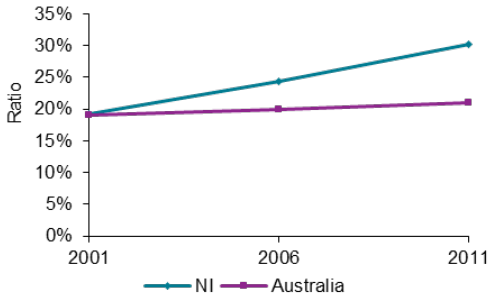


Source: DRARDLG, Norfolk Island Basic Community Profile 2011

Administration of Norfolk Island, Census of Population and Housing, 8 August 2006

ABS, Basic Community Profile, Australia, 2011

Figure 7: Norfolk Island Dependency Ratio (aged), 2001-2011



Source: DRARDLG, Norfolk Island Basic Community Profile 2011

Administration of Norfolk Island, Census of Population and Housing, 8 August 2006

ABS, Basic Community Profile, Australia, 2011

4.1.1 Population projections

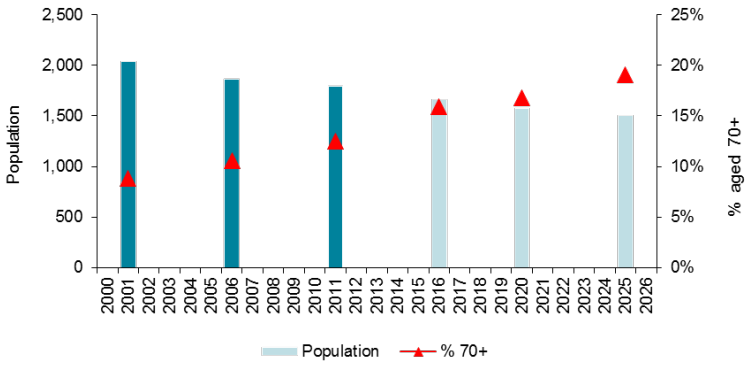
Projections of the expected population size and age profile are useful in health service planning as they enable the plan to focus on the expected future population rather than the existing conditions.

Population projections for Norfolk Island are not available from the ABS or other organisations for Norfolk Island, as such projections have been made based on the historical trends in population from the previous census studies.

These projections were developed using a linear regression of the population of each 5 year age group from 0-69 years and 70 and older from the 2001 to 2011 census.

This analysis provides an estimation that the population may continue to decline in volume from 1,795 people in 2011 to 1,509 in 2025 and the proportion of the population aged over 70 years increasing from 13 per cent in 2011 to 19 per cent in 2025. (Figure 8) These projections are used in estimating the residential aged care bed requirements in Section 9.

Figure 8: Norfolk Island residential population projections (KPMG)



Source: Administration of Norfolk Island, Census of Population and Housing, 8 August 2006, KPMG

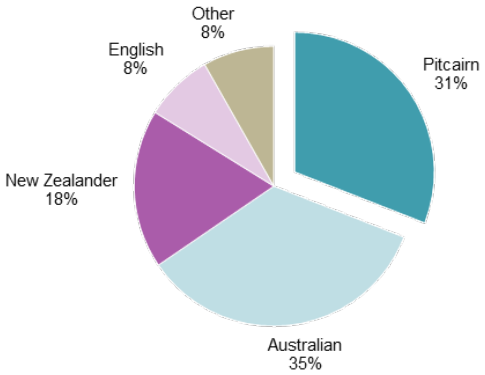
4.2 Cultural and linguistic diversity

The Norfolk Island community has a distinct cultural heritage with its composition still reflecting elements of its settlement history, including:

- 31 per cent of the population identifying as Pitcairn decent
- 31 per cent born on Norfolk Island
- 94 per cent being Australian or New Zealand citizens. (Figures 10-13)

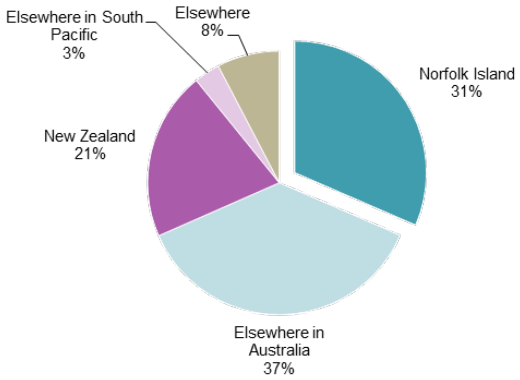
Of relevance for the provision of health services is the small community of residents that are neither Australian nor New Zealand citizens, nor Australian permanent residents, as these residents may not be eligible for Medicare or other social service entitlements.

Figure 9: Ancestry of Norfolk Island resident population (2011)



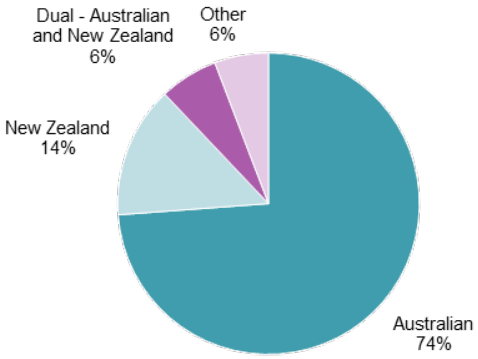
Source: DRARDLG, Norfolk Island Basic Community Profile 2011

Figure 10: Country of birth of Norfolk Island resident population (2011)



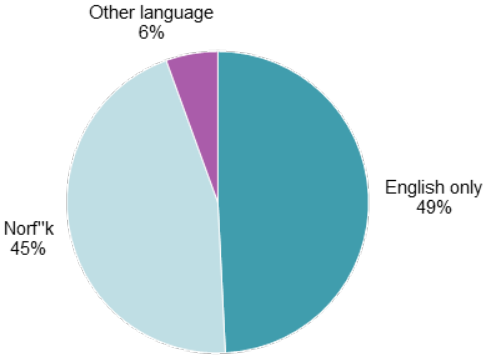
Source: DRARDLG, Norfolk Island Basic Community Profile 2011

Figure 11: Citizenship of Norfolk Island resident population (2011)



Source: DRARDLG, Norfolk Island Basic Community Profile 2011

Figure 12: Language spoken at home-Norfolk Island resident population (2011)



Source: DRARDLG, Norfolk Island Basic Community Profile 2011

4.3 Socio-economic status

According to the '*Same country: different world – the future of Norfolk Island*' report, economic activity has continued to deteriorate in recent years[11], with families reporting their experiences of "doing it tough" in an economic environment of increasing job insecurity and a downturn in the tourism industry. [12] *ACIL Tasman* described the economic downturn as relatively severe and an economic depression. There is strong evidence that the post-Global Financial Crisis economic downturn is impacting on the quality of life for Norfolk Islanders. For example, they are further impacted by the high cost of living which has been increasing at a faster rate than mainland Australia. Even the absence of income tax does not disguise the financial stress the Norfolk Island population experiences on a day-to-day basis.[13]

Traditional measures of socioeconomic status such as the SEIFA are not measured in Norfolk Island as it has not been included in the ABS data collections of Australia. Other measures are available including income levels and the Index of Community Socio-Educational Advantage (ICSEA) produced by Australian Curriculum, Assessment and Reporting Authority.

The Norfolk Island Central School community has a reported ICSEA of 1,019 compared with the level of 1,000 for the total Australian community. This illustrates that the school community is marginally more advantaged than the average school community, with fewer families in the bottom quarter of ICSEA scores (Table 3).

Table 3: Norfolk Island Central School, distribution of students ICSEA score 2014 compared with Australian average distribution

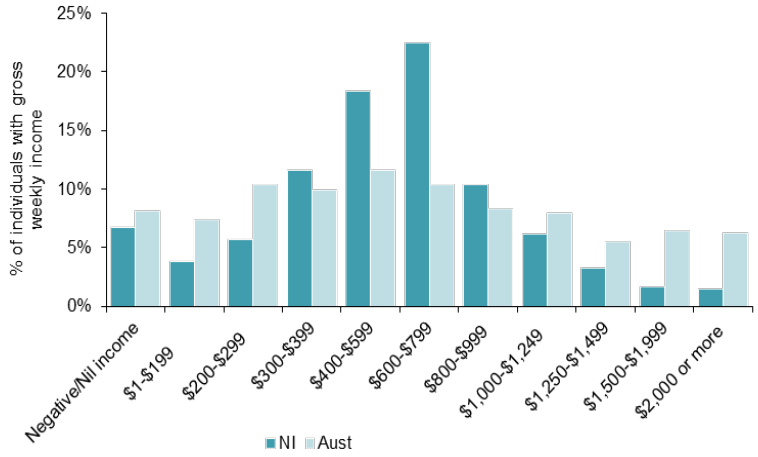
	ICSEA	Bottom quarter	Middle quarters		Top quarter
School Distribution	1019	11%	36%	33%	30%
Australian Distribution	1000	25%	25%	25%	25%

Source: www.myschool.edu.au/SchoolProfile/Index/83551/NorfolkIslandCentralSchool/42158/2014

The 2011 census data indicates that Norfolk Island income levels are on average lower than in the rest of the Australian community with 69 per cent of the community having an income less than $800 per week, compared with 58 per cent for the Australian community (Figure 13). Note that the Norfolk Island community income is reported tax free unlike the Australian values.

[11] The Parliament of the Commonwealth of Australia, '*Same country: different world: the future of Norfolk Island- Joint Standing Committee on the national*
[12] Gillian Calvert and Marie Connolly, 'Review of Existing Child and Family Support Services on Norfolk Island' (2012).
[13] Norfolk Island Economic Development Report, ACIL Tasman, March 2012, 25.

Figure 13: Gross individual income (weekly), Norfolk Island and Australia, 2011



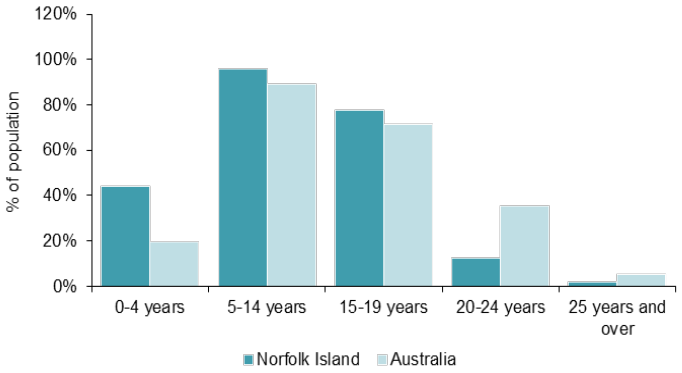
Source: DRARDLG, Norfolk Island Basic Community Profile 2011, ABS, Basic Community Profile, Australia, 2011

Note: Norfolk Island income levels exclude income taxation

The Norfolk Island community has high primary and secondary school education participation rates with 96 per cent of children aged 5-14 years and 77 per cent of 15-19 year olds attending an educational institution. In contrast, in Australia the primary and secondary school education participation rates are 89 per cent and 71 per cent respectively. This high level of education participation is a positive indicator for good health as it is related to increased health literacy and future increased employment opportunities.

This participation rate changes in later years with 13 per cent of 20-24 year olds participating in education compared with 35 per cent in the rest of Australia. This is likely to reflect the absence of post-secondary educational opportunities on the island (Figure 14).

Figure 14: Proportion of persons by age attending an educational institution, Norfolk Island and Australia, 2011



Source: DRARDLG, Norfolk Island Basic Community Profile 2011; ABS, Basic Community Profile, Australia, 2011

4.4 Health of the population

The typical morbidity and mortality data sets with data on life expectancy, cancer incidence, and hospitalisation are not published for the Norfolk Island community but other measures have been used for this report.

There is a range of available data that describe the health of the Norfolk Island population. These have been utilised to inform the report:

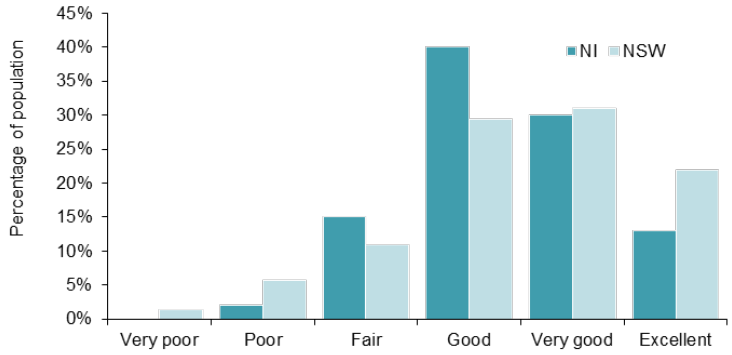
- Norfolk Island Census of Population and Housing (2011)
- NIHE - Health Services Survey Report 2015 (R&S Muller Enterprise Pty Ltd)[14]
- Australian Census of Population and Housing (2011)
- NSW Ministry of Health, Centre for Epidemiology and Evidence. HealthStats NSW. Available at: www.healthstats.nsw.gov.au
- Epidemiological studies conducted through Griffith University.

In providing commentary on the health of a population, a comparison to other communities is valuable to understand whether the level and type of health service need for this community is materially different to that typically expected. For this report, the NSW HealthStats data has been used as the primary comparator as this is the most recently reported high quality data, with the Australian Census used for other data items. Where available, comparison has been made to other Outer Regional and Remote areas of NSW as this is likely to be a more similar demographic profile than the overall NSW population.

The self-reported health status of the Norfolk Island population was reported as “good” to “very good” by 83 per cent of the population compared with 82 per cent of the NSW total population. While these overall levels are similar, fewer Norfolk Island people (13 per cent) reported “excellent” health compared to the NSW population (22 per cent) (Figure 15).

[14] The Health Services Survey Report (2015) was commissioned to provide information on the health status and needs of the population. The data were obtained using a range of survey methods of a non-randomised sample of the population, with 355 people (20.1 per cent of the population) contributing to the survey. While this does provide a rich source of current data, the inherent selection bias in a non-randomised survey may limit the generalisability to the broader community, as 35 per cent of respondents were aged over 65 years compared to 19 per cent of the 2011 population.

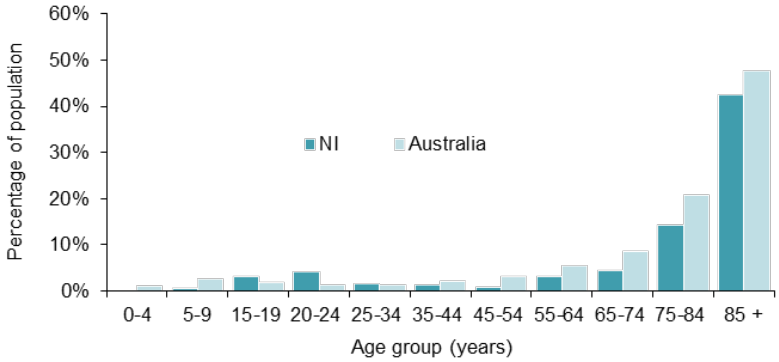
Figure 15: Self-reported health status Norfolk Island and NSW



Source: NIHE - Health Services Survey Report 2015 (R&S Muller Enterprise Pty Ltd) and NSW Ministry of Health, Centre for Epidemiology and Evidence. HealthStats NSW

The proportion of the population with a core activity need for assistance is a measure of the independence of a population and need for home support services. The Norfolk Island community reported lower overall levels of need than the Australian population, except in the young age groups (15-34 years). For those aged greater than 65 years, 12 per cent of the Norfolk Island population reported requiring assistance compared to 18 per cent in the Australian community (Figure 16).

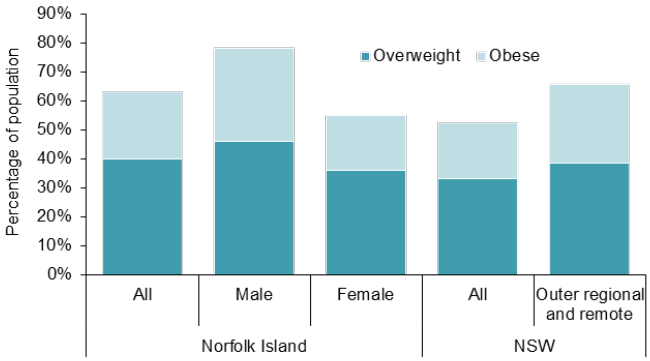
Figure 16: Proportion of population with a Core Activity Need For Assistance By Age (2011)



Source: DRARDLG, Norfolk Island Basic Community Profile 2011, ABS, Basic Community Profile, Australia, 2011

The survey reported that sixty three per cent of the overall Norfolk Island population were overweight or obese which is higher than the equivalent NSW population (53 per cent), but similar to the outer regional and remote areas of NSW (65 per cent). Of particular note is the 78 per cent of the male population reporting being overweight or obese – significantly higher than the comparator population.

Figure 17: Proportion of the population that are overweight or obese – Norfolk Island and NSW



Source: NIHE - Health Services Survey Report 2015 (R&S Muller Enterprise Pty Ltd) and NSW Ministry of Health, Centre for Epidemiology and Evidence. HealthStats NSW

The Norfolk Island population reported higher levels of "High" to Very High" psychological distress compared to the NSW population (13 per cent compared with 9.8 per cent), but similar levels to the Outer Regional and Remote areas of NSW (Figure 18). The rationale for this higher level is not clearly known but may relate to the poor economic conditions and geographic isolation factors.

Figure 18: Proportion of the population with reported moderate to very high level of psychological distress (K10 score) – Norfolk Island and NSW

Source: NIHE - Health Services Survey Report 2015 (R&S Muller Enterprise Pty Ltd) and NSW Ministry of Health, Centre for Epidemiology and Evidence. HealthStats NSW

4.4.1 Genetic impacts on health

The Norfolk Island community has participated in a number of studies investigating the genetic determinants of disease given that a large proportion of the population have common genetic heritage as descendants of *The Bounty* mutineers and from Polynesian islanders. Many of the studies have been undertaken through Griffith University and have documented that:

- The proportion of Polynesian ancestry in the present-day individuals was found to significantly influence total triglycerides, body mass index, systolic blood pressure and diastolic blood pressure. For various cholesterol traits, the influence of ancestry was less

marked but overall the direction of effect for all CVD-related traits was consistent with Polynesian ancestry conferring greater CVD risk.[15]

- Up to 17 per cent of the population had a previous diagnosis of hypertension, with 25 per cent of those sampled recording hypertensive blood pressure levels. Additionally, 40 per cent of the population reported a family history of hypertension.
- The known prevalence of diabetes was reported at similar levels to the Australian community, but a high number of undiagnosed cases were identified in the sampled population.[16]
- The prevalence of blindness and visual impairment in the Norfolk Island population is low, especially amongst those with Pitcairn Island ancestry.[17]

Table 4 below outlines the levels of several of the risk factors for cardiovascular disease within the Norfolk Island population and comparisons to the Australian community. These data were obtained from a larger self-selected sample than used in the Muller study (600 adult participants compared with 335), and indicate a higher level of some cardiovascular risk factors including family history of heart disease, and current heart disease. In contrast, fewer Norfolk Islanders reported sedentary lifestyles compared with the general Australian population.

Table 4: Prevalence of cardiovascular disease factors in Norfolk Island and Australian populations (2009)

Risk factor	Factors leading to increased cardiovascular disease risk	Proportion of Norfolk Island with increased risk	Proportion of Australian population with increased risk
Body Mass Index	> 25	57%	60%
High Blood Pressure	Diagnosed hypertension	17%	30%
Smoker	Current smoker	22%	24%
Sedentary	Exercise < once per week	20%	54%
Heart disease	Existing or experienced	7%	4%
Genetic predisposition	Family history of heart disease	61%	52%
Cholesterol:HDL ratio	>4	49%	50%

Source: Reproduced from Bellis (2009) Griffith University

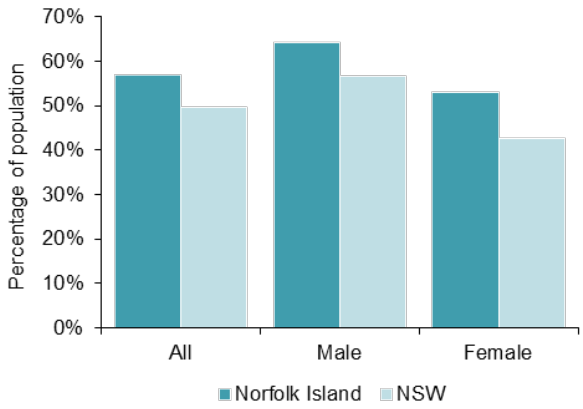
[15] John Blangero, Peter M. Visscher, Hannah Cox, Lyn R. Griffiths, Rod A. Lea, Tom Dyer, Stuart Macgregor, Claire Bellis (2009): Legacy of mutiny on the bounty: Founder effect and admixture on Norfolk Island. Nature Publishing Group. http://dx.doi.org/10.1038/ejhg.2009.111.
[16] Bellis (2009) Griffith University
[17] Prevalence of Chronic Ocular Diseases in a Genetic Isolate: The Norfolk Island Eye Study (NIES) (2011)

4.5 Health related behaviours

Health related behaviours are influenced by social, cultural, economic and environmental factors, with social determinants of health being a significant factor in the health of a community. Some selected health behaviours are described below.

A higher proportion of the Norfolk Island population reported having smoked in their lifetime compared to the NSW population, with 64 per cent of males and 63 per cent of females having smoked in their lifetime compared to 57 per cent and 43 per cent in NSW respectively (Figure 19). No data are available on the current level of smoking although a level of 22 per cent was reported in 2009 (Table 4).

Figure 19: Proportion of the population that has ever smoked

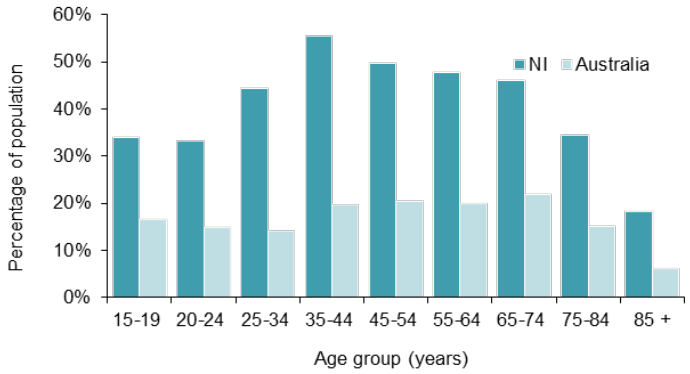


Source: NIHE - Health Services Survey Report 2015 (R&S Muller Enterprise Pty Ltd) and NSW Ministry of Health, Centre for Epidemiology and Evidence. HealthStats NSW

The self-reporting of sedentary exercise levels was at similar levels to the Australian community in the recent survey by R&S Muller Enterprise Pty Ltd, with 28 per cent and 38 per cent of the male and female population reporting sedentary levels of exercise. These are slightly less than the average Australian levels.

The level of community connectedness and responsibility is reported at high levels compared with the Australian community. Figure 20 illustrates that across all age groups there is a higher reported level of the population undertaking voluntary work for an organisation or group, perhaps reflecting the need for community resilience and the low level of institutionally provided community support services.

Figure 20: Proportion of population with Voluntary Work for an Organisation or Group by Age (2011)



Source: DRARDLG, Norfolk Island Basic Community Profile 2011, ABS, Basic Community Profile, Australia, 2011

The structure of the financial aspects of the Norfolk Island health care system places financial barriers to accessing health care services for individuals at the point of care. The $2,500 upfront annual excess is seen as a barrier for individuals to accessing services. This issue was identified in the 2015 Muller survey, previous Norfolk Island reports, and analysis of other Australian rural and remote communities[18]. Additionally, it was noted in the Griffith University studies that there was a degree of undiagnosed hypertension and diabetes within the community, possibly related to the avoidance of preventative health services.

There have been previous reports on the standard of occupational health and safety performance on Norfolk Island with it being noted that it is "sub par" in relation to the use of personal protective equipment and other generally accepted mainland standards.[19] This aspect of the community may have impacts on the incidence of injury and associated impacts.

Voluntary service provision in the health and community service sector, by individuals and groups, provides services that are not available from professional organisations, but this has the risk of potentially poorer quality and access due to the lack of regulation.

4.6 Health service utilisation

Data has been collated on the utilisation of health services by the Norfolk Island community, however there are a number of unique factors that limit the analysis of health service utilisation:

- the unique structure of the health care system results in Norfolk Island not reporting data to the national morbidity datasets, or claim rebates through the Medical Benefits Schedule. This limits the comparisons that can be made on the utilisation of health care services on Norfolk Island with other jurisdictions;
- a reported high level of consumer travel to mainland Australia where they seek opportunistic or planned health care that is outside the referral network of NIHE; and
- the high individual consumer cost of health care is a disincentive to consumers seeking care. This was identified in the Griffith University studies and Muller survey.

[18] http://grattan.edu.au/wp-content/uploads/2014/04/196-Access-All-Areas.pdf
[19] Joint Standing Committee on the National Capital and External Territories (2014) "Same country: different world. The future of Norfolk Island."

Table 5 provides analysis of the existing utilisation of on-island services by the community, with the following issues of note:

- General practice utilisation is within the range of the average for other similar Australian rural and remote communities.
- The emergency department utilisation rate is significantly higher than the rate in rural communities in NSW.
- The supply of residential aged care services is significantly lower than the Australian planning benchmark.

Table 5: Norfolk Island population utilisation of Norfolk Island health services

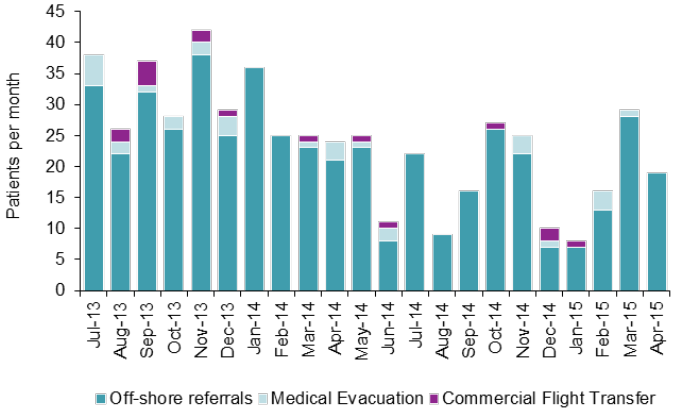
Type	2013/14 activity	NI rate per 1,000 people[20]	Comparator rate	Source
GP attendances	7,337	5,145	3,900 5,200	NHPA – Rural 2 Peer group NHPA – Rural 1 Peer group[21]
ED attendances	2,113	1,482	364	Rural ED in NSW - KPMG analysis
Occupied bed days (acute)	1,257	882	1,116	AIHW – Australia 2013/14[22]
Residential aged care places	5.61 beds	24.9 per 1,000 aged 70+	80	DSS[23]

4.6.1 Interstate flows

The provision of services that are not locally available is accessed through a Norfolk Island Hospital referral to mainland hospitals or patient self-referral. The extent of self-referral is not known as utilisation data were not available from mainland States.

Figure 21 illustrates the trend in Norfolk Island Hospital initiated referral and transfer with significant month to month variation. There were 23 medical evacuations in 2013/14 with 12 on commercial flights and 11 on chartered specialty medical evacuation flights.[24]

Figure 21: Interstate provision of services to Norfolk Island



Source: NIHE

[20] Norfolk Island resident population of 1,427 as at 9/08/2013.
[21] http://www.myhealthycommunities.gov.au/national/mbs0001
[22] Australian Institute of Health and Welfare 2015. Admitted patient care 2013–14: Australian hospital statistics. Health services series no. 60. Cat. no. HSE 156. Canberra: AIHW.
[23] http://guides.dss.gov.au/guide-aged-care-law/3/3/2
[24] Report to Norfolk Island Parliament by AIN Healthcare Manager, 4/11/2014

5 Profile of existing Norfolk Island hospital facilities

The existing health facilities are mainly collocated at the Norfolk Island Hospital and include general practice, emergency department, acute overnight beds, residential aged care, and dental services.

The facility has a total of 24 physical beds and associate support areas, including 12 residential aged care beds and 8 acute adult beds. These are supported by a variety of clinical support and primary care facilities (Table 6).

> The existing hospital facility was first established by the New Zealand Air Force during World War 2 and has had a number of modifications and additions since. It has previously been identified that these alterations and additions have compromised functionality and structural soundness. There is a significant amount of asbestos both within and outside the building. The electrical wiring … is such that there is a very high fire risk. Several of its critical units are not conducive to modern medical practice and no longer comply with acceptable standards for health care facilities. Rooms are too small, storage space is insufficient, surfaces inappropriate and patient privacy non-existent. The efficiency of … care is compromised by the outmoded condition of the hospital.[25]

Table 6: Norfolk Island Hospital facility profile (KPMG)

Type	Number	Comment
Beds		
Acute beds	8	4 x 1 bed rooms inclusive of 1 mental health room
Residential aged care beds	12	3 x 4 bed rooms
High dependency room	1	1 single room with mobile physiological monitoring
Maternity	2	Not used since mid 2012
Baby cot	1	Not used since mid 2012
Subtotal	24	
Procedural rooms		
Consulting rooms	3	Used by staff general practitioners or other visiting staff
Emergency department spaces	2	
Operating room	1	Not used since March 2014
Physiotherapy treatment	3	
Hydrotherapy	1	
Dental chairs	2	
Dialysis chairs	2	3 machines, and 2 chairs
Other		
Aged care hostel beds	3	No personal care support is provided to the hostel.
Plain x-ray	1	
OPG x-ray	1	
Ultrasound	1	

The income and expenditure for the NIHE has remained broadly stable in recent years, with a budgeted expenditure of $4.75 million in 2014/15, an increase from $4.48 million in 2012/13

[25] S2F, Service Procurement Plan and Project Definition Plan, New Norfolk Island Hospital, 24th March 2011, v3

(Table 7). There is a budgeted increased in expenditure in the 2015/16 year of $4.88 million, but at the time of publication it cannot be determined if this is related to price increases or additional services.

Table 7: NIHE operational revenue and expenditure 2011/12 to 2015/16

	2012-13 actual	2013-14 actual	2014-15 budget	2014-15 estimated	2015-16 budget
Income					
Government Subsidy	$ 1,828,200	$ 1,900,000	$ 1,900,000	$ 1,867,000	$ 1,867,000
Own source / other	$ 2,879,008	$ 2,773,342	$ 2,639,550	$ 2,832,967	$ 3,014,200
Total	**$ 4,707,208**	**$ 4,673,342**	**$ 4,539,550**	**$ 4,699,967**	**$ 4,881,200**
Expenditure					
Salaries and wages	$ 3,058,390	$ 3,045,648	$ 2,990,97		
Operating exp. & purchases	$ 1,143,013	$ 1,031,244	$ 1,207,530		
Overheads	$ 280,019	$ 481,137	$ 341,050		
Total	**$ 4,481,422**	**$ 4,558,029**	**$ 4,539,550**	**$ 4,752,954**	**$ 5,129,783**
Balance	**$ 225,786**	**$ 115,313**	**$ -**	**-$ 52,987**	**-$ 248,583**

Source: ANI http://www.info.gov.nf/reports/financial%20statements/

The NIHE has a staff of 37.7 FTE across Administration, clinical and support areas (Table 8). These staff are comprised mainly of permanent employees with locum staff employed in medicine and physiotherapy. These locum roles were established due to the difficulty in retaining permanent employees.

Table 8: NIHE staff profile May 2015

Staff type	Headcount	FTE	Comment
Administration			
Director	1	1.0	
Administration	5	5.0	
Quality improvement	1	0.8	
Clinical			
Medical practitioners	3	2.6	Includes 2 FTE of locum staff
Nursing	12	12	Includes domiciliary nurse role
Casual - nursing	3	1.2	
Dentist	1	1.0	
Dental assistant	1	0.6	
Medical scientist	1	1.0	
Pharmacist	1	1.0	
Radiographer	1	0.5	
Physiotherapist	1	1.0	Currently filled by locum
Counsellor	1	1.0	
Aged care – personal carers	3	3.0	
Support services			
Cleaner	2	2.2	
Laundry	1	1.2	
Cook	2	1.6	
Grounds	1	1.0	
Casual - Pharmacy assistant	1	-	
Casual - Domestic	2	-	
Total	44	37.7	

Source: NIHE May 2015

6 Existing network of health related services

This section of the report describes the type of health services available to the Norfolk Island community.

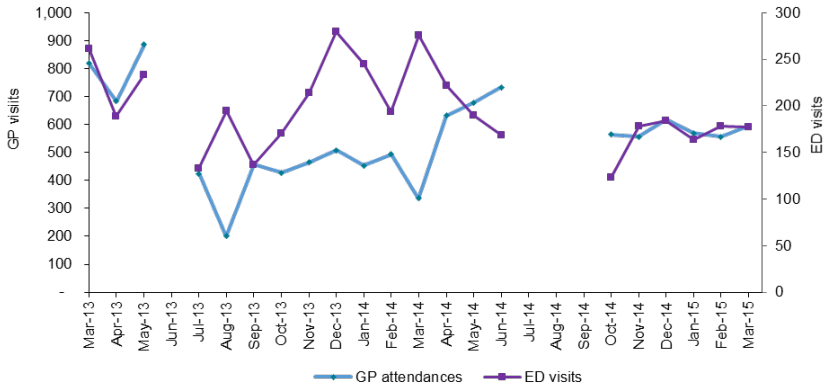
6.1 Primary and Community Health Services

6.1.1 General Practice

The NIHE provides a general practice service and employs 2.6 FTE (3 head count) of general practitioners. They provide a scheduled and emergency service from the Norfolk Island Hospital. There is no external after hour coverage or telephone from a deputising service or telephone advice line. Two of the three GPs service a 24 hour on-call roster with a 1 in 2 on-call availability.

Figure 22 illustrates the month to month general practice and emergency department presentations and illustrates some variation with approximately 600 general practice presentations per month (20 per day) and 175 emergency department visits (6 per day).

Figure 22: Norfolk Island hospital GP and ED visits per month



Source: NIHE May 2015. http://www.norfolkisland.gov.nf/hospital/Stats/
Note the data for June 2013 and July – Sept 2014 were missing from the dataset.

6.1.2 Private allied health and other practitioners

The Norfolk Island community has a small number of resident private health practitioners without affiliation to the NIHE. These include:

- 2 community pharmacy outlets (Burnt Pine Pharmacy and Proud's)
- 1 optometrist
- 1 chiropractor

6.1.3 Community health services

Community health services are those typically organised and provided on a population basis rather than to individual clients. The community-based model of care supports community

capacity building to promote health and wellbeing and encourages consumer participation in service planning, delivery and evaluation.

The Norfolk Island community has elements of a community health delivery model but with little emphasis on population health interventions, other than periodic availability of general health check sessions and an immunisation program.

6.2 Acute and Sub-Acute Care Services

6.2.1 Non Admitted Patient Occasions of Service

Acute and subacute non-admitted services are provided from the Norfolk Island hospital in conjunction with specialist practitioners from mainland Australia, who visit periodically and provide some limited telephone based support outside of these visits. Table 9 provides a summary of the type of specialty service available. Data were not available on the number of patients seen by each practitioner.

The service arrangements with the visiting staff are typically organised on an informal basis, and have developed and evolved over a long period of time. Some of the visits are supported by fundraising organised by local service groups or individuals.

Table 9: Specialty medical and allied services provided on a fly-in/fly-out basis

Specialty	Frequency of visit	Origin
Gastroenterology	Annual	From Prince of Wales (Sydney)
Urology	Annual	Newcastle
Gynaecology	Annual	Sydney
Endocrinology	Annual	Sydney
Rheumatology	Annual	Sydney
Paediatrician – developmental	Biannual	Sydney
Echocardiography	Annual	Sydney
Ophthalmology	Annual	Brisbane
Audiologist	Annual	Northern NSW
Speech pathology	Annual	Sydney
Podiatry	Quarterly to biannual	Brisbane

Source: NIHE May 2015

6.2.2 Admitted occasions of service

The Norfolk Island Hospital has a combination of acute and aged care beds with eight to ten beds generally occupied (Figure 23).

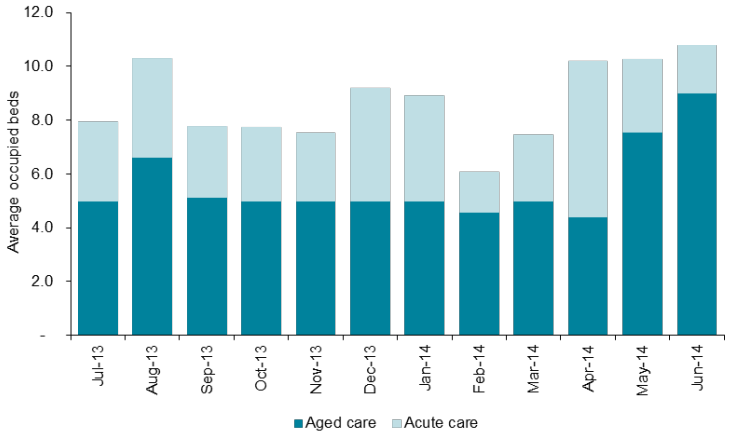
Most of the occupied beds are with aged care residents, with acute admitted care occurring for a small number of patients, with an average of 3.1 beds used for acute admissions in 2013/14. Of these, an average of 0.2 acute beds (17 per cent) were used by visitors to the island.

The average length of stay of the acute admitted patient cohort was 4.1 days in 2013/14. Data were not available on the diagnoses of the admitted patients.

Historically the hospital has provided a maternity and minor surgical service. Maternity services ceased in 2013, related to the inability to recruit a general practitioner with suitable obstetric and anaesthetic capability to replace a retiring practitioner.

Surgical services have not been provided since the ACHS accreditation survey in March 2014, as a response to high priority recommendations related to the physical infrastructure of the operating theatre and central sterile services department (CSSD) area.[26]

Figure 23: Norfolk Island Hospital: Average occupied beds Acute and Aged Care



Source: NIHE

6.3 Clinical Support Services

6.3.1 Medical Imaging

The medical imaging service has a capacity to provide plain film, OPG and ultrasound, but the employed radiographer does not have formal sonography qualifications. The computerised radiology system has the capacity to digitally transfer images to the Picture Archiving and Communications System (PACS) at SESLHD for reporting.

6.3.2 Pharmacy

The Norfolk Island pharmacy service provides a community retail service and provides medications to hospital patients and residential aged care clients. It does not have a compounding capability.

Two private community pharmacies provide services from the Burnt Pine shopping area. These pharmacies do not provide any services to the Norfolk Island hospital although there has been some interaction to support short term medication supply issues.

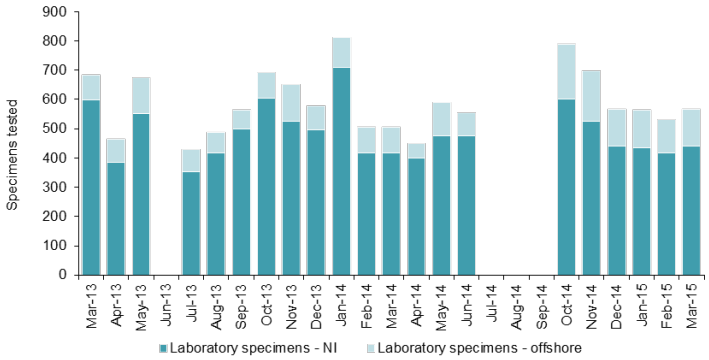
6.3.3 Pathology

The NIHE pathology service provides inpatient and outpatient services to the hospital and external veterinary clients. It provides a comprehensive service in haematology, biochemistry,

[26] http://norfolkisland.gov.nf/hospital/Reports/2014_03_19%20-%20Norfolk%20Island%20Hospital%20Enterprise%20-ACHS%20-%20Final%20Report.pdf

microbiology, and blood bank with approximately 80 per cent of all demand met on-island (Figure 24). The remaining services are provided by mainland pathology labs. No assessment has been made of the quality of service compared to those in mainland Australia.

Figure 24: NIHE pathology service activity per month



Source: NIHE

Note the data for June 2013 and July – Sept 2014 were missing from the dataset.

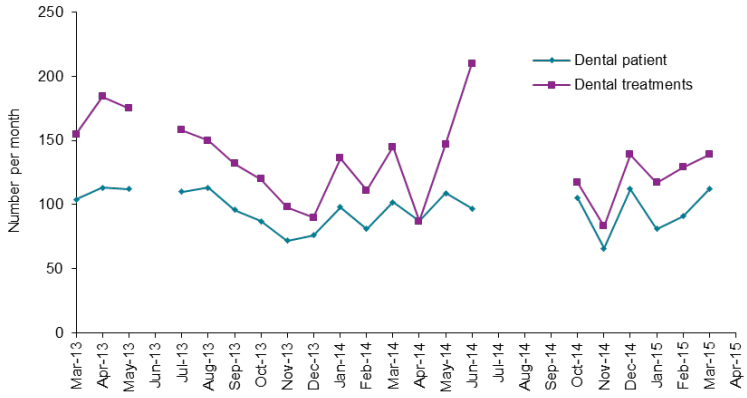
6.3.4 Counselling

The NIHE provides a mental health counselling service from a standalone building on the hospital site. This is staffed by a full time allied health counsellor with referrals made to mainland based specialist mental health services or providers as required. Activity data on this service was not available but the clinician reported a high level of demand.

6.3.5 Dental

A dental service is provided by the NIHE from a standalone building on the hospital site. This is staffed by a permanent dentist with an orthodontist visiting periodically through the year. Activity levels vary from month to month with an average of 125 patient treatments per month (Figure 24). As most properties rely on tank water for domestic water supplies, there is not universal access to fluoridation for dental health purposes.

Figure 25: Norfolk Island dental service activity (2013-2015)



Source: NIHE

6.4 Aged Care services

The NIHE provides the only residential aged care service on the island with high care beds provided at the hospital site and low care hostel beds collocated on the hospital property. An average of six high care beds were occupied in 2013/14.

A retirement village development was proposed for the Island but did not progress due to local planning regulations prohibiting strata subdivision of property. This regulation is currently subject to review.

There is no formalised community based aged care service, although elements of a service are provided by the NIHE domiciliary nurse and home support programs.

6.4.1 Home support programs

A basic level of home support programs is provided by NIHE and non-government agencies. These are listed in Table 10. Care Norfolk Inc. is the main non-government agency providing home support services. It is a community based not for profit organisation established to provide aged residents with home based services. It receives revenue through a combination of consumer fees, NIHE and the Department of Veterans Affairs.

There is no centralised or coordinated approach to intake, assessment of client needs or coordination of care.

Table 10: Availability of home support programs on Norfolk Island

Service	Comments
Intake and Care Coordination	No defined approach
Domestic Assistance	Provided by Care Norfolk
Home Maintenance	Provided by Care Norfolk
Home Modifications	Provided by Care Norfolk
Personal Care	Limited service from NIHE
Social Support-Individual and Group	No organised service. Periodic service provided by NGO and service clubs.
Nursing	Limited service from NIHE
Allied Health and Therapy Services	Physiotherapy service through NIHE. No other therapy.
Meals	Prepared by NIHE. Delivered by volunteers.
Transport	No organised service. Periodic service provided by NGO and service clubs.
Goods, Equipment and Assistive Technology	The physiotherapy service through NIHE provides mobility aids and basic equipment. Continence products are supplied and paid by the consumer.
Flexible Respite	Not available
Centre-Based Respite	Not available

6.5 Public Health services

6.5.1 Vaccination schedules

Norfolk Island does not participate in the Australian Immunisation Program nor contribute data to the Australian Childhood Vaccination Registry. A community vaccination program is provided by the NIHE and the ANI for vaccines listed on the NSW vaccination schedule.

Parents of young children are encouraged to record the vaccinations in their personally controlled child health record (ie "the Blue Book") and the Norfolk Island Central School intends to include the data in the student's records.

6.5.2 Water quality and safety

Norfolk Island is currently self-supplied and there is no universal water supply system. Drinkable water supply is typically provided to domestic and retail premises from rainwater tank collections (97 per cent of private occupied dwellings in 2011).[27] As such, there is no systematic process for fluoridation of the water supply for dental health purposes.

The government operated Norfolk Island Water Assurance scheme provides sewerage services to Burnt Pine and Middlegate, which is where the majority of residents and tourism related businesses are located. The remaining population use septic tanks and effluent absorption trenches.[28]

Previous studies have reported on quality issues of potable water with high e-Coli levels. These levels are perceived to relate to contamination from septic tanks or cattle management practices.[29]

6.5.3 Cancer screening (breast, cervical, bowel)

Norfolk Island does not have a demonstrably systematic approach to cancer screening for the community, with the Norfolk Island population outside of the scope for the State and Commonwealth programs in these areas. It was reported that the NIHE has undertaken periodic "women's health clinics" offering the opportunity for catch-up pap screens, instruction on breast self-examination and other services. There is no identified approach to targeted population screening or recall.

A volunteer community group has been established to progress the introduction of systematic breast cancer screening on Norfolk Island. This group has commenced fundraising for the service and initiated discussions with Breast Screen NSW through the SESLHD service.

6.5.4 Tobacco control

Norfolk Island is subject to different tobacco regulations than mainland Australia, which are promoting the use and uptake of tobacco products by its citizens. Norfolk Island has not enacted regulations that provide a taxation regime, or sales and advertising restrictions consistent with Australian mainland states and territories. Table 11 illustrates some

[27] Table B6.07, Norfolk Island Census of Population and Housing, 9 August 2011
[28] URS, Norfolk Island Water Quality Study, Emily Bay and Upper Cascade Creek Catchments (2013) http://www.info.gov.nf/land&env/water/NI%20Water%20Quality%20Study%20Final%20Report.pdf
[29] Australian Continuous Improvement Group (2011) Norfolk Island Public Service Review. Prepared for the Department of Regional Australia, Regional Development and Local Government

differences in the purchasing arrangements between the jurisdictions, noting the lower price and increased access.

Table 11: Tobacco regulation differences between Norfolk Island and Australia

	Norfolk Island	Australia
Duty free limits – tobacco	250 cigarettes or grams per passenger	50 cigarettes or grams per passenger
Point of sale advertising	Displayed on general supermarket shelves	Prohibited in all State and Territories.
Cigarette retail price	$0.40/stick: Longbeach $0.49/stick: Peter Jackson	$0.88/stick: Longbeach $0.91/stick: Peter Jackson

Source: KPMG May 2015, http://www.customs.gov.au; http://www.tobaccoinaustralia.org.au/chapter-11-advertising/11-4-state-and-territory-legislation; http://wholesale.pattersonroad.com.au/rrp_cigarettes.jsp

6.5.5 Disaster and emergency planning

The ANI has been responsible for the Norfolk Island Disaster and Emergency Plan. This plan describes the response to likely emergency issues, such as cyclones, pandemic infectious diseases, fires, plane crashes, terrorism, and marine search and rescue.

The plan was last updated in 2011 and describes the actions of the responsible agencies and escalation requirements for obtaining assistance from other entities.[30]

A volunteer ambulance service is provided by the St John Ambulance organisation. This service has a 24 hour availability with the volunteers receiving some training oversight from the St John Ambulance organisation in NSW. The volunteers met in the consultation indicated a willingness and need for increased training and equipment upgrade to improve first responder capability.

6.6 Other Services

6.6.1 Tele-health availability

A limited tele-health capability is available on the island with the following being the main service elements:

- computerised radiography service with image reading from SESLHD on selected films;
- telephone advice and triage on acute patients from the Director of Emergency Medicine at Prince of Wales Hospital; and
- a limited use of video conference / consultation service utilising Skype and other non-secure products.

6.6.2 Medical evacuation and repatriation

Patients that cannot be safely managed within the skill and experience level of the hospital and staff are transferred to a mainland hospital. The urgency and criticality of the patient

30 http://www.norfolkisland.gov.nf/emergencymanagement/NORDISPLAN_FINAL_AS%20APPROVED_21Oct2011.pdf

condition is considered when requesting a retrieval team and suitable aircraft. Most emergency evacuations and transfers are to NSW hospitals on commercial aircraft, with a smaller number to Queensland or New Zealand (Table 12).

Table 12: Medical evacuation and transfers from the Norfolk Island hospital.

	2013/14	Jul – Dec 2014
Emergency evacuation	21 (19 NSW, 1 QLD, 1 NZ)	5 (5 NSW)
Transfers	8 (5 NSW, 2 QLD, 1 NZ)	2 (2 NSW)

Source: NIHE May 2015

The regulations of the Norfolk Island health funding system provide some funding for the evacuation of eligible patients on referral from a NIHE medical practitioner.

6.6.3 Maternal and child health

A limited maternal and child health service is provided on the island. Initial antenatal care is provided by the general practitioners with additional support and services provided by mainland maternity providers. There was not a reported structured approach to the referral to a maternity provider and the shared care of the mother.

As the hospital doesn't support on-site birthing, mothers are required to travel to the mainland 6 weeks prior to the planned gestation date, with accommodation and other costs paid by the mother.

6.6.4 Other groups

A range of community support and service groups undertake the planning and delivery of a range of services. These include funding and coordination of the periodic visit of an audiologist, and developmental paediatrician; and day programs and activities for elderly citizens.

6.6.5 Travel and accommodation assistance

The Norfolk Island health care system provides limited financial and travel coordination assistance to citizens when they require health services on mainland Australia, with most costs largely born by the consumer.

This is supported by Norfolk Assists Those In Need Inc (NATIN Inc), a not-for-profit organisation formed in 2012. NATIN Inc provides limited financial and other assistance for accommodation and expenses when eligible residents are required to travel to the Australian mainland to access emergency specialist medical treatment (see 6.6.2 above).

Patient travel and accommodation schemes in other jurisdictions typically subsidise accommodation and transport for the patient and a carer if required.

7 Service drivers

The provision of health services to remote communities is influenced by a range of social and policy drivers. These issues influence consumer demand, the availability of a suitable workforce and ultimately the mix and type of services that can ultimately be provided on a sustainable basis.

7.1 Characteristics of rural and remote health service provision

The health issues identified in Section 4 have many similarities to other rural and remote communities. *Australia's Health 2014* highlighted the differences between the metropolitan and rural and remote populations in relation to the social determinants of health. These include:

- lower levels of income, employment and education;
- higher occupational risks, particularly associated with farming and mining;
- geography and the need for more long distance travel;
- access to fresh foods; and
- access to health services.

These health issues are compounded by the known complexities in the planning, managing and delivering of health services in rural and remote locations, in that rural health services:

- are generally smaller than metropolitan centres;
- have high fixed costs of operation;
- are less able to achieve the economies of scale experienced in large hospitals;
- have a reliance on the public sector as the default service provider in the absence of private sector options; and
- consistently struggle to attract and retain a sustainable skilled clinical workforce.[31]

These issues are also similar to the identified strategic issues internationally in providing health care in other remote communities. The UK Government has recognised that the health services in their Overseas Territories have:

- an increasing burden of disease caused by non-communicable diseases;
- adverse effects by 'diseconomies' of small scale;
- difficulties with continuity of medical expertise – many doctors, surgeons and other specialists are on temporary residency contracts, or make periodic visits;
- challenges in dealing with people whose mental illness poses a threat to themselves or their communities; and
- do not have a population base large enough to supply all the health expertise it needs and all territories rely on expatriate expertise.[32]

[31] Australian Health Ministers' Advisory Council's (AHMAC), Rural Health Standing Committee (RHSC), (2012) National Strategic Framework for Rural and Remote Health
[32] UK Department of Health (2010) Health and Healthcare in the British Overseas Territories: Regional and UK Government Support
www.gov.uk/government/uploads/system/uploads/attachment_data/file/216560/dh_134545.pdf

The Norfolk Island location has other unique characteristics when compared to mainland remote communities in that external assistance is only available through commercial or charter flights, with a medical retrieval team available approximately 6-8 hours after dispatch. Poor local weather conditions can further delay this support. The remoteness and separation from the mainland health care system has led to a greater tendency to self-reliance than would normally be found in mainland communities and a requirement to plan for a range of low probability contingencies.

7.2 Sustainable workforce model

Establishing and sustaining an effective workforce in rural and remote locations is a challenge for most communities.

While the scope and nature of their work requires good generalist skills, much of the training for health professionals is conducted in metropolitan institutions by specialists who are removed from the realities of working in the rural health setting.

In terms of attracting skilled health professionals it is important to recognise the preconceptions about working in rural and remote communities. These generally relate to:

- professional and social isolation (for the health professional and their spouse and family);
- poorer local amenities and infrastructure;
- limited training and professional development opportunities; and
- the difficulty of delivering services in geographically isolated areas, including long-distance travel, extended working hours, and lack of locum support.

These issues have been experienced in Norfolk Island with recent difficulties in the recruitment of general practitioners with specialist procedural and obstetric skills.

7.3 Community expectations

Community expectations on the level and type of health care services are important considerations in the planning of future service models. Australia has seen considerable changes over the past decades with:

- increased consumer participation in decision making;
- publication of performance related data on providers;
- establishment and measurement of standards of clinical care and operational management; and
- establishing benchmarks for acceptable infrastructure.

Elements of the Norfolk Island community have expressed the need to re-establish surgical and maternity services in order to increase the self sufficiency of the local health services; reduce the amount of travel, cost and inconvenience associated with seeking mainland health services; and reduce the need for residents to migrate to the mainland for child birth.

7.4 Standards of care

The adoption of standards of care is important in delivering appropriate care and reducing unwarranted variation, as these identify and define the care people should expect to be offered or receive, regardless of where they are treated. Accreditation provides credible

assurance about the quality of care/service provided and instils confidence for clients and/or consumers.

The services provided on Norfolk Island have not been required to obtain accreditation from a standard setting body. The NIHE undertook its first ACHS accreditation survey in 2014. This survey acknowledged that the organisation had undertaken a significant amount of developmental work but was unable to meet a number of the criteria.

The agencies providing aged care services, NIHE and Care Norfolk, have also not been assessed by the Aged Care Quality Agency and are not Approved Providers under the Commonwealth Aged Care Act. It is likely that there will be significant developmental work to obtain this status.

In addition to the ACHS accreditation standards, there are departmental accreditation requirements to enable billing to the MBS or PBS, including:

- Diagnostic Imaging Accreditation Scheme (DIAS)
- National Association of Testing Authorities, Australia (NATA)
- Royal Australian College of General Practice (RACGP) - Standards for general practices.

7.5 Technology developments

The developments in information and communications technologies have provided consumers and providers with additional options for obtaining information and assistance in maintaining good health and improving outcomes.

A range of technology options are available and developing to support consumers and providers in remote locations. The utility of these services has dependence on the availability of suitable broadband and telephony networks. It is expected that Norfolk Island will obtain access to the National Broadband Network (NBN) long term satellite service once available in 2016.[33] This will offer wholesale services configured for a planned 25 megabits per second (Mbps) download and 5Mbps upload service.[34] The retail pricing of NBN access is not yet available, so comparison to the existing retail internet fees is not available.

7.5.1 Self help

There has been a large expansion in the availability of credible, authoritative information and advice on health care issues. A range of telephone and internet based support services have been developed that provide consumers with expert assistance, as an alternative or supplement to face-to face services, including:

- "*Pregnancy, Birth and Baby*" is a free phone and online service providing information, advice and support through pregnancy, childbirth and the first year of parenthood (www.pregnancybirthbaby.org.au)
- "*Healthdirect*" provides easy access to trusted, quality health information and advice online and over the phone. It is available 24 hours a day, 7 days a week (www.healthdirect.gov.au).

[33] http://www.nbnco.com.au/content/dam/nbnco/documents/Integrated-Product-Roadmap.pdf
[34] http://www.nbnco.com.au/connect-home-or-business/information-for-home-or-business/satellite.html

7.5.2 Telemedicine

Telemedicine applications have developed to provide a range of remote health care services. The telephone based support services are one example, but they extend to the provision of specialist support and advice to clinicians and direct patient consultations.

There is a range of technologies that permit communications between patient and medical staff, as well as the transmission of medical, imaging and health informatics data from one site to another. These services are broadly grouped in the following categories:

- store-and-forward: capture of data (like medical images) and then transmitting this data to a doctor or medical specialist at a convenient time for assessment offline;
- remote monitoring: enables medical professionals to monitor a patient remotely using various technological devices. This method is primarily used for managing chronic diseases or specific conditions, such as heart disease, diabetes, or asthma; and
- interactive services: real-time interactions between patient and provider, to include phone conversations, online communication and home visits. Many activities such as history review, physical examination, psychiatric evaluations and ophthalmology assessments can be conducted comparably to those done in traditional face-to-face visits.

Aligned with the telemedicine initiatives is the opportunity to achieve high levels of registration of consumers with a Patient Controlled Electronic Health Record (PCEHR). The PCEHR is a secure online summary of a consumer's health information and will be useful for the Norfolk Island community due to the ongoing need for additional providers to be involved in the health care system.

7.6 Contingency planning

Remote island communities such as Norfolk Island provide a unique set of challenges in health service planning. Given the extensive time and logistical barriers to seeking higher levels of care, the health system needs to have the capacity to account for a range of unlikely events and emergencies, such as instances of multiple major trauma, premature or unplanned labour, and infectious disease outbreak.

The response of the health care system to these events will be a function of the workforce planning and skill development, management practices and scenario testing, and facility planning to provide adequate physical facilities.

8 Planned services

8.1 Planning principles

In establishing the structure and function of the proposed system of care the following principles have been used, consistent with the National Strategic Framework for Rural and Remote Health:

- improved access to appropriate and comprehensive health care;
- effective, appropriate and sustainable health care service delivery;
- an appropriate, skilled and well-supported health workforce;
- collaborative health service planning and policy development; and
- strong leadership, governance, transparency and accountability.[35]

These principles have been used to structure the proposed suite of services that could optimally be provided to the community.

8.2 Case studies of similar communities

A comparative analysis of similar communities has been undertaken to provide a description on the types of health care services that are typically available to small remote communities. Other island communities around Australia have been identified for case study purposes as they have the key characteristics of:

- consumers have significant cost and inconvenience in accessing other services, as air transport is the only feasible transport to another health service location; and
- transport of patients for urgent care at a secondary or tertiary centre is delayed due to the requirement to mobilise a commercial or charter flight. Further detail is provided in Appendix D.

The analysis of these services has identified that Norfolk Island has the oldest community of the comparison sites and is most similar to King Island, in the size of the population and age profile. In comparison to the breadth of services currently provided, the Norfolk Island community has previously experienced a greater range of services but arguably at a lower quality since they have not been accredited by a suitable accreditation agency.

[35] Australian Health Ministers' Advisory Council's (AHMAC), Rural Health Standing Committee (RHSC), (2012) National Strategic Framework for Rural and Remote Health

Table 13: Comparative health services in other remote communities

	Norfolk Island	Christmas Island - IOT	King Island - Tas	Lord Howe Island - NSW
Resident pop. (2011)	1,795	2,072	1,565	360
Median age (2011)	46	32	45	47
% over 65 yrs (2011)	18.7%	3.8%	18.5%	18.9%
Median weekly income (Personal/house) (2011)	$550/ n/a	$1,020/ $1,845	$625/ $952	$632/ $938
Distance	Bris. 1,475km Sydney 1,700km	Perth 2,600km Jakarta 490km	Burnie 212km	Sydney 780km
Funder	ANI	DIRD	Tas. DHHS	NSW MoH
Provider	ANI – NIHE	DIRD	Tasmanian LHD	SESLHD
General practice	Yes 2.6 FTE	Yes 3.0 FTE	Yes 2 FTE contracted	Yes – private 1 FTE
Acute care	Yes – ave 3 beds	Yes – 8 beds	Yes – 6 beds	Yes – 3 beds
Aged care	Yes	No	Yes: 14 bed RACS HACC by council and THO-NW	No
Surgery	-	-	-	-
Birthing	-	-	-	-
Dental	Yes	Visiting	Visiting	No
Allied health	Physiotherapy	Visiting physio, OT, dietetics,	Physiotherapy Others visit	No
Mental health	Counsellor	Visiting	Psychologist	No

Source: Norfolk Island Census 2011; ABS census 2011; Google Earth; KPMG interviews with providers

8.3 Service gaps

The consultations and analysis in previous sections have identified a number of current and emerging service gaps. In particular:

- **Health promotion program** to increase the availability of primary and secondary prevention activities. This focus would offer to provide the community with increased resources and focus on the improvement of health status, prevention of ill health and the early detection of disease or illness.
- an **aged care service** that supports residents to maintain independent living in community settings and in an institutional environment as a last resort. This service should leverage off the high level of existing community resilience and supports by providing a primary focus on home based service delivery. The lack of residential care options of a contemporary standard may be limiting the local uptake and demand and decreasing the effectiveness of the existing service at the Norfolk Island hospital.
- a **chronic disease management model** to minimise the impact of non-communicable disease. Chronic disease management models typically include a range of targeted interventions on defined cohorts of patients. The unique characteristics of the Norfolk

Island health service in it being the sole provider of primary care means that the whole population could be aware of the services available to them. A prospective and proactive approach to management of chronic disease requires the following elements:

  - Self-management support: Collaboratively helping patients and their families to acquire the skills and confidence to manage their condition. Provide self-management tools, referrals to other resources, routinely assessing progress.
  - Decision support: integration of evidence based clinical guidelines into practice and reminder systems. Guidelines reinforced by clinical "champions" providing education to other health professionals.
  - Community resources: Linkages with patient education classes or home care agencies to provide case managers. Linkages with community based resources – exercise programs, self-help groups, and senior centres.

- clear and effective **service pathways** to provide residents with referral and care coordination to mainland service providers. The Norfolk Island health services will always need to seek advice from, and refer patients to, other providers. The common disciplines for referral should be supported by clear referral paths to increase consumer confidence and satisfaction and provide on-going support and feedback to clinicians.
- a **quality management framework** to ensure services are provided at acceptable standards. The variety of clinical services provided on Norfolk Island should be underpinned by safeguards to ensure the providers and consumers of the safety and quality of the services provided. Moving to accreditation of the clinical and support services will bring the service delivery towards the standards expected of other parts of Australia.

Part of the quality management framework would include reporting on quality, operational and financial indicators consistent with the national or state based data collections. This will enable ongoing benchmarking of performance compared to peers. The transitional period for accreditation and reporting could see an increasing capability in this area.

9 Proposed service profile

This section describes the recommended service profile and the associated support requirements.

The proposed health care services should develop as a vertically integrated health care system that provides the population with a range of affordable health, aged and support services that are targeted to the specific needs of the community.

The challenge of provision to small and isolated areas, has led to the development of innovative service models in other Australian communities. The Multipurpose Service (MPS) model used in some Australian States was established as a response to a range of health and aged care challenges in rural communities, including:

- isolation from mainstream services;
- cost inefficiency in delivery of discrete services to small populations;
- lack of local residential aged care services; and
- duplicate and inconsistent accountability requirements for the multiple funding streams which can be received by small services.

The MPS programs have provided the opportunity to pool Australian and State Government health and aged care funds and apply these funds across all health and aged care programs according to community need. This allows for flexibility in meeting the needs of the local communities.

While Norfolk Island is not part of an existing MPS agreement, the principles can be applied to pool the potential funding sources and provide services according to the changing needs of the population. This is similar in concept to the recommended model from previous planning projects.[36] The governance of the service and definition of the purchaser and provider options are considered separately in Section 10.2.

This approach provides the opportunity to continue the evolution of the service towards one with a greater primary care and aged care focus.

9.1 Service description

9.1.1 Service levels

This profile of services is recommended to be similar to those in other rural and remote communities but recognition should be given to the challenges of service provision in island communities.

It is recognised that there are workforce availability constraints in the provision of services to remote communities that may limit the ability to consistently provide all the required services.

9.1.2 Primary care

The foundation of health care services on Norfolk Island should be a comprehensive primary care service that is provided by staff with an appropriate breadth of experience and skill. An interdisciplinary model with medical, nursing and other skills is required to deliver a range of

[36] Nexus Management Consulting (2013), *Draft Health Services Plan: Norfolk Island*

activities including health promotion, prevention, early intervention, treatment of acute conditions and management of chronic conditions.

9.1.3 Acute medicine

The management of acute medical emergencies has increased importance in communities with high levels of chronic and complex conditions. The capability to provide effective first line diagnosis and intervention is a fundamental requirement of a health system. This will include the common acute presentations relating to cardiac, respiratory and endocrine disease (acute coronary syndrome, cardiac failure, asthma, diabetes).

The inclusion of a general medicine/internal medicine capability as a remote sub consultation service to support the general practice would add value in the provision of care for chronic health conditions and co-morbidity.

9.1.4 Surgical services

The continued difficulty in recruitment of general practitioners with anaesthetic and surgical skills will result in difficulty in providing a planned surgical service.

The lifestyle and occupational risks associated with rural communities make it likely that trauma and other surgical emergencies will occur periodically. Norfolk Island should retain the capacity to undertake emergency stabilisation of trauma patients prior to transfer to a secondary or tertiary care provider. The level of procedures available will depend on the skill and credentialing of the workforce available at the time and the level of telemedicine support available from another centre.

9.1.5 Maternity services

The provision of maternity services for the Norfolk Island community will always remain challenging given its geographical isolation, and inability to provide surgical support if required.

Maternal and neonatal mortality and morbidity are higher in remote communities than in other areas. In response to this and the associated workforce and logistical issues, there are no identified rural and remote communities in Australia that provide a planned birthing service without emergency surgical support.

Of the locations reviewed for case study purposes and additional consultation with the Northern Territory Department of Health, no planned birthing services were identified. The maternity service in these locations has the following features to optimise quality and minimise the risk for mother and child:

- an extensive risk assessment process to assist in the management of pregnancy;
- a shared care maternity model that provides local midwives and general practitioners with a network of support from a secondary or tertiary maternity service; and
- provision of routine antenatal and postnatal support locally with specialist care provided from a secondary or tertiary maternity service.

Given the systemic challenges in providing local maternity services to small rural communities, it is unlikely that birthing services could be provided on Norfolk Island in the foreseeable future. However, the quality of the pregnancy experience could be enhanced by more

established and effective linkages and service integration with a secondary and tertiary care provider.

9.1.6 Population health programs

The availability of population health programs enjoyed by the Australian community should be made available to the Norfolk Island community. These should include:

- **Immunisation:** the availability of a vaccine program and schedule consistent with the Immunise Australia Program.[37]
- **Breast cancer screening**: continuation of the negotiations to seek agreement with Breast Screen NSW on the most appropriate service model within the structure and governance of the NSW Cancer Institute.
- **Cervical Screening**: the Norfolk Island population should have the option of inclusion in the NSW Pap Test Register to ensure recall letters are provided according to the protocols of the program.
- **National Bowel Cancer Screening Program**: this self-administered screening test should be suitable for implementation on the island as the postal service and ambient temperature enables effective operation.
- **Tobacco control:** introduction of adverting and sales restrictions, duty free importation levels and taxation in line with mainland Australian states should be implemented to drive a reduction in tobacco use.

Modelling of the estimates of the take-up of the cancer screening programs is provided in Appendix E.

The inclusion of Norfolk Island within a Primary Health Network (PHN) provides the opportunity to continue the development of population health based strategies, working with both public and private providers to develop innovative health programs. It also provides support to general practices to encourage local service provision and support the delivery of chronic disease management and preventative health programs.

PHNs are being established nationally with funding support from the Australian government with the key objectives of:

- increasing the efficiency and effectiveness of medical services for patients, particularly those at risk of poor health outcomes; and
- improving coordination of care to ensure patients receive the right care in the right place at the right time.

9.1.7 Aged care services

Citizens in an ageing community will experience times when it is difficult to manage day-to-day living activities. Aged care services can be targeted across a range of supports including home support programs, respite care, transitional care after hospitalisation or permanent residential aged care options.

[37] http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/national-immunisation-program-schedule

The NIHE has not hitherto supported the existing residential service provided at the Norfolk Island Hospital for accreditation from the Australian Aged Care Quality Agency (the Quality Agency) as it has not been previously been eligible for funding. A progression towards achievement of the standards will enhance the service delivery to residents and can precede redevelopment of the physical infrastructure. It should be recognised that this is likely to be challenging.

9.1.8 Home support programs

The ageing of the island population and the lack of alternative accommodation in supported living or residential aged care services, requires the establishment of an effective home support program. This service should be established in a structure that could be suitable to seek funding from the Commonwealth Home Support Program.

The expansion of My Aged Care and Regional Assessment Services to Norfolk Island could see the establishment of common intake and assessment process that could coordinate the planning and delivery of services to consumers. This will facilitate the interdisciplinary planning of medical, nursing, and home support services around the patients' individual needs.

9.2 Statutory functions

Well-developed health systems have a number of functions that are structured in legislation to ensure the ongoing effective management and control of health care issues. The previous review of Norfolk Island health legislation identified a range of issues relating to the existing suite of legislation with recommendations that it be developed to align with structures on mainland Australia. The *Norfolk Island Legislation Amendment Bill 2015* now allows for the application of NSW state law to Norfolk Island as Commonwealth law and allows the Commonwealth to enter into arrangements with the NSW Government for the delivery of state level services.

Table 14 outlines core legislative and reporting functions that are part of the health framework in Australian States and Territories. These functions are typically administered by the State or Territory government rather than the service providers. The ability to provide these functions is a consideration in the development of the delivery model (Section 10).

Table 14: Core legislative and reporting functions

Function	Role
Regulation	• regulation of activities that could impact on the health of a community including cooling towers; pest control; control of people with infectious diseases; food quality.
Reporting	• specification of notifiable diseases and microorganisms • reporting on immunisation status • control and ordering of autopsies.
Chief Health Officer	This statutory Chief Health Officer role is generally has roles including: • develop and implement strategies to promote and protect public health • publish reports on public health and wellbeing of the community • investigate issues relating to health of a community • issue directions for the prevention or control of disease.
Consultative councils	• standing or time limited committees reporting on specific health issues, for example, maternal and perinatal deaths; surgical mortality.
Health information control	• promote the responsible handling of health information • balance the public interest in protecting the privacy of health information with the legitimate use of that information
Complaints investigation and management	• a statutory role for the investigation, management and mediation of complaints regarding health service provision • organisationally independent to the provision of the health services.
Mental health	• provide a framework for the assessment of persons who appear to have mental illness and for the treatment of persons with mental illness • provision of compulsory orders that can require the compulsory examination, detention or treatment of an individual

Function	Role
	• appointment of a Chief Psychiatrist.
Child welfare	• mandatory reporting of births • child welfare reporting and management of reports • checking the suitability of persons to be employed or engaged to work with children.

Source: KPMG

9.3 Governance

Consistent with the recommendations of the ACHS accreditation survey and previous planning reports, the provision of health services on Norfolk Island should be supported by an entity with well-established clinical and corporate governance mechanisms. This will also assist in expediting the path to achieving accreditation of clinical services.

A local community advisory committee should be maintained to support the involvement of the Norfolk Island community in the planning of health services. The focus of the committee should be expanded to address the wider determinants of health.

9.3.1 Service pathways

Effective pathways for referral and support to mainland providers should be established to enable clarity on the options for care and ongoing support when it cannot be provided locally.

While patient preference and choice is an important consideration, a strong relationship with a small number of providers will enable all parties to develop experience in the interactions. The establishment of effective telemedicine links is also best done between a small number of parties to enhance the continuity of care and service partnerships.

9.3.2 Staff support

Establishing staff support structures will assist in the continuing education and skill development of staff. These structures could include the participation in the learning and development programs of an established health service provider including:

- online mandatory annual training modules and ongoing training and development;
- staff support and mentor capability;
- professional and peer review of practice;
- participation in seminars and other video/webcast initiatives; and
- opportunity for staff exchange and skills transfer.

These programs can also be used as an avenue to progress the development of telemedicine programs for the patient level clinical review and treatment.

9.3.3 Performance management framework

Establishing a performance management framework that provides stakeholders with a comprehensive overview of the service performance compared to defined key performance

measures. The specific key performance measures should address the mix and type of services available across the following domains:

- safety and quality
- service access and patient flow
- finance and activity
- people and culture
- population health

This should be aggregated and summarised into a performance scorecard and dashboard.

9.4 Enabling infrastructure

9.4.1 Facilities

Planning should progress for the replacement of the existing hospital and residential aged care facility. The need was identified more than 15 years ago and since that time the risks and issues associated with the facility are largely unabated.[38]

This facility should be planned flexibly to allow for expansion or reconfiguration if the service needs change over time, consistent with the service objectives of MPS models.

The proposed configuration of the facilities recognises the increasing role of aged care service provision with continued need to provide effective primary care, acute inpatient care and emergency response.

Table 15: Proposed Norfolk Island health facility profile

Facility model	2015 Existing	2020	2025	Comment
Primary care				
Consulting rooms	3	4	4	
Emergency bay	2	2	2	
Acute beds	8 physical 3 occupied	6	6	Adequate capacity is provided to manage periodic demand variations.
Residential beds				
High care	12 physical 8 occupied	18	23	The distinction between high and low care beds has been removed from the Commonwealth funding instruments in July 2014. The physical configuration of the proposed demand should be determined in the capital planning phase, as all the beds do not need to be collocated.
Low care	3			
Total	*11*	*18*	*23*	
Procedural spaces				

[38] The Parliament of the Commonwealth of Australia: Joint Standing Committee on the National Capital and External Territories. (2001) *Inquiry into the provision of health services on Norfolk Island*.

Facility model	2015 Existing	2020	2025	Comment
Birthing room	1	0	0	
Operating room	1	0	0	
Procedure room	0	1	1	Multi-purpose room for emergency stabilisation, unplanned labour
X-ray room	1	1	1	
Dental chairs	2	2	2	
Allied health	3	3	3	

Source: KPMG

9.4.2 Information and Communication Technologies

A telemedicine and telehealth system should be established that supports the availability of secondary care and tertiary care on Norfolk Island. This system should have the following features:

- a robust implementation strategy that includes the procedures, protocols and technical support;
- a motivated and effective secondary and tertiary health care provider that will support the implementation of the service and the range of specialty clinical services required;
- it should provide support for the continuing education of staff in all disciplines and provide opportunities for professional networking and peer support;
- a bandwidth of at least 384kbps to enable useful clinically oriented video conferencing; and
- capability to include devices and remote access cameras. [39]

Other information systems should be implemented to provide the health service with the level of information available for other small rural services. This includes a medical records coding system and inclusion of data to the morbidity data collections for analysis.

9.4.3 Travel and accommodation assistance

Establishing a travel and accommodation assistance scheme similar to those offered in Australian States and Territories will assist with consumers' financial costs associated with seeking secondary care on the mainland. These schemes typically subsidise accommodation and transport for the patient and a carer if required. This service would take the pressure off voluntary organisations such as NATIN and reduce the barriers to residents seeking specialist care. A summary of Australian schemes is provided in Appendix C.

[39] See for guidance on the technology requirements:
www.mbsonline.gov.au/internet/mbsonline/publishing.nsf/Content/connectinghealthservices-guidance

9.5 Staff levels

The staffing profile of the health services should evolve to reflect the changing level and types of services provided. These changes should include:

- **transitional management support**: External assistance will be required to transition the provision of health services on Norfolk island to a primary care and preventative health model, rather than the current acute focused hospital care system. Assistance will also be required to increase the clinical capability, progress towards accreditation, develop the partnerships and system structures and review the data management systems.
- **community health**: An investment in health promotion and community health programs is required to enhance the health of the community and increase the availability of primary and secondary prevention activities.
- **growing aged care and home support program role**: The growth forecast in this program for both residential and home based supports, requires enhancement to the business structure and staff profile of the services. Alignment with the requirements of the Commonwealth Home Support Program will provide long term operational and financial benefits.

9.6 Operating budget

An operating budget will need to be developed, and should consider the impact of new costs not currently borne by the existing system including:

- new income taxation rates;
- application of on-costs rates for superannuation and workcover; and
- possible revenue for providers associated with access to the MBS, PBS and other funding sources.

10 Delivery options

The provision of the desired services requires an effective governance structure and provider to enable them to be delivered to the expected standards and level of accountability. The delivery model is additionally influenced by:

- changes to the governance of Norfolk Island as a result of *Norfolk Island Legislation Amendment Bill 2015*;
- the opportunities that the legislative changes present in providing access to additional funding sources; and
- the level of market interest and transitional risk in selecting and engaging with providers.

This section describes the delivery options for the ongoing delivery of health services and the preferred model for delivery.

10.1 Eligibility for new funding streams

A key pillar of the changes to the Norfolk Island governance arrangements has been that the changes will enable the Norfolk Island community to access a range of benefits that are routinely available on mainland Australia.[40] These include access to rebates through the MBS, PBS and other payment systems. Table 16 outlines the opportunities, benefits and supports that could be available to Norfolk Island residents. Consultation with the appropriate Government Department should be undertaken to determine opportunities to commence access to the funding stream prior to all standard eligibility requirements being met.

Table 16: Australian Government funding streams and Norfolk Island implementation issues

Funding stream	Opportunity	Issues
Pharmaceutical Benefits Scheme	Once a pharmacy on Norfolk Island becomes an approved supplier of PBS medicines, most medicines listed in the Schedule of Pharmaceutical Benefits will be accessible by eligible Norfolk Islanders. Residential care clients within the Norfolk Island Hospital should be able to access most medications though the PBS.	There are 3 pharmacies on Norfolk Island – none of these are currently an approved PBS provider. Consideration of the Pharmacy Location Rules is required to support the market transition to PBS eligibility.
General Practice - Practice Incentives Payments (PIP)	PIP support general practice activities that encourage continuing improvements, quality care, enhance capacity, and improve access and health outcomes for patients. These funds also support the recruitment and retention of GPs.	Eligibility for the PIP program requires a practice to be accredited or registered for accreditation against the RACGP standards for general practices. The existing NI practice is not accredited by the RACGP. PIP payments are generally based on a measure of the practice size, known as the Standardised Whole Patient Equivalent (SWPE) value. The SWPE value is calculated using MBS claims by

[40] http://www.regional.gov.au/territories/norfolk_island/reforms/faq/health.aspx

Funding stream	Opportunity	Issues
		patients attending the practice during an historical 12-month period, known as the reference period. As there are no historical claims on the MBS, an alternative arrangement should be sought thought DH to assess practice size.[41]
Medicare Benefits Schedule - pathology	Eligibility for pathology related items in the MBS requires that the pathology laboratory is accredited and registered under the appropriate schemes. A key feature of the registration requirements is for a *pathologist* to be part of the established staff structure. MBS payments could be obtained for the pathology services associated with the GP and residential care services provided.	A small number of MBS items are available for GP claims, with most items being for tests performed by pathologists. As benefits are paid on behalf of the pathologist, the Norfolk Island laboratory would require a pathologist to be part of the staffing complement for assurance and supervision requirements. Accreditation of the laboratory by NATA or another suitable organisation is also required. [42]
Medicare Benefits Schedule - medical imaging	Eligibility for medical imaging related items in the MBS provides the opportunity for funding support for imaging associated with general practice patients.	As benefits are paid on behalf of the radiologist (specialist medical practitioner), the Norfolk Island imaging service would require a radiologist to be part of the staffing complement for assurance and supervision requirements. To demonstrate compliance against the required Standards, providers will be required to submit an application to a Diagnostic Imaging Accreditation Scheme approved accreditor. Practices that do not have accreditation cannot provide Medicare funded Diagnostic Imaging Services Table (DIST) services.
Medicare Benefits Schedule – other services	Services provided by GPs, other specialist medical providers and some allied health services could be eligible under the MBS regulations. This could enable a source of funds to support on-island or telemedicine clinical services.	The provision of Location Specific Provider Numbers for GPs, other specialist medical practitioners and eligible allied health practitioners is required to enable consumers to access MBS benefits.
Aged care funding - residential	Commonwealth funding for the residential aged care services is available to Approved Providers for	The residential care facilities and service have not been assessed by the Quality Agency, however the existing facility

[41] http://www.humanservices.gov.au/health-professionals/services/practice-incentives-programme/
[42] Health Insurance (Accredited Pathology Laboratories — Approval) Principles 2002 as amended made under subsection 23DNA (1) of the *Health Insurance Act 1973*

Funding stream	Opportunity	Issues
	approved beds that meet the required standards[43] In the MPS models, the funding for approved beds is allocated to the provider as an availability payment rather than based on occupancy.	does not meet the facility requirements relating to single rooms and bathroom ratios. If a traditional MPS model is provided, the need for Quality Agency accreditation is not required.
Aged care funding – home support program	Commonwealth funding for approved places in the home support program is available to providers that meet the required standards[44]	Care Norfolk or another agency would be required to seek Approved Provider status and develop the operational procedures to manage the program. A significant amount of organisational developmental work is required for agencies to successfully obtain Approved Provider status.
Continence Aids Payment Scheme	The CAPS is an Australian Government Scheme that provides a payment to assist eligible people who have permanent and severe incontinence to meet some of the costs of their incontinence products. An annual payment of up to $545.80 in 2014-15.	Consumers or an authorised representative can apply for this funding to the DSS. The funding should be available prior to resolution of the model of aged care service provision.
Other Department of Human Services payments	The Department of Human Services provides access to social, health and other payments and services through: *Medicare*: and other programs include the Australian Childhood Immunisation Register. *Centrelink*: payments and services for retirees, job seekers, families, carers, parents, people with disabilities and provides services at times of major change. *Child Support*: gives parents the financial and emotional support needed for their children's wellbeing.	Payments from DHS to eligible consumers and carers should be able to be administered immediately. This financial and other assistance should assist Norfolk Island residents to manage their individual needs and circumstances.

[43] Quality of Care Principles 2014, see https://www.comlaw.gov.au/Details/F2014L00830
[44] Quality of Care Principles 2014, see https://www.comlaw.gov.au/Details/F2014L00830

10.2 Service provider

A range of provider options exist to provide the core health services to the community, and the services can be bundled to obtain the most functional service model. These include:

- Direct provision by the Commonwealth
- Provision by the Norfolk Island Regional Council
- Provision by a mainland State or Territory Government
- Contract with a mainland Local Health Network or non-government provider

Table 17 provides an outline of the options and the relative advantages and disadvantages. Within all of these options the main service provider can directly provide services or contract with other parties, and the traditional health and aged care funding streams are available if the eligibility requirements are met.

Table 17: Delivery model options

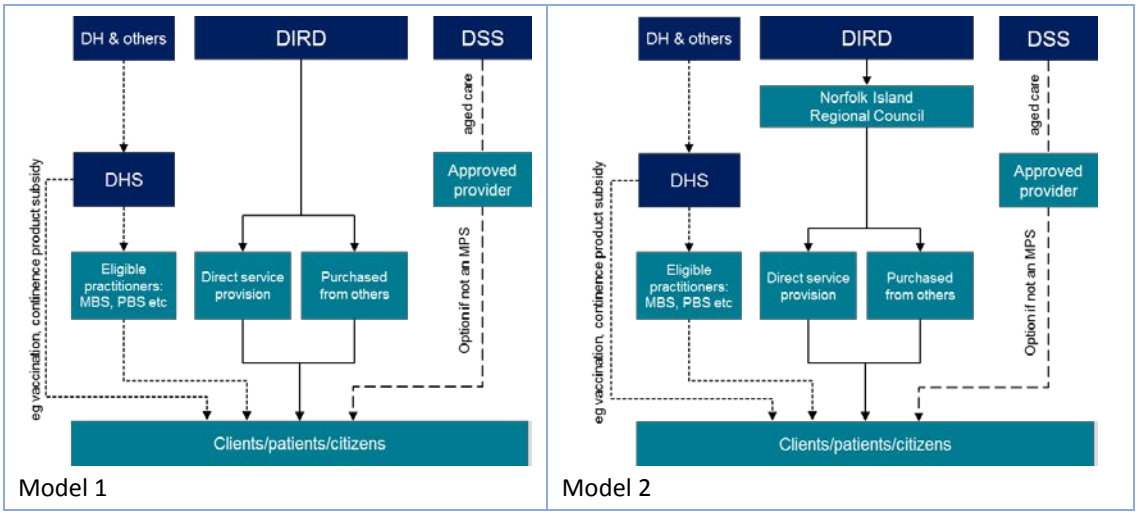
	Model	Advantages	Disadvantages
1	Commonwealth This would see the DIRD directly employing and managing the delivery of health services. This is the existing model on CI. Services not directly provided would be purchased from other providers.	DIRD has experience with this model through Christmas Island. Transition is easiest as contractual arrangements are minimised.	No risk transfer. Doesn't support the reform aims of increasing private sector involvement. Clinical risk management issues are not improved. Statutory health functions may not be addressed.
2	Regional council The Regional Council could provide services under contract from DIRD. In line with the responsibilities of typical councils, this could include the home support program.	Existing management structures could be used to continue the operation of the services. Low transition issues.	The Administration of Norfolk Island has limited experience in the delivery of home support services. All systems would need to be established – large learning curve. Doesn't support the reform aims of increasing private sector involvement. Clinical risk management issues are not improved. Statutory health functions may not be addressed.
3	State or Territory Government State and Territory governments have the regulatory and service provision frameworks to provide health services.	Existing State and territory statutory functions can be utilised. Access to total suite of required services.	Possible long negotiation with State government. May require legislative change to enable enacting of relevant State legislation.

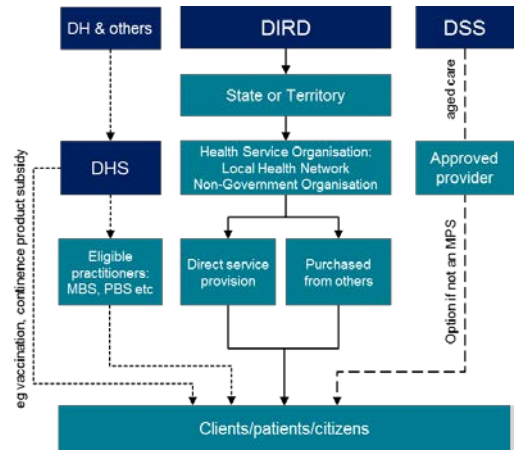
	Model	Advantages	Disadvantages
	Provision can be undertaken through their LHN structures or purchased from other providers.		
4a	Local Health Network or Non-government provider		
	A mainland based LHN could provide the services through a contract with DIRD. This would enable the clinical quality oversight to leverage off existing systems.	LHN has the clinical and operational governance systems established. Can draw on a wide range of clinical and support resources. This model could assume the statutory health framework of the jurisdiction.	Possible long negotiation with the relevant government. Possible incentives to increase referrals and transfers off-island.
4b	Private for-profit or not-for-profit providers could provide a contracted service. This model exists on King Island, other remote communities and extensively in the justice systems. Contracted providers provide a range of services to rural communities in NSW and other states.	A not-for-profit provider could support the provision of the health or home support service. Not-for-profit providers with the appropriate corporate mission could provide a sustainable level of service without high profit incentives. Existing mainland providers with systems and accreditations could expedite access to CW programs.	Market interest is uncertain. Existing tender on King Island will provide information. For-profit providers are unlikely to have high interest as profit margins are likely to be low. No existing Norfolk Island entities have accreditation for CW funds. Statutory health functions may not be addressed.

Source: KPMG

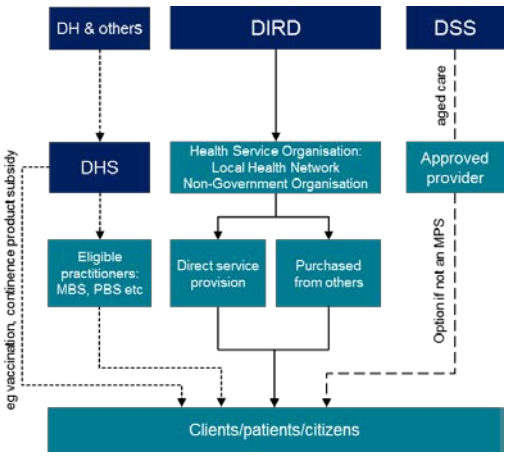
The figures below illustrate the general flow of funds and provision of services from the key Australian Government departments with respect to the models outlined in Table 17. These figures also illustrate that service provider arrangements could vary depending on the service type.

Figure 26: Schematic representation of potential funding flows with delivery models





Model 3



Model 4a and b

10.2.1 Assessment of options

An assessment of the high level options has been undertaken through comparison to the planning principles specified in Section 8 (Table 18). All options have the capacity to provide sustainable access to appropriate health services, although Models 3 and 4 have increased ability to address these principles due to their larger breadth of services available.

Model 4b is potentially less sustainable than Model 3 and 4a as it could be subject to more uncertainty in the availability of contracted staff, especially general practice, whereas Models 3 and 4 could draw on their large personnel resources.

The ability to continue the planning and policy development requirements of an evolving health system would be best met through Models 3 and 4 as they can leverage their existing resources and planning processes. Other Models could have continued challenges in the provision of planning and policy roles in conjunction with the clinical objectives.

The leadership, governance, transparency and accountability requirements would be best met through Models 3 and 4a as they most enable DIRD to function as the funder or purchaser of services rather than in direct service provision. In addition, if the agreements and legislative amendments are suitably constructed, these would enable the statutory and independence functions (Table 14) to also be obtained.

Table 18: Assessment of options

Principle	Model 1	Model 2	Model 3	Model 4a	Model 4b
Access to appropriate health care	✓	✓	✓✓	✓✓	✓✓
Sustainable service delivery	✓	✓	✓✓	✓✓	✓
Planning and policy development	✓	✓	✓✓	✓✓	✓✓
Leadership, governance, transparency and accountability	✓	✓	✓✓✓	✓✓	✓

Source: KPMG

Legend: ✓meets requirements ✓✓✓highly meets requirement

The preferred approach for the management of the primary care, acute care and residential aged care services is to transition to an approach consistent with the expectations of a local

health district on mainland Australia. This is most suited to Models 3 and 4a, with other options suitable in the transition.

The period of transition cannot be currently defined but is expected to be more than 12 months as some elements will take more than one year of development. This approach will provide a trajectory of development and an increasing assurance to stakeholders of the quality and effectiveness of the service and responsiveness to community needs.

Opportunities for the non-government sector (profit or not-for-profit) in the delivery of clinical or support services should be encouraged within the overall model to enhance the pool of available resources, and competitive tension.

The alignment of the primary care services, including general practice, with a PHN should be pursued in this context of confirming the overall service provision arrangements. This relationship with a PHN could provide essential supports to the general practice to improve the effectiveness and coordination of care, and recruitment and retention strategies. The allocation of a PHN to Norfolk Island is best placed through having geographic synergy with the aligned LHN – if this model is pursued.

10.3 Transition period

In order to meet the reform objectives of providing access to a range of Commonwealth funding programs, a period of transition will be required for the services to meet the funding requirements.

This period of transition should rebalance the focus of services to primary care, community health and aged care activities. This change in service delivery focus could stimulate a change in the population of the NIHE Advisory Board to increase the focus on aged care and out-of-hospital delivery models. Technical specialists could be sought for advice on the development of eHealth services and staff education, training and development.

11 Implementation plan

The implementation of the required changes will take some time. This section identifies the key implementation activities and associated factors.

11.1 Risk assessment

A high level risk assessment has been undertaken of the health service provision aspects, with a focus on the immediate transition period through to the end of 2016/17. This assessment has been undertaken consistent with the DIRD framework for risk assessment (see Table 19 and Figure 27) and provides a structure for ongoing review and prioritisation of activities.

The following table lists the key risks associated with the delivery of health services during the next period. This risk assessment should be further developed with treatments developed and monitored.

Table 19: High level risk assessment

Risk Category	Risk	Likelihood	Consequence	Rating
Financial	Budget and resource management is inadequate due to ineffective financial controls.	Possible	Extreme	High
Financial	Operational budget is inadequate to meet the desired service requirements	Possible	Moderate	Medium
Financial	Revenue opportunities through MBS and PBS are not realised due to lack of accreditation and certification.	Almost certain	Moderate	High
Operational	Hospital incident caused by infrastructure failure with service loss and occupant injury/death.	Possible	Major	Medium
Operational	Major equipment failure requires closure of clinical services.	Possible	Moderate	Medium
Operational	Assurance of clinical quality levels is not available due to the inability to achieve accreditation requirements.	Likely	Major	High
Operational	Population access to services is not improved despite service changes.	Possible	Major	Medium
Political	Governance structure is not established to provide leadership and ongoing accountability	Possible	Major	Medium
Political	Community expectations regarding improved service capability are not met.	Possible	Moderate	Medium
Legal	Staff or visitor injury occurs due to workplace health and safety issues	Possible	Moderate	Medium

Table 20: Risk likelihood and consequence categorisation

Likelihood category	Score	Consequence category	Score
Rare (0.01% probability)	1	Insignificant	1
Unlikely (>0.1% probability)	2	Minor	2
Possible (1% probability)	3	Moderate	3
Likely (10% probability)	4	Major	4
Almost certain (100% probability)	5	Extreme	5

Figure 27: Risk severity categorisation

Rating	Consequences				
Likelihood	Insignificant	Minor	Moderate	Major	Extreme
Almost Certain	11. Low	16. Medium	20. High	23. Severe	25. Severe
Likely	7. Low	12. Low	17. Medium	21. High	24. Severe
Possible	4. Low	8. Low	13. Medium	18. Medium	22. High
Unlikely	2. Very low	5. Low	9. Low	14. Medium	19. High
Rare	1. Very low	3. Very low	6. Low	10. Low	15. Medium

11.2 Actions

A number of actions have been developed to guide the implementation of the Service Plan. These are described in Table 21 and provide an expected timeframe for implementation from the short to long term.

These actions and the overall implementation of the Service Plan should be monitored within an appropriate governance structure to be developed by DIRD.

Table 21: Implementation requirements

No.	Strategy group	Task	Timeline Short/ Med/ Long
1	Quality	Align clinical governance and credentialing to mainland Local Health Network requirements.	Medium
2		Obtain general practice accreditation with RACGP for access to the PIP scheme.	Short
3		A community pharmacy should obtain accreditation requirements for PBS billing.	Short
4		Norfolk Island Hospital reporting systems to align to NHPA and State and Commonwealth requirements.	Medium
5		Obtain hospital accreditation through ACHS.	Medium
6		Obtain aged care accreditation through the Aged Care Quality Agency.	Long
7		A local or other agency should obtain Approved Provider status for the Commonwealth Home Support Program.	Medium
8		Obtain Approved Provider status for residential aged care funding.	Long
9	Governance and management	Develop a communications strategy to engage and communicate with the community regarding the service directions.	Short
10		Engage a State Government to develop a partnership in the management of Norfolk Island health system though a Local Health Network.	Short
11		Link Norfolk Island with a mainland Primary Health Network to support general practice and primary health programs.	Short
12		Issue Medicare numbers to eligible consumers.	Short
13		Establish a reporting and governance mechanism to monitor the implementation of the Service Plan.	Short
14	Telemedicine	Explore feasibility of local call costs between Norfolk Island to Australia for telephone based health support services.	Short
15		Explore the feasibility of establishing internet bandwidth of 384kbs at health care facilities for telemedicine applications.	Short
16		Develop feasibility study and business case for telemedicine linkages with tertiary health care provider.	Short
17		On issuing Medicare cards, seek enrolment of the population in the PCEHR.	Short
18	Public health	Investigate the alignment of Norfolk Island alcohol and tobacco duty free limits to Australian mainland levels.	Short

No.	Strategy group	Task	Timeline Short/ Med/ Long
19		Enact NSW legislation regarding tobacco sales and advertising restrictions.	Short
20		Incorporate vaccination histories in Australian Immunisation Registers.	Short
21		Obtain agreement with a breast cancer screening provider for provision of services.	Short
22		Enrol population in the NBCSP once Medicare numbers are issued.	Short
23		Review population growth and age profile assumptions following 2016 census. Review the facility requirements once these data are available.	Medium
24	Infrastructure	Develop a design, cost plan and feasibility study for the replacement of health service and aged care facility.	Short
25		Develop business case for replacement of the health service and residential care facility.	Medium
26		Develop business case for the outsourcing of laundry, and hospital and home delivered meals.	Short
27		Complete asset audit of hospital based medical equipment and engineering plant.	Short
28	Consumer support	Establish a patient travel and accommodation scheme aligned with interstate models.	Short
29		Further develop, agree and communicate referral pathways with secondary and tertiary care providers.	Short

Legend:

Short term: FY2016; Medium term: FY2017; Long term: after FY2017

A Documents and data reviewed

Doc No	Author	Document Name
1	Gavin Calvert AO and Marie Connolly PhD	Review of Existing Child and Family Support Services on Norfolk Island, 2012
2	Nexus Management Consulting	Draft Health Services Plan – Norfolk Island, 2013
3	Dr Tim Smyth	Review of Norfolk Island Health Legislation, Interim Report, June 2013
4	The Australian Council on Healthcare Standards	Report of the ACHS EQuIPNational Organisation-Wide Survey – The Norfolk Island Hospital Enterprise, March 2014
5	R&S Muller Enterprise	Health Services Survey Report, February 2015
6	The Administration of Norfolk Island	Attachment - Report on Healthcare and Medivac Funds for 2013/2014
7	Australian Government Auditor-General	ANOA Report No.16 2014-15 Financial Statement Audit, 2014
8	The Administration of Norfolk Island	Norfolk Island Community Consultations: Report to Minister, 2014
10	Departure of Infrastructure and Regional Development (DIRD)	Social Security and Tax Factsheet, 2014
11	Departure of Infrastructure and Regional Development (DIRD)	A Regional Council Model for Norfolk Island, 2014
12	Deloitte Access Economics	Norfolk Island Government Business Analysis, Nov 2014
13	The Parliament of the Commonwealth of Australia: Joint Standing Committee on the National Capital and External Territories	Inquiry into the provision of health services on Norfolk Island (2001)
14	The Parliament of the Commonwealth of Australia: Joint Standing Committee on the National Capital and External Territories	Same country: different world: the future of Norfolk Island (2014)
15	The Parliament of the Commonwealth of Australia	Norfolk Island Legislation Amendment Bill 2015
16	Assistant Minister for Infrastructure and Regional Development	Delivering a stronger and more prosperous Norfolk Island, 19 March 2015
17	Parliament of Australia	Norfolk Island: new governance arrangements, 30 March 2015
18	NSW Government	NIHE, SESLHD, SHLD Memorandum of Understanding, 2013
19	Commonwealth of Australia	National Strategic Framework for Rural and Remote Health, 2012
20	Norfolk Island Government	Norfolk Island Government: Community Budget Update 2014-2015

Doc No	Author	Document Name
21	Ministry of Health, NSW	Policy Directive - Multipurpose Services - Policy and Operational Guidelines
22	The Administration of Norfolk Island	Population and Planning on Norfolk Island, Report Number 1: Overview of the Norfolk Island Plan, 2011
23	The Administration of Norfolk Island	Population and Planning on Norfolk Island, Report Number 2: Population and Sustainability Issues
24	Department of Regional Australia, Regional Development and Local Government	2011 Community Survey
25	Deloitte Access Economics	Wellbeing Presentation Report – Norfolk Island, 29 April 2011
26	Deloitte Access Economics	Wellbeing Report – Norfolk Island, 27 April 2011
27	Administration of Norfolk Island	Report on the 2011 Census on Population and Housing, 9 Aug 2011
28	Care Norfolk Inc	Communication to KPMG, 8 June 2015 regarding Care Norfolk program activities
29	Rotary Club of Norfolk Island	Communication to KPMG, 10 June 2015 regarding immunisation program
30	Griffth University	Claire Bellis, Griffth University, Use of the Isolated Norfolk Island Population for Cardiovascular Disease Risk Trait Genetic Analysis (2009). http://research-hub.griffith.edu.au/display/n31f1ba8276de64c475f66bc140621eed
31	Justin C Sherwin et al	Justin C Sherwin, John Kelly, Alex W Hewitt, Lisa S Kearns, Lyn R Griffiths and David A Mackey (2011) Prevalence and predictors of refractive error in a genetically isolated population: the Norfolk Island Eye Study. Clinical & Experimental Ophthalmology Volume 39, Issue 8, pages 734–742, November 2011
32	Justin C Sherwin et al	Justin C. Sherwin, Lyn R. Griffiths, John Kelly, Alex W. Hewitt, Lisa S. Kearns, Yaling Ma, David A. Mackey (2011): Prevalence of Chronic Ocular Diseases in a Genetic Isolate: The Norfolk Island Eye Study (NIES). Informa Healthcare. http://dx.doi.org/10.3109/09286586.2010.545933.
33	Justin C Sherwin et al	Justin C Sherwin, John Kelly, Alex W Hewitt, Lisa S Kearns, Lyn R Griffiths and David A Mackey (2011) Prevalence and predictors of refractive error in a genetically isolated population: the Norfolk Island Eye Study. Clinical & Experimental Ophthalmology Volume 39, Issue 8, pages 734–742, November 2011
34	John Blangero et al	John Blangero, Peter M. Visscher, Hannah Cox, Lyn R. Griffiths, Rod A. Lea, Tom Dyer, Stuart Macgregor, Claire Bellis (2009): Legacy of mutiny on the bounty: Founder effect and admixture on Norfolk Island. Nature

Doc No	Author	Document Name
		Publishing Group. http://dx.doi.org/10.1038/ejhg.2009.111.
35	URS Australia	Norfolk Island Water Quality Study. Emily Bay and Cascade Creek Catchments – Final Report May 2013. http://www.info.gov.nf/land&env/water/NI%20Water%20Quality%20Study%20Final%20Report.pdf
36	S2F Architects	Service Procurement Plan and Project Definition Plan, New Norfolk Island Hospital, 24th March 2011, Version 3

B Consultations

Date	Name	Organisation
Commonwealth Department of Health		
15/05/2015	Policy Strategies Branch	
15/05/2015	Medical Benefits Division	
15/05/2015	Pharmaceutical Benefits Division	
15/05/2015	Health Workforce Division	
15/05/2015	Acute Care Division	
15/05/2015	eHealth Division	
15/05/2015	Primary Care and Mental Health Division	
Commonwealth Department of Infrastructure and Regional Development		
17/06/2015	Manager, Christmas Island Health Service	
Commonwealth Department of Social Services		
22/05/2015	State Manager, NSW and ACT Office	
18/05/2015	Director, Norfolk Island Reform Taskforce	Eligibility and Participation Policy Branch, Social Security Policy Group
18/05/2015	Acting Branch Manager	Aged Care Programmes Branch
NSW Government		
22/05/2015	Chief Operating Officer	SESLHD
22/05/2015	Director, Government Relations, Strategy and Resources Division	NSW Ministry of Health
22/05/2015	Strategy and Planning	NSW Ministry of Health
22/05/2015	Sector Relationship Manager, SESLHD	NSW Ministry of Health
22/05/2015	Advisor	NSW Department of Premier and Cabinet
22/05/2015	Chief Operating Officer	SESLHD
16/06/2015	Director, South Eastern Sydney Illawarra BreastScreen Service	SESLHD
Others organisations		
19/05/2015	Royal Flying Doctor Service, South Eastern Section	
16/06/2015	Tasmanian Health Organisation – North West	
19/05/2015	Manager, King Island Health Service	
16/06/2015	Principle Midwifery Advisor, Northern Territory Department of Health	
Consultations on Norfolk Island		
26/05/2015	Office of the Administrator: The Hon Gary Hardgrave Official Secretary Melissa Ward MLA	
27/05/2015	Director, Norfolk Island Hospital Enterprise	
27/05/2015	NIHE Advisory Board members	

Date	Name	Organisation
28/05/2015	Principal, Norfolk Island Central School	
28/05/2015	Norfolk Island QUOTA re hearing aid program	
28/05/2015	Care Norfolk re home support	
28/05/2015	ANI Child Welfare Officer	
28/05/2015	Meals on Wheels volunteers - Norfolk Island	
28/05/2015	Women's Action Group Norfolk Island (WAGNI)	
28/05/2015	BreastScreen Service Norfolk Island Inc	
28/05/2015	Parents and carers of special needs children - Norfolk Island	
28/05/2015	Norfolk Island Hospital, Women's Auxiliary	
28/05/2015	Mental Health Counsellor, NIHE	
28/05/2015	Optometrist, Norfolk Island	
28/05/2015	Burnt Pine Pharmacy, Norfolk Island	
28/05/2015	CEO Administration of Norfolk Island	
28/05/2015	St John's Ambulance volunteers, Norfolk Island	
28/05/2015	Aged care focus group: with White Oaks, RSL Women's Auxiliary	
29/05/2015	Norfolk Assists Those In Need (NATIN), Norfolk Island	

C Summary of Australian patient travel and assistance schemes

	WA	NSW	QLD	VIC	SA	TAS
Name	Patient Assisted Travel Scheme (PATS)	Isolated Patients Travel and Accommodation Assistance Scheme (IPTAAS)	Patient Travel Subsidy Scheme (PTSS)	Victorian Patient Transport Assistance Scheme (VPTAS)	Patient Assistance Transport Scheme (PATS)	Patient Travel Assistance Scheme (PTAS)
URL	www.wacountry.health.wa.gov.au/index.php?id=pats	www.health.nsw.gov.au/transport/Pages/iptaas.aspx	www.health.qld.gov.au/ptss/	health.vic.gov.au/ruralhealth/patient-transport-assistance.htm	www.countryhealthsa.sa.gov.au/Services/PatientAssistanceTransportSchemePATS.aspx	www.dhhs.tas.gov.au/hospital/ptas
Funding for carers/escort	Yes	Yes	Yes	Yes	Yes	Yes
Authorisation	By referring doctor	By referring doctor	By referring doctor	By referring doctor	-	-
Eligibility	• For people who live at least 100 km away (one way) and are required to stay overnight for medical reasons, distance or transprt schedules.	• ≥100km each way, or ≥200km/wk cumulative distance. • Require specialist treatment that is not available locally • Claim all benefits available through a private health fund prior to applying to IPTAAS (if applicable) • Not be eligible for any other government travel assistance schemes	To assist in the cost of travel and accommodation to the nearest specialist medical service that is more than 50 km from the patient's nearest hospital.	• Patient must live in rural Victoria. • Treatment is included in the list of eligible medical specialist treatments • Travel >100 km one way or need to travel (on ave) 500 km/wk for >4 consecutive weeks.	-	• > 50 km (one way) to the nearest oncology or dialysis treatment centre • > 75 km (one way) to the nearest appropriate specialist medical service • >75 km (one way) to access lymphoedema treatment
Road	• Private vehicle: 16 cents /km. Only one claim per vehicle is to be made. • Cancer or dialysis treatment who are required to travel between 70 and 100 km: $20	-	Private: 30c/km	• Private: 17c/km. • Taxi - to or from the nearest public transport when there are no other transport options.	Private: 16c/km	-

	WA	NSW	QLD	VIC	SA	TAS
	subsidy.					
Air	• Eligible for air travel if travel to the nearest specialist involves a surface travel of more than 16 hours (one way). • Applicants who are travelling for cancer treatment and who have to travel by road for more than 350 kms from their place of residence or from their home town	-	-	• Air travel reimbursement - only if the journey >350km one way and a commercial flight is used.	-	-
Patient contribution	-	Upfront patient cost of the first $40.	First 4 nights of accom. per financial yea	First $100 in each treatment year	-	-
Accommodation	• Private home: $20/night for an eligible applicant or $40/night for an applicant travelling with an approved escort • Commercial accommodation up to $60/ night for an eligible applicant or up to $75/ night for an eligible applicant travelling with an approved escort.	• Private home: $20/night	• Private home: $10 per person per night. • Commercial: $60 per person per night	Maximum of $35.00 per night, plus GST	• $40 per person per night	-
Exclusions	• Travel undertaken as part of an inter-hospital transfer • If patient is eligible to claim assistance under another scheme • Transport costs for family members, including escorts visiting a patient • car parking fees, public transport or meal allowances • Car rental fees other than fuel subsidy	Items not claimable through IPTAAS: • Food • Parking • Airfare booking fees and airfare GST costs	Meals, taxi fare to the airport etc	-	-	-

	WA	NSW	QLD	VIC	SA	TAS
	• Travel during a treatment episode between location of treatment and accommodation unless a clinical reason has been indicated by a specialist.					
Ineligible	• An amount has been received or claimed by way of compensation, damages or other payment in respect to the illness or injury being treated (ie Motor Vehicle Accident) • Injuries sustained at work and are covered by work cover	-	-	-	-	-
Excluded services	Dental or orthodontic services are generally not covered. Referrals to allied health professionals are not covered.	-	-	-	-	-

D Case study sites

Name of service	Indian Ocean Territories Health Service – Christmas Island	
The population of Christmas Island is 2,072 (2011 census). 3.8% aged 65 years or over Median age of Christmas Island residents is 32 (Australia 37)		
Facility profile	**Number of available spaces**	**Comment**
General practice consult rooms	4	
Other consultation room	3	
Emergency department spaces	2	
Treatment/procedure rooms	0	
Operating room	1	Non functional
Dental chairs	2	
Renal dialysis chairs	0	
Birthing rooms	0	
Acute or subacute overnight beds	8	
Residential aged care beds	0	
Mental health beds / spaces	0	None dedicated. We use available acute beds
Other beds (describe)	0	
Medical imaging – plain x-ray	yes	Nurse operators
Medical imaging – ultrasound	yes	Visiting radiographer
Medical imaging – other (describe)		Visiting radiographer
Staff profile	FTE	Comment
Hospital / MPS staff		
Administration	8	
Nurse practitioner	0	
Registered nurses	6	
Other nurses (enrolled, AIN)	3	
Allied health – physiotherapy		Visiting 3 x per year
Allied health – social work	1	External service
Allied health – dietetics		Visiting 2 x per year
Allied health – occupational therapy		Visiting 3 x per year
Allied health – counsellor/psychology	0	
Dentist	1	
Optometry		Visiting 1 x per year
Medical scientist (pathology)	1	
General medical practitioner	3	
Medical practitioner - other		VMO's – physician, ophthalmologist, paediatrician
Other - Dental Hygienist / therapist	1	
Community health staff		
Community Health Nurse	1	
Health Promotion Officer	0	Included in nursing duties
Maternal and Child Health	0.5 FTE	
Diabetes Educator	0	Included in nursing duties
Drug and alcohol	0	
Mental Health	0	
Other (describe)		
Local service availability	Availability and	Established telemedicine linkage

(not at the hospital)	frequency of visit if it is not permanent	(yes/no)
General practice		No consistent telemedicine usage. Awaiting NBN arrival in May 2016.
Community pharmacy	Locally based	
Dental	Locally Based	
Optometry	Annually	
Allied health (describe)	OT, physio, speech therapist	OT, OT, ST: 3 visits per year Dietician: 2 per year
Subspecialty medicine		
General medicine	2 per year	
Cardiology	nil	
Respiratory	nil	
Gastroenterology	nil	
Geriatric medicine	nil	
Paediatrics	3 per year	
Other (describe)		
Subspecialty surgery		
General surgery	nil	
Ophthalmology	1 per year	
Orthopaedic	1 Per year	
Ear, Nose and Throat	nil	
Other (describe)	2 per year	Psychiatry
Other		
Maternity / obstetrics	-	Locally based maternity – antenatal. Ultrasound in Perth.
Emergency medicine	-	Skilled local workforce Medical evacuations as required
Psychiatry / mental health	-	1 per year visiting Psychiatrist
Drug and alcohol	-	
Sexual health	-	Nursing and medical staff provide health promotion on sexual health
Other (describe)	-	
Home and community care	Availability	Comment
Home help – cleaning, gardening	yes	
Home maintenance / modifications	yes	
Meals on wheels	yes	
Personal care	yes	
Day programs and activities	limited	
Other (describe)	yes	
Population health programs	Availability	
Breast cancer screening	yes	
Needle and syringe program	no	Informal program where clean fits are provided
Immunisation program linked to National Immunisation Program	yes	
QUIT program (tobacco cessation)	yes	
Fluoridation of drinking water	yes	
Other comments		
•		

Name of service	King Island District Hospital and Health Centre	
The population of King Island is 1566 (2011 census)		
18.4% aged 65 years or over		
Median age of King Island residents is 46 (Australia 37)		
Facility profile	Number of available spaces	Comment
General practice consult rooms	2 doctor 2 nurse practitioner 1 Reception	Separate private business "Health Recruitment Plus" – DHHS Tas funded)
Other consultation room	3	utilised by other service providers (physios, optometrist, podiatrist etc.)
Emergency department spaces	1	
Treatment/procedure rooms	Yes	Basic set-up
Operating room	No operating room	Fly to Tasmania (Launceston, Hobart, North West hospital). Services provided by the Royal Flying Doctor Service and funded through DHHS Tas.
Dental chairs	1	Visiting government dentists
Renal dialysis chairs	0	Not provided.
Birthing rooms	0	No provisions for delivery on King Island. Expectant mothers are encouraged to fly off the island to Tasmania or Melbourne for delivery. King Island has had a few emergencies in the last few years in terms of expectant mothers.
Acute or subacute overnight beds	6	
Residential aged care beds	14	Accredited since February 2003 At least 1 respite place available
Mental health beds / spaces	-	
Other beds (describe)	-	
Medical imaging – plain x-ray	Yes	One x ray
Medical imaging – ultrasound	Yes	Small portable one – but more complicated images off island
Medical imaging – other (describe)	-	
Staff profile	FTE	Comment
Hospital / MPS staff		
Administration	2.2	One is part time
Nurse practitioner	Less than 2 (1.6)	Not sure on specific hours
Registered nurses	1.0 FTE 7.23 FTE 4.93 FTE	Manager/DON Registered nurse Enrolled nurses Casual RN/EN: depends on need
Other nurses (enrolled, AIN)	3.5 FTE	Personal carers (4)
Allied health – physiotherapy	-	Visiting, govt funded, fortnightly visits. One private PT on the island.
Allied health – social work	-	Mental health – monthly visit
Allied health – dietetics	Yes	Diabetics educator – monthly
Allied health – occupational therapy	No	Fly in – when needs arise
Allied health – counsellor/psychology	Yes	Social worker- fortnightly;

		Psychiatrist (every 6 weeks)
Dentist	No	Private dentist fly-in for 5 working days at a time. Government dentists come in (3-5 days in a block) twice a year
Optometry	-	2 service providers (3 times a year – 2-3 days at a time)
Medical scientist (pathology)	No	Blood samples can be taken on the island, but samples sent to NW pathology for analysis.
General medical practitioner	2	-
Medical practitioner - other	-	-
Other (describe)	Orthopaedic Obs/Gyn Rheumatologist Podiatrist	3 visits a year Monthly – from Tas. DHHS Monthly 3 times a year, 2 days through hospital
Community health staff		
Community Health Nurse	1	On the island – 0.8; also child health clinic 1 day a week
Health Promotion Officer	1	On island, via the hospital
Maternal and Child Health	Yes	Midwife clinic on island monthly – supported by visiting midwife
Diabetes Educator	Yes	Fly in – monthly
Drug and alcohol	Yes	2 days every month
Mental Health	Yes	Come from Tasmania DHHS Psychiatrist (every 6 weeks)
Other (describe)	Australian Hearing	Monthly
Local service availability (not at the hospital)	Availability and frequency of visit if it is not permanent	Established telemedicine linkage (yes/no)
General practice	Yes	
Community pharmacy	Yes	
Dental	Yes	
Optometry		
Allied health (describe)		
Subspecialty medicine		
General medicine	No	Residents fly out as not provided on island
Cardiology	No	Residents fly out as not provided on island
Respiratory	No	Residents fly out as not provided on island
Gastroenterology	No	Residents fly out as not provided on island
Geriatric medicine	No	Residents fly out as not provided on island
Paediatrics	Fly in	3 visits a year
Other (describe)	Psychiatrist	Every 6 weeks - Fly in
Subspecialty surgery		
General surgery	Fly in	Monthly

Ophthalmology	Fly in	Visit every 3 months
Orthopaedic	Fly in	Visit surgeon consult. If patient requires surgery, they fly off the island.
Ear, Nose and Throat		Fly off
Other (describe)		
Other		
Maternity / obstetrics	Yes	Antenatal only
Emergency medicine	-	
Psychiatry / mental health	-	
Drug and alcohol	Yes	2 days every month
Sexual health	-	
Other (describe)	-	
Home and community care	Availability	Comment
Home help – cleaning, gardening	Yes	
Home maintenance / modifications	Yes	
Meals on wheels	Yes	Provided by hospital, delivered by volunteer
Personal care	Yes	Home help assistance
Day programs and activities	Yes	Adult day centre attached to hospital, room and office. Not full time activities (3 days/wk)
Other (describe)	-	-
Population health programs	Availability	
Breast cancer screening	Yes	Bus comes every 2 years (week)
Needle and syringe program	Yes	Offered through hospital
Immunisation program linked to National Immunisation Program	Yes	Done through general practice
QUIT program (tobacco cessation)	-	Health promotions officer.
Fluoridation of drinking water	No	Not fluoridated.
Other comments		

King Island has a Patient Travel Assistance Scheme which assists people in attending specialist appointments. It is funded through the Tasmanian Government (DHHS). This contributes to the travel and accommodation expenses of patients and carers:

- PTAS will pay for the cost of a return economy airfare (Island Resident rates); plus the cost of the most economical, appropriate form of transport from the destination airport to and from the medical facility; plus $87 per night for commercial accommodation for each approved person.
- Non-cardholders are required to contribute $82.50 towards the cost of each return journey. Health Care or Pensioner Concession cardholders are required to contribute $16.50. A maximum of $66 per night for commercial accommodation for each approved person.
- In any one financial year, the maximum contribution for a non-cardholder is $330, and for a non-cardholder is $132.

E Modelled demand estimates

This appendix describes estimation of demand for services from the following programs:

- residential aged care
- population based cancer screening (breast, cervical, bowel)

Residential aged care

<table>
<tr><th>Data</th><th>Assumption</th></tr>
<tr><td>Source data</td><td>Department of Social Services
http://guides.dss.gov.au/guide-aged-care-law/3/3/2
https://www.dss.gov.au/our-responsibilities/ageing-and-aged-care/tools-and-resources/ageing-and-aged-care-research-and-statistics/general-ageing-and-aged-care/total-allocated-places-and-ratios-by-aged-care-planning-region-30-june-2014</td></tr>
<tr><td>Target group</td><td>• Planning benchmark is based on the number of people aged 70 years or older in a catchment.
• Actual utilisation and eligibility is based on a wider set of factors.</td></tr>
<tr><td>Utilisation assumptions</td><td>• Planning benchmark of 125 places per 1,000 people aged 70 or older.
• Nominal allocation of 80 places for residential care and 45 places for community based care.
• 52% of residential places are for high care clients, based on the Total Allocated Places and Ratios by Aged Care Planning Region - 30 June 2014.
• Home care places are utilised in the existing proportions (30/06/2014):
<table>
<tr><th>Service</th><th>% of Home Care places</th></tr>
<tr><td>Home Care Level 1</td><td>2%</td></tr>
<tr><td>Home Care Level 2</td><td>76%</td></tr>
<tr><td>Home Care Level 3</td><td>2%</td></tr>
<tr><td>Home Care Level 4</td><td>21%</td></tr>
</table>
• Existing residential care ratios on Norfolk Island are approximately 25 per 1,000 aged 70+
• Future utilisation will obtain the Australian planning levels by 2020 at the following rate:
– 2016: 75% of the Australian rate
– 2020: 85% of the Australian rate
– 2025: 100% of the Australian rate</td></tr>
<tr><td>Population assumptions</td><td>• 2011 census population:
– Total residential = 1,795
– People aged 70+ = 225
• Population projections of people aged 70+ based on linear regression of the 5 year age groups from 2001 to 2011:</td></tr>
</table>

<table>
<tr><td></td><td>– 2015: 242 people
– 2016: 246 people
– 2020: 265 people
– 2025: 288 people</td></tr>
<tr><td>Impacts on demand</td><td>The following table provides estimated demand for aged care places:
<table>
<tr><th></th><th>2015</th><th>2016</th><th>2020</th><th>2025</th></tr>
<tr><td colspan="5">Residential care</td></tr>
<tr><td>High care</td><td>7.5</td><td>7.7</td><td>9.4</td><td>12.0</td></tr>
<tr><td>Low care</td><td>7.0</td><td>7.1</td><td>8.6</td><td>11.0</td></tr>
<tr><td>Total</td><td>14.5</td><td>14.8</td><td>18.0</td><td>23.0</td></tr>
<tr><td colspan="5">Home Care</td></tr>
<tr><td>Home Care Level 1</td><td>0.2</td><td>0.2</td><td>0.2</td><td>0.3</td></tr>
<tr><td>Home Care Level 2</td><td>6.2</td><td>6.3</td><td>7.7</td><td>9.8</td></tr>
<tr><td>Home Care Level 3</td><td>0.1</td><td>0.1</td><td>0.2</td><td>0.2</td></tr>
<tr><td>Home Care Level 4</td><td>1.7</td><td>1.7</td><td>2.1</td><td>2.7</td></tr>
<tr><td>Total</td><td>6.3</td><td>6.5</td><td>7.9</td><td>10.1</td></tr>
</table></td></tr>
</table>

Breast cancer screening

<table>
<tr><th>Data</th><th>Assumption</th></tr>
<tr><td>Source data</td><td>NSW Cancer Institute:
http://www.cancerinstitute.org.au/prevention-and-early-detection/screening-programs/breast-cancer
AIHW: BreastScreen Australia monitoring report 2011-2012
http://www.aihw.gov.au/publication-detail/?id=60129548886&tab=3</td></tr>
<tr><td>Target group</td><td>Women aged 50-74 years
Screening every 2 years</td></tr>
<tr><td>Utilisation assumptions</td><td>Participation rates by age group for Australia and Remote areas:
<table>
<tr><th>Age group</th><th>Remote (%)</th><th>Australia (%)</th></tr>
<tr><td>40–44</td><td>15.6</td><td>10.1</td></tr>
<tr><td>45–49</td><td>28.2</td><td>18.6</td></tr>
<tr><td>50–54</td><td>50.7</td><td>48.9</td></tr>
<tr><td>55–59</td><td>56.2</td><td>55.0</td></tr>
<tr><td>60–64</td><td>61.3</td><td>59.9</td></tr>
<tr><td>65–69</td><td>61.7</td><td>58.5</td></tr>
<tr><td>70–74</td><td>38.4</td><td>25.9</td></tr>
<tr><td>75–79</td><td>23.3</td><td>11.6</td></tr>
<tr><td>80–84</td><td>12.8</td><td>4.1</td></tr>
<tr><td>85+</td><td>3.4</td><td>0.9</td></tr>
</table>
Proportion of women recalled to assessment, mammographic reasons, first screening round:
<table>
<tr><th>Age group</th><th>% recalled for assessment from 1st round screen</th></tr>
<tr><td>40–44</td><td>9.5</td></tr>
<tr><td>45–49</td><td>10.9</td></tr>
<tr><td>50–54</td><td>10.7</td></tr>
<tr><td>55–59</td><td>10.7</td></tr>
<tr><td>60–64</td><td>10.9</td></tr>
<tr><td>65–69</td><td>10.8</td></tr>
<tr><td>70-74</td><td>11.0</td></tr>
</table></td></tr>
<tr><td>Population assumptions</td><td>2011 census population:
• Total residential = 1,795
• Target group = 461</td></tr>
<tr><td>Impacts on demand</td><td>Estimated demand for 185-206 screening sessions
Estimated 20-22 women to be recalled for assessment</td></tr>
</table>

Cervical cancer screening

<table>
<tr><th>Data</th><th>Assumption</th></tr>
<tr><td>Source data</td><td>Australian Government:
http://www.cancerscreening.gov.au/internet/screening/publishing.nsf/Content/future-changes-cervical
AIHW: Cervical screening in Australia 2012–2013
http://www.aihw.gov.au/publication-detail/?id=60129550871</td></tr>
<tr><td>Target group</td><td>Women aged 25-74 years
Screening every 5 years from 2017</td></tr>
<tr><td>Utilisation assumptions</td><td>• Participation rates and utilisation by age group for Australia:
<table>
<tr><th>Age group</th><th>5 yr partn. 2008/12</th><th>Proportion of cytology tests</th><th>-ve cytology</th><th>Histology tests/100 cytology tests</th><th>Negative histology</th></tr>
<tr><td><20</td><td></td><td>2.4</td><td>83.7</td><td>2.2</td><td>29</td></tr>
<tr><td>20–24</td><td>75</td><td>8.9</td><td>84.2</td><td>4.9</td><td>25.1</td></tr>
<tr><td>25–29</td><td>84.6</td><td>11.5</td><td>87.5</td><td>5.5</td><td>25</td></tr>
<tr><td>30–34</td><td>89.9</td><td>11.9</td><td>90.6</td><td>4.3</td><td>31.7</td></tr>
<tr><td>35–39</td><td>90.1</td><td>11.7</td><td>92.4</td><td>3.7</td><td>44.2</td></tr>
<tr><td>40–44</td><td>87.8</td><td>11.9</td><td>93.5</td><td>3.9</td><td>59.5</td></tr>
<tr><td>45–49</td><td>87.9</td><td>10.8</td><td>94.3</td><td>3.8</td><td>69.7</td></tr>
<tr><td>50–54</td><td>83.5</td><td>10</td><td>95.1</td><td>3.1</td><td>74.5</td></tr>
<tr><td>55–59</td><td>78.8</td><td>8.2</td><td>95.5</td><td>2.3</td><td>74.7</td></tr>
<tr><td>60–64</td><td>73.7</td><td>6.7</td><td>96.1</td><td>2.1</td><td>74.6</td></tr>
<tr><td>65–69</td><td>66.3</td><td>4.7</td><td>96.4</td><td>2.2</td><td>78</td></tr>
<tr><td>70+</td><td></td><td>1.3</td><td>94.7</td><td>7.7</td><td>77.4</td></tr>
</table></td></tr>
<tr><td>Population assumptions</td><td>2011 census population:
• Total residential = 1,795
• Target group = 616</td></tr>
<tr><td>Impacts on demand</td><td>Estimated annual demand for screening sessions: 119
Estimated annual demand for 0.6 women to be recalled for histology.</td></tr>
</table>

Bowel cancer screening

<table>
<tr><th>Data</th><th>Assumption</th></tr>
<tr><td>Source data</td><td>Australian Government:
www.cancerscreening.gov.au/internet/screening/publishing.nsf/Content/eligibility-handout
AIHW: National Bowel Cancer Screening Program Monitoring report 2012–2013
www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129547719</td></tr>
<tr><td>Target group</td><td>The program is currently targeting Australians turning 50, 55, 60 or 65 to take part.
From 2015, people turning 70 or 74 will also be invited to screen. Other age groups will then be added progressively, so that by 2020 all Australians aged 50 to 74 will be invited to screen every two years.
Screening every 2 years from 2020.</td></tr>
<tr><td>Utilisation assumptions</td><td>Utilisation by age group and region (% of target population):
<table>
<tr><th>Age group</th><th>Remote</th><th>Very Remote</th><th>Total</th></tr>
<tr><td>50</td><td>21.9</td><td>16.90%</td><td>25.5</td></tr>
<tr><td>60</td><td>27.4</td><td>22.60%</td><td>30.5</td></tr>
<tr><td>65</td><td>36</td><td>28.10%</td><td>39.5</td></tr>
<tr><td>Total</td><td>27.5</td><td>21.80%</td><td>31.1</td></tr>
</table>
Proportion of samples with a positive test by age and region:
<table>
<tr><th>Age group</th><th>Remote</th><th>Very Remote</th><th>Total</th></tr>
<tr><td>50</td><td>7.10%</td><td>8.60%</td><td>6.60%</td></tr>
<tr><td>60</td><td>6.90%</td><td>7.90%</td><td>6.80%</td></tr>
<tr><td>65</td><td>10.60%</td><td>11.40%</td><td>9.20%</td></tr>
<tr><td>Total</td><td>8.00%</td><td>9.10%</td><td>7.50%</td></tr>
</table>
Proportion of positive tests followed up by age:
<table>
<tr><th>Age group</th><th>Primary care</th><th>Colonoscopy</th><th>Positive colonoscopy</th></tr>
<tr><td>50</td><td>54.50%</td><td>68.80%</td><td>2.10%</td></tr>
<tr><td>60</td><td>57.50%</td><td>69.70%</td><td>3.00%</td></tr>
<tr><td>65</td><td>60.40%</td><td>72.10%</td><td>4.50%</td></tr>
<tr><td>Total</td><td>58.00%</td><td>70.40%</td><td>3.40%</td></tr>
</table></td></tr>
<tr><td>Population assumptions</td><td>2011 census population:
• Total residential = 1,795
• Target group = 642</td></tr>
<tr><td>Impacts on demand</td><td>Estimated annual number of returned screening kits: 139
Estimated annual demand for 2-5 screening colonoscopies.</td></tr>
</table>