NSW Ministry of Health

Podiatry - Horizons Scanning and Scenario Generation

July 2015

(Including addendum with validation of findings completed July 2017)

+ TABLE OF CONTENTS

1 Executive Summary

THE PURPOSE OF THIS DOCUMENT IS TO OUTLINE THE METHODOLOGY, APPROACH AND THEMES RAISED BY THE LITERATURE AND PODIATRY STAKEHOLDERS TO INFORM THE WORKFORCE MODELLING PHASE (STAGE C IN FIGURE 2 BELOW) OF THE NSW MINISTRY OF HEALTH'S WORKFORCE PLANNING METHODOLOGY. IT SHOULD BE NOTED THAT THE VIEWS EXPRESSED IN THE REPORT ARE NOT NECESSARILY THOSE OF THE NSW MINISTRY OF HEALTH.

1.1 Project background

The Selected Allied Health Professions – Horizon Scan 2015 project is driven by the Health Professionals Workforce Plan 2012-22, which sets out the framework for addressing the workforce implications of increasing demand for health services in NSW. Given this increasing demand for health services, the Plan establishes that simply increasing staffing without considering changing workforce practices and introducing more efficient and effective models of care is unsustainable. As part of the Plan the Workforce Planning and Development Branch (WPD) is responsible for developing and modelling projections for the Allied Health workforce.

1.2 About this project

The Horizon Scanning project represents an opportunity for stakeholders within the podiatry profession across NSW to participate in the development of a short, medium and long-term vision for their field. In developing this vision, a number of system-wide drivers require consideration, including:

- The need to shift the provision of service from an institutional focus, towards a patient-centric model
- An increasing focus on Activity-Based Funding, encouraging services to consider more efficient models of care, often delivered in the home or in community based settings
- An increasing use of eHealth, which also demands changes in work practice as a result of increased access to electronic records, use of technology, mobile devices and electronic decision support
- An emphasis on collaborative, multidisciplinary teams across care settings and balancing health profession specialisation with generalisation to address the increased demand for care, particularly amongst patients with chronic and complex conditions
- A need to consider the geographic distribution of the workforce to align with changing population demographics and health needs.

The results of this research forms part of the Horizon Scanning phase for the NSW Ministry of Health to support strategic workforce planning for the podiatry workforce. The scope of this paper aligns with the Information Gathering and Issues and Drivers Analysis stages as set out in the Ministry of Health workforce planning methodology.

1.3 Scope of practice

Podiatrists provide assessment, treatment and advice for the management of conditions and promotion of health related to the foot and associated lower limb (Health Workforce Australia, 2014a). Podiatrists practice in a range of settings including hospitals, clinics, community and residential aged care settings in both the public and private sectors.

Their scope of practice encapsulates treatment for skin and nail conditions, advice on biomechanics and structural problems, bone and joint pathology, gait analysis and management of systemic illnesses with foot manifestations (such as diabetes and peripheral vascular disease.

Podiatrists also offer advice on and modification of footwear, as well as therapeutic soft tissue interventions. Whilst not currently permitted to practice acupuncture within the scope of their professional registration, the Podiatry Board of Australia has recognised podiatrists as qualified to use needling techniques associated with musculoskeletal treatments in the management of podiatric conditions (Health Education and Training Institute, n.d.; Podiatry Board of Australia, 2014a)

1.4 Workforce characteristics

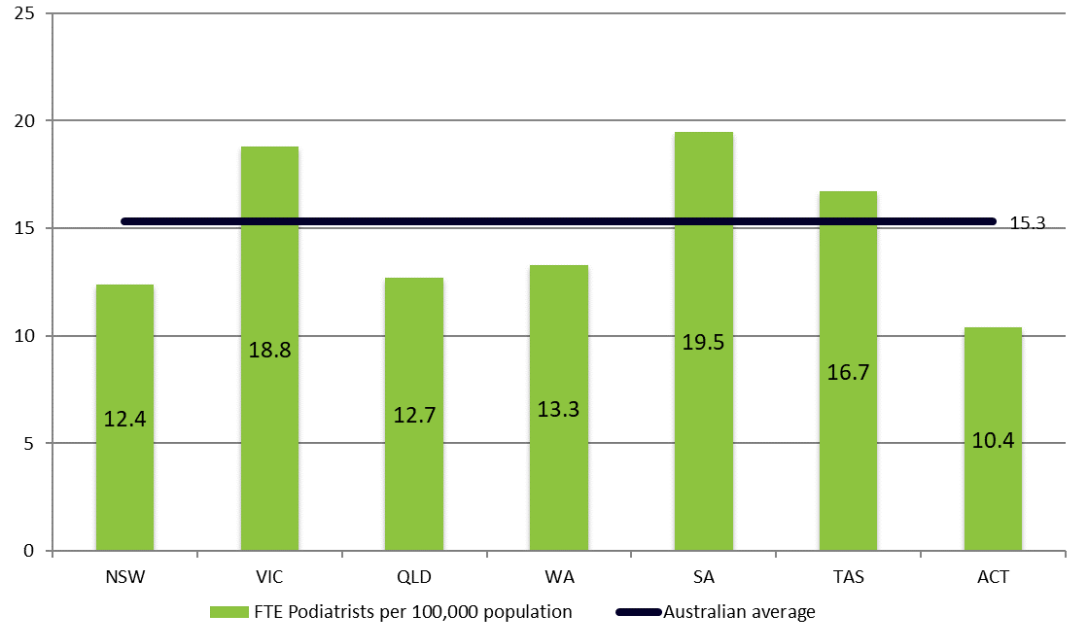
Data from the Australian Institute of Health and Welfare (2015) indicates that in 2013, there were 4,037 registered podiatrists in Australia. Survey data (Health Workforce Australia, 2014a) shows that in 2012, 96% of registered podiatrists were actively working in the podiatry labour force.

The majority of podiatrists (77%) practice in the private sector and nearly 76% of podiatrists work in major cities. In NSW in 2012, 58% of the workforce was female with an average age of 37.6 years (Health Workforce Australia, 2014a).

Figure 1 below illustrates the varying levels of podiatrists per 100,000 of population across Australia and demonstrates the maldistribution of the workforce across the country. In particular, NSW has one of the lowest ratios – 12.4 podiatrists per 100,000 population.

Figure 1: FTE podiatrists per 100,000 population by State/Territory (NT data not provided)

Source: (Australian Institute of Health and Welfare, 2015)



1.5 Demand drivers

There are a complex range of factors that impact demand for podiatry services and the capacity of podiatrists to meet that demand. These drivers include chronic disease prevalence, broader population demographics, service awareness and accessibility, funding mechanisms, health status of the Aboriginal community, referral practices, and community and clinician expectations.

1.5.1 Chronic disease prevalence

Podiatry services are often associated with the incidence of diabetes and routine foot screening, as people with diabetes are nearly 20 times more likely to be at risk of foot amputation and foot problems are the most common cause of admission to hospital for this patient cohort (Crawford et al., 2011).

Other chronic diseases also drive podiatry service demand, including rheumatoid arthritis, obesity and metabolic syndrome and kidney disease.

1.5.2 Broader population demographics

The Australian population is increasing and at the same time the proportion of people who are older is also growing. The need for podiatric services is anticipated to increase in line with projected increases in the number of aged Australians (Vernon et al., 2005).

Socio-economic disadvantage is also a driver of podiatry demand with services located in lower socio-economic areas particularly impacted, as patients in these areas are often unable to afford private podiatry care or the gap between the Medicare benefit and fee for service.

1.5.3 Service awareness and accessibility

Awareness of podiatry services (amongst both patients and referrers) appears to be a key limiting factor in service demand with research consistently finding that a significant proportion of cases with legitimate indications for podiatry services have not sought consultation (Cant and Foster, 2011; Menz et al., 2008; Rome et al., 2010). Accordingly, increasing awareness of podiatry services is also likely to trigger a legitimate and proportionate increase in demand.

Improved service accessibility is also a demand driver. In the UK, implementation of a Foot and Ankle Care Pathway to provide rapid access to appropriate treatment saw an increase in activity, placing significant pressure on the podiatry service. However, the initiative also delivered significant savings - primarily by reducing the number of patients who would ordinarily progress through an orthopaedics pathway (National Institute for Health and Care Excellence, 2010).

1.5.4 Funding mechanisms

Funding mechanisms are a key driver for podiatry services as public services are primarily funded by state governments, often within an Activity-Based Funding framework and private services are typically funded through a mix of Medicare and patient gap fees.

Funding streams, together with transparent activity reporting may act as supply drivers through the creation of workforce capacity to meet legitimate patient demand for podiatry services.

1.5.5 Health status of the Aboriginal community

Podiatry stakeholders identified the health status of the Aboriginal community as a key service driver and that the issue was sufficiently significant that it warranted separate attention from the broader population and chronic disease incidence drivers. The prevalence of diabetes in the Aboriginal population is significantly higher than in the non-Aboriginal population, with up to 33% of people who are Aboriginal having a form of the disease and those living in rural and remote areas being up to twice as likely to develop the disease than people who are Aboriginal and living in urban areas (Minges et al., 2011).

Providing culturally appropriate care to people who are Aboriginal has been shown to achieve impressive reach amongst this population group: a high-risk foot and diabetes education outreach service based in Western Australia is estimated to have seen 14.5% of Aboriginal adults with diabetes over the service's two and a half years of operation (Ballestas et al., 2014).

1.5.6 Referral practices

Stakeholders have identified that the mix of services provided by a health service or within a local geographic area may influence the volume of podiatry patient demand. For example, services with a diabetes clinic are likely to see increased referrals; similarly, areas with less private podiatry providers may see an increase in local public podiatry demand.

Increased awareness of the scope and role of the podiatrist has been identified as a further source of referral demand.

1.5.7 Community and clinician expectations

Stakeholders have reported that over time, public hospital podiatry services have increasingly specialised in the interventions they provide and now work primarily with high acuity patients. Changing service priorities have resulted in a mismatch of expectations, as patients who might previously have been able to see a public podiatrist for basic foot-care may no longer be able to access the service.

Variation in policy between LHDs regarding patient access to podiatry services is also a source of varying community and clinical expectations. Some LHDs will accept patients from out of area whilst others will not. This scenario has the potential to create confusion and impact on equity of access for patients across the state as well as creating different regional demand patterns for the podiatry workforce.

1.6 Supply drivers

There are a complex range of factors that impact supply within the podiatry workforce. Supply drivers include development of an aligned work plan for public podiatry services, the professional profile of podiatrists, recruitment, career pathways (including recruitment and training), rural retention and role design, the mix of public and private podiatrists and funding. Many of the supply drivers detailed in this document are based on feedback from stakeholder consultations (public sector podiatrists) and accordingly reflect the perspective of this group.

1.6.1 An aligned work plan for podiatry services

Development of an aligned work plan for public podiatry services was considered to be a significant step in addressing longer-term podiatry supply issues. It may be most appropriate for such an initiative to be led by a podiatry peak body or through the NSW Health podiatry network, noting that each LHD is responsible for its own strategic direction in the provision of podiatry services. Key areas which might inform the development of the strategy include development of guidelines, standardisation of services, creating podiatry services which are equitable and accessible, and ensuring appropriate distribution of podiatrists to support patient needs.

1.6.2 Professional profile of podiatrists

In NSW there are a small number of public sector podiatrists when compared with other allied health professions. This may contribute to a lack of awareness of podiatry services by other health professions and also risk management giving priority to medical, nursing and other higher profile allied health groups when making decisions affecting workforce supply.

1.6.3 Career pathways

Podiatrists consulted for this report identified many aspects of career pathways with the potential to affect the supply of podiatrists. Key areas include education, training and supervision, recruitment and career structure.

The overall career structure for a podiatrist in the public sector was also considered as part of this supply driver. Stakeholder reported career paths for this group of podiatrists are relatively flat and progression through the Award structure is primarily based on number of staff supervised. This application of the Award is challenging for smaller workforces like podiatry, as it does not recognise the clinical skill of the practitioner, which represents a large proportion of the value of the individual podiatrist to the health service.

1.6.4 Rural retention and role design

One of the most significant challenges impacting on the supply of the podiatry workforce are attracting and retaining podiatrists to provide services in outer regional and remote areas. Stakeholders have indicated that contributing factors include a general preference for working in metropolitan areas, limited advocacy for more podiatry positions in regional and remote areas, limited career pathways for those working in these geographic regions (due to the smaller workforce and limited management opportunities), and that the demand for public podiatry services increases with remoteness.

1.6.5 Mix of public and private podiatrists

Whilst there is a robust private podiatry workforce (and at times, podiatrists work across private and public settings) largely the skill mix is different between both groups. The very healthy funding stream afforded by the Chronic Disease Management Program may encourage podiatrists to choose work in the private sector over practice in the public sector.

1.6.6 Funding

Whilst the issue of funding is also a demand driver – in that strong funding streams can underpin patient demand – funding is also a supply driver.

Some LHDs support podiatry positions through the Commonwealth Home and Community Care (HACC) program. HACC funding for some programs is anticipated to conclude on 30 June 2015 when the program will transition to the Commonwealth Home Support Program (CHSP). Presently the funding model for CHSP in relation to public hospital podiatry services is unconfirmed. LHDs using HACC funding to support podiatry positions may need to consider alternate funding sources or services.

Many podiatry positions are appointed on a part-time or temporary basis, and frequently individuals in the podiatry workforce who take leave are not replaced as podiatry services may not be considered 'acute'. At times, services are simply closed due to staff leave; and where those individuals take extended leave, LHDs may elect to close the unfilled position, in turn shrinking the public workforce supply.

1.7 Challenges

A number of challenges for the podiatry workforce were identified in this review. Key challenges are making telehealth work, addressing recruitment and retention challenges for podiatrists in rural and remote areas and standardising podiatry services.

1.8 Opportunities

1.8.1 Better use of the mix of public and private podiatrists

Developing and implementing care pathways that maximise the skills of both public and private sector podiatrists is clearly desirable. Whilst private podiatrists are engaged on a sessional basis in some LHDs it is important to align this engagement with the current NSW Health policy directive. This states that the direct employment of podiatrists is the preferred option, with use of sessional arrangements to support health services (particularly those in rural and remote locations) which may not otherwise be able to recruit a podiatrist to a permanent position.

Consideration could be given to determine if public and private podiatry services could be aligned within an Integrated Care framework and leveraging the Chronic Disease Management program. Such an initiative might be developed as an early intervention, demand management strategy for public podiatry services.

1.8.2 Appropriate expansion of Allied Health Assistant involvement

New South Wales has limited Allied Health Assistants (AHAs) in podiatry roles (Health Workforce Australia, 2014a), however other jurisdictions (such as Western Australia) have a significant AHA workforce which provides services across several disciplines.

Feedback from stakeholders established that given the complex patient mix managed in public hospitals, it would not be appropriate to employ AHAs to replace podiatrists – a view supported by the project team. However, it was agreed that AHAs could be incorporated in a model of care that utilises their skills for basic foot-care tasks. Consideration should be given to the capacity of podiatrists to appropriately supervise and direct AHAs (Schmidt, 2013).

1.8.3 Leveraging Integrated Care and case management

Delivering truly integrated care is one of three strategic directions in the NSW State Health Plan: Towards 2021 (NSW Health, 2014). The Integrated Care program has a focus on re-organising the way that services are delivered to improve the efficiency and effectiveness of health care provision. Frequently, Integrated Care initiatives cross clinical boundaries, for example melding public hospital services with general practice, services in the not-for-profit sector and other organisations. The intent of the initiative is to provide people (particularly those with chronic or complex health conditions) with routinely delivered person-centred, seamless, efficient and effective care, irrespective of where they enter or exit the health system.

This concept might be further extended to application of case management to podiatry services. Case management refers to personalised, ongoing community-based assessment and care delivery through collaboration and integration between health services and health professionals (Lavery et al., 2005). Demonstrable results have been achieved in the reduction of preventable limb loss in high-risk cases using a case-management approach (Lavery et al., 2005).

1.8.4 Increasing application of care pathways (such as Health Pathways and Map of Medicine)

Care pathways are electronic resources which support primary care clinicians to plan patient care through primary, community and secondary health care systems. These tools are designed to be used at the point of care, primarily for general practitioners but may also be utilised by specialists, nurses, allied health and other health professionals.

There may be opportunity for the podiatry profession to develop care pathways for their services, making it easier for the wider health community to understand what services are available and how they may be referred into or accessed.

1.8.5 National Disability Insurance Scheme (NDIS)

The introduction of the NDIS represents both changes and opportunities for the podiatry sector. Under the scheme, podiatrists and organisations may register to provide services through the NDIS, such as assessment and selection of adapted foot ware or therapy related to foot, ankle and leg impairments (National Disability Insurance Scheme, 2014).

Public sector podiatry services may wish to consider how they might structure their services to participate in the NDIS scheme and support patients with a disability requiring podiatry services. For example, LHDs may register as NDIS providers, and this could include a range of services or be based solely on the provision of podiatry services.

2 Introduction

The Selected Allied Health Professions – Horizon Scan 2015 project is driven by the Health Professionals Workforce Plan 2012-22, which sets out the framework for addressing the workforce implications of increasing demand for health services in NSW. Given this increasing demand for health services, the Plan establishes that simply increasing staffing without considering changing workforce practices and introducing more efficient and effective models of care is financially unsustainable. As part of the Plan the Workforce Planning and Development Branch (WPD) is responsible for developing and modelling projections for the Allied Health workforce.

The Horizon Scanning project represents an opportunity for stakeholders within the podiatry profession across NSW to participate in the development of a short, medium and long-term vision for their field. In developing this vision, a number of system-wide drivers require consideration, including:

- The need to shift the provision of service from an institutional focus, towards a patient-centric model
- An increasing focus on Activity-Based Funding, encouraging services to consider more efficient models of care, often delivered in the home or in community based settings
- An increasing use of eHealth, which also demands changes in work practice as a result of increased access to electronic records, use of technology, mobile devices and electronic decision support
- An emphasis on collaborative, multidisciplinary teams across care settings and balancing health profession specialisation with generalisation to address the increased demand for care, particularly amongst patients with chronic and complex conditions
- A need to consider the geographic distribution of the workforce to align with changing population demographics and health needs.

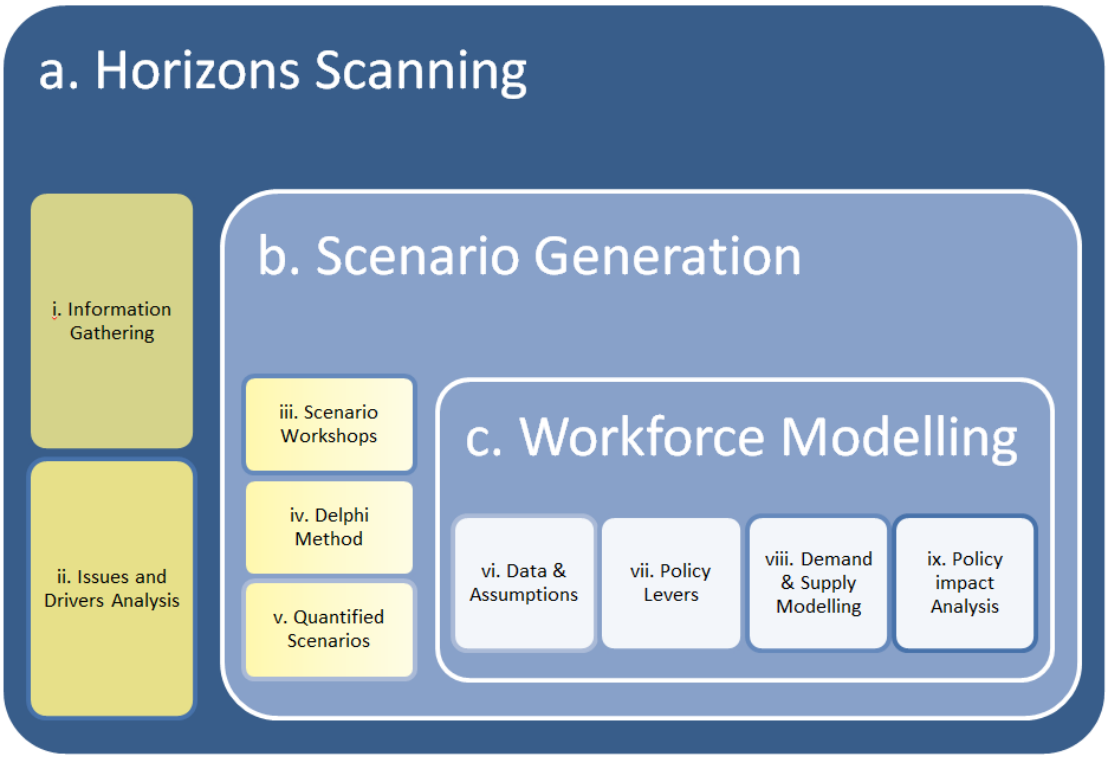
This literature review synthesises the available data and literature regarding the podiatry workforce in NSW, Australia and globally, in order to:

- Articulate the full scope of the Podiatry role (across both public and private sector practice)
- Identify key challenges, trends and drivers and opportunities which may impact the podiatry workforce now or in the future
- Identify examples of how other jurisdictions have considered or addressed these factors in their own health workforce planning initiatives and offer insight to the potential implications for NSW Health organisations
- Where possible, identify potential metrics or benchmarking that might be applied to measure the impact of drivers such as technology, science, policy and costs on the workforce
- Shortlist key priorities for each workforce to address in the short, medium and longer term (to 2030).

The results of this literature review and subsequent research phase forms part of the Horizon Scanning phase for the NSW Ministry of Health to support strategic workforce planning for the podiatry workforce.

The purpose of this document is to outline the methodology, approach and themes raised by the literature and podiatry stakeholders to inform the Workforce Modelling phase (Stage C in Figure 2 below) of the NSW Ministry of Health's Workforce Planning Methodology. It should be noted that the views expressed in the report are not necessarily those of the NSW Ministry of Health.

Figure 2: Ministry of Health Workforce planning methodology



2.1 Methodology

This section provides detail of the methodology and approach utilised in the Horizon Scanning process.

2.1.1 Literature review

An initial literature search was conducted by the NSW Ministry of Health library, which was used as a foundation for this report. To augment the findings of the initial review a comprehensive search of peer-reviewed, organisational and grey literature was undertaken. Key words relevant to podiatry services were identified and utilised. Details of the key words are included in Appendix A. Major databases including CINAHL and OVID were accessed. Recent publications were prioritised and available published data was considered in the review.

2.1.2 Stakeholder consultation

A workshop with senior podiatrists from a range of LHDs and disciplines was conducted on 25 May 2015. One to one consultation with podiatrists and senior Allied Health leadership within NSW Health was also conducted to explore specific trends in greater detail. The purpose of the consultations and workshop were to further explore and prioritise key demand and supply drivers for the podiatry workforce in NSW, and to explore factors impacting future delivery of podiatry services. A list of stakeholders who participated in this consultation is included at Appendix B.

2.1.3 Grouping and prioritising drivers

Following the workshop, demand and supply drivers were further grouped where appropriate (e.g. aligning to literature review findings) and prioritised based on the ranking feedback provided by stakeholders during the consultation phase.

3 Summary of key demand and supply factors

An overview of the drivers impacting the supply and demand of the podiatry workforce identified in the literature review and stakeholder consultation process are summarised in **Figure 3** below, and defined in the subsequent tables:

Figure 3: Summary of key demand and supply factors

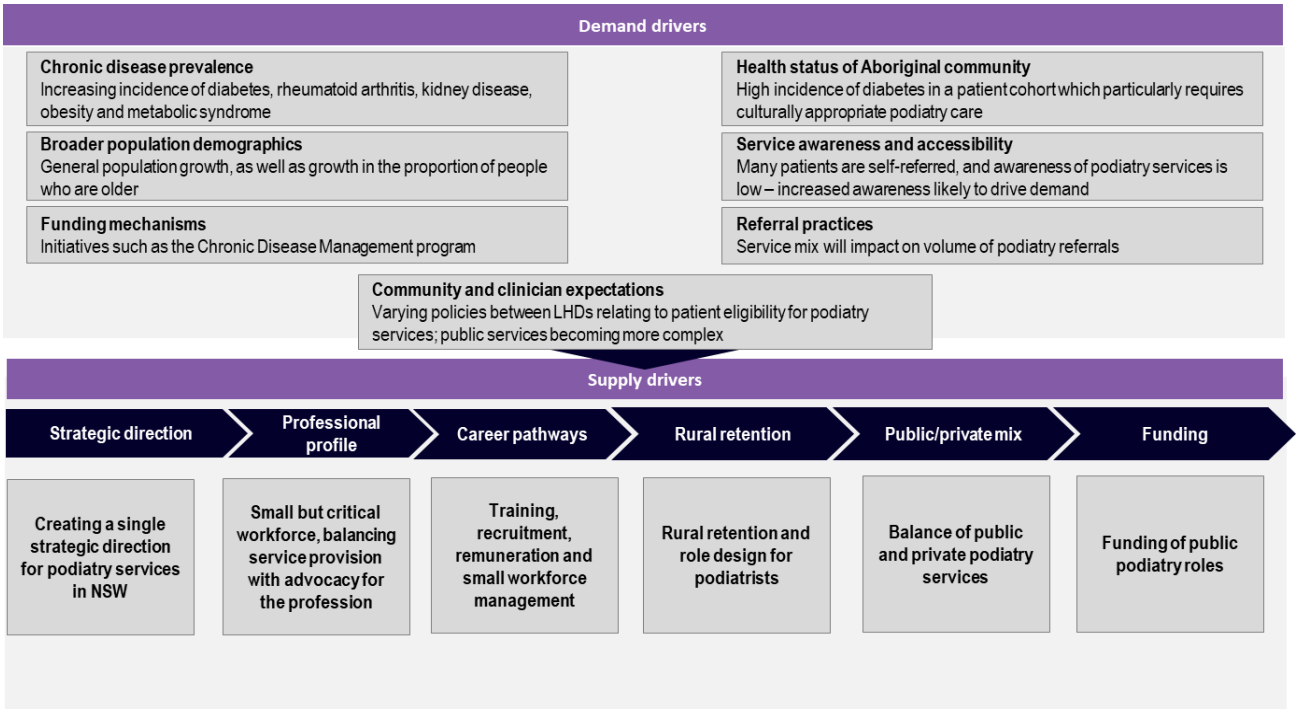


Table 1: Podiatry demand drivers

Driver	Description
Chronic disease prevalence	Increasing incidence of diabetes, rheumatoid arthritis, kidney disease, obesity and metabolic syndrome
Broader population demographics	General population growth, as well as growth in the proportion of people who are older
Funding mechanisms	Initiatives such as the Chronic Disease Management Program
Health status of Aboriginal community	High incidence of diabetes in a patient cohort which particularly requires culturally appropriate podiatry care
Service awareness and accessibility	Many patients are self-referred, and awareness of podiatry services is low – increased awareness likely to drive demand
Referral practices	Service mix will impact on volume of podiatry referrals
Community and clinician expectations	Varying policies between LHDs relating to patient eligibility for podiatry services; public services becoming more complex

Table 2: Podiatry supply drivers

Driver	Description
Strategic direction	Addressing the broader issues of supply of the public podiatry workforce through development of a state-wide strategic direction
Professional profile	Limited visibility and awareness as most public podiatrists are in patient-facing roles with limited time for advocacy
Career pathways	Including education, training and supervision, recruitment and career structure
Rural retention	Difficulty attracting and retaining public podiatrists to outer regional and remote areas, where demand for public services is highest
Public/private mix	Bulk of podiatry workforce is based in the private sector and there is a different skill mix between these groups
Funding	Stakeholders indicate that funding uncertainty leads to temporary and part-time positions, public positions not backfilled during periods of leave, services closed during absences and unfilled positions closed following extended periods of leave

4 Overview of the profession

The following section provides an overview of the general characteristics of the current Australian podiatry workforce, including scope of practice, entry pathways, key roles, work settings and professional bodies.

4.1 Scope of practice

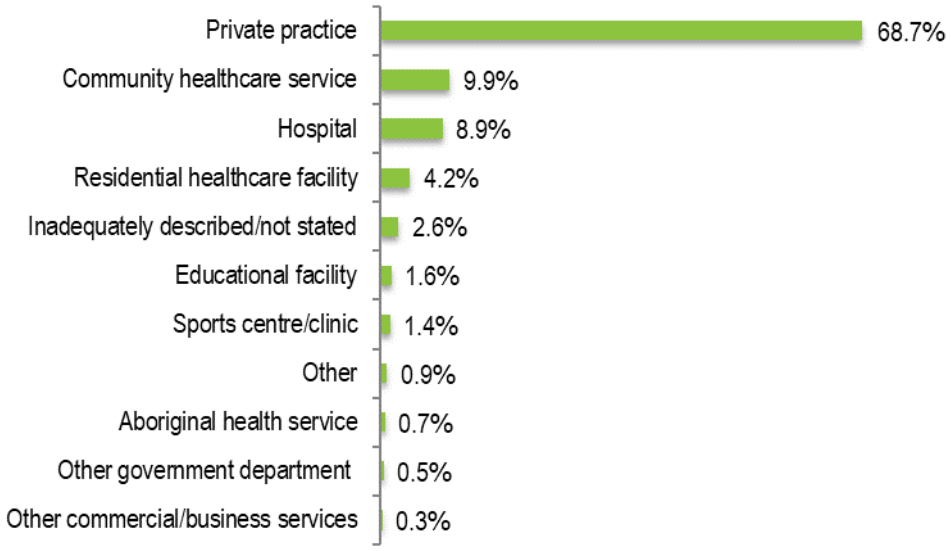
Podiatrists provide assessment, treatment and advice for the management of conditions and promotion of health related to the foot and associated lower limb (Health Workforce Australia, 2014a). In Australia they are classified as members of the Allied Health spectrum of primary healthcare practitioners (Cant and Foster, 2011). Podiatrists practice in a range of settings including hospitals, clinics, community and residential aged care settings in both the public and private sectors

Their scope of practice encapsulates treatment for skin and nail conditions, advice on biomechanics and structural problems, bone and joint pathology, gait analysis and management of systemic illnesses with foot manifestations (such as diabetes and peripheral vascular disease. Podiatrists also offer advice on and modification of footwear, as well as therapeutic soft tissue interventions. Podiatrists may request diagnostic imaging examinations of the foot and lower limb including x-ray, musculoskeletal ultrasound, CT scan and MRI, although CT and MRI examinations requested by a podiatrist are not reimbursed under the Medicare Benefits Scheme (Australasian Podiatry Council, N.D.). During consultation with stakeholders, it was established that podiatrists may order any clinically required imaging in public hospital facilities but regularly refer patients back to their General Practitioner for high-cost imaging which may be reimbursable under the Medicare Benefits Scheme. Whilst not currently permitted to practice acupuncture within the scope of their professional registration, the Podiatry Board of Australia has recognised podiatrists as qualified to use needling techniques associated with musculoskeletal treatments in the management of podiatric conditions (Podiatry Board of Australia, 2014a).

The Australasian Podiatry Council has indicated that work towards establishing a formal scope of practice for podiatrists is underway. The ability to attain professional credentials and specialisations is noted as a contributing factor to perceptions of professional standing amongst podiatrists, as is a scope of practice including skills unique to podiatrists which are not possessed by any other discipline or profession (Borthwick et al., 2009). The loss of exclusive task ownership to disciplines such as nursing and physiotherapy has been described as a concern held by the profession (Moran et al., 2012).

Podiatrists practice in a range of settings, with the bulk working across private practice, in community healthcare services and hospitals.

Figure 4: Podiatrist work settings



Source: (Health Workforce Australia, 2014a)

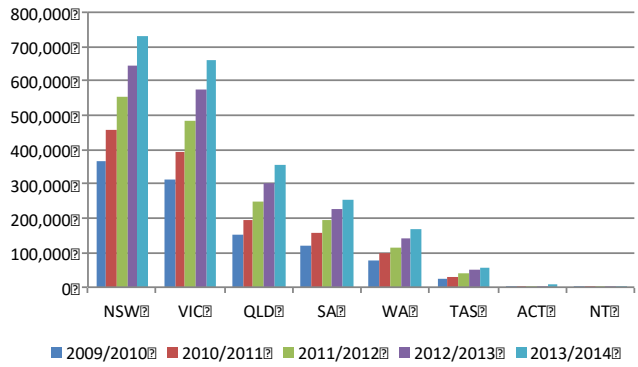
4.1.1 Podiatry rebates under Medicare

The Chronic Disease Management (CDM) program is a Medicare-funded initiative to support people with chronic conditions which have been (or are likely to be) present for six months or more. Any chronic condition is eligible for inclusion in the scheme, which requires the patient's GP to develop a Management Plan and agree Team Care Arrangements as part of referral to an appropriate allied health provider to benefit the patient's chronic condition. Podiatrists are one of the allied health provider groups eligible to participate in the scheme (Department of Health, 2014). It should be noted that podiatrists practicing in the private sector participate in this scheme.

The Medicare benefit for a podiatry (item 10962) is $52.95 per service, and (CDM) patients are eligible for up to five services per calendar year from any of the identified allied health provider groups. In order to be eligible for the benefit, the person must not be a currently admitted patient of a hospital (Department of Health, n.d.).

Figure **5** below shows the growth in uptake of Medicare Item 10962. In NSW the demand for podiatry services has more than doubled over the previous five years. In 2010, podiatry consultations under the CDM program were the highest of any profession across all states and territories (Cant and Foster, 2011; Menz, 2009).

Figure 5: Growth in Medicare-funded podiatry services



Source: (Department of Human Services, 2015)

4.1.2 Prescribing rights

Podiatrists who have completed an approved program of study in podiatric therapeutics, or a substantially equivalent program may be eligible to seek endorsement by the Podiatry Board of Australia to prescribe if they meet one of the following criteria (Roller and Gowan, 2010):

- Demonstrating seven years of post-qualification experience and providing appropriate references
- Completion of 20 hours of web-based case studies plus 40 hours of supervision by an endorsed prescriber.

Approved medications which may be prescribed by a podiatrist meeting the above criteria are set out in Appendix C.

4.2 Entry to the profession

Entry into the profession requires registration through the Australian Health Practitioner Regulation Agency (AHPRA) following either the successful completion of an approved degree program or the recognition of similar overseas qualifications and/or experience (Australian Health Practitioner Regulation Agency, 2015). Approved programs of study are included at Appendix D. The processes of professional registration are operated by the Podiatry Board of Australia, which assesses the credentials and experience of all applicants in the determination of whether registration is granted, denied or subject to further requirements (Australian Health Practitioner Regulation Agency, 2015).

4.3 Professional bodies and associations

4.3.1 Podiatry Board of Australia

The functions of the Podiatry Board of Australia (Podiatry Board of Australia, 2014b) include registering podiatrists and students, developing standards, codes and guidelines for the podiatry profession, handling notifications, complaints, investigations and disciplinary hearings, assessing overseas trained practitioners who wish to practice in Australia, and approving accreditation standards and accredited courses of study.

4.3.2 Australasian Podiatry Council

The Australasian Podiatry Council is responsible for the preparation of national policies and clinical practice (Australasian Podiatry Council, 2015), representation of podiatry in Australia to government and industry bodies, research within the discipline and support for continuing professional development. The Council represents the profession on a range of national peak groups, including the National Diabetes Network, the National Allied Health Classification Committee and at Allied Health Professions Australia.

4.3.3 Australian Podiatry Associations

The Australian Podiatry Associations (APAs) are the professional associations, with membership open to all registered podiatrists (Health Workforce Australia, 2014a). APAs are comprised of associations/companies in each state, with each state association holding membership with the Australasian Podiatry Council. On behalf of its members, the APAs represent the profession to their local government, community and other professional bodies, as well as acting as a contact point for the public.

4.3.4 Australian Podiatry Association NSW & ACT

The Australian Podiatry Association (NSW & ACT) is the professional association for all NSW and ACT registered podiatrists (Australian Government: Department of Human Services, 2015). On behalf of its members, the Association represents the profession to Government, community and other professional bodies, as well as acting as a contact point for the public. A representative from the Australian Podiatry Association NSW & ACT sits on the Board of the Australasian Podiatry Council.

4.3.5 Australia and New Zealand Podiatry Accreditation Council

The Australia and New Zealand Podiatry Accreditation Council (ANZPAC) is an independent organisation that assesses and accredits podiatry education programs (Australian and New Zealand Podiatry Accreditation Council, 2015). ANZPAC also assess the qualification and skills of overseas-trained podiatrists for skilled migration to Australia or suitability to practice in Australia and New Zealand.

4.3.6 Australasian College of Podiatric Surgeons

The Australasian College of Podiatric Surgeons (ACPS) was established in 1978 (The Australian College of Podiatric Surgeons, 2014). It is the recognised peer body responsible for the development, implementation and monitoring of guidelines for the practice of podiatric surgery.

Fellowship requirements for the ACPS include a Bachelors undergraduate podiatry degree, Masters degree, Fellowship residency and final oral and practical examinations.

The ACPS conducts a national specialty training program (Fellowship and specialist registration in podiatric surgery) and provides certification that Fellows of the ACPS have complied with professional development activities that are in line with requirements for ongoing hospital accreditation. The ACPS is an active advocacy organisation at a national level.

4.3.7 Australasian Academy of Podiatric Sports Medicine (AAPSM)

The AAPSM is affiliated with Sports Medicine Australia as well as the Australasian Podiatry Council (Australasian Academy of Podiatric Sports Medicine, N.D.). The Academy is recognised as the official body responsible for the development and implementation of podiatric sports medicine. The Academy has a continuing education program available for its members, culminating in Fellowship status. Requirements for Fellowship include undergraduate podiatry qualifications, successful post graduate studies in a sports medicine/science-related area and the completion of written examinations and other criteria.

4.3.8 Podiatry Council of NSW

The Podiatry Council of NSW manages notifications (complaints) about the conduct, performance or health of podiatry practitioners and students (Podiatry Council of NSW, 2014).

Table 3 below provides an overview of the various professional podiatry bodies and boards across Australia, their role and the stakeholders they represent.

Table 3: Summary of professional bodies and boards

Organisation	Role	Representation
Podiatry Board of Australia	Registration and regulation	Federal Government
Australasian Podiatry Council	Policy and practice recommendations, research	Represents the profession to government, industrial and stakeholder groups
Australian Podiatry Associations	Membership services to podiatrists in each state. Participation in Podiatry Board of Australia processes.	State-level representation to government, industrial groups and the public
Australian Podiatry Association NSW and ACT	Membership services to NSW podiatrists. Participation in Podiatry Board of Australia processes.	Representation of NSW and ACT-based podiatrists to government, industrial groups and the public
Australia and New Zealand Podiatry Accreditation Council	Assessment and accreditation of podiatry education programs and assessment of overseas-trained podiatrists	Independent – manages assessment of education programs
Australian College of Podiatric Surgeons	Podiatric surgery guidelines, training and credentialing	Specialist registration
Australasian Academy of Podiatric Sports Medicine	Membership and education for sports-specific podiatry	Members in sports podiatry practice
Podiatry Council of NSW	Manages notifications about the conduct, performance or health of podiatry practitioners and students in NSW	Co-regulator of podiatry in NSW under the National registration scheme

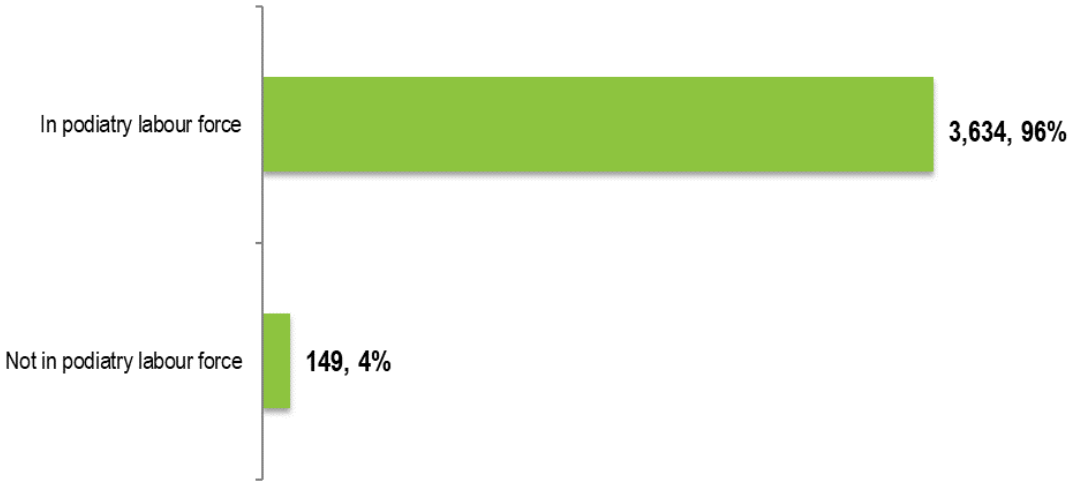
4.4 Workforce characteristics

4.4.1 Number of podiatrists employed in Australia

Australian Institute of Health and Welfare data (2015) indicates that in 2013, there were 4,037 registered podiatrists in Australia. Whilst this is the most recent report on the total number of registered podiatrists, it did not include the split to distinguish those that were actively in the workforce. Data from (Health Workforce Australia, 2014a) which includes figures from 2012 shows that 96% of registered podiatrists were actively working in the podiatry labour force.

The Podiatry Council of NSW has advised that as of December 2014 there were 1,095 (practicing) podiatrists with a principal place of practice in NSW.

Figure 6: Registered podiatrists by labour force status (2012)

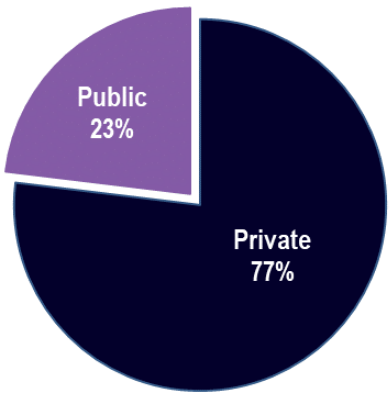


Source: (Health Workforce Australia, 2014a)

4.4.2 Registered podiatrists by sector

77% of podiatrists undertake clinical work in the private sector, with the remainder employed in providing public sector services (Health Workforce Australia, 2014a).

Figure 7: Employed podiatrists undertaking clinical work by sector, 2012



Source: (Health Workforce Australia, 2014a)

4.4.3 Registered podiatrists by location

Over three-quarters of podiatrists work in major cities with 17.5% based in inner regional areas and the remaining 6.8% of the workforce based in outer regional, remote and very remote areas.

Figure 8: Podiatrists by region

Source: (Health Workforce Australia, 2014a)

4.4.4 Gender and age

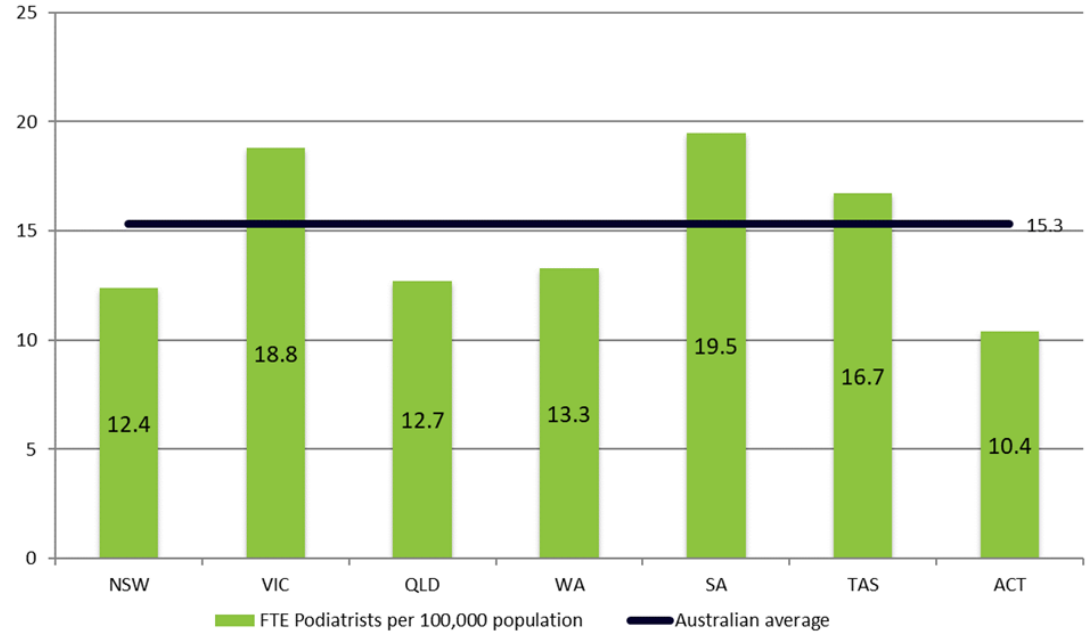
In New South Wales in 2012, 58% of the podiatry workforce was female and the average age of a podiatrist was 37.6 years (Health Workforce Australia, 2014a).

4.4.5 FTE podiatrists per 100,000 population

In 2012 the number of FTE podiatrists per 100,000 population was 15.3.

Data showing the varying levels of podiatrists per 100,000 population across Australia is set out in Figure 9 below, demonstrating the maldistribution of the workforce across the country. NSW has one of the lowest ratios – 12.4 podiatrists per 100,000 population.

Figure 9: FTE Podiatrists per 100,000 population by State/Territory



Source: (Australian Institute of Health and Welfare, 2015)

4.5 Pathways to access podiatry services

Whilst there is not a single formalised pathway for referral into podiatry services, the following access pathways exist:

- Self-referral
- Referral by a General Practitioner
- Referral by another professional in a multidisciplinary team or clinic - for example, following an initial foot check by a nurse as part of an endocrinology clinic
- Referral during admission as a public hospital inpatient
- Referral during triage upon presentation at an emergency department
- Referral by a Residential Aged Care Facility.

Despite the absence of a standardised referral pathway, potential exists for future clinical decision support tools to prompt referral, for example using care pathways such as Health Pathways or Map of Medicine.

5 Key drivers of demand for podiatry services

There are a complex range of factors that impact demand for podiatry services and the capacity of podiatrists to meet that demand. These drivers include chronic disease prevalence, broader population demographics, service awareness and accessibility, funding mechanisms, health status of the Aboriginal community, referral practices, and community and clinician expectations.

5.1 Chronic disease prevalence

Stakeholders overwhelmingly identified the prevalence of chronic disease as the most significant driver of demand for podiatry services. Podiatry services are often associated with the incidence of diabetes and routine foot screening, as people with diabetes are nearly 20 times more likely to be at risk of foot amputation, and foot problems are the most common cause of admission to hospital for this patient cohort (Crawford et al., 2011).

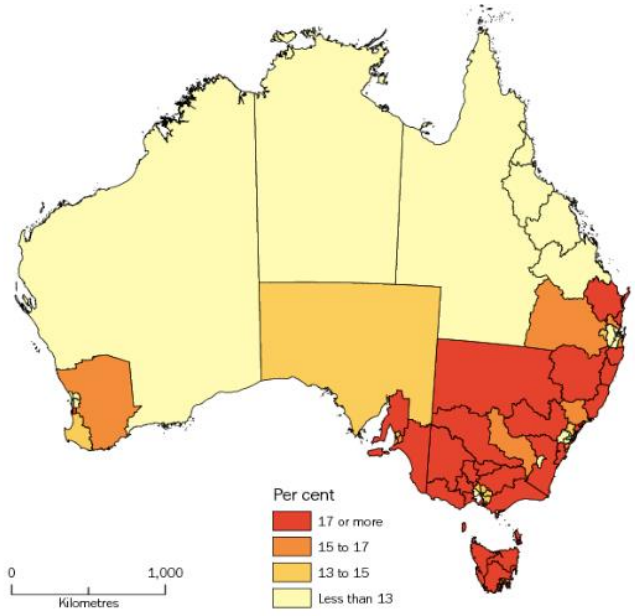
However other chronic diseases are also drivers of podiatry service demand including rheumatoid arthritis which causes a range of foot difficulties including joint pain, stiffness and deformities (Hendry et al., 2013), obesity and metabolic syndrome (commonly managed as 'pre-diabetes') - often treated with exercise impacting on the feet and requiring biomechanical assessment (Ross, 2013). Foot ulceration is the most significant predictor of death for renal patients during the first 90 days of dialysis (Jones et al., 2013.

5.2 Broader population demographics

The Australian population is increasing and at the same time the proportion of people who are older are also growing. The need for podiatric services is anticipated to increase in line with projected increases in the number of aged Australians (Vernon et al., 2005).

Figure 10 shows a heat map of people aged 65 years and older, demonstrating the significantly higher proportion of older people in the south-eastern parts of Australia, particularly in NSW.

Figure 10: Population aged 65 years and over (at 30 June 2013)



Source: (Australian Bureau of Statistics, 2014)

Associated with this ageing and growing population are increased podiatry demand – beyond the demand associated with chronic disease incidence described above, often as early interventions or preventative activities. For example, a Victorian study focussing on falls prevention found that a multifaceted podiatry intervention reduced the rate of falls amongst a high-risk group by 36% compared to the control group who received routine podiatry services only (Vernon, 2011).

Stakeholders have also identified socio-economic disadvantage as a driver of podiatry demand. A small study of allied health providers, including 8 podiatrists, (Pearce-Brown et al., 2011) found that the average
out-of-pocket expenses for an allied health assessment plus three follow-up appointments ranged between $258 to $302 (excluding Medicare rebates). Bulk billing was not offered by any of the providers surveyed, and the study concluded that the costs of accessing allied health services created an access barrier for patients from lower socio-economic groups even when the Chronic Disease Management program was considered.

Podiatrists working in public health services have anecdotally indicated that services located in lower
socio-economic areas are particularly impacted by this situation, resulting in increased demand for public podiatry services as patients are unable to afford private podiatry care or the gap between the Medicare benefit and fee for service.

5.3 Service awareness and accessibility

Service awareness and accessibility (amongst both patients and referrers) was identified as a key driver of demand for podiatry services. Results from a South Australian study to determine actual utilisation of podiatry services found that fewer than 20% of respondents who reported foot pain had consulted a podiatrist, with inadequate service promotion identified as a contributing factor (Menz et al., 2008). Awareness of podiatry services appears to be a key limiting factor in service demand, with research consistently finding that a significant proportion of cases with legitimate indications for podiatry service have not sought consultation (Cant and Foster, 2011; Menz et al. , 2008; Rome et al. , 2010). Accordingly, increasing the awareness of podiatry services is likely to also trigger a legitimate and proportionate increase in demand.

It is likely that increased emphasis on standardised assessment and treatment guidelines, together with integrated, multidisciplinary care teams will also increase podiatry service awareness and demand.

In the UK, the NHS Sheffield Primary Care Trust has described their experience implementing a Foot and Ankle Care Pathway (National Institute for Health and Care Excellence, 2010). The purpose was to provide rapid access to the most appropriate service or community-based treatment and where appropriate, referral to podiatric surgery.

The success of the pathway resulted in an unplanned increase in activity placing the podiatry service under pressure, however the initiative overall delivered significant savings through a mixture of improved financial performance and improved productivity. This was primarily achieved by reducing the number of patients who would ordinarily progress through an orthopaedics pathway.

5.4 Funding mechanisms

Medicare's Chronic Disease Management program has been outlined in detail in the earlier Podiatry rebates under Medicare section. Cant and Foster (2011) have reported that utilisation of CDM services did not appear consistent across NSW, an issue attributed to decreased population to provider ratios in rural areas.

Funding mechanisms are a key demand driver for podiatry services as public services are primarily funded by state governments, often within an Activity-Based Funding framework and private services are typically funded through a mix of Medicare and patient gap fees.

5.4.1 Activity-based funding

Activity-based funding (ABF) provides a framework to determine the Commonwealth contribution to public hospital services. Podiatry clinics fall within the Tier 2 Non-Admitted Services Classification. Activity for
non-admitted and community podiatry clinics is therefore reported on the basis of a non-admitted patient service event against class 40.25, Podiatry.

The non-admitted patient service event (Independent Hospital Pricing Authority, 2015) is defined as:

– *an interaction between one or more healthcare provider(s) with one non-admitted patient, which must contain therapeutic/clinical content and result in a dated entry in the patient's medical record.*

Data provided by the NSW Ministry of Health demonstrates the consistent activity levels across all LHDs in providing podiatry services under Tier 2. In 2012, a total of 98,875 non-admitted podiatry services were reported and by 2014 this figure remained static at 98,330 non-admitted service events.

Possible explanations for the static activity reported despite the environment of increasing demand are:

- Data collection, counting and quality systems may not be optimised
- The relatively stable workforce has a finite capacity, and is prioritising treatment for higher-risk patients - lower-risk patients may either not receive any service or may be referred to the private sector.

The consequence of these non-admitted service activity levels is that Commonwealth funding for non-admitted public podiatry services in NSW will also remain static which may have implications for the supply of public podiatrists.

Podiatry services for inpatients fall within the admitted acute classification Australian Refined Diagnosis Related Groups (AR-DRGs). In order for this activity to be fully counted, it is critical that all podiatry-related diagnoses are documented in the patient record for subsequent classification, grouping and funding.

5.5 Health status of the Aboriginal community

Podiatry stakeholders identified Aboriginal health as a key service driver and that the issue was sufficiently significant that it warranted separate attention from the broader population and chronic disease incidence drivers. The prevalence of diabetes in the Aboriginal population is significantly higher than in the non-Aboriginal population, with up to 33% of people who are Aboriginal having a form of the disease and those living in rural and remote areas being up to twice as likely to develop the disease than people who are Aboriginal and live in urban areas (Minges et al., 2011).

People who are Aboriginal are also less frequent users of podiatry services than the broader population (Townsend, 2012). Key considerations for Aboriginal service delivery include cultural appropriateness and community engagement (Hayman et al., 2014).

A particular challenge identified by podiatry stakeholders is the difficulty in ensuring Aboriginal patients receive appropriate podiatry treatment. However, providing culturally appropriate

podiatry care to people who are Aboriginal has been shown to achieve impressive reach amongst this population group: in Western Australia, the Moorditj Djena program (meaning 'Good' or 'Strong Feet' in the local language) is a high-risk foot and diabetes education outreach service (Ballestas et al., 2014). Extensive consultation was undertaken with the local Aboriginal community to develop the service model which included a mix of fixed and mobile clinics. More than half of patients who attended the clinic found out about the service through word of mouth and were self-referred. Based on estimates of diabetes incidence within the Aboriginal population, it is estimated that 14.5% of Aboriginal adults with diabetes in the region had been seen by the service over a period of two and a half years.

5.6 Referral practices

Referral practices are also a demand driver for podiatry services. In particular, stakeholders have identified that the mix of services provided by a health service or within a local geographic area may influence the volume of podiatry patient demand. For example, services with a diabetes clinic are likely to see increased referrals; and similarly, areas with less private podiatry providers may see an increase in local public podiatry demand.

In NSW, the primary method of access to podiatry services has been through self-referral (Hendry et al. , 2013), however stakeholders have described how increased interprofessional engagement often results in increased (appropriate and inappropriate) referrals for public podiatry services.

Increased awareness of the scope and role of the podiatrist has been identified as a further source of referral demand.

5.7 Community and clinical expectations

The final driver for the podiatry workforce are community and clinical expectations regarding podiatry services. Stakeholders have reported that over time, public hospital podiatry services have increasingly specialised in the interventions they provide and now work primarily with high acuity patients. Changing service priorities has resulted in a mismatch of expectations, as patients who might have previously been able to see a public podiatrist for basic footcare may no longer be able to be access the service.

Variation in policy between LHDs regarding patient access to podiatry services is also a source of varying community and clinical expectations. Some LHDs will accept patients from out of area, whilst others will not. This scenario has the potential to create confusion and impact on equity of access for patients across the state as well as creating different regional demand patterns for the podiatry workforce.

6 Key drivers of supply of podiatry services

There are a complex range of factors that impact supply within the podiatry workforce. Supply drivers include an aligned work plan for public podiatry services, the professional profile of podiatrists, recruitment, career pathways (including recruitment and training), rural retention and role design, the mix of public and private podiatrists, and funding. Many of the supply drivers listed in this document are based on feedback from stakeholder consultations (public sector podiatrists) and accordingly emphasise the supply drivers for this group.

6.1 An aligned work plan for public podiatry services

Stakeholders gave their broadest support for this particular supply driver. Development of an aligned work plan for public podiatry services was considered to be a significant step in addressing longer-term podiatry supply issues. It may be most appropriate for such an initiative to be led by a podiatry peak body or through the NSW Health podiatry network, noting that each LHD is responsible for their own strategic direction in the provision of podiatry services.

Key areas which might inform the development of the strategy include development of guidelines, standardisation of services, creating podiatry services which are equitable and accessible, and ensuring appropriate distribution of podiatrists to support patient needs. Collection and modelling of data to show patient demand for podiatry services based on clinical need may also be a worthwhile inclusion.

6.2 Professional profile of podiatrists

In NSW there are a small number of public sector podiatrists when compared with other allied health professions. This may contribute to a lack of awareness of podiatry services by other health professions, and also risks management prioritising medical, nursing and other higher profile allied health groups when making decisions affecting workforce supply.

Many podiatrists in the public-sector work in patient-facing roles, as well as having administrative and management responsibilities. Stakeholders reported this creates a situation where there is less time for advocacy and may result in less visibility of the supply issues facing the podiatry workforce.

6.3 Career pathways

Podiatrists consulted for this report identified many aspects of career pathways with the potential to affect supply of podiatrists.

Key areas include education, training and supervision, recruitment and career structure.

As part of their studies, podiatry students are required to participate in supervised placements to develop their practical podiatry skills. Stakeholders have described the burden this places on experienced podiatrists, who may have little available capacity to provide the necessary guidance and supervision to support students during their placement. Reluctance to provide supervision based on capacity has several consequences:

- Podiatry graduates may undergo placement in the private sector, and be more likely to pursue a career in that sector of the podiatry profession
- Podiatry graduates may not gain the benefit of seeing the challenge and reward of treating complex public patients which would not typically be managed in the private sector.

Recruitment was also described as a key issue affecting supply of podiatrists to the public sector. Stakeholders described frustration in relation to recruitment processes, particularly for entry-level positions. In acknowledging these challenges, it is noted that NSW Health is currently in the

process of improving recruitment systems to improve efficiency and streamline recruitment processes.

An extension of this challenge is the perceived need to supervise and mentor junior podiatry staff once recruited to the health service. Again, because of existing work demands, more experienced podiatrists may find it difficult to spare the time necessary to provide this guidance, noting that more experienced podiatrists may be most approached by junior podiatry staff for mentorship.

The overall career structure for a podiatrist in the public sector was also described as a supply driver. Stakeholders reported career paths for this group of podiatrists are relatively flat and progression through the Award structure is primarily based on number of staff supervised. This application of the Award is challenging for smaller workforces like podiatry, as it does not recognise the clinical skill of the practitioner, which represents a large proportion of the value of the individual podiatrist to the health service.

6.4 Rural retention and role design

One of the most significant challenges impacting on the supply of the podiatry workforce is retention of podiatrists to provide services in outer regional and remote areas. Stakeholders have indicated that contributing factors to this supply issue are:

- Fewer rural-based podiatry managers or equivalent champions to advocate for more podiatry positions in these areas
- Limited career pathways for podiatrists working in these areas, due to smaller workforce and limited management opportunities
- A general preference for working in metropolitan areas
- A potential sense of clinical isolation if working as a solo podiatrist within a health service
- The demand for public podiatry services increases with remoteness

This feedback was consistent with findings in the literature review, which noted that factors impacting the practice of podiatry in rural areas included isolation, sense of community, workload, broadened scope of practice, time away from work and resources, with management challenges identified amongst public system professionals only (Keane et al., 2013). Specifically, public sector rural allied health workers outlined perceived concerns regarding the actions of managers around resource allocation, staff retention activities and levels of support provided (Keane et al., 2013).

Retention was regarded as more significant than recruitment in the evaluation of rural allied health workforce issues due to higher turnover rates and shorter lengths of service when compared to the metropolitan allied health workforce (Struber, 2004).

6.5 Mix of public and private podiatrists

The mix of public and private podiatrists working in the sector was considered at length by stakeholders. One of the primary themes of this discussion was that whilst there is a robust private podiatry workforce (and at time podiatrists work across private and public settings) largely the skill mix is different between both groups. Private podiatrists primarily provide lower-risk and more basic footcare interventions, whereas public podiatrists have shifted into more specialised work which sees them managing more serious and acute conditions of the lower limb.

Funding as a supply driver was discussed earlier in this report, however it is clear that there is a very healthy funding stream for private podiatry services through the CDM program which may encourage podiatrists to choose private work over practice in the public sector.

Workplace culture, including the experience of working in a bureaucratic organisation with specific caseloads, reporting requirements, and chains of approval were also incorporated in the discussion as aspects which may affect public podiatry supply. It must be acknowledged that these qualities are to be realistically expected in an organisation the size of NSW Health. However, it is possible that development of a state-wide strategy for podiatry may go some way to minimise features of public sector podiatry practice which may encourage practitioners to work in the private sector.

6.6 Funding

Whilst the issue of funding is also identified as a demand driver – in that strong funding streams can underpin patient demand – funding is also a supply driver. Podiatrists consulted in this review explained that funding uncertainty may create an environment where public sector staff are often appointed temporarily, or to part-time positions.

6.6.1 HACC funding for podiatry

Some LHDs support podiatry positions through the HACC funding stream. HACC funding for some programs is anticipated to conclude on 30 June 2015 when the program will transition to the Commonwealth Home Support Program (CHSP). The objective of HACC and the CHSP is to provide a range of social and health supports to older people requiring assistance, keeping them living independently in the community for longer (Department of Social Services, 2015). Presently the funding model for CHSP in relation to public hospital podiatry services is unconfirmed. It is possible that the NDIS and CHSP will present a new potential funding stream which may be leveraged by podiatry services in public hospitals, however the timeframe in which these funds will be released is unclear.

LHDs using HACC funding to support podiatry positions may need to consider alternative funding sources or services.

An analysis on the impact of ceasing hospital podiatry services as part of funding reform in the US (Skrepnek et al., 2014) has shown that for every dollar saved as a result of ceasing podiatry services, the overall cost to the system increased by 36% as a result of increased hospitalisations. For this reason, it is anticipated that it would be in the interest of NSW Health to ensure that podiatry services continue to provide services which create downstream cost savings to the health system.

Given this potential change in funding approach, there may also be a case for directly linking public podiatry services to the relevant funding stream. This would ensure that any growth in demand would also be reflected in funding models. NSW Health might also consider establishment of cost-benefit analysis-based business cases to justify directly funded public podiatry positions.

6.6.2 Management of leave and vacant positions

Podiatrists also describe the frequently occurring situation where individuals in the podiatry workforce may take leave but not be replaced on the basis that podiatry services are not considered ‘acute’. This is a particular occurrence for those taking maternity leave but also applies where a podiatrist takes leave and the service is effectively closed during their absence. Where those individuals take extended leave, LHDs may elect to close the unfilled position which in turn shrinks the total public workforce supply.

7 Challenges and opportunities

7.1 Challenges

7.1.1 Making telehealth work

Stakeholders acknowledged previous attempts to incorporate telehealth into the provision of podiatry services were impacted by technical challenges – the process and technology was difficult to set up and operate, and required significant advanced planning (for example, sourcing appropriate quality images).

Podiatry services delivered in real-time using telehealth require a competent clinician to attend with the patient and a podiatrist to provide the service. The clinician should be able to provide treatment under guidance and perform tasks such as imaging and co-ordinating the patient's wider care team (including General Practitioner). An alternative use of telehealth would be to source and provide static images for podiatry review ("Store and forward") with a separate session held for follow up.

If logistical challenges could be resolved, podiatrists have suggested that telehealth could be used to provide clinical supervision, education, and support to remote clinicians working independently. However, it should also be acknowledged that telehealth may not be suitable for all podiatry patients, as some may require complex technical interventions that would be best provided directly by a podiatrist. Any benefits anticipated as a result of using telehealth to support the podiatry workforce will only be realised if the initiatives are appropriately implemented and incorporate a user and patient-centred approach to the technology and workflows, including a comprehensive change management approach.

Consideration was given to whether the Allied Health Assistant role might assist in undertaking some of the routine, low-value tasks associated with setting up telehealth consultations, such as co-ordination, collecting consent, and ensuring appropriate quality images are collected and transmitted.

Further consultation of podiatrists and patients on this topic is warranted to identify the key benefits and address the technical and process concerns held by stakeholders.

7.1.2 Addressing recruitment and retention challenges for podiatrists in rural and remote areas

Following investigation into the drivers of rural workforce sustainability, research amongst podiatrists practicing in the eastern states of Australia found that perceptions of decreased demand for service in rural areas may be a deterrent to podiatrists considering practicing in these areas (Borthwick et al., 2009).

Workforce survey findings indicated that potential benefits of practice in rural areas include increased opportunity, increased professional standing and wider professional scope, with the driver for these factors being a generally limited availability of healthcare professionals (Borthwick et al. , 2009). It has been suggested that partnerships with universities which include a focus on rural practice may lead to improvements in recruitment and retention of podiatrists in rural settings (Mercer et al., 2006).

Innovations might include role diversification and the shifting of professional boundaries to align with tasks (rather than professions) as potential mechanisms to address rural skills shortages (Nancarrow, 2003; Turnbull et al., 2009). Alternate approaches to service delivery may also help resolve the imbalance between service needs and supply.

7.1.3 Service standardisation

The literature did identify evidenced-practice guidelines (for example, Agency for Clinical Innovation's Standards for High-Risk Foot Services), however there were some gaps. For example, NSW podiatrists do not currently have access to evidence-based guidelines for the management of rheumatoid arthritis cases, leading to a lack of standardisation in assessment and case management (Hendry et al., 2013). Concern regarding the appropriateness of current podiatric involvement in rheumatoid arthritis was also noted in New Zealand, with primary areas of concern being the consistency of services delivered and effective interdisciplinary collaboration (Rome et al., 2010).

As mentioned earlier, individual LHDs have different policies related to patient access to podiatry services. This also extends to the scope of podiatry services offered. Stakeholders reported addressing this variance (potentially through an aligned podiatry work plan) may increase consistency of the podiatry patient experience across NSW as a quality improvement initiative.

7.2 Opportunities

7.2.1 Better use of the mix of public and private podiatrists

From a clinical perspective, stakeholders have indicated that developing and implementing care pathways that maximise the skills of both public and private sector podiatrists is clearly desirable. Some public-private podiatry practice already occurs – for example, in WNSWLHD, a clinical nurse consultant and diabetes educator run a foot clinic, which then refers clients of greatest need to progress to the podiatry service. Private podiatrists are employed on a sessional basis to provide treatment.

It is likely given the geographic location of WNSWLHD, that such an approach is pragmatic in providing the necessary podiatric care required to the patients most in need, whilst also balancing the challenge of supply of podiatrists in rural areas.

NSW Health policy directive *Engagement of Therapists on a Sessional Basis* (NSW Health, 2013) indicates strongly that direct employment of podiatrists as employees is the preferred option. The intent of the policy is to provide consistent sessional engagement arrangements to support health services (particularly in rural and remote locations) who may not otherwise be able to recruit a podiatrist to a permanent position.

Stakeholder feedback indicates that often private podiatrists employed on a sessional basis are not always well integrated into the health service and may provide considerable volumes of lower acuity services (e.g. foot orthotics) but may not always be experienced in providing services to the more challenging and complex patient.

The opportunity exists to establish a suitable framework, including representation from the Podiatry peak bodies, LHDs and system managers (as appropriate) to collaboratively explore how public and private podiatry services wish to work together, and could potentially benefit from alignment with NSW Health's Integrated Care program. For example, public clinics for patients with chronic conditions, together with the patient's GP, might collaborate with several private podiatry providers to actively refer lower-risk podiatry patients to the private sector for foot care funded under the CDM program. This might be initiated as a demand-management strategy for public podiatry services, with the intention of preventing complications of the lower limb which require more intensive or acute intervention. Correlations have been suggested between the provision of podiatry services and incidence of lower limb amputation in the UK, with routine risk screening and timely intervention being key factors in reducing preventable limb loss (McInnes, 2012).

7.2.2 Appropriate expansion of Allied Health Assistant involvement

A role relevant to this review is that of the Allied Health Assistant (AHA). The potential improvements in service flexibility and productivity have been identified by Health Workforce Australia (Health Workforce Australia, 2014b). Only three podiatry AHAs were identified as practicing in NSW (Health Workforce Australia, 2014b).

Planning for the integration of AHAs into practice environments has been recently considered by NSW Health across the allied health spectrum (NSW Ministry of Health, 2013). Similar guidelines were also recently published by the Victorian Department of Health (2012). The implementation of a podiatry assistant traineeship program in the ACT was noted to increase occasions of service and promote the retention of key podiatry tasks within the profession, although this program required significant resourcing and inter-agency collaboration to implement (Moran et al., 2012). Consideration may also be required with regard to the capacity of podiatrists to appropriately supervise and direct AHAs (Schmidt, 2013). In addition to supervision requirements, other barriers to AHA implementation may include ambiguity regarding the scope of the role and responsibilities, as well as perceptions of lesser standing by other registered healthcare professionals due to lower credentials (Munn et al., 2013).

Feedback from stakeholders established that given the complex patient mix managed in public hospitals, it would not be appropriate to employ AHAs to replace podiatrists – a view supported by the project team. However, it was agreed that AHAs could be incorporated in a model of care that utilises their skills for basic footcare tasks. It is recommended that LHDs and the professional organisations work together to develop and pilot model(s) of care which facilitate the AHA role in the Podiatry service context

7.2.3 Leveraging Integrated Care and case management

Delivering truly integrated care is one of three strategic directions in the NSW State Health Plan: Towards 2021 (NSW Health, 2014).

The Integrated Care program has a focus on re-organising the way that services are delivered to improve the efficiency and effectiveness of health care provision. Frequently, Integrated Care initiatives cross clinical boundaries, for example melding public hospital services with general practice, services in the not-for-profit sector and other organisations. The intent of the initiative is to provide people (particularly those with chronic or complex health conditions) with routinely delivered person-centred, seamless, efficient and effective care, irrespective of where they enter or exit the health system.

This concept might be further extended to application of case management to podiatry services. Case management refers to personalised, ongoing community-based assessment and care delivery through collaboration and integration between health services and health professionals (Lavery et al. , 2005) and has been widely recognised to contribute to positive outcomes including improved functionality, increased utilisation of community services and reduced nursing home admissions (although evidence was inconsistent regarding its impact on hospital admission rates) (Lavery et al., 2005; Low et al. , 2011). Demonstrable results have been achieved in the reduction of preventable limb loss in high-risk cases using a case-management approach (Lavery et al., 2005).

There is a significant opportunity for the podiatry profession in NSW to leverage the Integrated Care platform as part of any transformational work in their role design or the delivery of services.

7.2.4 Increasing application of care pathways (Health Pathways and Map of Medicine)

Care pathways are electronic resources which support primary care clinicians to plan patient care through primary, community and secondary health care systems. These tools are designed to be

used at the point of care, primarily for general practitioners but may also be utilised by specialists, nurses, allied health and other health professionals.

It is recommended that the podiatry profession proactively engage with organisations seeking to develop care pathways for their services, making it easier for the wider health community to understand what services are available and how they may be referred into or accessed.

7.2.5 National Disability Insurance Scheme (NDIS)

The introduction of the NDIS represents both changes and opportunities for the podiatry sector. Under the scheme, podiatrists and organisations may register to provide services through the NDIS, such as assessment and selection of adapted foot ware or therapy related to foot, ankle and leg impairments (National Disability Insurance Scheme, 2014).

The maximum fee for a podiatry NDIS service in NSW has been set at $168.26 per hour. Given this competitive remuneration, it is recommended that public sector podiatry services consider carefully how they might structure their services to participate in the NDIS scheme and support patients with a disability requiring podiatry services. For example, LHDs may register as NDIS providers, and this could include a range of services or be based solely on the provision of podiatry services.

7.3 Gaps in the current body of literature

- Although guidelines for provision of foot services were recently published by the Agency for Clinical Innovation, the literature review did not yield indications that podiatrists as a profession consistently align their practices with these or other standards (Agency for Clinical Innovation, 2014).
- No Australian research has been located on the topic however research conducted in Europe found that profession-wide standards for measurement and evaluation of clinical treatment outcomes were lacking, especially with regard to thresholds for declaring clinical improvement following podiatric intervention (Farndon et al., 2009). Similarly, consistent use of guidelines in practice for the podiatric management of Rheumatoid Arthritis was not evident (Borman et al., 2012).
- With regard to workforce and role design, while numerous examples of AHA implementation were noted, studies investigating these roles and their outcomes following implementation were scant (Stanhope and Pearce, 2013).
- The use of technology in the field of podiatry was evident in the UK, where computer modelling of service delivery variables was developed to predict population outcomes, although the validity of projections was limited by a lack of epidemiological data (Campbell, 2007).
- Literature was limited regarding evidence for service need and performance metrics currently in use. Although electronic record-keeping methods may assist in data collection and continuity of care, their use was not detected in the literature.
- The use of clinical decision support tools in the delivery of podiatry services was not identified.

7.4 Podiatry initiatives outside NSW

Podiatrists operate within a similar range of settings and scope of practice in a number of countries, including the United Kingdom and New Zealand. It is noteworthy that in the United States a podiatrist is a qualified doctor specialising in foot care; literature from the United States was excluded from the review given the difference in scope of practice and training when compared to the experience of Australian podiatrists.

Benefits of hospital-specific podiatry services were noted in Queensland, where a collaborative podiatry triage clinic resulted in significant reductions in non-urgent surgical waiting lists (Homeming et al., 2012). Inpatient referrals were found to be particularly likely to be high-risk cases when the speciality of the referring unit was vascular (Dallimore and Richards, 2011). Community-based podiatric programs for care recipients with a diagnosis of diabetes have been trialled in the UK, with recommendations made for further study into the cost-benefit characteristics of annual screening based on assessed risk for ulcer development along with the accuracy of risk assessment tools (Crawford et al., 2011). Podiatric interventions were found to improve pain and outcomes in 75% of treated UK inpatients (Farndon et al., 2009).

7.5 Considerations for future planning and scenario generation

A number of scenarios and opportunities to explore in the next phase of the workforce planning process have been identified, including:

- The present picture of static public podiatry service activity (as discussed at 5.4.1 Activity-based funding) in a context of projected increase in service need due to increases in population age and chronic disease (discussed at 5.1 Chronic disease prevalence and 5.2 Broader population demographics) may necessitate significant service redesign. This may particularly relate to models of care, role design and geographic/rural or regional factors.
- Potential may exist for reducing preventable hospitalisations, limb loss, adverse outcomes and care costs through a risk-based intervention model and/or an increase in FTE. For example, given podiatrists have a significant role in supporting avoidance of deteriorating health in diabetic patients, there may be an opportunity to consider strategically how investment in the podiatry workforce might be used to reduce 'downstream' demand for more acute hospital interventions (e.g. amputation). Such an initiative might consider broadening the patients treated through public podiatry interventions whilst referring lower risk/acuity patients to general practice for CDM planning and supported access to private podiatry services.
- AHAs present a workforce role and service design opportunity. Any initiatives involving the implementation of Allied Health Assistant roles should align with existing NSW Health planning frameworks and initiatives while adopting learnings from similar initiatives. Evaluation of podiatry AHA initiatives should continue to be sought and considered as they arise. Potential benefits from AHA integration may stem from increased time for podiatrists to provide high-level services rather than basic, repetitive duties and the prevention of the loss of podiatry-specific tasks to the nursing and physiotherapy professions.
- Drawing upon multidisciplinary case management approaches to podiatry care, and enhancing and replicating those approaches across other facilities and health services. Given the limited information available on these models, podiatry stakeholder consultation may assist in the identification of current effective examples.
- Developing models of podiatry services to place even greater emphasise patient-centric care.

8 References

- Agency for Clinical Innovation, 2014. Standards for High Risk Foot Services (HRFS) in NSW. Agency for Clinical Innovation.
- Australasian Academy of Podiatric Sports Medicine, N.D. Welcome to AAPSM [WWW Document]. Welcome AAPSM. URL http://www.aapsm.org.au/home (accessed 5.11.15).
- Australasian Podiatry Council, 2015. What we do [WWW Document]. What We Do. URL http://www.apodc.com.au/index.php/about-us-2/what-we-do/ (accessed 5.1.15).
- Australasian Podiatry Council, N.D. Access to advanced diagnostic imaging. Australasian Podiatry Council.
- Australian and New Zealand Podiatry Accreditation Council, 2015. About us [WWW Document]. Us. URL http://www.anzpac.org.au/about_us.html (accessed 5.11.15).
- Australian Bureau of Statistics, 2014. 3235.0 - Population by Age and Sex, Regions of Australia, 2013 [WWW Document]. URL http://www.abs.gov.au/AUSSTATS/abs@.nsf/mf/3235.0#PARALINK6 (accessed 6.14.15).
- Australian Government: Department of Human Services, 2015. Medicare Australia Statistics: Medicare Item Report. Australian: Government: Department of Human Services.
- Australian Health Practitioner Regulation Agency, 2015. Registration Process [WWW Document]. URL http://www.ahpra.gov.au/Registration/Registration-Process.aspx (accessed 10.5.15).
- Australian Institute of Health and Welfare, 2015. Podiatry workforce [WWW Document]. Podiatry Workforce. URL http://www.aihw.gov.au/workforce/podiatry/ (accessed 4.27.15).
- Ballestas, T., McEvoy, S., Swift-Otero, V., Unsworth, M., 2014. A metropolitan Aboriginal podiatry and diabetes outreach clinic to ameliorate foot-related complications in Aboriginal people. Aust. N. Z. J. Public Health 38, 492–493. doi:10.1111/1753-6405.12268
- Borman, P., Ayhan, F., Tuncay, F., Sahin, M., 2012. Foot problems in a group of patients with rheumatoid arthritis: an unmet need for foot care. Open Rheumatol. J. 6, 290.
- Borthwick, A.M., Nancarrow, S.A., Vernon, W., Walker, J., 2009. Achieving professional status: Australian podiatrists' perceptions. J. Foot Ankle Res. 2, 4. doi:10.1186/1757-1146-2-4
- Campbell, J.A., 2007. Designing a podiatry service to meet the needs of the population: a service simulation. Aust. Health Rev. 31, 63–72.
- Cant, R.P., Foster, M.M., 2011. Investing in big ideas: Utilisation and cost of Medicare Allied Health services in Australia under the Chronic Disease Management initiative in primary care. Aust. Health Rev. doi:10.1071/AH10938
- Crawford, F., Mccowan, C., Dimitrov, B.D., Woodburn, J., Wylie, G.H., Booth, E., Leese, G.P., Bekker, H.L., Kleijnen, J., Fahey, T., 2011. The risk of foot ulceration in people with diabetes screened in community settings: findings from a cohort study. QJM 104, 403–410. doi:10.1093/qjmed/hcq227
- Dallimore, S., Richards, K., 2011. "Paging Podiatry!": an audit of acute inpatient podiatry referrals. J. Foot Ankle Res. 4, 13. doi:10.1186/1757-1146-4-S1-P13

- Department of Health, 2014. Chronic disease management - Individual allied health services under Medicare - Provider information [WWW Document]. URL http://www.health.gov.au/internet/main/publishing.nsf/Content/health-medicare-health_pro-gp-pdf-allied-cnt.htm (accessed 6.14.15).
- Department of Health, n.d. Medicare Benefits Schedule - Item 10962 [WWW Document]. URL http://www9.health.gov.au/mbs/fullDisplay.cfm?type=item&q=10962&qt=item&criteria=10962 (accessed 6.14.15).
- Department of Human Services, 2015. Requested Medicare items processed from July 2009 to June 2014 [WWW Document]. URL http://medicarestatistics.humanservices.gov.au/statistics/do.jsp?_PROGRAM=%2Fstatistics%2Fmbs_item_standard_report&DRILL=ag&group=10962&VAR=services&STAT=count&RPT_FMT=by+time+period+and+state&PTYPE=finyear&START_DT=200907&END_DT=201406 (accessed 6.14.15).
- Farndon, L., Barnes, A., Littlewood, K., Harle, J., Beecroft, C., Burnside, J., Wheeler, T., Morris, S., Walters, S.J., 2009. Clinical audit of core podiatry treatment in the NHS. J. Foot Ankle Res. 2, 7. doi:10.1186/1757-1146-2-7
- Hayman, N.E., Askew, D.A., Spurling, G.K., 2014. From vision to reality: A centre of excellence for Aboriginal and Torres Strait Islander primary health care. Med. J. Aust. 200, 623–624. doi:10.5694/mja14.00766
- Health Education and Training Institute, n.d. Profession: Podiatrist [WWW Document]. URL http://www.heti.nsw.gov.au/allied-health/allied-health-professions-in-nsw-health/podiatry/ (accessed 7.5.15).
- Health Workforce Australia, 2014a. Australia's Health Workforce Series – Podiatrists in Focus. Health Workforce Australia.
- Health Workforce Australia, 2014b. Assistants and Support workers: Workforce flexibility to boost productivity. Health Workforce Australia.
- Hendry, G.J., Gibson, K.A., Pile, K., Taylor, L., du Toit, V., Burns, J., Rome, K., 2013. Provision of foot health services for people with rheumatoid arthritis in New South Wales: a web-based survey of local podiatrists. J. Foot Ankle Res. 6, 35.
- Homeming, L.J., Kuipers, P., Nihal, A., 2012. Orthopaedic podiatry triage: Process outcomes of a skill mix initiative. Aust. Health Rev. 36, 457. doi:10.1071/AH11102
- Independent Hospital Pricing Authority, 2015. The non-admitted patient service event [WWW Document]. URL http://ihpa.gov.au/internet/ihpa/publishing.nsf/Content/tier2-non-admitted-compendium-2015-16-html~2-counting-rules~2-1-service-events (accessed 6.15.15).
- Jones, N., J., Chess, J., Cawley, S., Phillips, A., O., Riley, S., G., 2013. Prevalence of risk factors for foot ulceration in a general haemodialysis population. Int. Wound J. 10, 683–688. doi:10.1111/j.1742-481X.2012.01044.x
- Keane, S., Lincoln, M., Rolfe, M., Smith, T., 2013. Retention of the rural allied health workforce in New South Wales: a comparison of public and private practitioners. BMC Health Serv. Res. 13, 32.

- Lavery, L.A., Wunderlich, R.P., Tredwell, J.L., 2005. Disease management for the diabetic foot: Effectiveness of a diabetic foot prevention program to reduce amputations and hospitalizations. Diabetes Res. Clin. Pract. 70, 31–37. doi:10.1016/j.diabres.2005.02.010
- Low, L.-F., Yap, M., Brodaty, H., 2011. A systematic review of different models of home and community care services for older persons. BMC Health Serv. Res. 11, 93.
- McInnes, A.D., 2012. Diabetic foot disease in the United Kingdom: About time to put feet first. J. Foot Ankle Res. 5, 26.
- Menz, H.B., 2009. Utilisation of podiatry services in Australia under the Medicare Enhanced Primary Care program, 2004-2008. J. Foot Ankle Res. 2, 30. doi:10.1186/1757-1146-2-30
- Menz, H.B., Gill, T.K., Taylor, A.W., Hill, C.L., 2008. Predictors of podiatry utilisation in Australia: The North West Adelaide Health Study. J. Foot Ankle Res. 1, 8. doi:10.1186/1757-1146-1-8
- Mercer, C., Schoo, A., Dunbar, J., 2006. Addressing podiatry shortages in Western Victoria, in: Victorian Department of Human Services (DHS) Rural Health Conference: Going for Gold; 2006. Department of Human Services, pp. 1–16.
- Minges, K.E., Zimmet, P., Magliano, D.J., Dunstan, D.W., Brown, A., Shaw, J.E., 2011. Diabetes prevalence and determinants in Indigenous Australian populations: A systematic review. Diabetes Res. Clin. Pract. 93, 139–149. doi:10.1016/j.diabres.2011.06.012
- Moran, A.M., Nancarrow, S.A., Wiseman, L., Maher, K., Boyce, R.A., Borthwick, A.M., Murphy, K., 2012. Assisting role redesign: A qualitative evaluation of the implementation of a podiatry assistant role to a community health setting utilising a traineeship approach. J. Foot Ankle Res. 5, 30.
- Munn, Z., Tufanaru, C., Aromataris, E., 2013. Recognition of the health assistant as a delegated clinical role and their inclusion in models of care: A systematic review and meta-synthesis of qualitative evidence: Int. J. Evid. Based Healthc. 11, 3–19. doi:10.1111/j.1744-1609.2012.00304.x
- Nancarrow, S., 2003. Employment and Career Development Opportunities of Foot Care Assistants in the NHS. Br. J. Podiatry 6, 103–108.
- National Disability Insurance Scheme, 2014. Support clusters and associated pricing - New South Wales [WWW Document]. URL http://ndis.gov.au/document/875 (accessed 6.15.15).
- National Institute for Health and Care Excellence, 2010. Clinical Assessment Service: foot and ankle pathway.
- NSW Health, 2014. NSW State Health Plan: Towards 2021. NSW Health.
- NSW Health, 2013. Engagement of Therapists on a Sessional Basis (PD2013_008) [WWW Document]. URL http://www0.health.nsw.gov.au/policies/pd/2013/PD2013_008.html (accessed 6.15.15).
- NSW Ministry of Health, 2013. Allied Health Assistant Framework. NSW Ministry of Health.
- Pearce-Brown, C.L., Grealish, L., McRae, I.S., Douglas, K.A., Yen, L.E., Wells, R.W., Wareham, S., 2011. Local Study of Costs for Private Allied Health in Australian Primary Health Care: Variability and Policy Implications. Aust. J. Prim. Health 17, 131.

- Podiatry Board of Australia, 2014a. Endorsement for Acupuncture [WWW Document]. URL http://www.podiatryboard.gov.au/Registration-Endorsement/Endorsement-for-acupuncture.aspx (accessed 5.6.15).
- Podiatry Board of Australia, 2014b. Functions of the Board [WWW Document]. Funct. Board. URL http://www.podiatryboard.gov.au/About/Functions-of-Board.aspx (accessed 5.10.15).
- Podiatry Council of NSW, 2014. Welcome to the Podiatry Council of New South Wales [WWW Document]. URL http://www.hpca.nsw.gov.au/Podiatry-Council/Home/Home/default.aspx (accessed 7.8.15).
- Roller, L., Gowan, J., 2010. Disease State Management: Podiatry Prescribing and the Pharmacist [WWW Document]. URL http://search.informit.com.au/documentSummary;dn=474787722244215;res=IELAPA (accessed 5.10.15).
- Rome, K., Chapman, J.M., Williams, A.E., Gow, P., Dalbeth, N., 2010. Podiatry services for patients with arthritis: An unmet need. N. Z. Med. J. 123, 91–97.
- Ross, J., A., 2013. Obesity, the Epidemic of Type 2 Diabetes. Podiatry Manag. 32, 113–116.
- Schmidt, D., 2013. Supervising Allied Health Assistants: A Concerning Skill Gap in Allied Health Professionals. J. Allied Health 42, 243–246.
- Skrepnek, G.H., Mills, J.L., Armstrong, D.G., 2014. Foot-in-Wallet Disease: Tripped Up by "Cost-Saving" Reductions? Diabetes Care 37, e196–e197. doi:10.2337/dc14-0079
- Stanhope, J., Pearce, C., 2013. Role, implementation, and effectiveness of advanced allied health assistants: a systematic review. J. Multidiscip. Healthc. 423. doi:10.2147/JMDH.S50185
- Struber, J.C., 2004. Recruiting and retaining allied health professionals in rural Australia: Why is it so difficult? Internet J. Allied Health Sci. Pract. 2.
- The Australian College of Podiatric Surgeons, 2014. About ACPS [WWW Document]. ACPS. URL http://www.acps.edu.au/about.php (accessed 5.11.15).
- Townsend, E., 2012. Evaluation of the NSW Indigenous Diabetic Foot Program for Health Workers whose primary role is with Aboriginal People in the Lower Mid North Coast. NSW 2443.
- Turnbull, C., Grimmer-Somers, K., Kumar, S., May, E., Law, D., Ashworth, E., 2009. Allied, scientific and complementary health professionals: a new model for Australian allied health. Aust. Health Rev. 33, 27–37.
- Vernon, W., 2011. Prevention of falls through podiatry care. BMJ 342, d3052. doi:10.1136/bmj.d3052
- Vernon, W., Borthwick, A., Farndon, L., Nancarrow, S., Walker, J., 2005. Issues of Podiatry status in the UK. Br. J. Podiatry 8, 6–10.
- Victorian Government, Department of Health, 2012. Guidelines to scope and introduce new allied health assistant roles. Victorian Government, Department of Health.

9 Appendix A: Key Word Search

Service quality

Patient-centric, client-centred, family centred and centered

Home, community , acute, rehabilitation

Model of care, model of delivery

ABF, casemix, activity based funding

e-health, electronic health records, health information technology

Geographic distribution

Training, credentialing, registration

Unmet needs, service gaps, opportunity(ies)

Accessibility

Workforce, recruitment, retention, incentive

CDM, chronic disease management, Medicare

Risk, benefit

Indications

Drivers

Emerging issues

Scope of practice, role design, service delivery

Allied

10 Appendix B: Stakeholders consulted

Table 4: Stakeholders consulted

Name	Position	LHD/Organisation
Richard Cheney	Director of Allied Health Advisory Forum	WNSWLHD
Luke Taylor	President and Director of Podiatry	Podiatry Council of NSW and SSWLHD
Fiona Leo	Head of Podiatry	ISLHD
Tim Maclean	Podiatry Manager	CCLHD
Julie Zwarteveen	Podiatry	HNELHD
Fiona Leo	Podiatry	ISLHD
Helen McGregor	Podiatry	NNSWLHD
Jenni Devine	Podiatry	SNSWLHD
Catherine Stephens	Podiatry	NSLHD
Vanessa Nube	Director of Podiatry	SYDLHD
Gary Bruderlin	Workforce Recruitment and Redesign Manager	CCLHD
John Merrick	Director Allied Health	HETI

11 Appendix C: Approved medications

Approved medications which may be prescribed and/or supplied by endorsed podiatrists

Source: (Roller and Gowan, 2010)

Type	Drugs	Schedule
Analgesics	Codeine	3 & 4
	Paracetamol	S2
Antihistamines	Desloratidine	S2 & 4
	Promethazine	S3 & 4
Anaesthetics local	Bupivacaine	S4
	Lignocaine	S2 & 4
	Levobupivacaine	S4
	Prilocaine	S4
	Mepivacaine	S4
	Prilocaine	S4
	Procaine	S4
	Ropivacaine	S4
Anaesthetic inhaled	Methoxyflurane	S4
Antifungals topical	Amorolfine	S2 & 3
	Bifonazole	S2
	Clotrimazole	S2
	Econazole	S2
	Ketoconazole	S2
	Miconazole	S2
	Nystatin	S2
	Terbinafine	S2
Antifungals oral	Griseofulvin	S4
	Terbinafine	S4
Benzodiazepines (one dose/treatment episode)	Lorazepam	S4
	Temazepam	S4
Corticosteroids topical	Betamethasone	S4
	Desonide	S4
	Hydrocortisone	S2, 3 & 4
	Hydrocortisone acetate	S2 & 3
	Mometasone furoate	S4
	Triamcinalone	S4
Corticosteroids systemic	Betamethasone	S4
	Dexamethasone	S4
	Hydrocortisone	S4
	Methylprednisolone	S4
	Triamcinalone	S4

Approved medications which may be prescribed and/or supplied by endorsed podiatrists (c'td)

Type	Drugs	Schedule
NSAIDs (systemic & topical)	Aspirin	S2 & 4
	Celecoxib	S4
	Diclofenac	S2, 3 & 4
	Ibuprofen	S2, 3 & 4
	Indomethacin	S4
	Ketorolac	S4
	Meloxicam	S4
	Naproxen	S4
Uric acid inhibitor	Colchicine	S4
Sympathomimetics parenteral	Adrenaline	S4
	Felypressin	S4
Antibiotics: antibacterial	Amoxicillin	S4
	Clavulanic acid*	S4
	Cephalexin	S4
	Clindamycin	S4
	Dicloxacillin	S4
	Flucloxacillin	S4
	Metronidazole	S4
	Mupirocin (topical)	S4
	Roxithromycin	S4
	Silver sulfadiazine	S4

12 Appendix D: Approved programs of study

Table 5: Approved programs of study

Education Provider	Program of Study Name
Auckland University of Technology	Bachelor of Health Science (Podiatry)
Central Queensland University	Bachelor of Podiatry Practice (Pass & Honours)
Charles Sturt University	Bachelor of Podiatry (Pass & Honours)
La Trobe University	Bachelor of Health Science (Pass & Honours)/ Master of Podiatric Practice
La Trobe University	Bachelor of Podiatry
La Trobe University	Master of Podiatric Practice (Pass & Honours)
Queensland University of Technology	Bachelor of Health Science (Podiatry)
Queensland University of Technology	Bachelor of Health Science (Podiatry)/Bachelor of Applied Science (Human Movement Studies)
Queensland University of Technology	Bachelor of Podiatry (Pass & Honours)
The University of Western Australia	Bachelor of Podiatric Medicine
The University of Western Australia	Doctor of Podiatric Medicine
University of Newcastle	Bachelor of Podiatry
University of South Australia	Bachelor of Podiatry (Pass & Honours)
University of Western Sydney	Bachelor of Health Science (Pass & Honours)
University of Western Sydney	Master of Podiatric Medicine (Pass & Honours)

Source: (Australian Health Practitioner Regulation Agency, 2013)

NSW Ministry of Health
Workforce Planning & Development Branch

Addendum to the Selected Allied Health Professions Horizon Scan

Podiatry Workforce

July 2017

13 Addendum Introduction

The 2015 Selected Allied Health Professions Horizons Scan examined the workforce implications of the likely future developments in the health landscape for the podiatry Allied Health Profession.

The podiatry workforce was considered through a desktop review of the international literature, a series of interviews with senior stakeholders, an online survey to identify key issues and a 'Scenario Development' workshop. The outputs of these activities are detailed within the Podiatry Horizons Scanning report.

The addendum, completed in July 2017, provides a validation review of the Podiatry Horizons Scanning report submitted to the Ministry of Health Workforce Planning and Development Branch in 2015. The intention of the addendum is to highlight any gaps/issues which may have emerged for the podiatry workforce since the original review was undertaken in 2015.

13.1 Statistical data constraints

In 2015 the Australian Institute of Health and Welfare (AIHW) was engaged as data custodian of the National Health Workforce Data Set (NHWDS). The AIHW's contract expired on the 30th June 2016 and the Department of Health assumed custodianship of the NHWDS on 1st July 2016. At the time of this report, the statistical data for the period 2016-2017 was unavailable on the Department's website. The statistical data was primarily sourced from the Podiatry Board of Australia. Statistical comparison will only be conducted on available matching datasets.

14 2017 Validation review of the podiatry workforce

A refreshed literature review was undertaken in order to verify any new literature pertaining to the podiatry workforce. Where new or updated literature was identified, a summary has been included below.

14.1 Workforce characteristics

Data provided by the Podiatry Board of Australia in December 2016 (Podiatry Board of Australia, 2016) confirms that:

- There were 4,805 registered podiatrists in Australia.
- The podiatry workforce was approximately 60.6% female and 39.4% male.
- 29.6% of the podiatry workforce was aged under 30 years and 10.1% was aged 55 years or older.
- The number of registered podiatrists has increased by 768 (up from 4037) compared to the data contained in the 2015 report, however the other observable characteristics and distributions were similar.

As per the Public Service Commission (PSC) Workforce Profile data, in the year 2016, there are no Aboriginal podiatrists in NSW Allied Health as compared to approximately 127 non-Aboriginal podiatrists (NSW Public Service Commission, 2016).

14.2 Professional bodies and associations

A review of the podiatry professional bodies and associations identified in the 2015 Horizons Scanning Report was conducted and noted a minor change with regards to consolidating the Australian Podiatry Associations and the Australian Podiatry Associations divisions.

14.3 Additional key drivers for demand for podiatry services

A study conducted within the UK establishes the importance of early intervention by podiatry services as a preventative intervention for people at risk of peripheral neuropathy that can lead to ulceration and possible leg, foot or toe amputation (Fowler Davis, et al., 2016). This study correlates with the findings in the original report that recommends the adoption of risk-based intervention models to prevent hospitalisation.

14.4 Additional key drivers of supply of podiatry services

The 2017 literature review reiterates the findings from the original 2015 Horizons Scanning report in relation to the key drivers of supply for podiatry services.

A study into the role of support workers and the opportunity for them to play an increasingly important role in enacting chronic condition care plans and rehabilitation regimens developed by service professionals was conducted with positive results (Lawn, et al., 2016). There is an opportunity for the support worker role to complement the podiatry workforce in regard to rural retention and role design.

Student-led clinics provide an opportunity for inter-professional student education and delivery of patient care for older people recently discharged from acute hospitals (Kent, et al., 2016). This could be an opportunity to address supply issues encountered by podiatry services.

14.5 Challenges and opportunities for podiatry

The original findings of the 2015 report remain valid. Additional literature that identified challenges and/or opportunities for the podiatry workforce could not be sourced.

14.6 Additional areas of interest

In addition to the demand and supply drivers identified and explored, a number of key emerging areas of interest for the allied health professions generally were considered through the validation review process which may impact the podiatry workforce.

14.6.1 Impacts of ICT including eHealth and NSW ICT strategies

eHealth NSW initiatives for 2016-2026 (NSW Health, 2016) identify that there are five key drivers for change in patient interaction with technology as follows:

- Technology is strengthening patient knowledge, allowing them to be increasingly empowered, health literate and engaged as partners in their healthcare and wellness
- There is an increasing demand for healthcare workers and pressure to address shortages of skilled health workers, predominantly in regional and rural communities
- The emergence of integrated care models means there is a need to provide seamless, effective and efficient partnering with the patient, their carers and family. Technology must be more successfully harnessed to do this.
- Rapid development and adoption of technology innovations has created opportunities within the home, hospital and community care settings.
- There is a move toward open information and transparency across government agencies contributing to an improvement in data quality and analytics which assist in delivering greater care across communities and industries (NSW Health, 2016).

Technological developments within integrated care include HealtheNet, a central clinical repository providing a state-wide view of clinical history and seamless information-sharing between hospitals, community health, GPs, patients and private clinicians. This provides a framework to promote transparency and sharing of individual patient data between providers across the state. Additional eHealth Integrated Care solutions include a secure messaging and eReferral management system as well as shared care planning tools. These technological solutions have the potential to support patient-centred models of care and promote podiatry involvement in delivering care that spans across the longitudinal view of the patient's journey.

The Community Health and Outpatient Care (CHOC) electronic medical records program was a 7-year state-wide Integrated Clinical System program that has been implemented across eight services (including Aboriginal Health, Aged and Chronic Care and Mental Health) in NSW community health. Leveraging both Cerner's ability to provide information integration across a wide range of care settings and the CHIME solution, a platform that was specifically designed for community health to various Patient Administration Systems and aims to create a 'single patient view', the CHOC program aims to provide clinicians across multiple sites with timely access to clinical information.

The eMR Connect Program aims to deliver a state-wide, comprehensive electronic medical record (eMR) and is an integral component of eHealth NSW's Strategy for NSW Health:2016-2026's integrated care solutions. The Integration of clinical systems within the various Local Health Districts and community health systems including CHOC is essential to the vision of the eHealth NSW Integrated Care Solutions Strategy.

From a workforce planning and management perspective, solutions such as the integrated Human Capital Management Suite could potentially support the recruitment and retention process of the workforce via standardisation of processes across the state. In addition, this could

provide data to enrich predictive workforce models that in turn will assist in future workforce planning.

NSW Health have established a state-wide system for Asset and Facilities Management that aims to improve the capacity to deploy, track, manage and maintain clinical and non-clinical assets. Centralised repositories have the potential to assist the podiatry workforce, particularly with managing equipment in rural and remote areas.

14.6.2 Rostering best practice

Workforce rostering is a factor that influences the broader health workforce. Health services that operate seven days per week are under pressure to show the increased cost of providing weekend services can be measured in improved patient outcomes. A qualitative study was undertaken whereby managers perceived that a seven-day operational week improved patient flow and quality of care and reduced adverse incidents, such as falls and intensive care admissions (Mitchell, et al., 2017). It was noted that there are challenges associated with planning, staffing and management of seven-day services, mainly due to change resistance from a workforce that has generally operated during traditional working hours. Strategic human resource planning should be considered to ensure the podiatry workforce can provide adequate levels of patient care within a seven-day operational week.

14.6.3 Addressing the health needs of the broader Aboriginal and Torres Strait Islander communities

Podiatry and the broader allied health profession should examine its ability to address the health needs and deliver appropriate levels of care to Aboriginal and Torres Strait Islander communities.

Peer mentoring was identified as a "powerful tool for two-way learning to promote practice improvement". When an organisation was found to have put in place sufficient levels of management support and training for non-Aboriginal and Torres Strait Islander staff and where they partnered closely with Aboriginal Health Workers (AHWs), there was evidence of an increased readiness to learn and adjust practice to deliver services in a more culturally appropriate manner. This increase in cultural awareness may in turn have a positive impact on the health outcomes of Aboriginal and Torres Strait Islander people.

The Aboriginal and Torres Strait Islander view of health is not just about the physical wellbeing of the individual. It is the social, emotional and cultural wellbeing of the entire community, a concept that is often overlooked by mainstream health services. It is therefore unsurprising that mainstream health services do not secure the trust to provide effective access and care to Aboriginal and Torres Strait Islander people.

Recognition of spirituality as a critical factor in Indigenous well-being can contribute to the development and implementation of health promotion and preventative projects. The podiatry profession should therefore adopt and embrace culturally responsive practices and trauma-informed services.

Stakeholder engagement undertaken with Indigenous Allied Health Australia in 2017 identified that the geographical distribution of the podiatry workforce is just as important as the size of the workforce. Supporting the concept of a holistic model of care, design around implementing 'central hubs' within the communities is of key importance. As Aboriginal and Torres Strait Islander communities possess unique cultural characteristics, specialised models must be designed and developed around the community values themselves.

There is a view that specialised models should be developed by Aboriginal and Torres Strait Islander people and that evidence based models should form the foundation for designing these specialised models of care. Through a combination of leadership, development, mentoring and

inclusion, health needs of the Aboriginal and Torres Strait Islander people can be addressed. Stakeholders acknowledged that there should be a process of respectful consultation with the Aboriginal and Torres Strait Islander community on how services should be delivered. The concept of a cultural navigator was identified as one role that could significantly enhance the current podiatry service offering to Aboriginal and Torres Strait islander communities.

The encouragement and support of Aboriginal people to patriate in the profession of podiatry is key aspect to promoting improved health needs of the broader Aboriginal and Torres Strait Islander communities. Through stakeholder consultation, it was noted that Aboriginal students and graduates were strongly driven to contribute back to their communities. The provisioning of appropriate support and availability of placements for these students is pivotal.

Aboriginal graduates should be supported with future employment in areas that have cultural connections and supports. Career progression from the role of allied health assistants to allied health professionals was a 'natural' transition. It was identified that adequate support for participation of Aboriginal people within the workforce was a key driver.

14.6.4 Emerging models of care

New and emerging models of care have the potential to impact across the whole range of Allied Health Professions including the podiatry workforce.

An example of an emerging patient centred model of care in NSW is the Leading Better Value Care Program. Commencing in 2017/18 the NSW Health system will refocus - away from the traditional approach of measuring value in terms of volume/output in relation to costs, to measuring value in terms of the Institute for Healthcare Improvement Triple Aim of health outcomes, experience of care and efficient and effective care (in relation to costs). In this context, health outcomes are defined as the outcomes that matter to patients (NSW Health, 2017).

NSW Health's Integrated Care Strategy also aims to provide a patient-centred model of care through seamless, effective and efficient care that reflects the whole of a person's health needs; from prevention through to end of life, across both physical and mental health, and in partnership with the individual, their carers and family (NSW Health, 2017).

The NSW Health 'Whole of Health Program' (WOHP) is a centrally facilitated but locally led program which aims to improve access to care for patients across NSW. It began as the Whole of Hospital Program in February 2013 to drive the local change needed to improve patient delays, with NSW having fallen short of the 4-hour Emergency Department (ED) target (previously National Emergency Access Target or NEAT) in 2011 and 2012 (NSW Health, 2016). Through improvements in patient accessibility, this could increase the demand for services.

There is a potential opportunity for the podiatry profession to participate in multidisciplinary and interdisciplinary team based care through the emergence of new models of care including integrated patient centric models of care.

14.6.5 Impacts of the National Disability Insurance Scheme (NDIS)

Rollout of the NDIS may have an impact upon the podiatry workforce and the services it delivers. It is anticipated there will be an increasing number of service providers working in remote Indigenous communities over the next few years, with progressive rollout of the NDIS. To provide culturally appropriate, evidence based services, it is essential for individuals and organisations to understand the meaning, barriers and enablers of participation for children and families in remote areas (O'Kearney, et al., 2015).

The intensity and range of supports required by many people with intellectual disabilities and complex support needs translates into the need for commensurate support services. This raises several workforce issues relevant to both the profile of worker skills and the mechanisms through which these skills might be developed and maintained. Workforce planners face the challenge of ensuring both specific (depth) skills in specialist support areas such as behaviour support, as well as generalist (breadth) skills in areas such as service coordination and cross-disciplinary or cross-sector communication, or both (Dowse, et al., 2016).

Given that healthcare systems and associated services are becoming increasingly consumer driven there may be a requirement for podiatrists to become more responsive to specific consumer need and emerging policy directions that seek to meet consumer need and expectation. The podiatry workforce may need to support to navigate these new working environments and ways of working.

15 Conclusion

This validation review concludes that the findings of the 2015 Podiatry Workforce Horizons Scanning Project remain valid and fit for purpose. The literature published since 2015 supports the original findings, while a smaller subset of research further expands on / enhances the themes identified in the 2015 work. Only a few items of literature were identified, however these additional findings are complementary to the earlier work as no new, distinct workforce drivers have emerged as a result.

These areas include NSW ICT strategies including eHealth NSW initiatives, patient-centric integrated models of care, the role of support workers and further opportunities to address the broader health needs of the Aboriginal and Torres Strait Islander communities.

16 Addendum References

- Browne, J., Thorpe, S., Tunny, N., Adams, K., & Palermo, C. (2013). A qualitative evaluation of a mentoring program for Aboriginal health workers and allied health professionals. *Australian and New Zealand Journal of Public Health, 37*(5), 457-462.
- Dowse, L., Wiese, M., & Smith, L. (2016). Workforce issues in the Australian National Disability Insurance Scheme: Complex support needs ready? *Research and Practice in Intellectual and Developmental Disabilities, 3*, 54-64.
- Fowler Davis, S., Enderby, P., Harrop, D., & Hindle, L. (2016). Mapping the contribution of Allied Health Professions to the wider public health workforce: a rapid review of evidence-based interventions. *Journal of Public Health, 39*(1), 177-183.
- Kent, F., Martin, N., & Keating, J. (2016). Interprofessional student-led clinics: An innovative approach to the support of older people in the community. *Journal of Interprofessional Care, 30*, 123-128.
- Lawn, S., Westwood, T., Jordans, S., Zabeen, S., & O'Connor, J. (2016). Support workers can develop the skills to work with complexity in community aged care: An Australian study of training provided across aged care community services. *Gerontology & Geriatrics Education*, 1-18.
- Lloyd, J. E., Wise, M. J., & Weeramanthri, T. J. (2008). (2008) Changing Shape: workforce and the implementation of Aboriginal health policy, Australian Health Review. *Australian Health Review, 32*, 174-185.
- Lowell, A., Maypilama, E., Stephanie, Y., Rrapa, E., Williams, R., & Dunn, S. (2012). "Hiding the story": Indigenous consumer concerns about communication related to chronic disease in one remote region of Australia . *International Journal of Speech-Language Pathology, 14*(3), 200-208.
- Markwick, A., Ansari, Z., Sullivan, M., Parsons, L., & McNeil, J. (2014). Inequalities in the social determinants of health of Aboriginal and Torres Strait Islander People: a cross-sectional population-based study in the Australian state of Victoria. *International Journal for Equity in Health*.
- McLennan, V., & Khavarpour, F. (2004). Culturally appropriate health promotion: its meaning and application in Aboriginal communities. *Indigenous Health Promotion, 15*, 237-239.
- Mitchell, D., O'Brien, L., Bardoel, A., & Haines, T. (2017). Challenges, uncertainties and perceived benefits of providing weekend allied health services - a manager's perspective. *BMC Health Service Research, 17*.
- NSW Health. (2016). eHealth Strategy for NSW Health 2016-2026.
- NSW Health. (2016). *Whole of Health Program Factsheet.* Retrieved April 25, 2017, from http://www.health.nsw.gov.au/wohp/Documents/wohp-factsheet.pdf
- NSW Health. (2017). *Leading Better Value Care*. Retrieved April 25, 2017, from http://eih.health.nsw.gov.au/bvh
- NSW Health. (2017). *NSW Integrated Care Strategy*. Retrieved April 25, 2017, from http://www.health.nsw.gov.au/integratedcare/Pages/integrated-care-strategy.aspx
- O'Kearney, E., Johnston, H., Greenstein, C., Pilikington, C., & Pidgeon, F. (2015). Participation of Indigenous children with disabilities in remote communities.

- Podiatry Board of Australia. (2016, Decemeber 31). *Podiatry Board of Australia Registrant Data.* Retrieved April 2017, from http://www.podiatryboard.gov.au/documents/default.aspx?record=WD17%2f22804&dbid=AP&chksum=17RVmoD2QLTQJDC74mvIWg%3d%3d
- World Health Organisation. (2008). Closing the gap in a generation: Health equity through action on the social determinents of health. Geneva: World Health Organisation.