



THE AUSTRALIAN
ORTHOTIC PROSTHETIC
ASSOCIATION

Inclusion of Orthotic Services in Medicare

Supporting Australians with Chronic Disease



Orthotics and Prosthetics in Australia

Orthotist/prosthetists assess the physical and functional limitations of people resulting from disease, illness, trauma and disability, including limb amputation, diabetes, arthritis and neuromuscular conditions, such as stroke. Orthotic and prosthetic services may involve the provision of orthoses and prostheses to restore function, prevent deterioration, and improve quality of life. Orthotist/prosthetists are commonly employed in Australian hospitals, private clinics, research institutions as well as rural and remote regions, working independently and as part of multidisciplinary healthcare teams to support the Australian community.

Orthotist/prosthetists are tertiary qualified allied health professionals. An Australian Qualification Framework level 7 is required to practice as an orthotist/prosthetist in Australia, consistent with education standards for other allied health professions. Orthotic/prosthetic students complete training alongside physiotherapy, podiatry and occupational therapy students.

The Australian Orthotic Prosthetic Association (AOPA) is the peak professional body for orthotist/prosthetists in Australia, with certified practitioners comprising 80% of the practicing profession. AOPA is responsible for regulating the profession and is a founding member of the National Alliance of Self Regulating Health Professions (NASRHP) in partnership with other professional organisations, including Speech Pathology Australia, the Australian Association of Social Workers and Exercise and Sports Science Australia. AOPA is recognised by the Commonwealth Government as the assessing authority responsible for conducting migration skill assessments for orthotist/prosthetists.

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Executive Summary

Australians experiencing chronic disease, such as persons with diabetes, arthritis and stroke survivors, are currently unable to access essential orthotic services in a timely manner. The absence of orthotic services in the Medicare Benefits Schedule represents the primary barrier for persons requiring access to an orthotist. Research indicates that the inability to access orthotic services results in:

- Significantly increased healthcare costs
- At least 27,600 avoidable hospital admissions
- Reduced workforce and economic participation
- An increase in the number of chronic disease-related complications

Research demonstrates that the inclusion of an allied health orthotic service item in the Medicare Benefits Schedule will provide an opportunity to:

- Improve the quality of life for 1.7 million persons with diabetes, 475,000 stroke survivors and 3.9 million persons with arthritis
- Realise savings of at least \$150 million each year by implementing evidence-based care for persons with diabetes-related foot disease
- Substantially reduce the 4,400 amputations arising due to diabetes-related foot disease
- Reduce the incidence of falls, hospital admissions and impaired mobility following stroke
- Improve the quality of life for persons with chronic pain as a result of arthritis

The inclusion of orthotic services in the Medicare Benefits Schedule will make a meaningful difference in the lives of many Australians and provide significant benefits at no additional cost.

Recommendation

The Australian Orthotic Prosthetic Association recommends that: an orthotic service item is added to the Medicare Benefits Schedule Allied Health items

Introduction

Orthotists provide essential services for persons with chronic disease, including those experiencing complications associated with diabetes, arthritis and stroke. Orthotic services may involve working with persons with diabetes to prevent amputation, assisting stroke survivors to walk independently and supporting persons with arthritis to reduce pain. Research demonstrates that orthotic services provide substantial economic and quality of life benefits.

Orthotic services are not included in the Medicare Benefits Schedule and this significantly restricts access to these essential services for persons with chronic disease. This results in substantial problems for those with diabetes, arthritis and stroke survivors. The omission of orthotic services in the Medicare Benefits Schedule results in unnecessary healthcare expenditure and severely detrimental outcomes for persons with chronic disease.

The inclusion of an allied health orthotic service item in the Medicare Benefits Schedule will allow persons with chronic disease to access support at the most appropriate time, enabling effective treatment whilst reducing expensive complications. This will provide substantial economic benefits at no additional cost.

The Impact of Chronic Disease

Diabetes

Patient Impact

Diabetes has a substantial impact on the lives of millions of Australians and is a leading cause of amputation and hospitalisation.¹ Approximately 1.7 million persons in Australia have diabetes and an additional 280 develop diabetes every day, representing the 'epidemic of the 21st century and the biggest challenge confronting Australia's health system'.² Persons with diabetes often experience foot ulcers and lower limb wounds, which are the leading causes of diabetes-related hospitalisation and amputation.¹ In Australia, diabetes-related foot disease leads to 4,400 amputations,³ 1,700 deaths¹ and 27,600 avoidable hospital admissions every year.^{4,5} These numbers are increasing; between 2000 and 2010, the number of lower limb amputations in Australia increased by 14%.⁶ Amputation often precedes a cycle of decline for persons with diabetes and those with amputation experience disproportionately high rates of complications that frequently lead to secondary amputation.⁶

This experience is more common for Aboriginal and Torres Strait Islander peoples and those in rural and remote areas. Persons with diabetes living in remote areas are 1.9 times more likely than others to be hospitalised and Aboriginal and Torres Strait Islander people with diabetes are 4.0 times more likely to be hospitalised than other people.⁷

Orthotic services are essential in preventing diabetes-related foot ulcers and lower limb wounds. When these complications do occur, orthotic services are vital in preventing further deterioration, hospitalisation and amputation. It is estimated that a 90% reduction in amputation and hospitalisation is possible by allowing access to orthotic services and implementing evidence-based treatments for persons with diabetes.⁸

Economic Impact

Diabetes has a substantial economic impact and avoidable diabetes-related complications constitute a

significant proportion of this impact. The total annual cost of diabetes in Australia is estimated at \$14.6 billion.⁹ Forecasts indicate that this cost will quadruple by 2051 if the prevalence of obesity and inactivity continue to rise as predicted.¹⁰ Diabetes-related foot disease accounts for at least \$1.6 billion of this expenditure¹ and corresponds with longer than average hospitalisation and significant utilisation of acute health resources.⁸ A significant proportion of this expenditure is attributed to amputation procedures.¹¹ These estimates do not include health costs following amputation surgery that constitute between \$160–220 million for partial foot amputations alone, as well as indirect disability-related costs associated with rehabilitation and prosthetic services.¹¹ These costs are shared between government and persons with diabetes. The cost of diabetes-related foot disease is primarily financed by government, including health costs that are directly funded by Medicare, such as the cost of amputation procedures.⁹ A portion of direct and indirect costs associated with diabetes-related complications are shared by persons with diabetes through out-of-pocket expenses.⁹

Stroke

Patient Impact

Stroke is the leading cause of acquired disability for adults and increases the likelihood of hospitalisation and serious falls.¹² In 2017, there were more than 475,000 Australians living with the effects of stroke and approximately 56,000 new and recurrent strokes.¹² The number of stroke survivors is expected to increase to 1 million by 2050.¹³ Disability affects 75% of stroke survivors,¹² which may be characterised by paralysis or spasticity of muscles, resulting in mobility difficulties and impaired walking.¹⁴ As a consequence, stroke survivors experience an increased risk of falls,¹⁵ significantly reduced workforce participation and reduced quality of life.¹⁶ Falls are the primary medical complication following stroke and are associated with greater consequences for stroke survivors than other persons.¹⁷ The incidence of fractures following falls is four times higher for stroke survivors than the general

Annual impact of diabetes-related foot disease

1,700 Deaths
4,400 Amputations
27,600 Hospital Admissions



population and those that experience fractures are less likely to regain mobility.^{18, 19}

Persons in regional areas and Aboriginal and Torres Strait Islander peoples are more likely to experience stroke when compared to other persons. Aboriginal and Torres Strait Islander people are between 2 and 3 times as likely to experience a stroke than other persons, whilst those in regional areas are 1.2 times as likely to experience a stroke when compared to those living in metropolitan areas.¹³

Access to orthotic services is essential for stroke survivors.²⁰ Evidence-based orthotic services support stroke survivors to walk safely, participate in the community, return to work and reduce the incidence of fractures.²⁰

Economic Impact

Stroke has a considerable economic impact and the direct and indirect costs of disability following stroke represent a significant proportion of this impact.¹² The total annual cost of stroke in Australia is estimated at \$5 billion.¹² The majority of this total is attributed to disability-related costs following stroke.¹² This includes approximately \$3 billion related to productivity losses that occur where stroke survivors have a reduced work capacity due to disability.¹² An estimate of the lifetime cost of falls exceeds \$1 billion per year, although this is now considered a significant underestimate.²¹ These costs are primarily shared between the Commonwealth Government and stroke survivors through out-of-pocket costs.¹²

Arthritis

Patient Impact

Arthritis affects a considerable number of persons and results in significant pain, decreased mobility and reduced quality of life.^{22, 23} More than 3.9 million Australians have arthritis and by 2030 it is expected that this number will rise to 5.4 million.²⁴ At least 2 million persons with arthritis are of working age and a substantial number of those are unable to work

due to arthritis-related chronic pain and disability.²² Osteoarthritis and rheumatoid arthritis are the most common forms of the condition and are the leading cause of severe long-term pain and reduced physical capacity in Australia.²⁴ Arthritis-related pain in the feet, knee and hip limits both activity and participation and significantly impairs quality of life.²³ As most forms of arthritis have no cure, health care is primarily directed toward effective strategies to relieve pain, maintain mobility and improve short and long-term outcomes. Joint replacement is currently the primary treatment option for persons with arthritis, particularly for those experiencing osteoarthritis.²⁵

Aboriginal and Torres Strait Islander people are 1.4 times more likely to have osteoarthritis and 1.9 times more likely to have rheumatoid arthritis when compared to other persons in Australia.²⁶ The prevalence of arthritis is highest amongst those living outside of the major cities and those in regional and remote areas are less likely to have access to essential health services to help manage their condition.²⁶

Orthotic services lead to reduced pain and significantly improved mobility for persons with arthritis.²⁷ This enables effective improvements in workforce and community participation as well as quality of life.^{27, 28, 29} Orthotic services are particularly important in reducing pain for persons awaiting surgery.²⁹

Economic Impact

Arthritis produces a significant economic impact as a result of both healthcare costs and reduced participation.³⁰ The total annual health system cost of arthritis in Australia is \$5.5 billion and this is expected to rise to \$7.6 billion by 2030.³⁰ The healthcare cost for osteoarthritis alone is approximately \$2.1 billion, whilst the healthcare cost for rheumatoid arthritis is over \$550 million.³⁰ A significant portion of the total health system cost of arthritis is attributed to joint replacement,²⁴ whilst decreased workforce participation due to arthritis results in an annual cost of at least \$1.1 billion.³⁰ The cost of arthritis is borne primarily by the government and persons with arthritis.³⁰

Orthotic Services: Reducing the Impact of Chronic Disease

Diabetes

Orthotic services are integral in preventing and managing the complications associated with diabetes-related foot disease and may include the provision of orthoses and total contact casting. Preventative orthotic measures have been demonstrated as effective in preventing the complications of diabetes-related foot disease, including an 81% reduction in the incidence of ulceration and lower limb wounds.^{31, 32, 33} When complications occur orthotic services are an effective treatment strategy and may result in an 89% reduction in the incidence of amputation.^{33, 34} Orthotic services also have a positive impact on the indirect effects of diabetes related-foot disease, including a 74% reduction in time away from work.³³

Australian and international guidelines specify that access to orthotic services is essential for persons with diabetes. This includes the National Health and Medical Research Council Guidelines for the Management of Type 2 Diabetes,³⁵ the National Evidence Based Guideline for the Prevention, Identification and Management of Foot Complications in Diabetes,³⁴ the International Working Group on the Diabetic Foot,³⁶ the International Diabetes Federation Global Guideline for Type 2 Diabetes³⁷ and the Clinical Guideline for Diabetic Foot Problems authored by the UK National Institute for Health and Care Excellence.³⁸

It is estimated that a 90% reduction in amputation and hospitalisation is possible by allowing access to orthotic services and implementing evidence-based treatments for Australians with diabetes.⁸ However, these interventions will only be effective if they are provided at the appropriate time.³² Access to orthotic services for persons with diabetes will prevent complications and manage those complications when they do occur. This will provide an effective measure to address the 4,400 amputations, 1,700 deaths and 27,600 avoidable hospital admissions that occur as a consequence of diabetes-related foot disease every year.



Stroke

Orthotic services are essential in supporting stroke survivors to walk independently, avoid falls and participate in the community. Orthotic services for stroke survivors typically involve the provision of ankle-foot orthoses and functional electrical stimulation devices.³⁹ These interventions enable stroke survivors with mobility impairments to walk independently by improving gait and balance.^{40, 41} Supporting stroke survivors to access orthotic services and walk independently also contributes to a 91% reduction in the incidence of falls and a reduction in the occurrence of fractures.^{42, 43} Importantly, orthotic services improve quality of life and psychological wellbeing for stroke survivors and result in improved community participation.^{44, 45}

Clinical guidelines for the management of stroke indicate that stroke survivors should have access to orthotic services as part of the multidisciplinary healthcare team. This includes the National Stroke Foundation Clinical Guidelines for Stroke Management,²⁰ the Victorian Strategy for Stroke Care,⁴⁶ the International SIGN Guideline for the Management of Patients with Stroke³⁹ and the UK National Clinical Guideline for Stroke.⁴⁷

Access to orthotic services for stroke survivors will result in increased mobility, allowing for improved community and workforce participation.⁴⁴ Orthotic intervention will reduce the incidence of fractures and complications following stroke and will effectively

support stroke survivors currently living with impaired mobility.⁴¹

Arthritis

Orthotic services are beneficial in decreasing pain, maintaining mobility and supporting Australians with arthritis to participate in the community and include the provision of foot orthoses and knee orthoses.^{48, 49} Orthotic services decrease pain and reduce joint loading whilst improving balance and mobility for persons with osteoarthritis.²⁹ A review of the evidence demonstrated that knee orthoses provided a statistically significant reduction in pain in 73% of studies.⁵⁰ Similarly, orthotic services improve mobility for persons with osteoarthritis, supporting exercise and providing a concomitant reduction in pain.²⁷ Orthotic services support many persons with osteoarthritis services to relieve pain whilst awaiting joint replacement surgery.²⁷ For persons with rheumatoid arthritis, orthotic services have been shown to reduce pain by 34% and limit the progression of

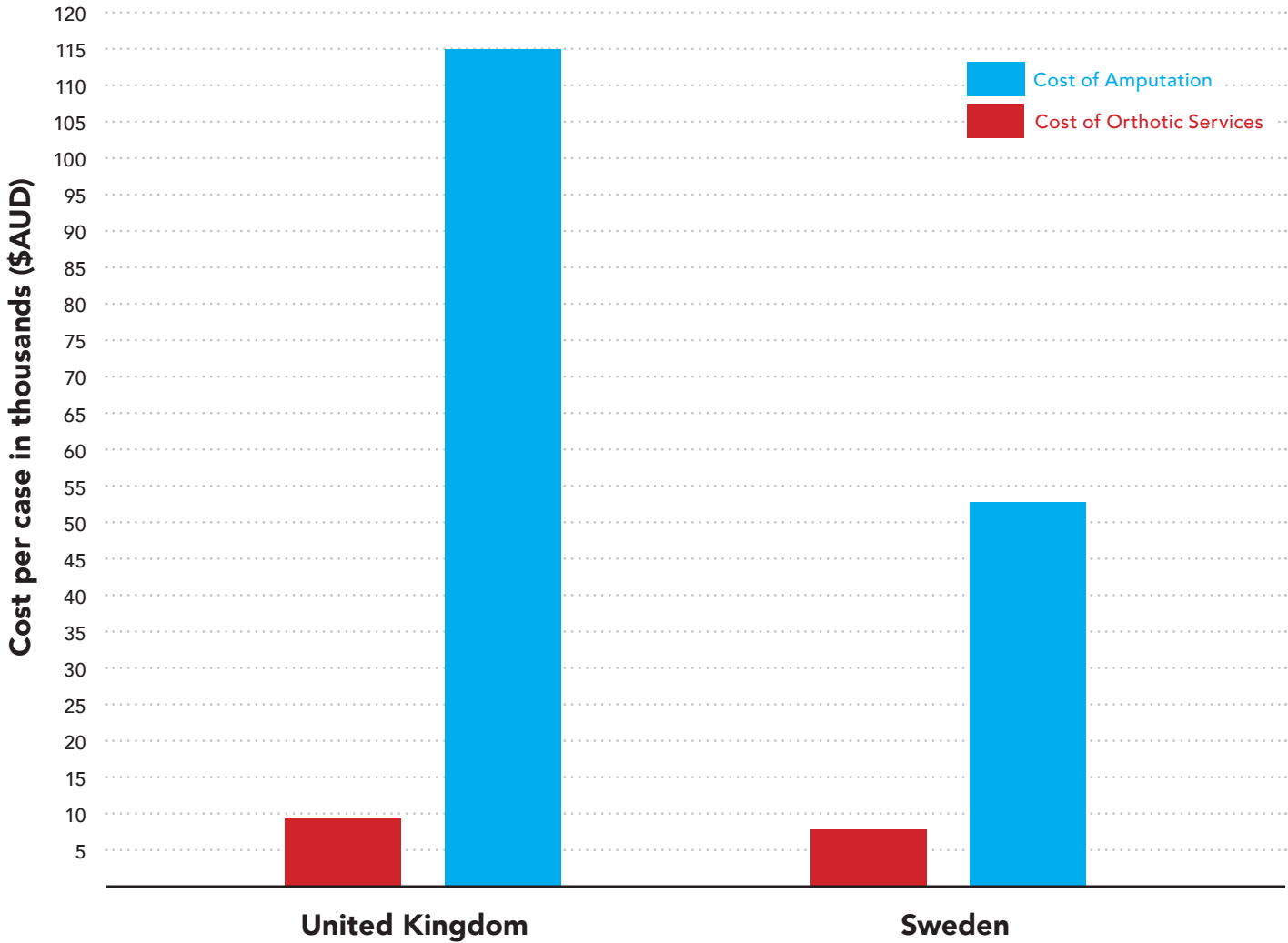
complications, providing a 24% improvement in mobility and function.^{51, 52}

International and Australian guidelines recommend access to orthotic services for persons with arthritis. This includes the Australian Commission on Safety and Quality in Health Care Osteoarthritis of the Knee Clinical Care Standard,⁵³ the Royal Australian College of General Practitioners Clinical Guideline for the Diagnosis and Management of Early Rheumatoid Arthritis,⁵⁴ the International SIGN Guideline for the Management of Early Rheumatoid Arthritis,⁵¹ the Clinical Guideline for Osteoarthritis produced by the UK National Institute for Health and Care Excellence⁵⁰ and the Osteoarthritis Research Society Guidelines for Non-Surgical Management.⁵⁵

Providing access to orthotic services for persons with arthritis will result in improved mobility and reductions in pain levels, leading to increased community and workforce participation.^{50, 51} This is especially important for those awaiting surgery and in the early stages of diagnosis.²⁷



Comparing Preventative Orthotic Services to Amputation



Research estimates that if those at risk of developing diabetes-related foot ulcers received optimal care, including orthotic services, the cost savings are likely to be \$540 million per year.

Better Economic Outcomes

Orthotic services provide direct economic benefits. An analysis by the University of York has demonstrated that every \$1 spent on orthotic services will provide a \$4 saving⁵⁶ and in the United Kingdom, access to orthotic services in the health sector alone provides savings of at least £390 million per annum.⁵⁷ Implementing access to orthotic services in Australia will provide similar economic outcomes. Importantly, the economic benefit of orthotic services is relevant to all types of intervention, including the management of chronic disease.⁵⁹

Improved access to orthotic services for persons with diabetes-related foot disease will result in substantial economic benefits. Orthotic services to prevent and manage ulcers and lower-limb wounds for persons with diabetes-related foot disease have been shown to be cost saving.⁵⁸ The most recent Australian research estimates that if all persons at risk of developing diabetes-related foot ulcers were to receive optimal care, including orthotic services, the cost savings are likely to be \$540 million per year.⁵⁹ In Canada, access to orthotic services for persons with diabetes-related foot disease provides a reduction in expenditure equal to 22%—amounting to \$75 million per year—in a population half the size of Australia.⁶⁰

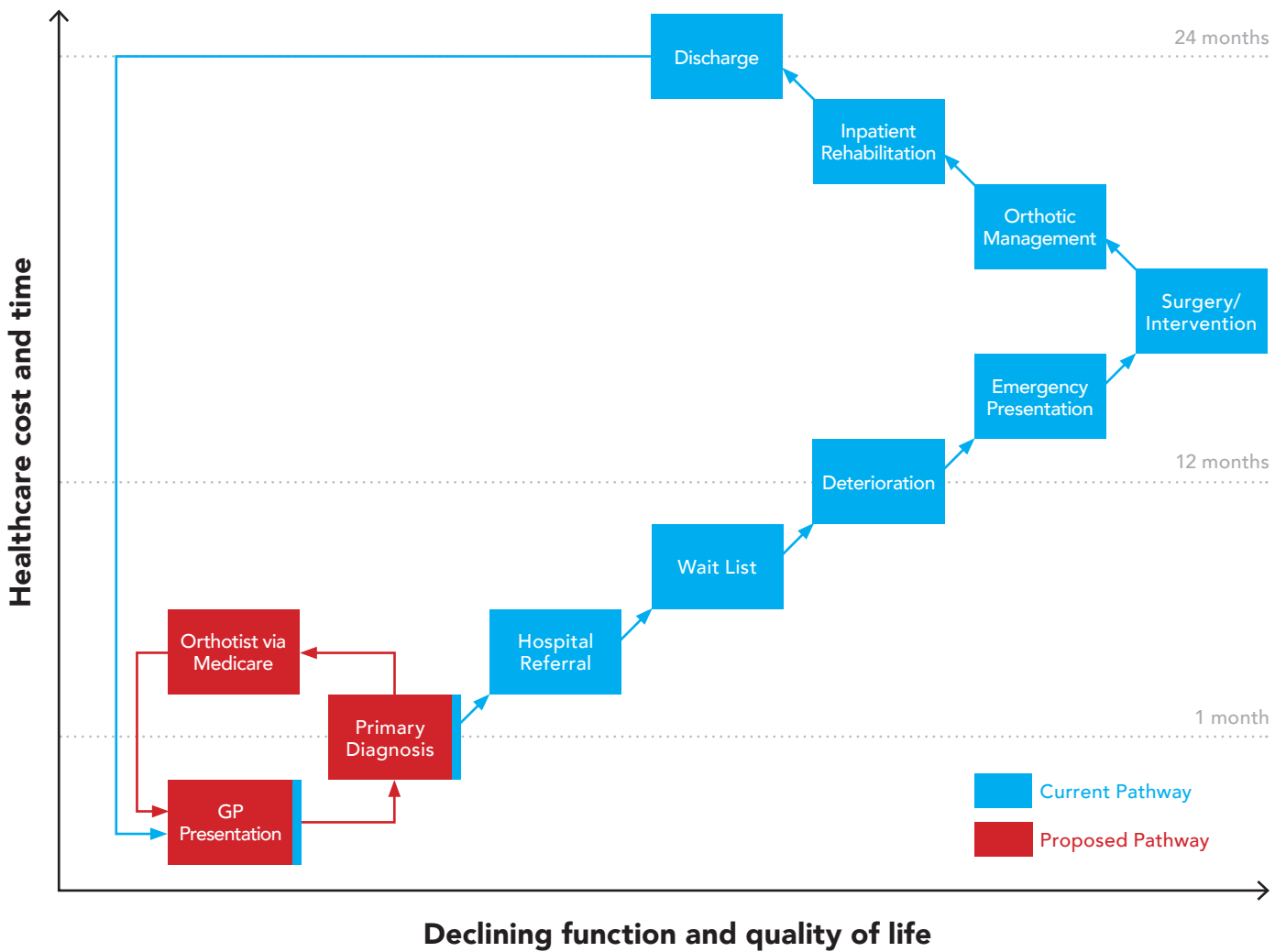
Preventing diabetes-related amputation by improving access to orthotic services is cost saving.⁵⁹ Economic studies allow a comparison between the cost of providing orthotic services to heal diabetes-related foot ulcers and the cost of amputation where orthotic services are not provided. In the United Kingdom, the cost of healing a diabetes-related foot ulcer by allowing access to orthotic services is between £3,000 and £7,500, whereas the cost of amputation is £65,000.⁵⁹ In Sweden, a similar cost advantage exists, where the cost of healing a diabetes-related foot ulcer is SEK 51,000 and the cost of amputation is SEK 344,000.⁶¹ In the United States, it is estimated that healing diabetes-related foot ulcers saves US\$38,126 when compared to the cost of amputation.³¹ In Australia, the cost to achieve wound healing following partial foot amputation alone is between \$27,000–\$36,000.¹¹ These figures do not include the ongoing cost of providing lifetime prosthetic care



following amputation that likely exceeds \$1.8 million per person.⁶² Improved access to orthotic services will provide significant cost benefits following a reduction in avoidable diabetes-related amputations.

Orthotic services also provide an economic benefit where improved access is provided for stroke survivors and persons with arthritis. An analysis of healthcare costs in the UK demonstrated a primary health saving of £31 million following better access to orthotic services for stroke survivors.⁶³ This saving is largely attributed to low-cost services offsetting the number of falls that would otherwise lead to costly fractures.⁶⁶ Similarly, orthotic services have been found to be cost effective for the management of arthritis.⁶⁴ This is primarily attributed to decreased pain enabling greater community participation and improved quality of life for persons awaiting surgery.⁶⁷ Whilst the indirect cost savings attributed to orthotic services are more difficult to quantify, it is expected that a modest improvement in independence and workforce participation would produce significant cost benefits.

Orthotic Referral Pathways for Persons with Chronic Disease



Inadequate access to orthotic services inevitably results in persons presenting at the 'crisis point of care', where their condition has worsened and become less manageable than at the time of initial diagnosis.

Inadequate Access to Orthotists Without Medicare

The absence of an orthotic service item in the Medicare Benefits Schedule restricts access to essential orthotic services for persons with chronic disease and ultimately results in persons presenting at the 'crisis point of care'. This results in a range of significant health and economic problems for the health care system, community and persons with chronic disease.

The hospital system is the only publicly funded option for persons requiring orthotic services without an orthotic service item in the Medicare Benefits Schedule. However, access to orthotic services in the public hospital system is inefficient and results in persons with chronic disease experiencing delays and extended wait lists to access services. Delays in treatment result in persons presenting at the 'crisis point of care', where their condition has deteriorated and become less manageable than at the time of initial diagnosis. As a result of this delay, persons with diabetes are likely to experience amputation,³³ stroke survivors are more likely to experience falls^{40, 42} and persons with arthritis will have heightened pain.^{27, 50} When persons present at the 'crisis point of care', they are more likely to require hospitalisation and healthcare costs will be higher than if services were provided at the earliest opportunity.

Inadequate financial support to access orthotic services represents a significant barrier for persons requiring care outside of the public hospital system. The requirement to contribute out-of-pocket expenses prevents persons from accessing necessary services,⁶⁵ especially those from low socio-economic groups.⁶⁶ If persons with chronic disease are prevented from accessing orthotic services they will inevitably present at the 'crisis point of care', ultimately burdening the public hospital system. To ensure effective access for persons with chronic disease orthotic services must be included in the Medicare Benefits Schedule.

The current and proposed pathways for persons with chronic disease requiring orthotic services is illustrated in the diagram over page. The current pathway is indicated in blue and demonstrates that inadequate access to orthotic services leads to excessive wait times, deterioration,



emergency presentation and surgery. Importantly, this cycle is likely to be repeated for persons with chronic disease for commonly recurring complications, including amputation and falls.^{18, 67} The proposed pathway is indicated in red and demonstrates that where people are supported to access orthotic services through the Medicare Benefits Schedule, services can be provided at the most appropriate time, preventing complications and avoiding presentation at the 'crisis point of care'.

Inclusion of Orthotic Services in Medicare: Better Outcomes for Australians with Chronic Disease

The inclusion of orthotic services in the Medicare Benefits Schedule will allow persons with chronic disease to access support at the most appropriate time, enabling effective treatment, reducing expensive complications and providing significant direct and indirect cost benefits. This will support persons with diabetes to avoid the complications and outcomes of diabetes-related foot disease including ulceration, amputation and hospitalisation.^{31, 33} Stroke survivors will be less likely to experience falls,⁴⁰ more readily able to walk independently⁴¹ and will experience improved psychological wellbeing.⁴⁵ Persons with arthritis will have the opportunity to access orthotic services that will provide a significant reduction in pain and improved mobility.^{27, 29, 50}

An orthotic service item in the Medicare Benefits Schedule will allow general practitioners to refer to the

most appropriate allied health practitioner at the right time. This will ensure the best outcomes for persons with chronic disease within the five allowable items per year.⁶⁸ Consequently, there will not be an increase in the utilisation of items nor the total cost to provide allied health services under the Medicare Benefits Schedule. Instead, persons with chronic disease are expected to be referred to orthotic services only when they are most appropriate as determined by a general practitioner.

The inclusion of orthotic services in the Medicare Benefits Schedule is an easily implementable amendment to the Medicare Benefits Schedule that will make a meaningful difference in the lives of many Australians with chronic disease at no additional cost and will provide significant cost benefits.

Recommendation

The Australian Orthotic Prosthetic Association recommends that: an orthotic service item is added to the Medicare Benefits Schedule Allied Health items



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