

The Australian Orthotic Prosthetic Association Inc.



**SUBMISSION TO THE
PRODUCTIVITY COMMISSION;**

**PROSTHETIC SERVICES AND AMPUTEE CARE IN THE PROPOSED
NATIONAL DISABILITY AND INSURANCE SCHEME**

In response to:

Draft Report February 2011

Disability Care and Support Inquiry

PREPARED BY

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FORWARD

The Australian Orthotic Prosthetic Association (AOPA) Inc. is the peak professional body for Orthotist/Prosthetists in Australia. The AOPA Inc. applauds the initial work undertaken by the productivity commission in reviewing disability services in Australia. The commission's draft report acknowledges the fragmented, inequitable and inefficient system currently in place and the need for a paradigm shift in service delivery models and funding across Australia.

The AOPA Inc. welcomes the opportunity to contribute to the development and design of a National Disability Insurance Scheme (NDIS) and to respond to the recently released draft report into Disability Care and Support. The draft report is impressive in the depth and breadth of disability related issues it focuses on. The AOPA Inc. representatives have participated extensively in the forums and discussions, particularly in Sydney, Melbourne and Tasmania. The preparation of this submission has also included consultation with members, who represent 75% of the profession nationally, as well as other industry partners, including public and private practitioners, componentry suppliers and consumer representatives.

This submission addresses the proposed NDIS regarding **the provision of prosthetic services and amputee care** and follows from the Executive Summary to the Productivity Commission Inquiry in 2010 (submission no. 0237). The AOPA Inc. encourages the Commissioners to consider, in conjunction with this, our submission regarding orthotic service delivery. Both submissions address key and specialized areas of disability services, however the following areas of commonality exist in our recommendations;

- Workforce concerns in orthotics and prosthetics, including issues with skills shortages, qualification and competency standards and extended scope of practice
- Support for consumer empowerment and a rights-based approach to disability services
- Alternative approaches to funding, including addressing unmet needs
- Alternative approaches to service delivery, including consideration of best practice models

Every attempt has been made to locate the relevant national and international research, models and frameworks to provide evidence-based options for improving disability services in Australia. The AOPA Inc. supports the development of a National Disability Strategy and looks forward to continuing consultation with the productivity commission regarding the future design of a prosthetics service delivery model and amputee care pathway.

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EXECUTIVE SUMMARY

The Commissions draft report indicates an opportunity now exists to implement a national disability scheme which provides timely and appropriate care to all Australian amputees. The proposed NDIS has the potential to remove state based inefficiencies currently hampering quality service provision.

The certification and deployment of qualified and competent professionals will underpin the enhanced care to Australia's amputee population. The AOPA Inc. encourages the availability of internationally accepted artificial limb designs in conjunction with the application of proven modern prosthetic technologies to maximize the quality of life of all amputees eligible under the proposed NDIS.

The AOPA Inc. encourages the Commission to consult broadly with consumers and service providers to establish a platform of needs based service provision with a fundamental client and outcome focus. Future services provided should be delivered in line with best practice principles and internationally accepted and proven protocols.

Funding restrictions should not provide barriers to the functional output and lifestyles of Australian amputees, and modern and nimble governance systems must be implemented to ensure efficient usage of available resources.

This submission will provide key recommendations to assist with the design and implementation of an NDIS which incorporates a national strategy for the provision of equitable prosthetic services for Australian amputees.

KEY MESSAGES

1. The international standards (ISO 9999:2007) form the benchmark for aids and equipment inclusion in the NDIS.
2. A rights-based approach to the provision of services to people with disabilities, including the empowerment of people with disabilities to make informed choice regarding their health care, is encouraged.
3. NDIS fund artificial limb provision for eligible non-compensable and non-veteran Australian amputees.
4. The current system of rationing be removed and the provision of artificial limbs be based on a rights and needs basis and provided in line with best practice treatment protocols.
5. All amputees to be provided with equal access to appropriate prosthetic services and empowered to select the service provider of their choice irrespective of geography and demography.
6. Competitive neutrality is fundamental to proposed service provision.
7. Uniform national data sets to be established.
8. The NDIS fund artificial limbs in the “early care” phase of treatment to ensure early prosthetic provision and enhance seamless treatment.
9. Formal certification of assessors and prescribers to ensure accountability of artificial limb provision.
10. Appropriate, modern prosthetic technologies be available to all Australian amputees.
11. Clear and defined coding to be established for services and technologies.
12. A national approach is fundamental to system design.
13. Nimble and efficient administrative procedures to be established which do not produce treatment bottlenecks.
14. Strong and transparent governance systems be implemented, which incorporate operational support from professional bodies and consumers.
15. National workforce planning become a central component of NDIS planning and policy responsibilities.
16. Policy development be supported by input from consumers and providers of amputee services.

INTRODUCTION

The Australian aids and equipment need

The Australian Institute of Health and Welfare (AIHW) reported 1998 figures that 48% of people with a disability used some form of aid. Of this group, 40% were under the age of 65 years (AIHW, 2003). The ageing Australian population will have dramatically impacted on this figure. Aids and equipment have become an essential part of the health system to maintain independence and activity levels of those affected by disability. Mobility aids are the second most frequently used aid after medical aids in the 15-64 year age group (AIHW, 2003).

Definitions of aids and equipment

The International Organisation for Standards clearly defines *assistive products* for persons with a disability and states the devices to be excluded from the definition. These standards, which are internationally accepted, may provide overarching guidance as to the devices for inclusion and exclusion in the new NDIS (International Organisation for Standards, 2007).

In the initial phase of investigation by the Commissioners and their team, there was some confusion regarding the term prosthesis, which The AOPA Inc. wishes to clarify. A prosthesis (or prosthetic device) is “an externally applied device used to replace wholly, or in part, an absent or deficient limb segment” (International Organisation for Standards, 1989). It is not intended to describe dental implant prostheses, joint replacement prostheses, or cochlear implants. For the benefit of this submission, we refer to a prosthesis as the replacement of a limb (arm or leg) or part thereof. To ensure no confusion, throughout this document we will use both the modern term **prosthesis** and the more traditional term **artificial limb** interchangeably. Further definitions are available for reference in Appendix One.

Australian orthotic/prosthetic workforce

The Australian orthotic/prosthetic profession is a relatively mobile workforce however it is disproportionately represented around the major education facility, located in Melbourne. La Trobe University, Melbourne provides the only tertiary training facility for Orthotist/Prosthetists in Australia. With almost two decades of education at the Bachelor Degree level, the orthotic and prosthetic profession has shifted to a minimum education standard of Masters. Membership to The AOPA Inc. requires a minimum qualification of “*Bachelor of Prosthetics and Orthotics from La Trobe University or an equivalent tertiary Prosthetic and Orthotic qualification . . .*”. In addition to a minimum tertiary qualification The AOPA Inc. requires its members adhere to defined standards and by-laws.

Australia has an estimated Orthotist/Prosthetist workforce of 320, of which 240 are members of The AOPA Inc. This represents a low ratio per capita of only one professional practicing in both orthotics and prosthetics per 66,445 population.

Australian Amputee Data

The cause of amputation is broad and varied in Australia, and is consistent with most developed European nations. Approximately 75% of all amputations are a result of vascular disease or compromise (Cumming et al (2010), with the remaining 25% resulting from trauma, cancer and neoplastic diseases, congenitally acquired limb deficiency and infection.

Demographic data is difficult to obtain regarding Australian amputees. Since the devolution of the national scheme in 1997 to individual state health departments, there has been a reluctance to release data relative to amputee care. This can be partially explained by the lack of planning when the transition occurred, and also the disparity in data collection sets and protocols across Australia's states and territories.

The AIHW morbidity data cubes for the period 2000 – 2008 show there were an average of 7,635 amputations performed annually, or approximately 1 per 3,000 Australians. A globally adopted benchmark used by the World Health Organisation outlines European populations have an artificial limb user group of 1 per 1,000 population who actively use a prosthesis on a daily basis. This would therefore translate to 22,000 Australian amputees who actively require artificial limbs (excluding partial hand and partial foot amputees who also access state based funding for artificial limb provision).

A rights-based approach to the provision of disability services

The ability to access the environment and participate in community life is a basic human right. The United Nations Convention (2006) on the rights of persons with disabilities' purpose is "to promote full and equal enjoyment of *all* human rights by persons with disabilities rather than a more restricted set of services and opportunities" (p.5). The AOPA Inc. supports the Australian Human Rights Commissions' submission (submission number 0072) (2010). Consideration of all available technology and therapy options within the boundaries of evidenced based practice would be supportive of basic human rights within the context the proposed NDIS. The restriction of access to advantageous assistive technology is potentially discriminatory on the basis of disability.

BACKGROUND:

the current amputee health system pathway

In our earlier submission of August 2010, we outlined three (3) specific phases of an amputee's journey. These were the acute, rehabilitation and lifelong phases. These were defined as follows:

Acute

Pre and post-amputation and acute hospital care. This generally represents the first 2-3 weeks of an amputee's journey and occurs in the acute hospital setting.

Rehabilitation

Stabilisation, mobilisation, gait training and physical conditioning. This generally represents the next 60-days care and occurs initially in a rehabilitation hospital and then as an outpatient once safe to return to the home environment. This is commonly referred to as the "interim phase" of prosthetic service provision and amputee care.

Lifelong care

Ongoing care for the remainder of an amputee's life. This is commonly referred to as the "definitive phase" of prosthetic service provision.

All states in Australia rely upon differing funding sources for the provision of prostheses in these three phases of care. This has created significant discontinuity in service provision and often allowed amputee treatment to "fall between the cracks". At best it increases the volume of administration and produces delays in treatment provision, compromising best practice care. At its worst, it produces treatment failure and often results in sub-standard care and increased treatment costs within Australia's already stretched health system.

For the benefit of streamlining the care continuum to ideally fit within a simplified NDIS model, the acute and rehabilitation phases have been condensed into "early care" within this submission. This condensation is a result of the proposition that the NDIS should also administer the provision of artificial limbs and associated mobility aids in upstream early care. This is proposed so the currently fractured service lines and data systems are integrated. It is not proposed that the NDIS funds hospital based bed care or surgical procedures, but rather support a 'shared care' arrangement whereby hospital based treatment provision and process is continued to be provided in the state based acute setting, and NDIS funds the provision of the artificial limb and consumables during the "early care" phase.

This submission will propose a model of care which is underpinned by established best practice treatment. The AOPA Inc's principles of best practice incorporate:

- Patient and outcome focused service provision
- Evidence based practice
- Continuing professional development

- Incorporation of quality systems
- Competitive neutrality and patient choice

The model of care must be driven by sound and progressive policy development and implementation. These changes to policy must be supported by established benchmarks and patient directed outcomes including:

- Accurate and consistent amputee data collection
- Accurate recording of functional status in pre amputation, pre prosthetic and post prosthetic phases
- Establishment of accepted prosthetic outcome measures
- Accurate financial data capturing per patient
- Utilisation of the same data set by all professionals delivering care
- An independent auditing protocol

MODEL DEVELOPMENT:

the prosthetic delivery model

There are essentially five (5) components in the prosthetic treatment cycle. These focus on the steps which constitute delivering the requisite prosthesis and supporting care to each individual amputee. These are:

1. Initial Multidisciplinary Assessment &/or Assessment
2. Development of the Prosthetic Treatment Plan
3. Prosthetic Service Provision
4. Acquittal (clinical audit)
5. Ongoing Reviews

This treatment model is currently in place across most major cities in Australia in various forms. However in light of the early work undertaken by the commission, we recommend some minor changes to the model to improve efficiency. Figure One outlines a flow chart of the prosthetic treatment cycle.

This model, outlined below is designed to be utilized by both the public and private sectors across metropolitan and rural areas where resources may be plentiful or limited. It is designed to enable equitable service to be provided to all clients and is a client-centered pathway for service provision.

Initial Multidisciplinary Assessment – Entry criteria establishment and classification of the amputee

The initial amputee assessment is ideally performed by a team of professionals across varying medical and allied health disciplines and would be conducted post amputation upon discharge from the acute service. The International Standards Organisation (1989) defines a prosthetic assessment as the *“review of the overall condition of the patient by those involved in the treatment, and the recommendation by the Prosthetist . . . of the components and clinical fitting procedures best suited to the circumstances of that patient”*. Central to the team are a Prosthetist, a medical specialist with rehabilitation expertise and a physiotherapist. Upper extremity amputee assessments may require major input from an occupational therapist, which may also be required for lower extremity amputee assessment when there are major environmental issues to consider. Clinical psychologists, vascular specialists, dieticians, podiatrists and wound nurses should also be available to support assessment in particular cases when required. The multi-disciplinary team approach is well accepted as the benchmark in amputee assessment and treatment, which allows for *“the development of a unified treatment plan with each profession adding their expertise”* (Rheinstein, et.al, 2006, p.29).

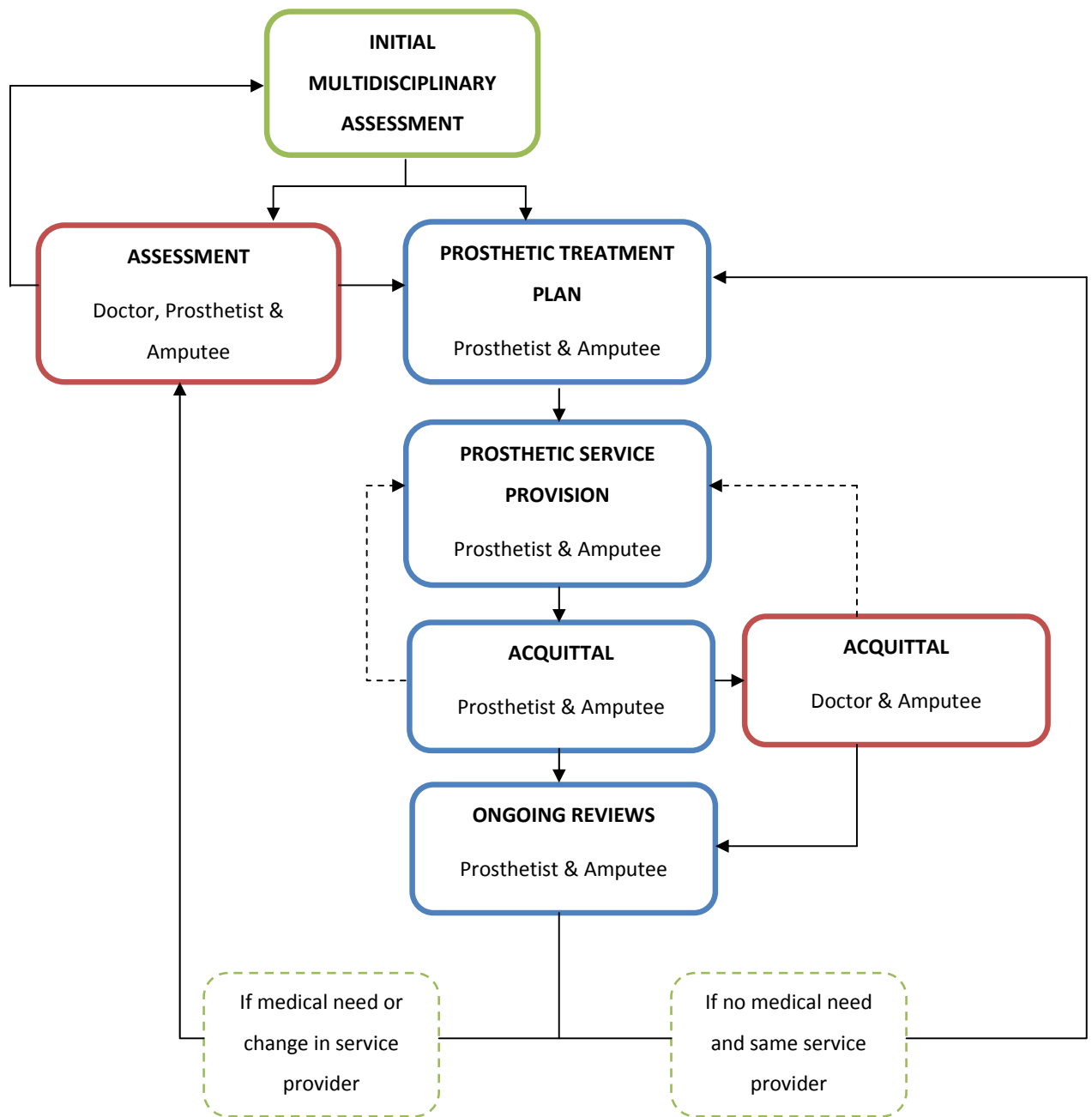


Figure One: Model of Care for Prosthetic Service Delivery

The assessment process would assist to determine an individual's eligibility under the NDIS. It would also allow for the describing of the amputee's individual needs, and specific activity and mobility potential (K classification). The K classification of an amputee provides baseline information regarding activity level and subsequent mobility capability (refer Appendix Two: the K classification system). The K classification is an internationally accepted mobility descriptor. There are a number of valid tools which are available to determine each individual amputee's functional and mobility classification, such as the reliable and validated Amputee Mobility Predictor (AMPro) (Gailey, et.al, 2002).

This Initial Multidisciplinary Assessment would be performed upon discharge from the acute sector. It would be focused on providing services to the amputee that will assist in their transition into productive community life. Issues that could be addressed during this assessment include:

- Gait aids
- Contralateral foot-care and footwear, with care plan if required
- Home equipment
- Home modifications
- Cognitive testing
- General health and prevalence of co-morbidities
- Pain Control and Medication review
- Re-enforcement of education regarding care of the residual limb
- Prosthetic potential

The prosthetic and ambulatory potential of the individual would be determined. This assessment would identify those amputees who are suitable for prosthetic rehabilitation and would therefore require ongoing NDIS funding for prosthetic services.

The assessment can be used to establish eligibility and subsequently "enroll" the amputee into the NDIS program. By describing the amputee's needs and then by simply classifying each amputees potential mobility level, repetitive administration and assessment processes should be minimised. The amputee will effectively be given an entitlement card, allowing access to a range of treatments and ambulatory aids, including prostheses, under the NDIS dependent upon their assessment classification. The Multidisciplinary Assessment team can provide generic authorization for the amputee to proceed into Prosthetic Rehabilitation.

Given 75% of the amputee population arise from vascular cause (Cumming et.al.,2010), with the majority having diabetes and other co-morbidities, it is recommended that a medical review/assessment by a relevant medical specialist or general practitioner is performed every two (2) years for each amputee .These should occur more frequently under the following circumstances:

- the individual undertakes significant change
- on request by the individual

- on the request of other allied health professional or medical specialist

At the Initial Multidisciplinary Assessment the client will be given a choice of different service providers in their region, they can attend to have a prosthetic prescription formulated and subsequent prosthesis fabricated and fitted. The amputee is provided with transparent information and has open access to all available service providers. The amputee is free to choose whichever service they would like to use.

Empowering the client to have choice in their prosthetic service provision location and therefore clinician is an important step in ensuring client satisfaction; however some limitations are required. In order to avoid duplication of prescriptions and to decrease financial wastage and to ensure continuance of care it is recommended that clients be restricted to annual changes of prosthetic service providers at the most.

As is currently the case, at any time the client has access to the multidisciplinary health care team through their Rehabilitation Specialist and can be referred on for further treatment if required.

Development of a Prosthetic Treatment Plan - Determination of the treatment and artificial limb required

This is the process of drafting and submitting a Prosthetic Treatment Plan for the appropriate artificial limb and subsequent requirements. The Prosthetic Treatment Plan draws on detailed information from an assessment of the client. It is recognized that scientific evidence for generating a Prosthetic Treatment Plan would be the preferred model; however there is a very small body of evidence available for the rehabilitation team to draw upon (Van der Linde et.al., 2004). Therefore the development of an amputee's Prosthetic Treatment Plan falls upon those who can integrate the little research that exists with everyday clinical practice and consumer needs, to guide their choices. The Prosthetic Treatment Plan is formulated by a Prosthetist in consultation with the amputee, however in situations where the client is new to the service, has a pertinent medical condition or requests a medical consultation this prescription will be formulated with the involvement of a rehabilitation medicine specialist in a clinical setting. The preference is that this Prosthetic Treatment Plan is raised in consultation with the selected prosthetic service provider (the Prosthetist who will make and fit the prosthesis). This will enable access, if required to the medical practitioner/rehabilitation specialist who is affiliated with the prosthetic facility where the prescription was formulated, ensuring continuance of care of clinical services.

Currently amputee "prescription" clinics involving Prosthetists and Specialist Doctors with experience in Amputee Care (and sometimes Physiotherapists and Nurses) are conducted at major metropolitan and regional hospitals and private prosthetic facilities on a weekly, fortnightly or monthly basis; depending upon client demand, staffing resources, or regional administration. It is not proposed that these clinics are abolished, but used more as "specialist" clinics when complex case management requires input into formulation of the Prosthetic Treatment Plan, such as when there is an illness and multi-disciplinary or specialist input is essential, or when an amputee is new to a

Prosthetic Service Provider (eg. have moved from interstate). Outside of these established clinics, treatment plans can be made by the Prosthetist and amputee for replacement prostheses.

It should be a pre-requisite that both the Prosthetist and the rehabilitation medicine specialist be accredited through the NDIS, to be able to raise a Prosthetic Treatment Plan. Prosthetists who are members of the AOPA Inc. have proven competencies. To be formally listed to be able to undertake NDIS administered treatment, prosthetic practitioners should be accredited by holding a current membership to The AOPA Inc. The maintenance of The AOPA Inc. membership ensures the practitioner has the appropriate qualifications and competency and abides by the codes of conduct and by-laws. This promotes optimal consumer safety. Similarly rehabilitation medicine specialists should demonstrate registration and/or membership of their professional association, the AFRM, in order to be accredited to formulate a Prosthetic Treatment Plan. The representative medical college of rehabilitation medicine and The AOPA Inc., under the auspices of the NDIS accreditation committee, should conduct this process of accreditation.

The Prosthetic Treatment Plan will describe the services and the design/type of prosthesis required by the amputee to meet their mobility needs, taking into account everyday use, recreational and occupational use and cosmetic appearance. It will specify the grouping type of component to be used which is relevant to the amputee's activity level body, weight and functional requirements. In order to fulfill the amputee's needs, multiple prostheses may be required, and therefore two or more Treatment Plans would be raised.

Examples of typical prosthesis required by amputees are:

1. Everyday prosthesis: This prosthesis is manufactured to suit an amputee's body weight and K-level ambulation potential through appropriate componentry selection, and is designed to cater for the majority of amputee's everyday vocational and recreational needs.
2. Waterproof prosthesis: A waterproof prosthesis is recommended for showering and any recreational activities in a water environment – such as beach activities, boating, fishing, or anyplace that water would cause damage to a mechanical prosthesis.

A waterproof prosthesis is commonly prescribed for amputees, and is usually fabricated with an exterior shell to protect all parts from corrosion. The foot used is of a flat surface (therefore cannot be used with footwear as they require 10-18mm heel rise), and has a grip sole to provide friction to slippery surfaces.

This prosthesis is most often used in the shower, or to get to and from the shower as hopping in a wet area is extremely dangerous and falls often result. Given the specific use for short periods of time a waterproof prosthesis will likely require replacement after 3 years.

3. Recreational or specific purpose prosthesis: Some amputees require specific purpose prostheses to accommodate recreational and fitness activities. For example bicycle riding for trans-tibial amputee, where socket trimlines required for bicycle pedaling need to be lower to allow unrestricted hamstring flexion. Whereas an everyday prosthesis for walking and weight bearing activities requires

the posterior trimlines to be high enough to provide an opposing force to the patella –tendon weight bearing notch.

Mr. A, a 45 year old male, recently had a left leg amputation due to vascular compromise. After his initial prosthetic rehabilitation and multidisciplinary assessment he attended an appointment with his Rehabilitation Specialist and Prosthetist for a Prosthetic Treatment Plan to be developed. It was decided that Mr. A uniquely met the criteria for having an everyday prosthesis, a waterproof prosthesis and a recreational prosthesis. Mr. A was assessed to have a K3 activity level and has a young family who he needs to care for. He also has compromised circulation in his right leg which prevents him from walking a long distance without stopping for a rest. As a result, prior to the amputation Mr. A used a bicycle to get to the local shops and he was keen to get back to this form of mobility. He also frequently visited the beach with his children and was keen to have a prosthesis to use in the shower so he did not require a shower chair in the shower he shared with his children.

As Mr. A presented to a South Australian Clinic the Rehabilitation Specialist and Prosthetist were able to follow processes and provide Mr. A with the required prostheses. As a result he has maintained his quality of life and is able to participate to his pre-amputation level. If Mr. A presented to a clinic in other states, where limitations in place, in some situations Mr. A would have only be entitled to one prosthesis. This would have significantly impacted his lifestyle and levels of participation. He would not have been able to visit the beach, shower whilst standing up, or cycle to the local shops to buy bread and milk.

An example of the information that would be contained in a Prosthetic Treatment Plan is outlined in Appendix Three.

The prosthetic treatment plan identifies the type of prosthesis required, with generic componentry recommendations as indicated by the prosthetic code. Treatment Plans are formulated with regard to the amputee's lifestyle, their assessed K-level, and their body weight. Componentry available for use needs to be approved for use in the Australian healthcare market through registration with the Therapeutics Goods Administration, and meeting ISO9000 standards. Funding availability should not restrict component and material selection, it should be reflective of client needs and contemporary best practice.

It is proposed that 90 percent of applications will fit into the proposed model and 10 percent will require discretionary applications to the NDIS. Discretionary Applications are designed for individuals with "special" requirements such as bilateral (both side) lower limb amputees who require specialised or higher functioning componentry and upper limb amputees who require prostheses to be designed and adapted for specific occupational or recreational tasks using unusual componentry.

Details of considered models are outlined in the finance and administrative recommendation section below.

A new Prosthetic Treatment Plan is to be formulated and submitted whenever a new artificial limb is required, or if a major change to the prosthesis needs to be undertaken, being either replacement of the socket section, or replacement of the componentry. Upon submission of the Prosthetic Treatment Plan, the Prosthetist is able to immediately commence prosthetic service provision. Current practice suggests a prosthesis will require replacement

every 2 to 3 years, depending upon usage patterns. The socket (the part of the prosthesis which houses the residuum/stump) may require replacement at earlier stages if the shape of the amputees stump alters significantly, whilst the components such as the feet and knees may be re-used if still providing sound function and safety or replaced at earlier stages if undue wear and tear is identified during periodic reviews. Clinical Practice shows that socket replacements are required more frequently in the first 12 months after amputation due to changes in residuum/stump shape, size and volume. Socket replacements occur less frequently in the following 4 years (on average yearly replacements), with residuum stabilisation occurring at approximately 5 years amputation, where socket replacements within prosthesis life are less common. Exceptions to this include clients who have volume fluctuations, weight gain or loss, other co-morbidities effecting ambulation and socket fit, or change in home-life, work-life or fitness levels. Therefore all recommendations for full prosthetic or socket replacement need to be clinically justified.

Case Study – C attended his local prosthetic service with a painful residuum/stump and difficulty walking. He had lost his leg as a result of a diabetic ulcer on his ankle that had not healed. The Prosthetist assessed his current prosthesis and determined that it no-longer fitted adequately. The prosthesis was putting a large amount of pressure on the end of his tibia bone, which had resulted in this area being red and the skin abraded. An application to the funding provider was put in for a socket replacement and the Prosthetist adjusted the existing prosthesis as best as she could by adding packing and advising C of the correct number of stump socks to wear. Two weeks later the Prosthetist received notification that the socket replacement had been approved and booked C into the next available appointment which was 2 days later. Upon presentation for casting for his socket replacement the Prosthetist identified an ulcer on C's residuum/stump. As a result C was referred to the Vascular clinic for assessment and required Nursing services for three months whilst the ulcer was in the early stages of healing. C was unable to mobilize and participate in his usual activities and required care and assistance from his wife. The casting for the socket replacement had to be delayed until the ulcer was healed enough to tolerate the forces of ambulation, which meant that C did not have a prosthesis for 4 months. His Quality of Life and that of his wife was significantly impaired due to the delay in commencement of new prosthetic care. This was a result of the financial checking system that was in place that restricted the Prosthetist from continuing the amputee's prosthetic care in a timely manner.

Ongoing maintenance for fit and function of prosthesis is required to extend the life of the prosthesis and maintain immediate best fit for the amputee to prevent skin and tissue damage of the residuum/stump. Additionally, access to consumable products needs to be without delay and responsive to keep the residuum/stump in good health and prosthesis in good repair. Consumables include stump socks, gel liners and interfaces, suspension sleeves and valves, skin protection lotion, liner donning lotions, and cosmetic foot shells, gloves, and stockings. Immediate provision of 'minor repairs' and 'consumables' is paramount to the amputee. These essential items should not be restricted by a quota as they currently are in some states.

Prosthetic provision – Delivery of the service and the artificial limb

In order to maintain continuity of care it is preferred that the Prosthetist who delivers the prosthetic service is the same individual who was involved in formulating the prosthetic prescription. Prosthetic Service Provision generally requires a minimum of 4 visits spanning a 2-8 week period, depending upon the complexity of the individual and the prosthesis. These visits incorporate stump casting, diagnostic socket fitting together with component assembly, static and dynamic alignment, adjustments and cosmetic restoration, and finally an initial review to ensure that the prosthesis is functioning adequately and meeting the required aims.

Lower Limb Prosthetic provision may also incorporate gait training, and new amputees may require a series of gait training sessions to understand how to safely and fully utilize their new prosthesis. The gait training sessions may be conducted by both Prosthetists and Physiotherapists. When provided with their first upper limb prosthesis, new upper limb amputees will require training to maximize its use and function. This will also be required when a change in prescription is undertaken. Gait training and upper limb usage training will have separate prosthetic supplement codes for practitioner skill and time re-imburement for submission upon prosthetic acquittal.

Acquittal (clinical audit) – Confirmation of provision in line with the Prosthetic Treatment Plan

On the completion of prosthetic service provision, the amputee would complete an acquittal of the prosthesis and prosthetic service they received. This is the auditing stage. The client is asked to approve their prosthesis and it is checked that the prosthesis meets the client's needs. The acquittal would question the amputee about aspects of their prosthesis such as satisfaction, fit, function, cosmesis, information and education delivery and planned reviews. Additional quality and outcome measures that can be included in or in addition to a prosthetic acquittal form are attached in Appendix Four. It is important to assess the success of the prosthetic intervention to ensure effective and efficient clinical service provision.

If there is disagreement between the Prosthetist and the amputee, or if there is a poor outcome from the acquittal then the acquittal process can continue with cooperation from the Rehabilitation Specialist. Upon completion of this acquittal process, the NDIS would be notified that treatment had concluded and final administrative and financial processes could occur.

Ongoing Reviews – Periodic clinical progress visit

It is recommended that each amputee who is a beneficiary of the NDIS artificial limb program, partake in ongoing periodic reviews. It is suggested that these prosthetic and maintenance reviews take place at a minimum, on an annual basis. This would enable clinical, mechanical and personal assessments to be made on a regular basis. Pre-emptive actions including clinical reviews form a vital component of efficient, safe and cost effective treatment for amputees.

Clinically it would provide the opportunity to monitor the amputee's general health, and the health of their residual limb and contra-lateral foot. With 75% of all amputees having vascular compromise (Cumming et al (2010), it is vitally

important that the skin and residual stump tissue is monitored to ensure breakdown and ulcerations do not result, which potentially lead to more proximal re-amputation.

From a mechanical prosthetic perspective, the annual review allows the Prosthetist and the technical team to inspect all mechanical components, provide general maintenance and ensure the prosthesis is fully functional. Depending on componentry incorporated within prosthesis, the review may occur more frequently to ensure service and maintenance of specific parts is undertaken as per component manufacturer's specifications, and to comply with TGA requirements.

This is also an opportunity for fine-tuning of the fit and performance of the prosthesis. In regards to the individual, it allows the prescription team to assess activity level, gait quality, activities of daily living and determine if further training or additional care is required. It also enables the prescribing team to monitor lifestyle and broader access and mobility considerations.

RECOMMENDATIONS:

the prosthetic finance and administrative model

Upon the inception of the Whitlam Government Free limb Scheme (FLS) in 1973, a simple costing model was established. The model had two primary parts. These were the cost of professional time for prosthetic service delivery, and the cost of the prosthetic components used in the prosthesis. This model continues to be used in NSW, Queensland, WA and SA today. Victoria operates with regional administration of Artificial Limb Schemes using set cost model for specific limb types, incorporating professional time and componentry used.

We propose the Prosthetic Treatment Plan developed with the Amputee establish generic componentry recommendations with regard to lifestyle, K-level and body weight. Blough and colleagues (2009) found *“that this cost depends on three characteristics: the type of prosthetic device (by varying degrees of technology), the level of limb loss, and the functional capability”* (p.390). Componentry available for use must be approved for use in the Australian healthcare market through registration with the Therapeutics Goods Administration, and meeting ISO9000 standards. Componentry for use needs to reflect modern technology and materials to allow the majority of Australians to access contemporary prosthetic design systems to contribute to an improved Quality of Life.

AOPA Inc has considered the three following models, all of which are currently used in some form in Australia.

Model 1:

The Prosthetic Treatment Plan is formulated from a formal list of components and the cost is calculated using an agreed number of hours multiplied by the agreed hourly rate, plus the cost of components and materials in the prosthesis.

Advantages:

- This model records accurately each component utilized and exact reimbursement is provided.

Disadvantages:

- NDIS is unable to track approved expenditure, as exact cost is unknown until financial submission after prosthetic acquittal process.
- Increased administrative processes and committees, to regulate and maintain the list of componentry authorised for use.
- Increasing client awareness of prosthetic technology (internet) can lead to disappointment if the product is not available on the list.

Example 1. The cost calculation for a transtibial prosthesis of standard design (based on NSW ALS model)

PROFESSIONAL SERVICE COST	
Professional hours	X hrs
Professional hourly rate	\$ X
<i>TOTAL PROFESSIONAL COST</i>	<i>\$2415.00</i>
COMPONENTS IN THE PROSTHESIS	
Foot – Otto bock Trias 1C30	\$ X
Adaptors – Otto Bock, 2R38, 4R52, Ossur 272	\$ X
Lock & liner – Ossur 211, I-6033	\$ X
Cosmetic cover – Otto Bock 6R6	\$ X
Misc. Otto Bock 99B14	\$ X
<i>TOTAL COMPONENT COSTS</i>	<i>\$3315.00</i>
TOTAL PROSTHESIS COST	\$5730.00

Model 2:

A set of prosthetic codes with attached reimbursement fee. The codes reflect the generic components within the prescription, coupled with a fee for professional service using an agreed number of hours multiplied by the agreed hourly rate culminating in a set fee for each prosthetic code. Essentially, a voucher system of net worth for a type of service, reimbursed by NDIS to the Prosthetist. For example, any Transtibial prosthesis \$5,000-, any Transfemoral prosthesis \$10,000-.

Advantages:

- The prescription with recommended generic component inclusion has a unit fee for the prosthesis, which the service provider must stay within. This allows governance (NDIS) to know how much has been pre-approved for accrual accounting process. Easiest to administer, no transparency provided.

Disadvantages:

- There is potential for a lack of accountability for products used to exist. The NDIS would be unable to trace componentry if the TGA or a supplier has a product re-call. There would also be an inability to track previous componentry used if the amputee changes regions or service providers.
- A potential exists for under utilisation of best suited componentry for the amputee whilst still accepting full voucher reimbursement.

- If the unit fee is not reflective of an amount to cover amputee's who have complex needs, require extended hours for fitting, technical process and/or alignment and gait training; there may be a risk that clinicians are not motivated to attempt the complex cases if reimbursement is not guaranteed.

Example 2: Billing possibilities for a "Transtibial Prosthesis" with set reimbursement fee

Transtibial Prosthesis	Actual Cost	Invoice Amount	Variance
Set Fee Example	\$5000-		
Prosthesis A – Modern Componentry	\$4809.65	\$5000-	+\$190.35
Prosthesis B – Low Activity/Conventional Componentry	\$3230.25	\$5000-	+\$1769.75
Prosthesis C – Modern componentry, with custom-made silicon liner to cater for skin grafting	\$6200.00	\$5000-	-\$1200.00

Model 3:

This model consists of a set of prosthetic codes with a corresponding reimbursement fee. The codes reflect the generic components within the Prosthetic Treatment Plan. The cost is calculated using an agreed number of hours multiplied by the agreed hourly rate, plus an indicative amount to reflect the componentry and materials used. The prescriber of the treatment plan submits the prosthetic code which best reflects the provision which needs to be undertaken. For example; TTK3MG = Transtibial prosthesis for K3 mobility level with multiaxial foot and gel interface \$6000-, TTK1SP = Transtibial prosthesis for K1 mobility level with SACH foot and pelite interface \$3500-.

Additionally the service providers (Prosthetists) will, at completion of prosthesis manufacture and acquittal, submit an invoice for the completed prosthetic service provision which relates to the Prosthetic Treatment Plan, with exact componentry identified and costs used, which are within the set fee. The NDIS will reimburse this actual cost. The AOPA proposes that over 90 percent of amputees will fit within this model.

Advantages:

- NDIS have access to pending maximum expenditure for each approved Prosthetic Treatment Plan defined;
- Reporting of actual components used occurs for transparency and to ensure ease of conducting the auditing process;

- This model meets TGA compliance when issues of componentry failure and product re-call is required;
- This model negates the need for prior-approval of Prosthetic Treatment Plan estimate, which can delay service provision.

Example 3. Recommended Model for Use – Set fee allocation with actual invoice amount

Prosthetic Code	Set Fee Allocation	Componentry used	Actual cost	Invoiced Amount
TTK3MG	\$6000-	Foot – Otto bock Trias 1C30 Adaptors – Otto Bock, 2R38, 4R52, Ossur 272 Lock & liner – Ossur 211, I-6033 Cosmetic cover – Otto Bock 6R6 Misc. Otto Bock 99B14 Labour Hours	\$5730-	\$5730
TTK1SP	\$3500-	Foot – Otto bock SACH 1S90 Adaptors – Otto Bock, 2R38, 4R52, 4R63 Cosmetic cover – Otto Bock 6R6 Misc. Otto Bock 99B14 Labour Hours	\$2800-	\$2800-

Model 3 is AOPA's recommended model for NDIS use. Prosthetic codes are currently being formulated in a similar vein to The AOPA Inc. Orthosis Schedule 2009 presented in the Orthotic submission. Defined clinical hours for traditional limb types are currently used in all States, with minor differences. An updated version of limb types is being developed.

'Minor Repairs' and 'Consumables' are reimbursed in a similar way, with agreed hours for repairs multiplied by agreed hourly rate added to componentry cost.

Professional service cost

Benchmarks for the professional time required to produce the varying designs of prostheses currently exist. Defined clinical hours for traditional limb types are currently used in all States, with minor differences. An updated version of limb types is being developed.

Coding and subsequent costings should also be established for the processes of assessment, prescription/acquittal and periodic reviews. As previously mentioned, the AOPA is currently involved in developing Prosthetic Codes, similar to those developed in the “Orthotic Schedule”.

Both public and private prosthetic service providers in Australia are able to provide supportive financial data to guide the establishment of benchmarks relating to service time. At a number of junctures throughout the past 20 years, the prosthetic profession has provided comprehensive financial and operational data to government to support time allocation for specific clinical tasks, hourly rate setting and sustainable economic modeling. A number of international benchmarks relating to the time for the clinical aspects of prosthetic service are available and could be used in conjunction with Australia data to make evidenced based decisions.

The precursor to the Productivity Commission, the Industry Commission, undertook a review of national prosthetic services in 1990. The industry Commission drew heavily upon an economic analysis conducted by KPMG, who were appointed by the Federal Department of Veterans Affairs with support from private industry and the department itself (Industry Commission, 1990). It is recommended that a full analysis of the cost of service provision by both public and private institutions is again undertaken by an independently appointed group to determine a fair and sustainable economic model is established upon the commencement of the NDIS. The efficient use of available financial resources, and the ability to analyze efficiency and effectiveness, must be central to the design of the new system.

Component funding

Prosthetic components form the basis of the mechanical aspect of an artificial limb. The ISO10328 cyclical testing standard and ISO9000 series quality standard, represent the accepted foundation for CE marking. CE marking therefore defines subsequent safe inclusion and usage in prostheses in Australia, and similarly internationally.

The Therapeutic Goods Administration (TGA) legislation dictates that products used in a prosthesis must meet these standards to be fitted in Australia. The onus falls upon the vendor group that distributes the components and the prosthetic practice that fits the prosthesis to ensure these standards are maintained. As class 1 devices, the risks are low, and self-regulation has been successful to date.

Currently a number of individual states have established committees who determine which technologies will be funded. If components meet the previously mentioned ISO standards and receive CE marking, they are accepted for use within Australia. However restrictions are currently placed on the selection of components due to funding constraints, more so than efficacy. Other states use alternate models as previously outlined.

There are a broad range of prosthetic component provision models internationally, with the L-code system in North America and the Bundesprothesenliste in Germany considered the international benchmarks. A simplified and efficient system drawn from successful international models (as previously outlined) would increase efficiency and

potentially reduce the administrative burdens currently placed upon the profession and inequities for amputees. The AOPA Inc. is happy to provide more precise details relating to models at latter junctures.

The New Zealand model and financial benchmarks

New Zealand is unique, in that it has a national service program which is delivered by a monopoly government institution. The New Zealand Artificial Limb Board (NZALB) has five large centers nationally located in Auckland, Hamilton, Wellington, Christchurch and Dunedin, delivering services to the national amputee population. Their data collection systems are extremely refined, and as a crown entity, they are obliged to report comprehensively on their service annually. The NZALB annual reports provide data related to treatment incidents, organizational development and highly detailed financials. As such, they provide a tremendous insight and independent case for analysis and subsequent benchmarking. Profit and loss statements and balance sheets are available, as are treatment details and details such as staffing (NZALB, 2010). Some interesting financial and service ratios can be provided for the latest full year (2009) as summarised following:

NZALB financial and service ratios for the latest full year (2009)

Population	4.4 million
New prostheses delivered	828
Service intervals (amputee visits for treatment)	9,578
Amputees actively accessing services	4,384
New amputees nationally deemed prosthetic users	398
Running costs (excluding buildings)	NZD 7,457,000
Building expenses	NZD 1,725,000
Total cost of service	NZD 9,182,000
Cost per amputee accessing services (per annum)	NZD 2,094
Cost per amputee accessing services in Australia	AUD 1,197

(NZALB, 2010)

Perhaps the most interesting facet of the NZALB's operations is the successful establishment and utilisation of a national amputee database, which connects into the acute and hospital networks nationally. This database not only permits the tracking of individuals, amputee groups and the national population, it also provides demographic and geographical data which enables ongoing system enhancement and rapid system design changes to meet the community's needs. We strongly encourage the Commission to explore the NZALB information systems, operational benchmarks and investigate their service model to provide insight into future service development in Australia. In

2001, the New Zealand modernisation of amputee service provision commenced. This has now delivered a system vastly superior in most aspects and measures to the Australian equivalent. We have much to learn from this experience.

It is also suggested that the NDIS consider the governance, policy and consumer consultation systems in place in New Zealand. Whilst not perfect, they represent a useful benchmark and platform for future enhancement and refinement within Australia and the new NDIS system.

RECOMMENDATIONS:

the prosthetic program governance and operational management model

To ensure the delivery of a modern and progressive NDIS artificial limb program, the new model would benefit if underpinned by a sound, nimble, progressive and efficient system of governance. It is suggested that an oversight committee be established, representative of members of the following groups:

- Consumers (amputees)
- Medical specialists (surgical and rehabilitation specialties)
- Prosthetic service providers
- NDIS representatives

This panel should be given the task of developing policy and operational recommendations and reporting these to the NDIS CEO and independent advisory council. A suggested governance structure is presented in Appendix Five, which includes four key streams, being; services, components & design, accreditation and audit. Within these streams there would be many functions, however the panel would appoint subcommittees responsible for the following areas:

- Prescriber certification
- Practitioner certification
- Prosthetic technology review & discretionary funding approval
- Workforce and future service planning
- Patient focused clinical audit
- Administrative, financial and process audit

Representatives appointed to these subcommittees would undertake roles on an honorary basis, and be accepted as experts in their field. These subcommittees would perform the tasks established within a limited Terms of Reference and report to the policy and operational panel on a quarterly basis.

A number of states in Australia have currently or historically had similar governance structures in place. Therefore the format is well tested and proven. It is critical that a policy and operational management panel is established as a national body to ensure consistency of service provision across states, and eliminating the duplication of processes. This panel would aim to ensure that activities relating to the subcommittees were highly efficient and cohesive, so that the efficient use of resources was optimally directed towards patient care.

The governance of certification is of paramount importance. Accreditation processes should be implemented and rigorously maintained to ensure the quality of services delivered at each level of patient encounter throughout the treatment pathway.

ADDITIONAL CONSIDERATIONS

To enhance long-term planning of amputee services, analysis of supply and demand should be inherent. This analysis should incorporate qualitative and quantitative measures of both providers and recipients of amputee services. Continuing feedback relating to workforce capabilities and consumer demand needs to be undertaken and correlated.

The AOPA Inc. together with national consumer groups should work together under the NDIS governance umbrella to actively match needs with supply. At present there is no linkage, and it would be valuable to establish such processes. Current workforce and service deficiencies need to be transparently reviewed with input from consumers with their needs foremost. The establishment of appropriate processes has the potential to enable needs to be met and ensure actions are efficiently and effectively implemented for the ongoing development of best practice service provision.

Workforce development & current deficiencies

Vital to the viability of service provision is the continued development of a highly skilled workforce. Australia is currently experiencing a prosthetic workforce shortage, and when combined with the ageing demographics of the existing workforce, is faced with significant concerns in meeting current needs and anticipated future demand for services.

With the sole tertiary national training centre based in Melbourne, the ability to attract graduates to areas outside of metropolitan Melbourne is extremely challenging. A long-term plan to increase the number of prosthetic practitioners, and a strategy to ensure the requisite distribution of professionals to all areas of Australia is needed.

A recent analysis conducted by The AOPA Inc. (2010) demonstrated the disparity between states. Alarming data from the survey shows NSW now has only 28 Prosthetists practicing in NSW. This translates to approximately one Prosthetist per 200,000 population and one Prosthetist per 200 amputees. Prosthetists in NSW have per capita treatment ratios double that of their counterparts in Victoria. With 35% of prosthetic practitioners in NSW over the age of 50 (The AOPA Inc., 2010), it is evident that immediate action is required to redress the situation. Unfortunately this recent survey has confirmed significant service supply issues, not just in NSW, but across all states in Australia including Victoria. Figures released in the UK suggest Australia has less than half the number of prosthetic practitioners required to meet current service demands (NHS Scotland, 2005). With the forecast increase of diabetes, there is a proportionate anticipated increase in demand for amputee services. This must be met with a similar increase in workforce to ensure sustainability of service availability and quality.

Careful long-term planning is needed to develop career pathways sufficient to retain practitioners. Currently the profession is experiencing significant losses of professionals in the 5-7 year post-graduate period (The AOPA Inc, 2010). A broad reaching strategy is required to ensure equitable remuneration across metropolitan, rural and remote locations to encourage the geographical distribution of practitioners. A national strategy is a pre-requisite, as state based efforts have failed uniformly. The AOPA Inc. hopes to engage with NDIS, educational and health authorities to develop this long term plan.

Consumer surveys

Surveys of amputees and their experiences and needs have never been conducted in Australia. Whilst health planners and prosthetic service providers believe they understand intimately the needs of amputees, the truth is we have never formally asked for objective and well-planned consumer feedback.

In an attempt to improve the matching of needs and the provision of services to Australian amputees, it would appear wise to implement routine surveys. This is supported by Van der Linde and colleagues (2007) who when referring to the amputee population stated that *“a questionnaire with specific items for a homogenous target group seemed to be a good method to formulate points of improvement for daily practice in health care”* (p.1054). Surveys have been used in a handful of countries with great success, with New Zealand perhaps at the forefront of designing services with the contribution from consumers. It is recommended that interaction between the two groups be established.

CONCLUSION

The AOPA Inc. would like to thank the Commissioners for the opportunity to continue contributing to the planning process of the proposed NDIS. It is universally agreed that the current system across Australia is in need of overhaul and redesign. The current funding arrangements do not meet current needs, and given the anticipated increase in the incidence of amputation and demand for services, we are presented with an opportunity to replace the current disparate system and build a modern and much needed best practice based program.

The quality of life of the amputee population in parts of Australia has declined since the devolution of services to the individual state health departments in the 1990's. Real expenditure has been cut and services have declined consistently over the past two decades. There exists great disparity in services available to amputees dependent upon cause of amputation, location and circumstance. The AOPA Inc. aims to continue to work collaboratively with the Commission in designing and implementing a system which meets the current and future needs of the Australian amputee community.

APPENDIX ONE: Prosthetic definitions and explanations

This appendix assists with definitions relating to the terminology and componentry of lower limb prostheses.

Terminology

Prosthesis Classification.

The globally recognised system of classifying prostheses by the body part or anatomical point in which the amputation has occurred is used throughout this submission.

The terminology uses three adjectives: trans, disarticulation and partial. The adjective *trans* is used when the amputation is across the axis of a long bone, such as transfemoral or transhumeral. When the amputation is between long bones, which anatomically is through the center of a joint, the adjective *disarticulation* is used (e.g., knee disarticulation, ankle disarticulation). *Partial* describes amputations of the foot distal to the ankle joint and amputations of the hand distal to the wrist joint. The single exception is the use of the term *forequarter amputation* for amputation of the upper limb at the scapulo-thoracic and the sternoclavicular joints (International Organisation for Standards, 1989).

Prosthesis (pl.Prostheses).

An externally applied device used to replace wholly, or in part, an absent or deficient limb segment” (International Organisation for Standards, 1989).

Prosthetist (pron: Prosthe-tist).

An allied health professional who is clinically responsible for the assessment, prescription, design, manufacture and fitting of all types of prostheses to patients (International Organisation for Standards, 1989).

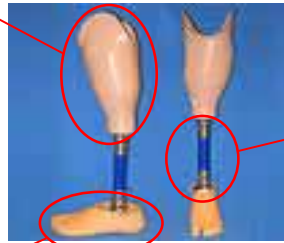
Prosthetic assessment.

The review of the overall condition of the patient by those involved in the treatment, and the recommendation by the prosthetist . . . of the components and clinical fitting procedures best suited to the circumstances of that patient (International Organisation for Standards, 1989).

Common transtibial prosthesis componentry

The prosthetic socket acts as the interface with the amputees limb and is custom made by a Prosthetist

Within this interface prosthetic socks and/or silicone gel liners are used. Unlike the socket these are perishable components with reduced lifespan between 6 months and 1 year.



The pylon and adaptors are ordered components used by the Prosthetist to attached the custom-made socket to the prosthetic foot.

The prosthetic foot is an ordered component which is fitted by the Prosthetist. There are numerous design available and it is usually selected based on an amputees' K classification, individual needs and preference

(Sourced from: www.cop.biz)

Common transfemoral prosthesis componentry

The prosthetic knee joint is a vital component of the transfemoral prosthesis and is fitted by the Prosthetist. There are numerous designs with varying functional properties. Selection is usually based on an amputees' K classification, individual needs and preference



(Sourced from: www.shreejiortho.com)

APPENDIX TWO: The K classification system

The K classification system outlines the descriptive functional levels for prosthetic users, developed by the American Orthotic & Prosthetic Association. This is often used in classifying components for prosthetic prescription.

Classification	Functional Level	Description
K0	Functional Level 0	The patient does not have the ability or potential to ambulate or transfer safely with or without assistance and a prosthesis does not enhance their quality of life or mobility.
K1	Functional Level 1	The patient has the ability or potential to use a prosthesis for transfer or ambulation on level surfaces at fixed cadence. Typical of the limited and unlimited household ambulator.
K2	Functional Level 2	The patient has the ability or potential for ambulation with the ability to traverse low-level environmental barriers such as curbs, stairs or uneven surfaces. Typical of the limited community ambulator.
K3	Functional Level 3	The patient has the ability or potential for ambulation with variable cadence. Typical of the community ambulator who has the ability to traverse most environmental barriers and may have vocational, therapeutic or exercise activity that demands prosthetic utilisation beyond simple locomotion.
K4	Functional Level 4	The patient has the ability or potential for prosthetic ambulation that exceeds basic ambulation skills, exhibiting high impact, stress or energy levels. Typical of the prosthetic demands of the child, active adult, or athlete.

APPENDIX THREE: Prosthetic Treatment Plan

A Prosthetic Treatment Plan is a form (preferably in electronic format) that is completed and submitted to the NDIS to notify that a new prosthesis or prosthetic socket replacement is required.

It will contain the following data:

- demographic data to identify the amputee and their type of amputation
- Patient weight (required to determine if weight change is an indicator of the need for a new prosthesis and to determine if heavy duty components and procedures are required in the manufacture of the prosthesis)
- Occupation (assists in determining if heavy duty components will be required due to repetitive or high impact)
- Previous prosthetic limb number (assists in tracking which prostheses are still in use and which have been replaced)
- Recommended Prosthetic Treatment
 - Socket system type
 - Suspension type
 - Knee joint category
 - Foot category
 - Endoskeletal/Exoskeletal
- Details of the Prosthetist (& Rehabilitation Specialist) who formulated the Prosthetic Treatment Plan
- Details of the Prosthetic Facility at which the Prosthetic Service Provision is to occur

An example of a sample Prosthetic Treatment Plan is attached below. This form, along with the Acquittal form can be used to collect any data that the NDIS require for benchmarking and comparative purposes and to populate governance and operational management system databases.

PROSTHETIC TREATMENT PLAN:

Name: Joe Smith **DOB:** 01/01/1960 **NDIS number:** XXXXXX

Address: 24 North Road **Phone:** (02) 8765 4321

Southville NSW

Amputation Side: ☒ Left ☐ Right ☐ Bilateral

Amputation Site:

Lower Limb PF AD TT TK **TF** HD HP

Upper Limb: PH WD TR ED TH SD FQ

Weight: 85kg **K Level:** K3 **Occupation:** Mechanic

Previous Prosthetic Limb Number: XXXXXX **Date of Acquittal of previous limb:** xx/xx/xx

Recommended Prosthetic Treatment:

Socket system type Silicone interface, hybrid socket shape Code XX

Suspension type Silicone suspension Code XX

Knee joint category Hydraulic knee Code XX

Foot category Multiaxial/dynamic foot Code XX

Endoskeletal/Exoskeletal Endoskeletal Code XX

Cosmesis Standard Cosmetic cover Code XX

Consumables/Supplements Carbon Fibre Socket Reinforcing & Socks Code XX

Socket Replacement Only ☐

Prosthetist: Jane Jones **Rehabilitation Specialist:** Dr John Citizen

AOPA Number: 1234 **Accreditation Number:** 2468

Prosthetic Facility: New South Wales Prosthetics

Phone: (02) 1234 5678 **Fax:** (02) 1234 5679

APPENDIX FOUR: Prosthetic Outcome Measures

Both Subjective and Objective measures exist to assess various aspects of prosthetic satisfaction and function. Some tests are generic and can easily be applied for use on amputees and some are amputee specific. Not all of the outcome measures and tests are appropriate for all amputees. For example some amputees do not traverse stairs or hills and may not be able to walk for 6 minutes.

Subjective Outcome Measures

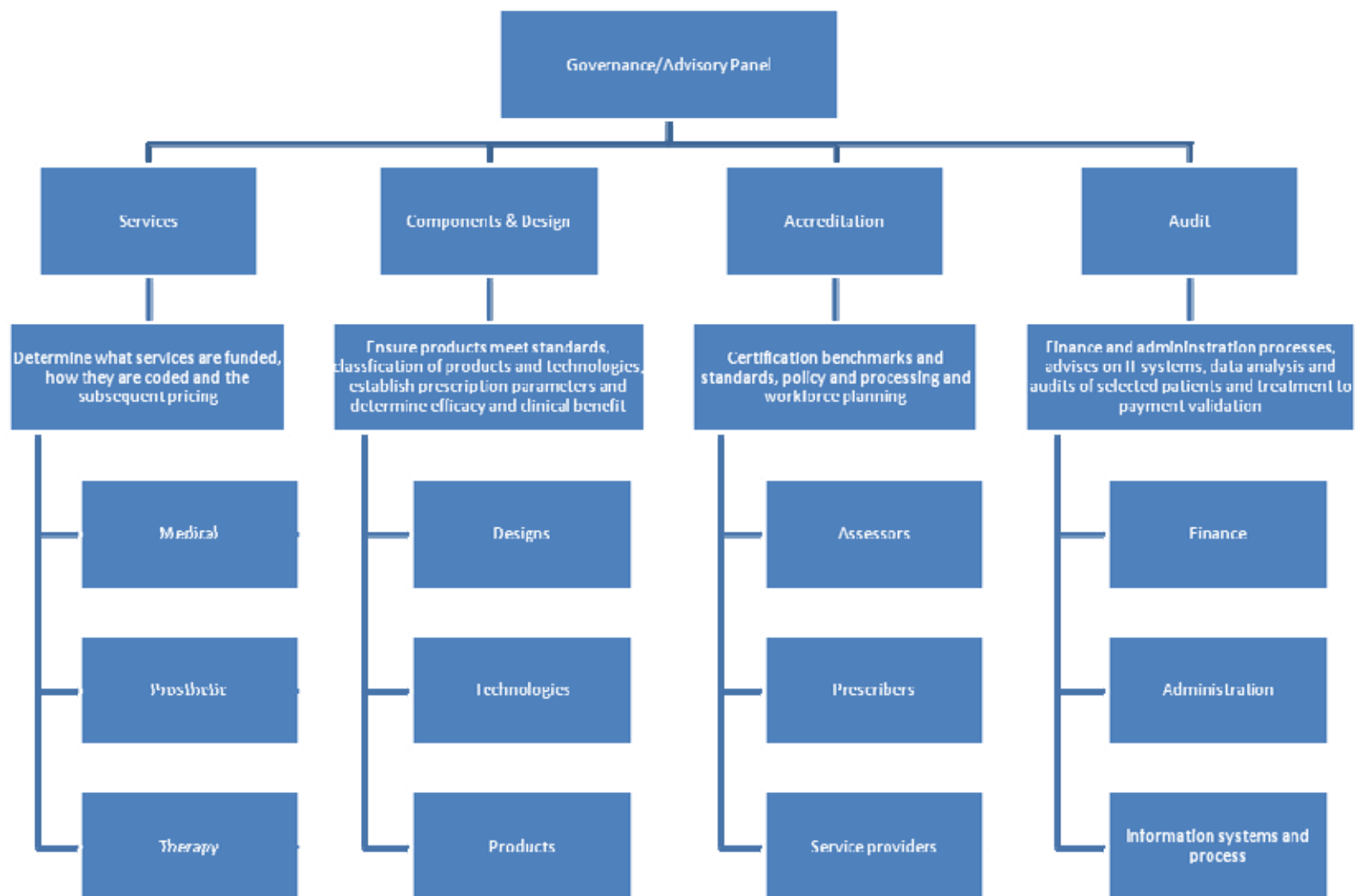
- TAPES – Trinity Amputation & Prosthesis Experience Scale
- OPUS – Orthotic and Prosthetic Users Scale
- SATPRO – Satisfaction with the Prosthesis Score
- PEQ – Prosthesis Evaluation Questionnaire
- DASH – Disabilities in Arm Shoulder and Hand
- SODA – Sequential Occupational Dexterity Assessment
- AAS – Amputee Activity Score
- ABC – Activity Specific Balance Confidence Scale

Objective Outcome Measures

- 2 minute walk test
- 6 minute walk test
- 10 metre walk test
- Timed up and go test
- HAI – Hill Assessment Index
- SAI – Stair Assessment Index
- Mental Energy Testing

Other occupational and functional measures that are more task specific can also be pre and post tested and reported.

APPENDIX FIVE: Suggested governance structure of the proposed NDIS prosthetic and amputee service



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