NHS SCOTLAND

Scottish Orthotic Services Review

Commissioned by the
Rehabilitation Technology Services Advisory Group

May 2005

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CHAIRMAN'S FOREWORD

When we started this review, there were some phrases that we came across repeatedly, such as "*fragmented ... disorganised ... Cinderella*". There were clearly major problems in the provision of orthotic services across Scotland, with huge inexplicable variations.

The **Scottish Orthotic Services Review** was commissioned by the Rehabilitation Technology Services Advisory Group (**ReTSAG**). The need for a national review of the Scottish orthotic service was brought to the attention of ReTSAG by the Orthotic Service Group of the Scottish Rehabilitation Technology Providers Forum (**SCOTReT** – an NHS service provider forum).

In 2002 SCOTReT carried out an informal survey of the orthotic services in Scotland which indicated that nationally the service was being provided in a highly fragmented fashion, and that a review of the services provided by both directly employed NHS orthotists and the commercial orthotic sector was urgently required.

A key factor in shaping the decision to commission a national review was that orthotic services in Scotland are delivered on more than 100 sites by only some 52 whole time equivalent (WTE) orthotists. This makes orthotics a unique NHS resource both in terms of the numbers of professional staff and the range of service delivery points. Service delivery takes place in very varied settings, some of which are organised by individual NHS Boards or even regionally, while others are individual healthcare departments within the NHS, for example a local ward or therapy department; the latter may offer a convenient service to that department but it is one of the main factors in creating unmanaged orthotic services with inequitable (postcode) provision.

In areas where statistics are available, there has been an increase over the years in patients referred and treated. The service has dealt with these pressures by adopting a high patient throughput approach to service provision, to the detriment of patient review, record keeping and audit, with little attempt at strategic planning.

Two members of ReTSAG were tasked with developing a remit for the review and forming a review group (for membership of the Review Group see Appendix A). This group was drawn from all the relevant professionals who work within the Scottish orthotic service, professions that work closely with the service as well as from other Allied Health Professionals (AHPs) who not only work with the orthotic services but also provide specific elements of orthotic care as part of their own professional practice (*e.g.* occupational therapy, physiotherapy and podiatry).

The Review was intended to be a wide-ranging examination of the services provided by both the NHS and by commercial orthotists, and to make recommendations to address the difficulties that face the orthotic services now and in the future.

The Review has also given consideration to the informal local orthotic activity delivered by non-orthotists; the importance and variety of these local orthotic activities has been noted by the Review Group and it is acknowledged that these elements of service delivery should be fully taken into account in all future planning. The Review was further informed by feedback from interested parties and representatives of consumer organisations at an Open Meeting held on 8th March 2004 at the Scottish Executive, Victoria Quay, Leith.

The main emphasis in the Review has largely focussed on gathering local information for a snapshot of the services in 2002/03 in terms of the organisation, management and delivery of orthotic services in Scotland; this took significantly longer than originally envisaged because of the difficulties encountered in identifying individuals locally who have responsibility for key elements of service delivery, which is symptomatic of the problems facing this service. As a result of the delay in publication of this report, our service snapshot will not reflect recent changes in local service arrangements. However, the report debates key aspects of the service and has generated a series of recommendations, both local and national.

This review was undertaken by the Scottish Orthotic Services Review Group. Their report was passed to ReTSAG, and this body has had an input to the editing and particularly the formulation of the recommendations to try to ensure maximum implementation.

The key to the success of this exercise will be the implementation of these recommendations for the benefit of patients.

Professor J D Hutchison
Chair, Scottish Orthotic Services Review Group

EXECUTIVE SUMMARY

PREAMBLE

Orthotic services across Scotland have been described as fragmented, disorganised, uncoordinated and poorly managed. There are large variations between NHS Board areas in how the service is provided, and it is against this background that a national services review was commissioned.

The Rehabilitation Technology Services Advisory Group (ReTSAG) commissioned the Scottish Orthotic Services Review following an informal survey of orthotic services in 2002. At that time it was perceived that both NHS and the commercial orthotic sectors were providing services in a fragmented way.

Orthotic services are delivered on more than 100 sites across Scotland by 52 whole time equivalent orthotists. Service provision is delivered from a variety of settings that vary greatly in their suitability. The review looked at services provided by both NHS and commercial orthotists as well as giving consideration to the informal local orthotic activity delivered by non-orthotists.

One of the challenges in undertaking the review was the difficulty in obtaining data. Not only was data lacking but the quality was often regarded as questionable. Whilst some of this can be attributed to the minimal number of IT systems, it was also felt that a number of the respondents to the service questionnaire lacked an understanding of the orthotic service.

The recommendations from the review fall into five main categories:

- Service Management
- Patient Issues
- Workforce Issues
- Service Delivery
- Clinical Governance

SUMMARY OF RECOMMENDATIONS

Service Management

The main issue is the lack of a single service structure for the delivery and organisation of orthotic services. Often there is no dedicated service manager responsible for the management and development of the service. In most NHS Board areas orthotic services are poorly co-ordinated with a variety of staff involved in the day-to-day delivery of the service. These include orthotists, a range of Allied Health Professionals, as well as some clerical staff.

The review highlighted the potential for collaboration between orthotic services on a regional basis in order to make best use of limited resources. The establishment of local stakeholder groups to support the review and redesign of local services was also recommended to ensure the best patient referral route and care pathway.

Recommendation 1

Each NHS Board should have a single service structure for the organisation and delivery of orthotic services. The service should be led by a dedicated Service Manager who will be responsible for the management and development of orthotic and associated staff including technical and administrative staff. The Service Manager should address the following issues:

- **patient experience**
- **planning and coordination of local orthotic services, including linking with other professions and specialities**
- **management of demand and resources**
- **clinical leadership**
- **clinical governance**

Recommendation 2

Regional Planning Groups should examine the potential for collaboration between orthotic services on a regional basis across NHS Boards to ensure that limited resource is used in the most effective manner.

Recommendation 3

Each NHS Board should establish a Local Stakeholder Group with a defined typical membership and responsibilities. The purpose of this group would be to support the review and redesign of the orthotic service, including adoption of the most appropriate patient pathways and referral systems.

Patient Issues

The review discovered that the orthotic treatment of children and young people is not integrated with other healthcare and educational provision. This was especially evident in the care of young people making the transition to adult services.

Patient participation in the planning and monitoring of orthotic services is virtually non-existent and measures should be taken to improve this situation.

Recommendation 4

Each NHS Board should review the quality of orthotic services provided for children and young people. This should include the development of an integrated approach to service provision in partnership with other health and social care services that addresses the process of transition to adulthood.

Recommendation 5

NHS Boards should empower patients to participate in the planning and monitoring of orthotic services.

Workforce Issues

The main issue identified in the review was the need for the development of the core workforce. A proactive approach needs to be taken now to ensure the future sustainability of orthotic services.

The review also highlighted the scarcity of professional development for all staff involved in the delivery of orthotic services. It is recommended that the Scottish Executive and the National Centre for Training and Education in Prosthetics and Orthotics should work together to address training and development pathways. It is particularly important that there are adequate induction, mentoring and appraisal systems in place for new graduates.

Recommendation 6

The Scottish Executive Health Department, the National Centre for Training and Education in Prosthetics and Orthotics and NHS Education for Scotland should work in partnership, involving the British Association of Prosthetists and Orthotists where appropriate, to consider training and development pathways and opportunities for practitioners, support workers and administrative staff in the context of role development and service redesign.

Recommendation 7

The National Workforce Unit, the Scottish Executive Allied Health Professional Officer and the National Centre for Training and Education in Prosthetics and Orthotics should work together, involving the British Association of Prosthetists and Orthotists where appropriate, to develop workforce planning objectives for orthotists in the context of national planning emerging for Allied Health Professions.

Recommendation 8

The National Centre for Training and Education in Prosthetics and Orthotics should, in partnership with NHSScotland, ensure that in reviewing the undergraduate programme, mechanisms are in place to take account of changing priorities and practice development.

Recommendation 9

Orthotic Service Managers should ensure that systems for the induction, mentoring and appraisal of new graduates are in place which, as a minimum, meet the standards set out in the Scottish Rehabilitation Technology Providers Forum (SCOTReT) Orthotic Service Group *"Guidance on New Graduate Training Programme"*.

Service Delivery

Orthotists need to be much more integrated within multi-disciplinary teams, both to broaden the professional development of orthotists and to allow other team members to benefit from the knowledge and skills of orthotists.

It was agreed that the Scottish Executive Health Department has a key role to play in facilitating information sharing between NHS Board areas. This would help to provide a national focus for the development of orthotic services. A website and message board for the dissemination of ideas should be implemented.

Recommendation 10

Service Managers/Clinical Leaders should ensure that orthotists are enabled to participate in multi-professional service planning and delivery of orthotic treatment.

Recommendation 11

The Scottish Executive Health Department should facilitate information sharing between NHS Board areas and development of best practice to drive the implementation of recommendations, and to provide a national overview.

Clinical Governance

There were a number of basic health and safety issues identified in the review. In the interest of providing effective treatment, NHS Boards should ensure that facilities, equipment and procedures are fit for purpose. Staff involved in the provision of orthoses should be able to demonstrate competency in their field of practice.

Additional funding is required to facilitate the roll out of the Rehabilitation Technology Information Service software which, in turn, should be linked to the e-Health programme that is currently developing national clinical datasets.

Clinical and staff governance standards need to be integral to the performance management of the orthotic service.

Recommendation 12

In the interests of providing effective treatment, NHS Boards should ensure that:

a) clinical governance and risk management systems take account of the facilities, equipment and procedures used in orthotic services to ensure they are fit for purpose, and

b) practitioners involved in the provision of orthoses can demonstrate competency in their field of practice.

Recommendation 13

The Rehabilitation Technology Services Advisory Group (ReTSAG) should seek to identify further funding to facilitate faster implementation of the Rehabilitation Technology Information Service (ReTIS) software within the orthotic services. This should be linked to the e-Health programme which is currently developing national clinical datasets.

Recommendation 14

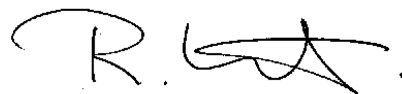
NHS Boards and Orthotic Service Managers should ensure that clinical governance and staff governance standards are integral to the performance management of their service and cover continuing professional development and clinical effectiveness.

CONCLUSION

The recommendations set out in this document provide a blueprint for significantly improving orthotic services across Scotland. Although this review has exposed many gaps within the current service, it has also revealed a committed and dedicated workforce and an enthusiasm at all levels to improve the way in which orthotic care is delivered. Inherent within this report is the need to improve training; clarify roles and management accountability; set standards for service delivery; and ensure we provide a fully integrated and efficient service to those we care for.

It will not be enough to implement some or all of the recommendations of the review within localities. The current state of the service as a whole warrants more than just local action. The orthotic service and its patients require support from the Scottish Executive Health Department and NHS Boards to implement the recommendations of the report, and in particular, place a new emphasis on the strategic planning and management of orthotic services.

The report has posed many challenges, and whilst these might appear complex, they are not unachievable. The current enthusiasm for change provides an important platform from which to launch our campaign to redesign these crucially important services, making them more efficient and accessible to the patient, and ensuring our workforce is enlightened, competent and fulfilled.



Roseanne Urquhart
Chair, Rehabilitation Technology Services Advisory Group

1. INTRODUCTION

Orthotics involves the application of external devices (orthoses) to the body. These modify the structural and functional characteristics of the neuromuscular and musculoskeletal systems and are a fundamental part of many rehabilitation programmes.

Orthotists are professionals responsible for the assessment, prescription, design, manufacture and fitting of orthoses to patients *(ISO, 1987[1])*.

The range of clinical conditions that may benefit from the prescription and fitting of orthoses include:

- degenerative conditions such as osteoarthritis
- progressive and non-progressive neurological conditions such as multiple sclerosis, cerebral palsy and stroke
- neuropathic ulcers or their prevention in conditions such as diabetes
- complications of viral infections such as polio
- congenital defects such as spina bifida

The clinical objectives of **orthotic treatment** include:

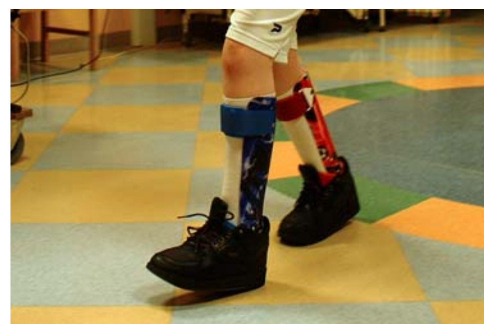
- relieving pain
- managing deformities
- preventing an excessive range of joint motion
- compensating for abnormalities of limb length or shape
- managing abnormal neuromuscular function (*e.g.* weakness or hyperactivity)
- protecting tissues
- promoting healing
- providing other benefits (including improved self image and postural feedback)

Below are specific examples illustrating the diversity of orthotic treatment.

CASE STUDY 1

A 7-year-old boy with cerebral palsy who has difficulty in walking and is at risk of foot deformity.

He has been treated with ankle foot orthoses to improve his walking and to reduce the risk of deformity.



[1] International Standards Organisation, ISO/DIS 8549/1; Prosthetics and Orthotics – Vocabulary – Part 1: General Terms; 13.05.1987

CASE STUDY 2

A 60-year-old woman with diabetes who has previously had a foot ulcer.

She has been provided with special footwear and foot orthoses to reduce the risk of re-ulceration.

CASE STUDY 3

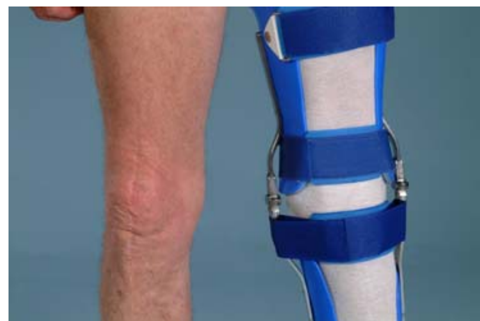
A 14-year-old girl with idiopathic scoliosis.

As part of her care, she has been treated with a spinal orthosis to prevent or reduce the rate of progress of her spinal curvature.

CASE STUDY 4

A 65-year-old man who has suffered from the effects of polio for more than fifty years.

He has been treated during most of this time using lower limb orthoses to improve his mobility and continues to need ongoing assessment to account for recent changes in his mobility.



Images by Joyce Martin, ARPS, NCTEPO

2. BACKGROUND

Whilst the supply of devices which are now classified as orthoses can be traced back many centuries, the origins of the NHS orthotic service as we know it today in Scotland were largely founded in the 1940s.

At that time many of the Emergency Medical Services hospitals, which were established across Scotland to treat wounded servicemen, contained 'Orthopaedic Workshops' that were responsible for the manufacture and supply of "braces and calipers" *etc*. Upon the formation of the NHS, these workshops formed the core from which many of the present day (in-house) NHS orthotic units developed.

Services have increased steadily over the past 30 years, with entirely new units being established in Dundee, Aberdeen and Inverness. There have also been significant changes in the number of commercial companies providing orthotic services through the closure/absorption of smaller companies.

The orthotic service in Scotland today continues to rely on a combination of these two supply sectors which are mutually interdependent since neither sector is on its own able to fulfil all of the current NHS clinical demand.

3. THE REVIEW

In comparison with other branches of the rehabilitation technology services (*e.g.* prosthetics, mobility services, *etc.*), orthotics represents a very small professional group that collectively delivers a high volume of patient care each year. Because of its size and distribution across Scotland there is a real danger that the maintenance and development of the orthotic services could suffer in future given the current priorities within NHSScotland.

Orthotics is widely perceived as a "Cinderella service". Whilst the value of its contribution to the health and well-being of disabled people is inestimable, the role of these services is often poorly understood and as a result they are often not seen as a priority for development.

In order to assess the current status of orthotic services in Scotland and provide a greater focus on the achievements of the services, ReTSAG drew up terms of reference for a national review and created a **Scottish Orthotic Services Review Group** under the chairmanship of Professor James Hutchison (see Appendix A for membership).

National Orthotics Services Review Remit

- **To determine whether the current service provision**:
    - represents the most efficient, effective and coherent way of providing the service
    - meets the needs and expectations of patients and referrers
    - is sustainable in the future
- **To build a comprehensive picture of the current disposition and delivery of orthotic services in Scotland**
- **To produce a report for ReTSAG which:**
    - provides an up to date description of the service arrangements across Scotland highlighting what is currently considered best practice
    - identifies the range of policy issues relating to the provision of orthoses across Scotland
    - sets out alternative models of service delivery/management
    - makes firm recommendations on the future of orthotic services in Scotland

Members of the Review Group recognised the need for a comprehensive survey of Scotland's fifteen NHS Boards in relation to their local arrangements for the delivery of orthotic services. The initial work of the Review Group focused on developing a service questionnaire, which could be used across all the service delivery points. The questionnaire sought mainly current data, but where appropriate asked for historical data to allow analysis of changing patterns.

Members were also acutely aware that the collection of national data on the delivery of orthotic services in Scotland (instigated by ReTSAG a few years previously) was at a very early stage of development and as a result there were no generally agreed common service definitions to support a national survey.

Given these constraints it was clearly important that a dedicated project researcher be appointed to the Review to follow-up completed questionnaires from each NHS Board area to clarify and standardise the responses in order to present a coherent overview of the orthotic services. Responses were received from every NHS Board area in Scotland; in total, some 37 service points completed and returned the questionnaire and 14 local services were subsequently followed-up.

The following sections of the report are based on the findings of this national survey of orthotic sites.

4. ORTHOTIC SERVICES IN SCOTLAND

4.1 SERVICE ORGANISATION

Of the fifteen unified NHS Boards in Scotland, ten (Ayrshire & Arran, Borders, Dumfries & Galloway, Fife, Grampian, Highland, Orkney, Shetland, Tayside and Western Isles) deliver orthotic services which are organised on an integrated NHS Board-wide basis. Orkney and Western Isles rely on contractual arrangements with NHS Tayside and NHS Highland respectively for the delivery of their local service. Two NHS Boards (Lanarkshire and Forth Valley) appear to provide within one NHS Operating Division, whilst in the remaining three NHS Boards (Argyll & Clyde, Greater Glasgow and Lothian) services are even more fragmented, being delivered by a combination of division, hospital and even departmentally-based services.

There is similar variation in the way that the day-to-day management of these services is undertaken. This may be the responsibility of a range of staff including:

- an Administrative and Clerical Officer
- a Senior Orthotist
- an Allied Health Professional (AHP) other than an Orthotist
- an NHS Manager with an administrative background
- an NHS Manager with a clinical background (including orthotics)

4.2 SERVICE DELIVERY

The great majority of orthotic care is delivered either from in-house NHS orthotic departments (nine located in six NHS Boards) or by the nine commercial orthotic companies serving the NHS in Scotland. A significant (but much smaller) volume of items are manufactured and/or delivered by other healthcare professionals such as podiatrists, occupational therapists and physiotherapists.

The involvement of commercial contractors in the delivery of local services varies considerably across Scotland. The number of commercial contractors serving each of the orthotic services reported here ranges from none to seven. No commercial contractor is providing orthotic services in Orkney, Shetland or the Western Isles. Those areas utilising just one contractor are either small services within individual NHS Boards (*e.g.* Borders and Dumfries & Galloway), departmentally-based services, or NHS in-house services who sub-contract very specific items (*e.g.* bespoke footwear) to a commercial contractor.

At the time of the report, South Glasgow was unusual in that in addition to a service provided by the National Centre for Training and Education in Prosthetics and Orthotics (NCTEPO – a Department of the University of Strathclyde) it also received services from seven independent commercial contractors.

4.2.1 Referral Systems

The referral pathways to orthotic services vary greatly and include consultant-led acute specialties in hospitals, generic rehabilitation services delivered in community settings and direct referral.

4.2.2 Clinic Frequencies and Locations

A total of 111 clinic locations nationally have been identified. The pattern of clinic provision is however extremely varied. Considering the total provision within each NHS Board area (excluding the Island NHS Boards where the arrangements are exceptional), the number of sites range from 1 to 15 per NHS Board, representing one orthotic clinic site for a population ranging from 25,000 (within NHS Highland) to 523,000 (NHS Grampian). When clinic frequency is considered it reveals a range of from 3.4 to 12.1 clinics per week per 100,000 population (mean 5.4 per week per 100,000 population). These figures highlight differences in organisation which might be geographical but are probably due more to history and/or resource provision rather than optimal service design.

The pattern of distribution of clinic locations shows extremely wide national variation. In some areas they appear to be over centralised, while in others excessively localised. Long waiting times for orthotic assessment which are reported to be occurring in an appreciable number of instances, may be due to an insufficient number of clinics. This will delay orthotic treatment and may compromise the overall clinical management of patients.

4.2.3 Domiciliary Services

Twenty of the 37 services report providing a domiciliary service but only when the patient is medically unable to attend the clinic, or when specifically requested to do so by a doctor.

4.2.4 Orthotic Prescriptions

The most commonly reported method of arriving at the orthotic prescription is by agreement between the referrer and the orthotist responsible for treating the patient.

In nine services (all served by commercial contractors) the orthotist appears to be excluded from this decision, while in contrast, in seven services (mainly NHS in-house services) the orthotist appears to be solely responsible for the prescription.

4.2.5 Special Arrangements for Children

Twelve services report having special arrangements for children. In nine cases this entails regular multidisciplinary clinics (at least with a physiotherapist and the orthotist). In one service (NHS Borders) all the children are seen *via* local Primary Care Health Centres and two services require the orthotist to attend to children at local schools or other educational centres. It is possible that a much larger number of *ad hoc* arrangements of this nature exist between services and contractors than have been reported in the site questionnaire.

4.2.6 Review of Patients

The majority of respondents state that, having assessed and supplied an orthosis, they routinely review their patients. However, the review regimes employed differ widely.

In 10 of the 37 services all patients are routinely reviewed following a new delivery with a flexible review policy being adopted thereafter. The remainder of the respondents state that a review is dependent on a specific request from the prescribing doctor, the attending orthotist or the patient.

In the primary care based services, reviews are most commonly carried out by the referring physiotherapist in the physiotherapy department.

4.2.7 Professional Linkages

In addition to the paediatric multidisciplinary team clinics described above, other multidisciplinary clinics/activities are reported in the areas of diabetes, vascular care, rheumatology, spinal cord injury, neurology and stroke services.

The most common collaborative activity is between orthotists and podiatrists (sometimes including physiotherapists) in the assessment and provision of foot orthoses and footwear.

4.2.8 Funding of Orthotic Services in Scotland

It has proved extremely difficult to establish with any degree of certainty exactly how much is being spent on orthotic services annually within Scotland. In addition the differing methods of organisation and service delivery make direct comparison virtually impossible. Information regarding the budgets and expenditure of the NHS in-house services has in general been readily available and is considered to be accurate.

In contrast however, obtaining information regarding expenditure on commercial contractor services has proved very difficult. Differences exist between the levels of expenditure reported by the services and the figures reported by the contractors to Scottish Healthcare Supplies (SHS).

Most contractors report a lower spend to SHS than the individual hospitals record against the service. Recent work has shown that a large part of this difference was that the contractor was not obliged to report non-scheduled items and this averages out at 35% of the activity and in some hospitals more than 50%.

Other factors may include hospital finance departments charging other costs to their orthotic budgets (*e.g.* walking aids, nursing aids). Taking these anomalies into account it is possible to estimate that the total national expenditure on orthotic services is of the order of £10 million annually.

When the expenditure per head of the population of each of the NHS Boards is calculated it reveals a considerable range of expenditure from £1.04 to £3.23 per head of population per annum. As expected there is a clear link between expenditure and activity levels. For example, NHS Tayside, which has one of the highest expenditure levels (£2.40 per head), also has the highest activity levels (48 items per 1000 population) whereas NHS Grampian, which has the second lowest expenditure level (£1.15 per head), also has the lowest activity level (9 items per 1000 population).

4.3 PATIENT NUMBERS AND GROUPS RECEIVING ORTHOTIC SERVICES

Unfortunately data on the numbers of patients receiving orthotic treatment (obtained through the site survey) are incomplete since most services are unable to distinguish between numbers of patients attending the service for the delivery of a new orthosis and the total number of patient appointments for assessment, measuring, fitting and review.

If, however, the data for the seven NHS Boards (population 1.66 m.) who were able to accurately report courses of orthotic treatment are analysed, it presents a picture of approximately 18 patients per 1000 population being treated annually. However, this rate will include some people who receive separate courses of treatment on more than one occasion each year.

The reported patterns in patient activity are, however, variable. Of the 13 NHS Boards who provided data (either of patients treated or patient appointments) for the period requested, the majority report relatively consistent levels of activity with three reporting a significant rise, and in one area a reduction in activity. This picture almost certainly represents a service at saturation and does not reflect the continuing rise in unmet need.

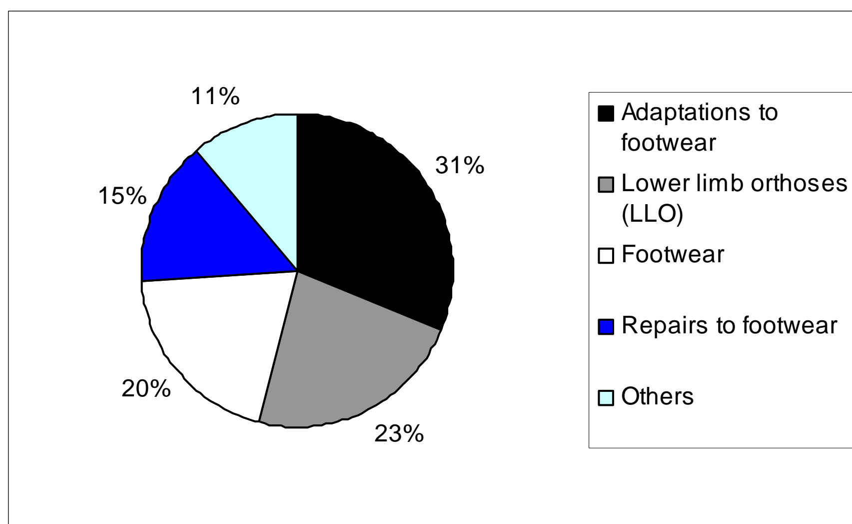
The site survey questionnaire also tried to identify which patient groups were using the service. The interpretation of this question by the respondents was highly variable. Some elected only to identify major user groups whilst others chose to identify all groups, irrespective of relative volume.

All respondents report providing routine orthotic services to patients in the specialties of orthopaedics, paediatrics, rheumatology and care of the elderly. The majority of NHS Boards also report providing a service to a range of other specialties; however, only a relatively small number of the larger NHS Boards appear to be routinely serving the orthotic needs of vascular surgery, neurology and burns unit/plastic surgery patients. These apparent omissions are often explained by the existence of service agreements between the smaller NHS Boards and their larger neighbours for the delivery of services to these more specialist patient groups.

4.4 ORTHOSES SUPPLIED BY ORTHOTISTS

Only 16 services of the 37 who responded to the site survey reported the range and numbers of devices being provided; the remaining services were unable to retrieve these data, a surprising finding in itself and indicative of the problems encountered in trying to scope the service.

The pie chart below shows the total activity reported by respondents. The figures for 'others' includes upper limb orthoses, fabric supports, compression hosiery, spinal orthoses, breast prostheses and wigs.



There are however significant variations in both the reported total volumes of items delivered, in relation to population, and the breakdown, by type of orthosis, in each service. This suggests that the figures above should be treated with some caution. For example, when the relative volumes of items delivered in the seven NHS Boards referred to above (Section 4.3) are calculated it reveals a range of from 8.9 items per 1000 population (NHS Grampian) to 43 items per 1000 population (NHS Tayside) which is a six-fold variation.

If the total number of devices provided by the same seven NHS Boards is representative of the activity in Scotland, it suggests that the orthotic service delivers approximately 127,000 devices annually. This figure is important to remember when considering the scale of orthotic supply activity of the other healthcare professions reported below.

4.5 ORTHOSES SUPPLIED BY ALLIED HEALTH PROFESSIONALS (AHPs)

In order to assess the contribution to orthotic service provision by the three key AHP rehabilitation services, special surveys of Scottish departments were conducted for the Review Group.

Podiatry Services: Twenty-five podiatry departments reported responsibility for a total of 15,500 prescriptions for foot orthoses during 2002 across Scotland. It was further reported that 44% of these departments were also involved in the assessment/provision of footwear.

Physiotherapy Departments: Of the 77 departments who responded to the survey, 14 were responsible for the management of the orthotic service and in seven cases actually exercised budgetary responsibility. Forty-nine departments reported that they directly supplied orthoses to patients (including cervical, wrist-hand, foot, ankle-foot, knee and lumbosacral orthoses). However, detailed information on the volumes of these was not available.

Occupational Therapy Departments: Fifty-four departments reported that 90 therapists were responsible for the delivery of 5,649 orthoses (3,196 of which were custom-made) to 4,439 patients (4,423 of whom had upper limb impairments).

4.6 ORTHOTICS WORKFORCE

4.6.1 Orthotists

The eight NHS in-house services employ a total of 33 WTE orthotists and 27.7 WTE orthotic technicians. In addition, the nine commercial orthotic companies in Scotland employ a total of 19 WTE orthotists dedicated to serving Scottish patients, who occupy the services of approximately three times that number of technicians at their manufacturing bases.

The relative levels of staffing of the in-house services are difficult to interpret because of the differing service demands, activity levels and the varying degree to which they each make use of commercial services. However, in the two services with roughly comparable patterns of activity (NHS Highland and Tayside) staffing levels represent one orthotist per 70,000 and 52,000 population respectively.

When the total number of WTE orthotists (52) delivering the orthotic service in Scotland is considered it represents approximately one orthotist per 100,000 population.

4.6.2 Clerical/Appliance Officers

All services, with the exception of the Island NHS Boards and the three primary care based services, employ Administrative and Clerical or Appliance Officers (the commonly used historical title in many orthotic departments). These staff administer the service and, where it is commercially provided, write orders, pass invoices, deal with contract issues as well as book clinics and transport for patients. In NHS services they may administer limited contract work, *e.g.* bespoke footwear, and process orders/invoices for supplies as well as arranging patient clinics/transport.

Manpower levels for these staff groups range from one member of staff per 71,000 population to one per 366,000 population.

4.6.3 Medical, Nursing and Other AHP Staff

Only three services (all of them NHS in-house) report having dedicated medical support for their services. Three (again, all NHS in-house) receive routine nursing support; however no service reported receiving routine therapy support.

Clearly a significant amount of AHP staff time is expended (particularly within the primary care based services) in the management and delivery of these services, although this is seldom acknowledged within departmental budgets.

5. ISSUES WITHIN SCOTTISH ORTHOTIC SERVICES

Based on the information obtained from the site survey (and other papers submitted to the Review Group) and the knowledge and experience of the Group members, a number of service issues were identified as requiring specific consideration.

5.1 SERVICE MANAGEMENT

5.1.1 Organisation of Orthotic Services

Orthotic services in Scotland are currently highly fragmented and uncoordinated, with many different systems for organisation and management. Some of these may function satisfactorily when viewed in the context of an individual service unit, but are less than satisfactory when strategic planning across NHS Board areas is required.

Many factors need to be considered when proposing an optimal organisational model for such small services as orthotics. There are some key factors which will determine how a service should be provided locally, regionally and nationally:

- the ability to provide equitable and accessible service provision for the whole population
- the geography of an area served as well as the size and demography of population served
- the need to maintain a focus on clinical governance issues
- the need to maintain a critical mass of activity, funding, staff and expertise
- the imperative to obtain best value
- the need to adopt a strategic view of service provision within an NHS Board, and to consider its relationship with neighbouring NHS Boards and in a Scottish context

An analysis of the existing models of service delivery very quickly leads to the conclusion that:

(a) Departmental and hospital delivery systems are only capable of meeting their own discrete needs.

(b) The Operating Division-wide model, whilst likely to fulfil most of the key factors, is unlikely to deliver an equitable service to all of the population and is unlikely to take account of NHSScotland strategy.

(c) The model which is most likely to fulfil all of the key factors is the area or regional model. This conclusion is reinforced by the fact that the orthotic service in Scotland is delivered by just 52 qualified orthotists at over 100 sites. The best use of this small specialist workforce can only be achieved through collaborative strategic planning.

In areas of Scotland where small populations and large geographical areas are involved, the hub and spoke model (as operated by the NHS Services in Tayside, Highland and Grampian) appears the most effective platform for service provision. Characteristics of this include a central unit which coordinates and effects the delivery of the service either using its own output or through contractors, or a combination of both.

Consideration must also be given to the individuals tasked with delivering the service *i.e.* the Service Managers. With only a few exceptions across Scotland, most services have more than one manager. The mixed method of service delivery relying on NHS services, commercial services and combinations of these has probably been an influential factor in creating the current situation where so many professionals with a background other than orthotics are responsible for managing elements of these services.

When the relatively small staffing levels and the specialist nature of the service are considered, it would appear likely that management at a strategic level, possibly in combination with day-to-day service delivery, would be best carried out by an individual qualified in orthotics.

More efficient use of the limited number of staff, improvements in equity and improvements in national coordination of the service could be achieved if each NHS Board managed and delivered its orthotic service through a single service structure and also, in some cases, by collaboration with other NHS Boards.

5.1.2 Managing Local Services

There is an immediate need to identify one individual in each NHS Board area to combine day-to-day "whole system" service management with a more strategic view of future service provision.

The review has established that senior management support is perceived as less than satisfactory in a large number of services. Policy and strategy cannot be developed in isolation. Previous experience has shown that good strategic planning from within the orthotic service has been unsuccessful, not because it was flawed, but because of conflict with other healthcare priorities.

An approach combining good strategic planning from within the orthotic service *with* external support from senior management will be necessary to achieve any sustained service development. Equally, given the range and scope of the services involved, there should be the opportunity for the various elements of the local services to come together to focus on service development and capacity planning issues within individual NHS Boards.

5.1.3 Regional/National Focus

As indicated above, if the current fragmentation and variation in the orthotic services locally and regionally is to be addressed, there will be a need for a short-term national focus on how service arrangements are developing across Scotland. The national strategic approach has been used in the recent past in audiology, dermatology and the Blood Transfusion Service with considerable success.

5.2 PATIENT ISSUES

5.2.1 Waiting Times

The waiting times for an initial clinic appointment and the manufacture, fitting and delivery of orthoses are clearly important. Questions relating to waiting times were included in the site survey questionnaire but most respondents were only able to provide crude estimates of either average waiting times or waiting time bands.

Reported average waiting times for first appointments for each service range from 1 to 25 weeks with the majority (68%) within four weeks. Similarly, waiting times for the delivery of the prescribed item range from 2 to 7 weeks with the majority (61%) within four weeks. These figures are skewed upwards by the longer waiting times for bespoke footwear.

Speeding up access to orthotic care can have a dramatic impact on individuals, particularly elderly patients, in keeping them mobile and independent. Equally, timely intervention in paediatric cases can avoid gait and postural problems in later life.

5.2.2 Clinic Accommodation

The standard of clinical accommodation for the assessment and fitting of orthoses currently afforded to patients and staff varies from good to unacceptable, with many examples of the latter being given in the site survey.

5.2.3 Services for Children

Some orthotic services in Scotland try to make appropriate clinical settings available when assessing children. Wherever possible child friendly environments should be utilised for the assessment and treatment of young people. Concerns have also been expressed relating to the transition from children to adult services and more generally from one service to another and across the healthcare/social services boundary. Particular attention therefore needs to be paid to ensuring the provision of appropriate settings for the care of children, and a professional standard of communication with all the other relevant agencies involved in the care of children and their transition to adulthood.

5.2.4 User Feedback/Service Quality Monitoring

Five respondents to the site survey questionnaire reported formal effort to obtain user feedback regarding their satisfaction with the service. Only one service reported audit procedures, which were being adopted by podiatrists, to assess the suitability of prescribed and supplied orthoses.

Users of orthotic services should have the opportunity of participating in the planning of services they require and commenting on the quality of service which they receive, including factors such as waiting times, clinic environment, transport systems, communication systems, and attitudes of staff.

5.3 ORTHOTIC SERVICES WORKFORCE

5.3.1 Orthotists

Several independent studies have forecast a shortage of trained orthotists. There are 33 WTE NHS employed orthotists and 19 WTE commercial orthotists working in Scotland giving a total of 52 for a population of just over 5 million, a ratio of approximately one per 100,000 population. Recent work by BAPO (the British Association of Prosthetists and Orthotists) concluded that there should be 1,800 orthotists for the entire UK population which suggests that a more realistic ratio may actually be one per 30,555 population. On that basis the projected workforce for Scotland alone would be 167. Due to the complexity of determining staffing levels we believe that the National Workforce Unit, the Scottish Executive AHP Officer and the NCTEPO should work together to develop workforce planning for orthotists to accurately inform the staffing needs of the Scottish services for the future.

The key issue here is the extent to which the delivery of an effective and clinically appropriate orthotic service relies on the availability of an increased number of professional orthotists and/or an expansion of services provided by appropriately trained professionals in other AHP disciplines.

Under the *Agenda for Change* process and the *Knowledge and Skills Framework*, all staff should have had a robust job evaluation based on the knowledge and skills required for their post.

5.3.2 Clerical/Appliance Officers

Clerical or Appliance Officers are vital members of the orthotic service team; however in many instances they are operating with inadequate managerial and clinical supervision. They cannot and should not be expected to contribute to the clinical provision of the service.

All previously published reviews and the site survey are in agreement regarding the need for reconsideration of the role of clerical officers and the realistic staffing needs of the service if better information about the impact of the service is to be made available. Inadequate staffing of many departments contributes to delays in the processing of orders.

5.3.3 Orthotic Technicians

From the site survey it has become clear that the absence of a recognised training programme and career structure for technicians, allied with forecasts of a genuine shortage of trained technicians, is causing orthotic service managers some concern. The lack of technicians in the NHS service means that some NHS orthotists have to undertake activities that are more appropriately carried out by technicians.

In order to retain and develop technical knowledge it is imperative that a structured training programme for technicians be made available.

5.3.4 Multidisciplinary Working

Orthotic services often lie at the heart of complex multiprofessional care of patients. It is of great importance that orthotists are both able to support their professional colleagues in clinical practice and receive appropriate professional support themselves in the course of their work. Having a clear line of medical and nursing responsibility in relation to individual patients is highly valued by the profession. Similarly, working closely with AHPs who may be pursuing functional goals for their patients can be of particular benefit to patients.

5.4 SERVICE DELIVERY

5.4.1 Referral for Orthotic Care

In some instances the supply of an orthosis may be an isolated intervention which does not impact on any other concurrent treatments. For these cases direct referral to the orthotic services for assessment and (if appropriate) the supply of an orthosis would appear to be the most efficient procedure and should expedite treatment.

More commonly, orthotic interventions form part of a more complex treatment plan. For these cases the orthotic referral pathway must be designed to allow consultation with the other members of the treatment team. This will facilitate the full integration of the orthotic contribution to overall treatment.

The creation of a multidisciplinary Managed Clinical Network for the orthotic service embodying both of these options for the referral of patients is likely to ensure the most efficient and the highest possible quality of service.

The process of accessing orthotic care for patients should be as simple as possible. Because of the complex patient pathways that lead to orthotic care, the process of referral needs to be as transparent as possible.

5.4.2 Managing Demand

Despite the advances in the prevention and treatment of disease the numbers of patients being referred for orthotic treatment does not appear to have declined in recent years.

The main reasons given for this continuing workload include the impact of diabetes, changes in medical/surgical practice, the increase in the numbers of elderly people in the population and the increased expectations of the public in relation to rehabilitation services.

All NHS service units report varying levels of under-resourcing relating to staffing, facilities and equipment. There is general concern that as a consequence clinical standards could be compromised in future if scarce resources are spread too thinly. In order to avoid this, efforts have been made to offer guidelines and an example of good practice is presented in the SCOTReT Orthotic Service Group "*Guidance on Time to be Allocated for Orthotic Patient Clinic Activity*".

The commercial sector fares little better. Previous rounds of cost cutting, deemed necessary to secure or maintain contracts, have served to constrain profit margins to the extent that delivering a service is now close to being financially non-viable.

Published NHS guidelines for the provision of orthoses are often not adhered to, which results in many people who are not eligible being supplied with orthoses. The various guidelines drafted by the SCOTReT Orthotic Service Group are intended to create equity of service wherever patients may reside.

Over recent years the principal means of managing demand appears to have been simply to constrain supply and/or reduce the service being provided. For example, there is evidence that the numbers and/or types of orthoses supplied have been curtailed. Similarly, routine or ongoing patient reviews are either limited to specific groups or have ceased totally. The discrepancy between the numbers of patients requiring orthotic treatment and the numbers of skilled orthotists available to serve them is a matter of concern for both parties. This situation has occasionally resulted in other professional groups or individuals becoming involved in orthotic provision. This development has been born out of necessity, but there is concern regarding the training and qualification of these individuals and groups, and the appropriateness, efficiency and effectiveness of any orthotic treatment provided, whilst acknowledging the very valuable contribution that they make to the care of their patients.

In general, the orthotic needs of patients can most effectively and efficiently be provided by orthotists who assess, diagnose, prescribe, manufacture, fit and appropriately review the full range of orthoses. The diagnostic function of the orthotist's role is related to the patient's biomechanical disfunction and lies within their competencies and scope of practice. This is not the same as differential medical diagnosis, which is the role of the medical practitioner. In the absence of significantly increased numbers of orthotists, the most practical means of managing orthotic provision is to have a coordinated regional service which will be able to provide expert control over service quality, efficiency and cost**.**

5.4.3 In-house and Contractor Services

Historically the ratio of NHS to commercially provided services has been higher in Scotland than elsewhere in the UK. In-house services have the very great advantage of being on-site. Whilst all in-house services are currently NHS staffed there is no barrier to them being operated by a commercial company. However, this observation does not take account of financial considerations.

Whilst it is difficult to argue against the full in-house service (with all factors being equal *e.g.* the competence and experience of clinical and technical staff) as being the best model of orthotic provision there are certainly other models that can deliver the same quality of service.

These include the full commercial service (*i.e.* orthotist and technician employed by a commercial company, with all manufacture at a remote site) and a number of partial in-house/partial commercial models. The most important issue is that patients are entitled to receive the same quality of treatment irrespective of the provider.

Of the five NHS Boards who deliver in–house services, four operate a single manufacturing site, the exception being NHS Tayside which, at the time of writing, operated from three manufacturing sites. The location of the manufacturing sites for the commercial companies is also important. Where this is in close proximity to the clinical site many alterations and repairs can be provided quite quickly. In some cases patients have the option of taking their orthoses to the manufacturing site where a 'waiting repair' can be carried out. When the manufacturing site is within reasonable travelling distance the commercial orthotist will have the opportunity to spend some time on-site and thus improve clinician/technician understanding. The orthotist will also have the opportunity to involve him/herself in manufacture when appropriate.

The advantages of on-site or local manufacturing, whether by an in-house service or a commercial contractor, are generally acknowledged but may have resource implications.

5.4.4 Bespoke Footwear Supply

Orthotists are not trained or qualified to perform the role of a bespoke shoemaker in that the shoemaker modifies the last on which the shoe is constructed. Footwear fitters operating within the NHS in Scotland are required to hold a Certificate in Orthopaedic Footwear Fitting acceptable to the National Centre for Training and Education in Prosthetics and Orthotics. The holder is also limited to measuring and fitting orthopaedic footwear as well as adaptations to patient's own footwear.

Historically, most patients who were supplied with bespoke footwear suffered from rheumatoid arthritis and other orthopaedic foot problems. Improvements in the treatment of foot deformity have significantly increased the numbers of these patients who can now be fitted with stock footwear.

At present there are only three companies making bespoke footwear in Scotland, and unless action is taken they will probably cease to exist within 20 years.

There is also agreement amongst contractors that there is a need to review the terms of their contracts, in particular to consider the issue of a reasonable allowance to support reviews of patients' needs.

Both the escalating incidence of diabetes and the ageing population are placing increased demands on this aspect of orthotic provision which will inevitably consume a growing share of available resources. It is most likely that in the future the footwear measuring and fitting roles will increasingly be undertaken by orthotists.

Fortunately, the steady improvement in the quality and range of stock footwear means that it is now possible to fit an increased number of patients with less expensive, well made and functional stock footwear as an alternative to bespoke footwear.

5.5 CLINICAL GOVERNANCE, CLINICAL RECORDS, AUDIT AND OUTCOME MEASUREMENT

5.5.1 Clinical Record Keeping

All of the services that responded to the site questionnaire stated that they keep individual records of each patient's orthotic treatment. Most record systems in the field of orthotics are manual paper-based systems. Ten services out of the 37 that were identified (principally but not exclusively NHS in-house services) have computerised record systems of a variety of designs - both commercially produced and locally developed. These systems permit the maintenance of both detailed and readily accessible clinical records covering all relevant aspects of a patient's orthotic treatment.

A major drive to improve clinical record keeping and service information across the rehabilitation technology specialties was initiated by ReTSAG in 2001 when, with funding from the NHS Boards in Scotland, a national rehabilitation database system, the Rehabilitation Technology Information Service (ReTIS), was developed.

ReTIS has conducted a pilot study involving ten selected orthotic services which was reported in October 2002. The study entailed the analysis of the data recorded on 743 orthotic supply records and reported that only 76% of diagnostic codes, 73% of prescription codes, and 57% of clinical notes were complete and accurate and that only 14% of patients were reviewed.

5.5.2 Outcome Measurement

In terms of evaluating the impact of orthotic intervention on individual patients several types of outcome measures are available to staff:

- **Process Measurement** - this information is routinely recorded by many services in Scotland *e.g.* length of time to reach 'milestones' such as number of days to first assessment, fitting/measurement, delivery, *etc*.

- **Functional Outcome Measurement** - change in functional status as a result of orthotic fitting *e.g.* greater mobility, *etc*.

- **Quality of Life/Mental Health Outcome Measurement** - although more difficult to measure reliably this is seen as an increasingly important element of demonstrating clinically effective practice.

Whilst measures of ***process*** can be noted by the orthotic service alone, measures of ***function*** and ***quality of life*** will require a multidisciplinary effort to achieve proper analysis. Currently there is little or no assessment of these aspects within the Scottish orthotic services.

5.5.3 Audit and Research of Efficacy

Despite the clinical view of the importance of orthotic intervention in patient management, there is very little scientific evidence of the efficacy of orthotic treatment upon which to develop prescription criteria or to justify the use of orthotic resources. Most of the published studies offer relatively low levels of evidence. Nonetheless there is clearly a growing interest in research in this field and the quality of the research is steadily improving. Indeed, there was a recent announcement that prosthetics and orthotics is to be provided with dedicated support through NHS QIS to develop its own Clinical Effectiveness Network, and the intention to join the current AHP Scottish Clinical Effectiveness Forum is particularly welcome.

The implementation of computerised orthotic patient record systems would permit the collection of data relating to individual patients, and their treatment, in a standardised format. These data, in turn, would allow clinic audit and benchmarking of aspects of the service as required by NHS QIS.

5.5.4 Service Standards

Many of the survey respondents identified a need for service standards/guidance. All commercial contractors and some in-house services have developed Quality Management Systems which meet ISO 9000 requirements. BAPO through its Code of Practice and SCOTReT with a range of Guidelines, have addressed a number of aspects. However, no comprehensive, generally accepted set of standards for an orthotic service exists.

5.5.5 Assessment and Review

As previously noted, only a handful of services in Scotland operate a routine approach to the review of patients and their orthoses on a routine basis.

Appropriate review of orthotic treatment is essential, as described in HDL 2001 (16) "*Guidelines for Orthotic Patient Review*". It is necessary to monitor the quality and effect of current orthotic intervention to ensure good fit and function and thereby to reduce the risk of potential injury and non-compliance. Review is a fundamental requirement of audit, which in turn allows the development of evidence-based practice. An effective review programme will also address concerns regarding continuity of care.

6. CONCLUSION

In carrying out the review one of the most striking findings was the difficulty in obtaining data to accurately describe the Scottish orthotic service. This difficulty, in common with many other factors in this process, was not consistent throughout Scotland. In some areas, identifying the individuals responsible for the service was almost impossible while in others it was a simple task.

Furthermore, not only was this data lacking, but the quality was also often thought to be questionable. While some of this can be attributed to the minimal number of IT systems used in orthotic services, it is felt that the inability to describe the service and measure its parameters was, in large part, due to a lack of understanding of the orthotic service by the respondents. Indeed, it may well be that the survey was the first occasion that any measure of the service had been undertaken in some organisations, and that there has been no significant development of the service for many years.

The Allied Health Professions Strategy *"Future Directions"* was published by the Scottish Executive in 2002 to provide a strategic framework within which AHPs in Scotland could move forward with local planning and delivery of services. It is envisaged that this report will provide a major contribution to the implementation of the Strategy by orthotists in terms of their contribution to a number of key areas including Health Improvement, Service Redesign, new models of care, career pathways and continuing professional development.

This report has made best use of those data which were obtainable to describe and analyse the Scottish orthotic services. This has given rise to a number of key recommendations. It would be fair to assume that the implementation of any of these recommendations would improve services in most hospitals. However, the current state of the service as a whole warrants more than localised improvements. The orthotic service and its patients, due to the limited number of orthotists working within it and the pressures on NHSScotland as a whole, require support from the Scottish Executive Health Department (SEHD) and the NHS Boards to implement these recommendations and, in particular, to place new emphasis on strategic planning and management of the orthotic services. If any one recommendation were to be highlighted as having the potential to make the most improvement to the orthotic service, then it would be the implementation of **Recommendation 1 on service structure and management**. What is quite clear is that the current perilous state of affairs cannot be allowed to continue.

7. RECOMMENDATIONS

The recommendations of the Scottish Orthotic Services Review Group fall under five main headings: **Service Management, Patient Issues, Workforce, Service Delivery** and **Clinical Governance**.

SERVICE MANAGEMENT

Recommendation 1

Each NHS Board should have a single service structure for the organisation and delivery of orthotic services. The service should be led by a dedicated Service Manager who will be responsible for the management and development of orthotic and associated staff including technical and administrative staff. The Service Manager should address the following issues:

- **patient experience**
- **planning and coordination of local orthotic services, including linking with other professions and specialities**
- **management of demand and resources**
- **clinical leadership**
- **clinical governance**

In most areas of Scotland, orthotic services suffer from a lack of coordination within NHS Board areas. There are typically several elements, including AHP departments, involved in the delivery of front line orthotic services.

The site visits together with surveys of the professional groups involved all pointed to the need to have a visible professional and service lead for their local orthotic services, though the extent of direct management of staff delivering orthotic care would be a matter for local consideration.

The role of the Orthotic Service Manager within an NHS Board would be to provide a focus for local provision as well as directly managing/commissioning services for the local population.

The Service Manager would also give attention to issues such as the patient experience of local services (waiting times, information, access issues, satisfaction, *etc.*), developing the roles of others within the system, ensuring fair and equitable distribution of resources in response to day to day demand, and providing leadership and direction to the local services. Ideally, therefore, the Service Manager would be a professional orthotist but, given the small pool of available staff, this may not always be feasible.

As part of this modernisation of NHS orthotic services, further consideration needs to be given to the job titles of staff working in the system. Some traditional job titles are confusing for patients and clinicians. The distinction between *administrative and clerical* and *clinical* roles need to be more clearly communicated through job titles.

Recommendation 2

Regional Planning Groups should examine the potential for collaboration between orthotic services on a regional basis across NHS Boards to ensure that limited resource is used in the most effective manner.

In a service with an extremely small core workforce and the active participation of the private sector in local provision, it is important that issues of scale are considered. In some areas an increased volume of workload can result in significantly lower unit costs. In addition to the economic benefits, there are important staffing and service sustainability issues that may well be greatly assisted by a change in scale. A prime example of these sorts of benefits can be seen in the relationship between the Island NHS Boards and the orthotic services provided by NHS Highland and NHS Tayside.

This would permit greater specialisation amongst orthotic staff (if this was considered desirable) and may address local concerns about future service viability and current funding anomalies dictated by scale.

Recommendation 3

Each NHS Board should establish a Local Stakeholder Group with a defined typical membership and responsibilities. The purpose of this group would be to support the review and redesign of the orthotic service, including adoption of the most appropriate patient pathways and referral systems.

Implementing the recommendations of this review locally will require the establishment of a short-term Stakeholders Group in each NHS Board area. In the first instance this should take stock of the current service elements. If a Service Manager has been identified at this point then it will be one of his/her roles to initiate this development. If no clear lead has been identified, a senior planning manager should take the lead in assembling the local service representatives.

The membership of this group should include orthotists (both directly employed and contracted, where appropriate), other healthcare professionals involved in local service delivery, Commissioner for Rehabilitation Services, service user representation, representatives from adjoining NHS Board areas (if appropriate) and a representative from the NHS Board Finance Department.

PATIENT ISSUES

Recommendation 4

Each NHS Board should review the quality of orthotic services provided for children and young people. This should include the development of an integrated approach to service provision in partnership with other health and social care services that addresses the process of transition to adulthood.

It seems vitally important that the orthotic treatment of children is integrated with other healthcare and educational provision. The evidence received by the Review Group in relation to the paediatric pathways through the orthotic services suggested considerable fragmentation, no obvious co-ordination and poor communication between the various elements of children's services in relation to the provision of orthotic care. This poor communication was a particular feature in relation to the care of older children about to make the transition to adult services.

Recommendation 5

NHS Boards should empower patients to participate in the planning and monitoring of orthotic services.

Very little is known about how users view the orthotic services. There appear to have been few attempts to ascertain overall patient satisfaction with devices, or in relation to the services provided locally. Modern NHS services need to have good information on patient perceptions of their services if continuous improvement in service provision is to be achieved. Service Managers should introduce patient feedback opportunities, where appropriate, in the local services.

Equally, having patient representatives on planning and service review groups can provide invaluable insight into what patients consider important in service delivery.

WORKFORCE

Recommendation 6

The Scottish Executive Health Department, the National Centre for Training and Education in Prosthetics and Orthotics and NHS Education for Scotland should work in partnership, involving the British Association of Prosthetists and Orthotists where appropriate, to consider training and development pathways and opportunities for practitioners, support workers and administrative staff in the context of role development and service redesign.

A recurring theme throughout the review was the scarcity of further professional development for all levels of staff involved in the delivery of orthotic services. Given NHSScotland's commitment to continuing professional development there is an urgent need to provide suitable further training and other professional development opportunities for staff in the rehabilitation services in general and in relation to orthotic care in particular. We need to develop the next generation of professional leads for the orthotic services and therefore short courses, professional meetings and personal development opportunities need to be provided by the relevant bodies. The value of continuing professional development also needs to be recognised in the workplace in relation to job plans.

Recommendation 7

The National Workforce Unit, the Scottish Executive Allied Health Professional Officer and the National Centre for Training and Education in Prosthetics and Orthotics should work together, involving the British Association of Prosthetists and Orthotists where appropriate, to develop workforce planning objectives for orthotists in the context of national planning emerging for Allied Health Professions.

Given the very small core staffing involved in delivering the Scottish orthotic services it is vitally important that a proactive approach is adopted to ensure service sustainability. As indicated elsewhere, there may be great benefits, in terms of economies of scale, flowing from regional arrangements for service development and provision. However, the basic fact remains that the core workforce needs to be planned and expanded if the service is to be delivered effectively.

Recommendation 8

The National Centre for Training and Education in Prosthetics and Orthotics should, in partnership with NHSScotland, ensure that in reviewing the undergraduate programme, mechanisms are in place to take account of changing priorities and practice development.

The role of the National Centre for Training and Education in Prosthetics and Orthotics in the training of rehabilitation specialists is, at the time of writing, in the process of being reviewed. It is important for the (NCTEPO) review to be clear about the future role of the rehabilitation services and the future needs of patients for specialist rehabilitation.

Recommendation 9

Orthotic Service Managers should ensure that systems for the induction, mentoring and appraisal of new graduates are in place which, as a minimum, meet the standards set out in the Scottish Rehabilitation Technology Providers Forum (SCOTReT) Orthotic Service Group *"Guidance on New Graduate Training Programme"*.

The start of any professional career is an important time. Real consideration needs to be given to the needs of newly-qualified orthotic staff to ensure they develop a broad appreciation at first hand of the multidisciplinary nature of rehabilitation services and that they are put in contact with other professionals who are closely related to the orthotic services. Each local service should develop appropriate induction and mentoring systems that will form part of the development of new graduates when they commence their work within NHSScotland.

SERVICE DELIVERY

Recommendation 10

Service Managers/Clinical Leaders should ensure that orthotists are enabled to participate in multi-professional service planning and delivery of orthotic treatment.

It is clear from the evidence assembled by the Review Group from site visits, questionnaires and consultation with professional groups that orthotic services are not viewed by the staff involved as discrete but rather as integral to the services of the multidisciplinary rehabilitation team. Multidisciplinary clinics provide valuable opportunities for cooperation between orthotists and other clinicians. However, the involvement of orthotists in such multidisciplinary team working varies considerably across Scotland. This lack of involvement in the overall management of patient rehabilitation is frustrating for staff and relegates them to the role of manufacturers. In addition, with a few exceptions, medical and nursing support for, and involvement in, orthotic services is inadequate.

Senior management needs to address this issue within their local services in order to broaden the professional development of orthotic staff and to allow other team members to benefit from the knowledge and skills of the orthotist.

Recommendation 11

The Scottish Executive Health Department should facilitate information sharing between NHS Board areas and development of best practice to drive the implementation of recommendations, and to provide a national overview.

Whilst regional collaboration may well result in more sustainable services, we believe that, in addition, a national focus for the development of orthotic services would greatly facilitate the process. In the first instance we recommend that a national website and message board be established to disseminate ideas, approaches and methods of implementing the review around Scotland.

CLINICAL GOVERNANCE

Recommendation 12

In the interests of providing effective treatment, NHS Boards should ensure that:

a) clinical governance and risk management systems take account of the facilities, equipment and procedures used in orthotic services to ensure they are fit for purpose, and

b) practitioners involved in the provision of orthoses can demonstrate competency in their field of practice.

Although some standards exist for orthotic care through the Health Professions Council (HPC), and BAPO have produced a very helpful series of *Guidelines on Best* Practice, there is scope for further development. Therefore, to support this recommendation, a set of service standards and guidance should be developed by SCOTReT as listed at Appendix B. Guidance on the timing of orthotic patient review has already been issued as HDL (2001) 16, but it was apparent to the Review Group that it would be beneficial if NHS Boards developed a rolling plan for the implementation of this guidance.

In the course of the review a consistent picture has emerged that there are many instances of inadequate clinical settings being provided for face-to-face patient care. There are basic health and safety issues in relation to clinic staffing and fabric. There is also a clinical governance issue of orthoses being prescribed and sometimes manufactured by non-orthotists who may not have had the necessary training.

Recommendation 13

The Rehabilitation Technology Services Advisory Group (ReTSAG) should seek to identify further funding to facilitate faster implementation of the Rehabilitation Technology Information Service (ReTIS) software within the orthotic services. This should be linked to the e-Health programme which is currently developing national clinical datasets.

The most significant stumbling block to the current review was undoubtedly the lack of reliable, consistent and comparable information about the Scottish orthotic services and their users. The absence of such information makes any sensible strategic planning almost impossible. The ReTIS initiative, sponsored by ReTSAG, provides a tried and tested suite of software programs which, if implemented across Scottish NHS Board areas, would immediately result in the adoption of common data definitions and standards of reporting orthotic activity as well as a patient-level database.

All Orthotic Service Managers should consider this software for their local services.

Recommendation 14

NHS Boards and Orthotic Service Managers should ensure that clinical governance and staff governance standards are integral to the performance management of their service and cover continuing professional development and clinical effectiveness.

The above-mentioned standards should recognise the need identified in the *"Allied Health Professionals Research and Development Action Plan"* to increase the research capacity and capability of Allied Health Professionals, taking account of the role of the Research and Clinical Effectiveness Forums in providing focus and direction to support research and development for Allied Health Professionals. In addition to traditional research and development activities, particular emphasis should be placed on the acquisition of reliable information on the success of orthoses in terms of delivering the expected benefits for individual patients, and that a culture of continuous evaluation is nurtured within the orthotic services and the wider rehabilitation programme in NHS Board areas.

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STANDARDS AND GUIDANCE TO BE DEVELOPED BY SCOTRET

The Review Group considers that it would be appropriate and beneficial for SCOTReT to develop standards and guidance as indicated below.

STANDARDS

- **Environment and Safety**
    - Appropriate clinical and technical equipment
    - Sufficient clinic space to observe the patient's gait
    - Facilities to take casts
    - Health & safety, including infection control, hygiene and patient assistance
    - Privacy and dignity
- **Appropriate provision of domiciliary and outreach services**
- **Forms of orthotic treatment that should only be delivered at specialist orthotic clinics**
- **Appropriate waiting times from referral to first appointment and from prescription or appropriate measurement to delivery of orthotic treatment**

GUIDANCE

- Priority areas of research likely to be of benefit to Scottish orthotic services
- Quality of life measures that are appropriate when conducting operational research into orthotic intervention
- Standard terminology that should be used in all service documentation
- Validated outcome tools that are appropriate when evaluating orthotic interventions

LIST OF ABBREVIATIONS

AHP	Allied Health Professional
BAPO	British Association of Prosthetists and Orthotists
HDL	Health Department Letter
HPC	Health Professions Council
NCTEPO	National Centre for Training and Education in Prosthetics and Orthotics
NES	NHS Education for Scotland
NHS QIS	NHS Quality Improvement Scotland
ReTIS	Rehabilitation Technology Information Service
ReTSAG	Rehabilitation Technology Services Advisory Group
SCOTReT	Scottish Rehabilitation Technology Providers Forum
SEHD	Scottish Executive Health Department
SHS	Scottish Healthcare Supplies
WTE	Whole time equivalent

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