# A DELPHI STUDY TO IDENTIFY RESEARCH PRIORITIES FOR THE THERAPY PROFESSIONS IN NORTHERN IRELAND

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In her role as Lead Officer for AHPs in the DHSSPS, Patricia endorsed this research programme and provided a letter of support to be sent to Trust AHP managers to champion staff participation in this study. Patricia took every opportunity to encourage and develop research activity within the AHP family, and in her role as Chair of the steering committee she was keen to see this research study completed successfully.

Many of the priorities identified in this study resonate with Patricia's goals of encouraging the ongoing development of the role of AHPs in the delivery of modern and evidence based health and social care services. Patricia's input to this research project will always be highly valued and special.

Patricia's death was a huge loss to the AHP community in Northern Ireland and she is sadly missed by her former colleagues.

# Chapter 1: Introduction and Review of Policy Documents

## 1.1 General Introduction to the Study

In Northern Ireland (NI) the therapy professions include Chiropody/Podiatry, Dietetics, Occupational Therapy, Orthoptics, Physiotherapy and Speech and Language Therapy and these professions constitute a significant and growing proportion of the healthcare workforce throughout the United Kingdom (UK). Allied Health Professionals (AHP) (originally referred to as Professions Allied to Medicine (PAM) in NI) have an important role in the planning, organisation and delivery of care across most sectors of healthcare within both acute services and primary health and social care where they also contribute to assisting individuals with long term conditions to maximise their potential and independence. These roles are important in maintaining the quality of healthcare provision within changing, multidisciplinary and increasingly technological health and social care delivery systems.

While the responsibilities of each AHP group are unique, as a collective they are commonly involved in complex care interventions often within multidisciplinary teams and increasingly in community settings. Developments in healthcare over time have resulted in the AHPs operating across professional boundaries to engage with other professionals, patients, clients and the general public in a holistic approach to the delivery of direct front-line care.

Some individual disciplines have developed a research active population within their ranks while others are limited in terms of research activity and funding (HEFCE, 2001).

Ongoing changes in the organisation and delivery of healthcare systems now place greater emphasis on the prevention of ill health and on community care as distinct from inpatient provision and treatment interventions which focus on cure. This change of emphasis has resulted in healthcare strategies that acknowledge the importance of quality of life outcomes and the need for modernisation of service delivery with the requirement for new ways of working for health professionals.

Within this complexity quality healthcare which is cognisant of ensuring effectiveness and efficiency is the imperative. It is therefore essential that the provision of such service by the health professionals concerned is based on the best available evidence drawn from meaningful research and practice development. The requirement for a research culture, its growth and development across the professions associated with the delivery of health and social care services is well recognised (HEFCE, 2001). This expectation is a common and frequent feature in a wide range of strategy and policy determinations which relate to the organisation, management and development of health services in NI.

In a climate of potentially limited resources and greater concentration on making the best use of available resources the therapy professions in NI are recognised as key care managers and deliverers. It follows that individually and collectively they need to have a clear vision of taking forward their research agendas and to prioritise research programmes that will best serve advancing the quality of the therapeutic interventions they provide.

The aim of this study is to identify research priorities for each of the six therapy professions (Chiropody/Podiatry, Dietetics, Occupational Therapy, Orthoptics, Physiotherapy and Speech and Language) through gaining consensus on these priorities from the professionals themselves as well as from key stakeholders and service users. The key stakeholders contributing to the study were senior health service managers and policy makers while the service users were patients who have had experience of being cared for or treated by therapy professionals. The approach used to gain consensus was the Delphi methodology.

This project took place over an 18 month period and was managed by a nine member team of experienced researchers. A Research Steering Group constituted by the Public Health Agency R&D division met quarterly with the project team over the course of the study. In addition, a Research Advisory Group composed of representatives of the therapy professions were consulted at key stages of the study.

The remainder of this chapter provides an overview of national and international policy and strategic healthcare documents that are relevant to healthcare and health research. This establishes the context and direction for the identification of research priorities for the therapy professions. A review of previous research priority studies of relevance to these professions can be found in Chapter 2. The Delphi methodology is described in Chapter 3. In Chapter 4 the findings and discussion are presented for each of the six therapy professions, cross referenced to what the stakeholder and service user identified as research priorities for these professions. This is supplemented by a separate results section and discussion for the service users and the stakeholders. The overall conclusions and recommendations are presented in Chapters 5 and 6.

## 1.2 Strategic and Policy Developments - Northern Ireland

### 1.2.1 Introduction

Over the last few decades there have been many significant and far reaching structural and management changes in the organisation, management and delivery of healthcare services within the UK which have impacted directly on NI. Other influences have emerged from within the European dimension and the wider international developments which reflect the strategic development and policy formulation with regard to healthcare provision across nations and regions.

For the greater part developments of this nature, driven by technological advance and economic considerations have been designed to bring about substantial benefits to health and social care services. In addition there have been significant strategic shifts designed to facilitate shorter inpatient stay and to expand community health services so as enable individuals to be maintained in the community including their own homes.

Advances in medical science and technology including pharmacology and genetics have changed many approaches to treatment and care and expanded the potential for successful management of conditions previously beyond the reach of medical science. This has resulted in increased demands for health services including in particular new and expanded areas where advances in treatment and care interventions are now available. Consequently the costs of providing an expanded service have increased as new advances are implemented and greater numbers of individuals seek to access them.

An increasing imperative alongside healthcare developments of this nature has been the need to ensure that meaningful care outcomes are being achieved and that treatment, clinical interventions and therapies are both beneficial and cost effective. The need to have the capacity to measure the effectiveness of such outcomes is therefore an important consideration.

As a result there has also been a consequential increase in the demand for an expanded knowledge base associated with health interventions in order to provide the evidence to support the effectiveness of treatment, care regimes and strategies and to be able to measure outcomes in terms of effectiveness and efficiency.

For all healthcare professionals there is therefore a continuing and growing need to advance research and development initiatives in order to be able to assure the quality of their interventions, to evaluate them over time, and increasingly to be legislatively accountable for the outcomes arising from interventions. The need to have the capacity to be able to

establish research priorities is a key component of research activity for all professional groups engaged in the planning, organisation and delivery of healthcare.

Understanding the needs of AHPs in research terms depends on gaining insights into the main drivers for service development as well as the concurrent research and development strategies that have evolved. In order therefore to locate the AHPs within the context of relevant strategic developments and policy formulation a review of key reports in these areas was undertaken. These developments fall essentially into two broad categories, those of a more generic nature which nonetheless have important implications for understanding the development of the AHPs, and secondly those which are highly specific to these professions as a group.

Healthcare developments which take place in NI are invariably although not exclusively influenced by strategic and policy development which takes place within the rest of the UK, particularly those developments which have an impact on the NHS as a whole. In considering the NI aspect of the strategic and policy review in a meaningful way it was therefore necessary to include a significant UK perspective in the NI analysis.

Within the broad categories of the material reviewed three particular areas of content are significant. Service provision which is primarily concerned with structure, organisation and management of healthcare provision on a national scale influences all health professions. Research and development is clearly an essential consideration in its own right since it creates imperatives for professions committed to or required to demonstrate evidence-based practice. Finally strategic and policy developments which are specific to the AHPs are included within the analysis.

### 1.2.2 Healthcare Provision

In the late 1980's and throughout the 1990's significant changes in the organisation, management and structure of healthcare provision including community care developments were influenced by the overall strategic direction of policy development taking place in the wider political, economic and social climate prevailing in the UK at the time.

Healthcare was no exception to the culture of change and there were a series of very significant initiatives which took place during this period. These resulted in developments across the UK which affected the organisation, management and structure of all aspects of the NHS. A primary care led service was promoted with a shift of resources from hospital to community provision and strategies which focused on a vision of a quality service that would also be cost effective.

What emerged was a fundamental and ideological redirection of healthcare management and provision of services which became market orientated with a purchaser/provider model being incorporated into new structural arrangements. These focused on effectiveness, efficiency and value for money as the main priorities. While there has been some revision of these early ideological positions resulting from a change in government, the NHS remained a very different organisation as a consequence of these early changes.

The UK changes impacted on NI healthcare strategies and during this period changes to advance the concepts of primary care and care in the community resulted in local change specific to the needs of the Province.

A series of publications in NI reflected this during the 1990's including People First – Community Care in NI for the 90's (DHSS, 1990a); Care in the Community (DHSS, 1990b); Consultation Document (DHSS,1995a); Regional Strategy for Health and Social Wellbeing 1997-2002: Health and Wellbeing: Into the Next Millennium (DHSS, 1996); Well into 2000: A Positive Agenda for Health and Wellbeing (DHSS, 1997a); Valuing Diversity A Way Forward (DHSS,1998a); Fit for the Future – A New Approach, the government's proposals for the future of health and personal social services in NI (DHSS, 1998b); Research for Health and Wellbeing: A Strategy for Research and Development to lead NI into the 21st century (HPSS, 1999); and Building the Way Forward in Primary Care (DHSSPS, 2000a).

The influence of these NI policies with a shift of emphasis from acute care and cure to one of health promotion, prevention of ill health and a concern for the well-being of the wider population would shape the future roles of all the professional groups involved in delivering healthcare for the foreseeable future. Equally influential was the driving forward of a research and development agenda with a fundamental impact on all aspects of healthcare from policy formulation at all levels to the effectiveness of individual treatment interventions and therapies. Consequently, in keeping with the rest of the UK the need for evidence based practice had increasingly become an imperative for NI and all professional groups needed to acknowledge and address this as a priority.

A national vision for a primary care led service was incorporated into the Regional Strategy for Health and Well Being 1997-2002 - Health and Wellbeing: Into the next Millennium – (DHSS, 1996). This strategy set priorities for the direction of health and personal social services based on a number of underlying principles to promote the physical and mental wellbeing of the population. Of particular relevance was the emphasis placed on basing decisions about services and interventions on evidence that services or interventions actually resulted in a beneficial effect for the patient or client. The requirement for all professional groups involved with service delivery to be committed to evaluating their work

and disseminating the results was seen to be an integral part of a strategy to achieve better outcomes. This would become a recurring theme in future policy development.

However a change of government in 1997 resulted in reform and modernisation across the NHS. This was taken forward through the publication, The New NHS – Modern, Dependable (DoH, 1997). Primarily designed to dismantle the internal market approach of the former political administration, the need for change also acknowledged an increasing concern since the 1980's about the state of health-related research in the UK. Consequently strategies designed to strengthen health research were included within a reform of management structures.

The comparable NI proposals for these major changes were set out in Fit for the Future – A New Approach, the government's proposals for the future of health and personal social services in NI (DHSS, 1998b), designed to consult on the ideas for reforming and modernising the HPSS in NI.

Results from consultation were published in 1999. Included in the deliberations on service provision was the importance of primary care and a government proposal that the HPSS should be centred on and driven by primary care. Primary care professionals, represented by a wide range of professions (including the AHPs) should drive commissioning. In order to achieve this, changes would provide primary care professionals with control over how services should be planned, organised, and delivered. In particular, they should have a significant input into the issue of funding. This would have implications for the role and function of the professional groups involved including AHPs. New structures would include Health and Social Care Partnerships controlled by primary care professionals and would assess social care needs and organise the delivery of services to meet identified needs.

Advancing the targets and objectives which arose from this consultation became a priority and was taken forward in Well into 2000 (DHSS, 1997a), which also acknowledged the implications of the wider HPSS Strategy for 1997-2002.

Well into 2000 outlined the broad strategy to be adopted to achieve a vision for improving the health and well being of the population. This proposed people-centred services emphasising a role in society for everyone, including local communities, in a shared approach to achieving positive healthcare outcomes. A critical appraisal of existing patterns of service provision including the use of evidence based decision making processes in securing the best use of available resources was highlighted.

Within the analysis of a primary care centred approach to front-line care there would be provision for supporting professionals in evidence based practice facilitated through appropriate research, education, training and audit arrangements. The particular role of AHPs would be addressed in a future publication of a strategy specific to their involvement in these areas of development.

Fundamental to the success of this strategy would be the active promotion of health and wellbeing and social welfare with needs being met through the delivery of services based on quality outcomes which were underpinned by research and evaluation. This recurring theme binds the importance of evidence of effectiveness related to policy formulation and to service provision and was reinforced by reference to the then newly established Research and Development (R&D) Office in NI having responsibility for ensuring that research findings appropriate to the sector would be widely shared and that a knowledge based culture would be promoted. The rationale for establishing the R&D Office was prompted by the Culyer report (HMSO 1994) which recommended that HPSS R&D funding should be centralised (this is discussed in more detail on page 28/29).

At the same time the particular implications of change for mental health and wellbeing were addressed in the publication, Minding our Health: A Draft Strategy for Promoting Mental and Emotional Health in Northern Ireland (DHSS, 2000b). The strategy was a further response to the DHSS Regional Strategy 1997-2002 (1996) and took into consideration the mental health action agenda arising from Well Into 2000, A Positive Agenda for Health and Wellbeing (1997a)

Key priorities for action to promote mental and emotional health in NI over a three year period were established. The strategy was based on the concept of benefits for individuals and communities accruing from a positive sense of self respect and esteem. AHP's were viewed as having an important and specific role in promoting physical and mental health, and the preventing of ill health. Their impact within local populations as well as with existing service users was seen to be important as was their contribution to managing health promotion and health education programmes for disabled and vulnerable groups. It was acknowledged that the full potential that AHP's could make within physical and mental health promotion had yet to be realised, and that effectively utilising the full range of their skills might be acquired through more appropriate service commissioning and delivery arrangements. Continuing and increasing mental health challenges were further reflected in later publications including Promoting Mental Health; Strategy and Action Plan 2003-2008 (DHSSPS, 2003a) which was a follow up of the mental health issues that were addressed in the Investing for Health Strategy (DHSSPS, 2002b), in the Bamford Review (2005) and in

Protect Life – A Shared Vision', the Northern Ireland Suicide Prevention Strategy and Action Plan (2006-2011) (DHSSPS, 2006). These issues represent a growing mental health wellbeing care dimension which impacts significantly on professional groups within front line community care services.

In 2000 the publication of The NHS Plan, A plan for investment, A plan for reform (NHS, 2000) heralded another chapter in the development of the NHS with a far reaching and reforming agenda. This concluded that the NHS had not kept pace with social change and that large and sustained investment was now required to advance reform that would affect all aspects of health and social care. Included within the proposals was the intention to increase the numbers of professionals working in the NHS and to break down barriers between professionals. Appropriately qualified nurses, midwives and therapists would be empowered to expand and extend their roles with regard to a range of clinical tasks, and education and training would be modernised.

From the year 2000 onwards there was therefore active implementation of change and further policy and strategic initiatives added to the ongoing nature of the developments taking place. Best Practice – Best Care, A framework for setting standards, delivering services and improving monitoring and regulation in the HPSS (DHSSPS, 2001a) was significant in this regard.

This set out proposals for public consultation on new arrangements to ensure that improved standards and practice could be delivered within a framework of more effective monitoring and of regulation. Providing modernised, high quality services in the HPSS was the overall focus with proposals to deliver improved standards in a more consistent manner and to reduce unacceptable variations in treatment and care. Within the NHS as a whole recognition that current practice was not necessarily effective or efficient was a growing concern and looked to research to address the problem.

The response to consultation across the options proposed reported in Best Practice – Best Care, A framework for setting standards, delivering services and improving monitoring and regulation in the HPSS: Summary of responses to the consultation (DHSSPS, 2002a) were generally positive and the results would ultimately inform future regional strategy on setting standards and improving care within the HPSS.

Investing for Health Strategy, (DHSSPS, 2002b) was a comprehensive review of the status of health and well being in NI and considered a wider focus in advancing the need for a shift of emphasis from treatment of ill health to one of prevention. Discussion focused on tackling the determinants of health and identified the values and principles that would inform future

action to reduce inequalities, improve health, and address economic, social and environmental issues.

A cross-departmental framework for action to improve health and wellbeing in NI was developed to meet the overarching principle of working for a healthier population. This would require partnership working across sectors from departmental level to community and include voluntary groups representing the interests of the general public. This developmental strategy had clear implications for all healthcare front-line professionals with a community role particularly those with a first-contact dimension to their practice.

The importance of research across a wide range of interests was highlighted within the strategy as was the need for policy makers to maximise the potential of the information arising from research. The strategy document also records that from April 2002 the professions formerly designated as the Professions Allied to Medicine (PAM) would now be called the Health Professions due to the introduction of the new Health Professions Council. For the purpose of consistency they will continue to be referred to as the AHP in this discussion.

This strategic analysis includes an important resume of the role of the AHPs including their involvement in assisting in the management of physical and mental wellbeing and in overcoming disability. The importance of their public health role in the promotion of physical, mental health and social wellbeing and in direct patient/client assessment within local populations and existing service users is also emphasised. The strategy acknowledged AHPs as having a unique position in conveying health promotion information by virtue of their face to face relationship with patients and clients and as a group who are involved with clinics, home settings, residential settings, schools, work environments and a wide range of other community settings. Services provided by this group of practitioners were seen as extending across the age ranges, and encompassing the primary, community and acute care sectors. The AHP role in community development activities such as Sure-Start Projects, Health Action Zones, Healthy Living Centres, and Community Rehabilitation Programmes was confirmation of the role being at the centre of health and wellbeing initiatives. The implications for them in contributing to meeting the objectives of the Investing for Health Strategy would therefore be significant.

Although specific to England, Securing good health for the whole population: final report (HMSO, 2004) was important in that it widened the debate on the range of issues involved in the nature of health and healthcare. It placed considerable emphasis on the issues of prevention and on social care, and on the wider determinants of health in England. In

considering a vision of the challenges of future healthcare needs and resources the potential for better public health measures in reducing the demand for healthcare was seen as significant. Changing behaviours, public health promotion and reducing ill health were considered to be key strategies. It is not difficult to anticipate the widening lead role that could fall to the AHPs in a healthcare environment that embraced these dimensions of health and the strategies that might address them.

The likely healthcare changes over the next 20 years and their resource implications were projected within the report as was the need to strengthen public health research in the UK. Reflecting on the limited use of existing evidence and the need for investment in research on interventions and their evaluation, the importance of collaboration between public health practitioners and academics was emphasised together with the need for methodological development and increased research capacity for public health researchers.

The NHS knowledge and skills framework (DoH, 2004a) and in NI, Agenda for Change (HPSS, 2004) impacted on all NHS staff other than doctors and senior executives. It incorporated a knowledge and skills framework which would give recognition to qualifications and ability. A primary objective of the exercise was to contribute to enhancing practice and service standards, foster the potential for new ways of working and the development of new career structures. Within the framework, competencies and national job profiles for the AHPs included R&D themes that were concerned with information gathering. Development and innovation were also identified as being important aspects of the role.

The Review of the Public Health Function in NI (DHSSPS, 2004b) included a significant review of public health organisations and structures involved in the planning, commissioning and delivery of healthcare services. This would impact on all aspects of the service and would influence the roles of professional groups providing health and social care. Changes would impact on key healthcare professions including the AHPs. It was acknowledged that the new agencies within the reviewed structures would ensure that local primary care, and hospital staff, service users and communities in general continued to have an influence on commissioning plans and to have a role in the planning and delivery of care services.

The pace of change during this period is reflected in the publication A Healthier Future – a new regional strategy for health and wellbeing (DHSSPS, 2004c) which presented a new vision of how health and social services in NI would develop over the next two decades to the year 2025. The focus was on the need to break down barriers between primary and community based services and hospital services; on establishing community based services as a priority, with a particular emphasis on the management of chronic conditions and the

problem of disadvantage. This was designed to contribute to developing a seamless service for patients and clients that would tackle inequality, and improve access to service provision.

An increasing elderly population and people living longer resulting from improvements in the quality of life and advances in all aspects of medical science was contrasted with the implication this had for age related chronic illness including diabetes, cancers, heart disease and arthritis. Globalisation in all its ramifications including ease of worldwide travel and its potential to impact on health by virtue of greater exposure and possible epidemics of transmittable illnesses and the growth of new diseases would add to these challenges.

The strategic direction of the vision was concerned with standardising services based on sound evidence of effectiveness and efficiency of healthcare strategies and treatment interventions. Promoting the important concept of clinical and social care governance also underpinned the direction of policy.

Five main themes underpinned this strategy:-

- Investing for health and wellbeing,
- Involving people – caring communities,
- Responsive combined services,
- Teams which deliver, and
- Improving quality. (p.6)

Policy directions were determined for each of these core themes with a reaffirmation of commitment to pursuing high quality services in both the hospital and community which would take account of the views of users and health professions in determining the needs of the community. This acknowledged the priority that needed to be given to preventing illness, disease and social harm, and to reducing the effects of illness and social harm on the quality of life. There was also commitment to promoting shared learning and skills across the healthcare disciplines and that education and training would develop to ensure that professional groups would continue to be competent to meet the requirements of the service.

Concerns about standard setting and the measurement of performance outcomes were challenges arising for all healthcare professionals and the need for research activity that informed the measurement of treatment and care outcomes arising from interventions by professionals were now a fundamental issue. A particular aspect of this concerned the need for professional groups to be able to identify healthcare related research priorities.

New approaches to measuring performance in health and social care were identified within the strategy. New standards setting would involve links with national organisations including

the National Institute for Health and Clinical Excellence (NICE) and the Social Care Institute for Excellence. Up to date guidelines from these resources would inform the development of quality standards.

In this climate clinical governance arrangements imposed on Health Boards and HPSS Trusts a statutory duty for quality and added to the challenge for all organisations and professional groups to be able to assure the basis and quality of treatment interventions. In addition a new independent regulatory authority, the HPSS Regulation and Improvement Authority would come into operation in 2005 with responsibility to inspect and report on the quality of health and social care services.

Other important developments that would impact on the organisation and management of services in NI were also taking place. Caring for people beyond tomorrow, A strategic framework for the development of Primary Health and Social Care for Individuals, Families and Communities in NI (DHSSPS, 2005) was a significant initiative which was designed to reform primary care in NI in terms of structures, systems and how primary care services were delivered.

This comprehensive analysis acknowledged the important role played by primary care professionals in a wide variety of care settings extending from contacts in the home, clinics and health centres to more specialised settings. It stressed that most people seek primary care in local settings near to where they live and that contacts and consultations can involve a wide range of practitioners including those designated as AHP's. Of the 20,000 people in NI actively involved in the provision of primary health and social care at that time, 1000 were AHP's (p.2). The strategy required the development of community based alternatives to hospital admission to be taken forward through innovation and experimentation. This included considering 24-hour crisis response services, supported-living opportunities and access to community-based rehabilitation teams.

Such approaches would place increased demands on community services and draw heavily on the skills of many practitioners including the AHPs. The challenges of supporting people, enhancing their social wellbeing and meeting their health promotion needs as well as preventing ill health and managing chronic conditions including rehabilitation were significant. This would require greater specialisation by primary care practitioners. Care pathways would change with more individuals attending primary care centres rather than a hospital visit. Such centres could be multidisciplinary involving GP services, nurses, pharmacists, physiotherapists, social workers and dieticians.

In developing a future integrated approach to primary health and social care the policy direction included a proposal to develop and implement a range of strategies for services delivered by key practitioners. This would include a strategy for the AHP by 2006. For services in the future to be made available at the required level of quality emphasis was placed on the need for information to enable evidence based decisions to be made and in order to inform future needs. The strategy also envisaged a primary care service that would place the need for professional education and learning at the centre of policy. This was fundamental to advancing a research culture that would support primary care. A key objective during the early implementation of recommendations would place emphasis on the role of research and development in primary health and social care. Research in primary care would further develop evidence based practice and a review and evaluation of the current research base in primary care would be undertaken by 2006. This would facilitate action that needed to be taken to develop and implement a primary care research programme by 2007. This vision for the future set out a series of key goals which in turn would inform a detailed action plan:-

- To make primary care services more responsive and accessible and encompass a wider range of services in the community;
- To develop more effective partnership working across organisational and professional boundaries to provide more effective and integrated team working;
- To facilitate more informed, proactive engagement and involvement of local communities and practitioners in the use, planning and delivery of services;
- To put in place a care infrastructure fit-for-purpose which provides integrated modern services.

The plan would impact on the future role and function of a range of professional practitioner groups concerned with primary health and social care including AHP's. It would embrace new structures and changed ways of working that would provide both challenge and opportunity to develop services and evidence based practice in pursuit of high quality care in the community.

Although primarily concerned with the nursing profession, the research capacity of AHP's was also addressed in the Report of the UKCRC Subcommittee for Nurses in Clinical Research (Workforce), Developing the best research professionals (UKCRC, 2007). AHPs were included in the groups consulted and the majority agreed that similar strategies would facilitate them in advancing their research capacity. However in agreeing with the recommendations, the AHPs considered that they would need to be tailored for the different therapy professions. The recommendations included the need for enhancement of

clinical/academic research pathways and the provision of funding and research training opportunities for clinical staff across the four countries of the UK. It was agreed that each region would work out their own implementation plan.

Past decades had seen change of an unprecedented nature in the structure, organisation and management of the health services in the UK including NI. On an ongoing basis the ability of the NHS to meet the demands placed upon it had begun to impact on the range and availability of services and during the last few years the strategic impact and policy direction in NI had become focused on the quality of healthcare which was largely driven by initiatives within the UK as a whole.

The High Quality Care for All - NHS Next Stage Review Final Report (DoH, 2008a) was a further example of the centre influencing the periphery and was representative of the growing understanding of the current state of the NHS in the UK. It acknowledged the national and international drivers that impacted on health and social care in the 21st century and the future direction the NHS needed to take. The main thrust and focus was to achieve high quality care for all citizens. Its publication coincided with the 60th anniversary of the NHS.

The vision placed quality at the centre of all the activities of the NHS and defined quality of care as effective, safe, and providing patients with the most positive experience possible. It placed emphasis on the need to measure the effectiveness of all healthcare related activities as a basis for transforming quality. While most of the information gathering for the review was based on regions in England the findings and recommendations would have an impact throughout the UK.

As part of this Next Stage Review a number of other publications focused on specific sectors of the service and important for the purposes of this analysis was the Next Stage Review: Our Vision for Primary and Community Care (DoH, 2008b). This envisaged that primary care and community services should continue to grow and develop as a continuously improving service where standards would be identified and guaranteed and where excellence would be rewarded. This analysis suggested that there would be an increased demand for primary care services over the next decade and that the nature of the care and services required would change. Themes of the ageing population and increased obesity especially among children were revisited and it was concluded that these issues would continue to contribute to developments as would the challenge of managing increased numbers suffering from diabetes and heart disease especially among more disadvantaged groups in society.

Continued scientific advances including medical treatments would increase the potential for even more people to be treated in their own home rather than require hospitalisation. The analysis also concluded that increased demand and the changed profile of primary and community care was a reflection of public expectations for more individualised, tailored and holistic care rather than being managed on a symptomatic basis. Ongoing changes of this nature had already resulted in the need to shift the emphasis on care from the management of ill health to one which focused on health promotion and the prevention of ill health. The vision acknowledged the strengths of the current management of primary and community care and placed the AHPs in a key position regarding the contribution treatments and care interventions could make to positive primary and community care experiences.

The strategic direction outlined also proposed a programme for transforming community care which would empower care professionals including nurses and the AHPs to include a range of choices for individuals on a local basis and suggested that this would include arrangements for self referral. Building on well established contacts and relationships within local communities, health promotion strategies would also become a central focus for these professionals. Advancing clinical skills, leadership qualities, the concept of professional development and the promotion of evidence-based best practice as integral part of advanced learning programmes were also promoted.

A further aspect of facilitating better quality services related to more effective management of information and technology systems. A commitment to advancing improvements in these areas was designed to improve access to data and data sharing to support evidence based practice and more strategic commissioning of healthcare. The evidence base for current care pathways to improve quality and intervention outcomes would be reviewed with the aim of releasing more time for professionals to focus on direct patient care.

The analysis also reinforced the problem of unwarranted variations in the quality of care and the need for greater focus on health and treatment outcomes. This imposed on professions the need to prioritise an ongoing examination of current practice, the identification of their existing knowledge base and future research priorities in order to advance practice.

High Quality Care for all, NHS Next Stage Review: Our Vision for Community Care, What it means for Nurses, Midwives, Health Visitors and AHP's (DoH, 2008c) was important in interpreting how these professional groups were viewed within the future management of healthcare. The vision itself acknowledged the vital and important contribution of these professional groups as central to transforming services delivered to patients and clients in the community setting. Their key position in contributing to the integration of care and to

delivering high quality services was emphasised as was the role they can play in improving health outcomes.

The relevance of regular interactions these groups have with children, families, older people and those with long term and chronic conditions was considered to be both significant and important. In developing services and interventions there would be a drive towards health promotion, the prevention of ill health and reducing health inequalities. Professional groups with the ongoing personal contact within local communities were seen to be fundamental vehicles for achieving these key objectives. While specialist community public health nurses have a key role in improving health and reducing health inequality other professionals including the AHPs have a significant impact on families and on individual patients and members of the public by virtue of their patient/client contacts.

Some particular examples were provided of the more specific contribution of AHPs. Speech and language therapists were seen to have a pivotal role in providing early interventions where there is a need to improve communication skills to ensure effective participation in family life and schooling. Rehabilitation and the maintenance of independence of older people required the expertise of physiotherapists, podiatrists and occupational therapists and the major public health challenge of obesity would provide a lead role for dieticians.

The five service areas of children, families and public health, long term conditions, acute care in the community, specific interventions, rehabilitation and end of life care were emphasised within the vision for primary and community care. It was in the wider integrated contribution that each of the care professions could make to a holistic approach to health and social care that their strength lay in addressing these service challenges.

In advancing the skills and resources required by all the professions the vision proposed new approaches to evidence based care, education and development, the measurement of quality and outcomes and to the development of clinical leadership. Strategy was designed to maximise professional knowledge and skills to enable higher quality care at or nearer people's home within a framework of patient-centred care and multidisciplinary working. Within the framework there was recognition of the importance the contribution nurses and AHP's made in improving health outcomes for patients, families and communities.

While there were differences in the structures within which health and social care is delivered in NI, all of the developments that had taken place in rolling forward the High Quality Care for All initiative within the UK would impact on the provision of care services in NI and also influence the future roles played by the key professions involved.

The NI model of a fully integrated health and social care service may have made the application of the proposals to existing community care forums an easier task but the major challenge of advancing high quality care through an evidence based model provided challenges for all and placed a demand on healthcare professionals to identify research priorities where this was not already the case.

Improving Quality in Primary Care (DoH, 2009a) was another major publication which reinforced the quality message of the NHS Next Stage Review - High Quality for All. It was designed to be best practice guidance for Primary Care Trusts in England with a primary concern to improve the quality of care in terms of safety, effectiveness and patient experience. This was reinforcement of the need for continuing improvements despite a record of good progress being achieved in advancing the quality of primary care services in recent years. The need to reduce variations in quality in order to ensure consistent quality improvements was set in the context of driving effectiveness and efficiency in a climate of economic and financial challenge. More effective commissioning was seen as an important vehicle for this purpose and organisations vested with responsibilities for commissioning primary care were offered guidance on strategies that would advance this objective.

Measures which were seen to be fundamental in underpinning the strategy included:-

- Guidelines and standards to bring clarity to quality,
- Measuring quality,
- Publishing information on quality,
- Recognising and rewarding quality improvement,
- Providing leadership,
- Safeguarding essential levels of safety and quality,
- Staying ahead through innovation. (p.3)

These elements resonated with the main thrust of the NHS Next Stage Review and the importance of measuring quality was emphasised throughout the detailed guidance which was offered to Primary Care Trusts (PCT).

Standard setting was a key element of the strategy and the guidance proposed included the availability of definitive quality standards which would be available to all professionals and patients through the NICE resource. NICE standards are designed to act as benchmarks of high quality which were cost effective and based on the best available evidence.

This underpinned the concern of government throughout the UK regarding commitment to high quality primary health and social care and had implications for all professionals

concerned with the delivery of an effective and efficient service and with the advancement of evidence based clinical interventions.

As these initiatives were being taken forward A Workforce Learning Strategy for the Northern Ireland Health and Social Care Services (DHSSPS, 2009) was published and reflected aspects of wider UK strategic developments. The NI strategy placed importance on the value of effective learning and training as it was seen to impact on the quality of healthcare and services being delivered. Following consultation with staff and staff interests the strategy provided guidance for the effective training of staff and emphasised the importance of staff development and lifelong learning. Vocational, professional and managerial knowledge and skills and commitment of organisations to the concept of personal professional development plans (PDP's) were viewed as key drivers in pursuit of improved quality in healthcare.

Also at this time in Northern Ireland another key piece of legislation relevant to healthcare was approved. The Health and Social Care (Reform) Bill (2009) outlined a new streamlined structure for health and social care, including the establishment of innovative organisations, such as the Regional Agency for Public Health (to which the 'HPSS R&D Office' moved under the new name HSC Public Health Agency Research and Development Division). These structural changes marked the second phase of reform within health and social care. In April 2007, five new integrated Health and Social Care Trusts were created to replace 18 previous Trusts. In the 2009 legislation the renaming of the HSS Trusts (established under Article 10 of the Health and Personal Social Services (Northern Ireland) Order 1991 (NI 1)) to Health and Social Care trusts or HSC Trusts, was identified.

Finally with a change of government in 2010 in the UK during a period of unprecedented economic recession and financial challenges there are already further government proposals including significant changes to NHS structures and processes. Should these come to fruition they may affect the availability of resources and impact on the role of care professionals. In particular may have a significant impact on how primary care services are to be facilitated and managed.

## 1.3 Research and Development

As can be observed from a review of policy development related to service provision in the UK, including NI, evidence to underpin the quality of care and services and effective research and development structures and processes are component parts of many of the important strategic and policy initiatives which have shaped health and social care throughout the UK from the 1980's until the present day.

Prior to 1991 when the first NHS R&D Director of Research was appointed, research was considered to be fragmented with little by way of coordination, standardisation and structure. In 1991 the UK the Department of Health (DoH) launched an R&D strategy – Research for Health: A Research and Development Strategy for the NHS (DoH, 1991). This envisaged a national and regional framework that would establish a planned approach and prioritise research requirements.

Other reports had emphasised the importance attached to these developments at this period of change within the NHS but in particular; Supporting research and development in the NHS. A report to the Minister for Health by a Research and Development Task Force chaired by Professor Anthony Culyer (HMSO, 1994) was important. This was a far-reaching review, which recommended revolutionary changes in the management of R&D in the UK National Health Service and the centralisation of all NHS R&D budgets. Many of the recommendations arising from this report were implemented in 1997 with the potential for the development of more effective management arrangements for R&D activities throughout the UK. The report also influenced the development and use of the Cochrane Collaboration and the Centre for Reviews and Dissemination.

It also informed a strategy designed to form the basis of NHS R&D support for primary care. This asserted that since primary care was central to the NHS and therefore quality patient care decision making in primary care needed to be based on researched evidence. The analysis concluded that while high quality patient care required a sound evidence base derived from R&D, currently few healthcare professionals had obtained the skills required to assess and apply scientific evidence. Much primary care clinical activity was unsupported by any substantial evidence and methodological quality of available research was limited. It also suggested that the capacity of primary care to undertake R&D was currently limited and needed to be strengthened if the sector was going to be in a position to provide the firm evidence base required.

Research funding was also identified as a problem. The appropriate involvement of primary care staff in R&D should be seen as an investment that would improve the quality of clinical care, However to do so it would be essential for evidence based healthcare to cross professional and organisational boundaries. In order to achieve the desired improvements there was a need to promote an evidence based culture and to increase the availability of quality R&D in order to improve effectiveness and deliver value for money services in primary care. This report would influence the future direction of R&D activity in the primary care sector across the UK and recommendations were designed to advance focused

research programmes that were required to underpin decision making in primary care. The report argued the need for high quality training opportunities for both clinical and non clinical researchers and for an increase in the number of staff involved in research activities.

As part of a longer term strategy to modernise the NHS the government of the day viewed the role of R&D as fundamental to this aim. Research and Development for a first class service: R&D funding in the new NHS (DoH, 2000a) dealt with the funding arrangements to underpin an effective R&D strategy. This was designed to target money on research priorities, establish strategic direction for R&D, achieve partnerships between research sectors, to ensure governance on a consistent basis and strengthen management of spending on R&D. In the following year a Research Governance Framework for Health and Social Care (DoH, 2001a) was implemented to ensure that all health and social care research would be conducted to high methodological and ethical standards that would command the confidence of the public.

A Research and Development Strategy for Public Health (DoH, 2001b) placed emphasis on developing and expanding the current evidence base designed to acquire new knowledge to improve public health. Identifying the need for research, investing in research and research capacity was highlighted as well as strategies to ensure that the new knowledge which resulted was integrated into practice and used to its full potential.

Further advances were made through the findings of the final report of the Research for Patient Benefit Working Party (DoH, 2004b) which established consensus for a common vision of future developments for applied health research and recommended setting up the UK Clinical Research Collaboration (UKCRC).

The Science and Innovation investment framework 2004–2014 (DTI, 2004) advanced the UK as an international centre of excellence for research, development and innovation. This ten year framework was concerned with prioritising the development of clinical research in the NHS. Included in the recommendations were proposals for the Department of Health to engage with universities to ensure that the few established researchers from a range of care professions including the professions allied to health (PAM), (now AHP), working in the primary care sector were able to develop and consolidate their research skills. This was with a view to them being well prepared to support the next generation of researchers. This was significant for the professional development of the group of therapists who now constitute the AHP. The ability of staff to teach evidence based practice and for teaching staff to retain R&D skills was also seen to be vital and was to be included within contractual arrangements

with universities when negotiating pre and post registration programmes for the caring professions.

A local R&D agenda in NI was part of the strategic development and policy formulation for healthcare in the Province. However NI lagged behind the rest of the UK in implementing R&D reforms arising from the ongoing changes in the NHS. The strategies and polices in NI during this period were concentrated on advancing the structures for the organisation, management and delivery of health and social services but also to address the health and social care needs of the population and how best they could be met. This included an acknowledgement of the need for an R&D agenda that included all the professions engaged in health and social care provision.

Responding to the need to make progress on an R&D agenda for NI A Strategy for Research and Development in the Health and Personal Social Services in Northern Ireland (DHSS, 1993) was developed. This was advanced through the Report on Supporting Research and Development in the Health and Personal Social Services by Professor Ian Russell, (DHSS, 1995b) and these initiatives resulted in the establishment of an R&D Office within the HPSS in NI in 1998.

These developments were accelerated with the publication of Research for Health and Wellbeing - A Strategy for Research and Development to lead Northern Ireland into the 21st century, (R&D Office, HPSS, 1999). While NI had lagged behind the rest of the UK much had been learned from the strengthening of the R&D initiative in the rest of the UK. This strategic framework for delivering high quality, relevant and coordinated R&D within the HPSS presented a vision of how R&D could be taken forward. There was a need for a single, overall R&D strategy to which the whole of NI could commit. In particular the need for quality research to succeed required a strong R&D base in order to ensure that health and social care services were both evidence based and research led.

The wider role of the NI R&D Office was therefore of crucial importance for securing the healthcare evidence base that would advance quality initiatives. The need to extend an evidence-based culture beyond front line care to embrace the contribution research could make to policy development and to organisational and management issues were highlighted.

This was a major and influential policy document which was firmly grounded in the objectives of the DHSS Regional Strategy for Health and Wellbeing 1997-2002, (DHSS, 1996) and the vision for a new, modern service as envisaged in the publication Well Into 2000, A Positive Agenda for Health and Wellbeing and Fit for the Future - A New Approach (DHSS, 1997a). It was designed to shape the future organisation and structure of research in the health and

social care sectors in NI. Research was seen as an integral part of service development and for the assurance of quality services for patients and clients. Research findings would contribute to more efficient and effective service interventions, better use of resources and improved outcomes. R&D organisational structures and processes were included within the strategy and emphasis was placed on the importance of appropriate representation of groups and organisations with interests in R&D.

However the strategy also concluded that in some instances health and social care professionals may not be appropriately equipped to be able to determine best practice from the existing available evidence. In some service sectors a research culture was not well developed and in such areas increasing research capacity could only be achieved by carefully targeted investment. Equality of opportunity for all HPSS professionals to be active participants in the R&D programme was supported within the strategy as was the need for pump priming support for service sectors and professional groups where there was not a history of an R&D tradition. Given that within the AHPs there was a variable experience regarding research capacity this was an important commitment.

While there was recognition within the strategy of the need for all health professions to have contributions to make to health and social care research, the acknowledgement that several professions did not have a particularly strong research tradition led to the appointment of Liaison Development Managers (LDM) to assist specific professional groups in the development of R&D potential. Included was the group of Professions Allied to Medicine (PAM) (now AHP). The need to increase research capacity for the primary care and community sectors was also acknowledged as was the need to increase investment for education and training.

An important development for health research in the UK as a whole was the establishment in 2004 of the UK Clinical Research Collaboration (UKCRC) which represented organisations committed to advancing an agenda to promote the UK as a world leader in health research and to maximise the research potential of the NHS for the mutual benefit of researchers and healthcare users including the general public. The expected benefits which could arise from this collaboration were seen to be dependent on the direct involvement of the range of key stakeholders who impacted on public health research. This included the major UK health research funding bodies, government health departments, NHS, regulatory organisations, science, healthcare and pharmaceutical industries together with patient and client interests.

Under the auspices of the UKCRC a Public Health Research Strategic Planning Group proposed a strategy designed to strengthen public health research in the UK (UKCRC, 2008). This followed a period of consultation which involved a wide range of influential

stakeholders within the public health sector. The consultation produced some important results. These included the view that there was a dearth of research evidence to assist with the identification and understanding of the determinants of health and inequality. In addition there was a need for more research designed to identify which interventions best improve overall health and how interventions may impact on health inequality. A number of themes emerged which needed to be addressed if improvements in public health research were to be achieved:-

- Workforce training and career structure,
- Multidisciplinary and collaborative working,
- Generating and evaluating research evidence,
- Maximising the use of existing data,
- Methodological issues. (p.4)

A significant analysis regarding the generation and evaluation of research evidence concluded that there was a need for greater understanding regarding health behaviours, more investment in transitional and applied research and more research concerned with evaluating interventions and policies. These objectives would be addressed through the development of appropriate research methodologies and outcome measures. Research was needed to understand why interventions may only be effective in the short term and research into interventions which could result in sustained behavioural change was also cited. There was a perceived gap in knowledge on how effective interventions might be implemented into policy and practice. Agreement on areas where effective public health interventions could most impact on health improvements and address issues of health inequality included health behaviours such as alcohol smoking and drug abuse, physical inactivity, poor diet and obesity. These conclusions created the potential for extrapolating meaningful research priorities that could be addressed by health professions involved in primary care settings.

The ambitious vision of Best Research for Best Health: Introducing a new national health research strategy (DoH, 2006) was to improve the health and wealth of the nation through research. This anticipated the development of a thriving research culture where health outcomes would be improved through the benefits of meaningful research. As part of the strategy there would be new NHS health research structures and clinical networks designed to pursue high standards of excellence in research and to support outstanding individuals. Researchers would be working in world-class facilities and engaging in leading edge research which would be needs focused in relation to patients and the public. There was a particular focus on primary care and a new national school would be established in order to

address the different needs of primary care research and to raise the profile of the primary care sector.

The publication set out the governments R&D strategy for the next five years and reaffirmed the pre-eminence of research in improving health across a broad spectrum of health and social situations and reiterated that the quality of NHS care services depended on research-based evidence. Strategies included the promotion of health and the prevention of ill health; disease management; patient care; and the organisation and delivery of health and social care. There was commitment to creating and supporting a highly skilled workforce which included the ability to advance a knowledge based patient centred healthcare service built on high quality research. Getting research into practice was a core requirement of R&D strategy and to achieve this it was proposed that there should be close collaborative working relationships with all healthcare agencies in the NHS including families and carers in order to increase awareness of the central role of research in healthcare delivery. Some aspects that the strategy envisaged were particularly relevant to emerging research groups within the healthcare sector included:-

- commitment to supporting academic training pathways for all healthcare professionals,
- expanding and developing flexible programmes of research across the range of health priorities identified from consultation,
- changes in research funding arrangements designed to be more responsive and focused on areas of high priority.

Arising from the Best Research for Best Health initiative the National Institute for Health Research (NIHR) was established in 2006 with a remit to carry forward its vision, mission and goals.

In December 2006 the NI HPSS R&D Office issued an updated Research Governance Framework (R&D Office, HPSS, 2006) which took account of developments since it was first issued in 2002 for consultation. This took cognisance of research governmence frameworks issued in England, Scotland and Wales between 2001 and 2006 and Best Practice Best Care (DHSSPS, 2001a). The framework set out the principles which underpinned quality research activity with the standards and requirements within which health research in the NI HPSS would be conducted. Emphasis was placed on the need to improve research and safeguard the general public. The extensive range of individuals and groups affected by the governance requirements were clarified and included all professional groups across all health and social care sectors.

A key strategy by the HPSS R&D Office in NI was produced in 2007; Research for Health and Wellbeing 2007-2012 (R&D Office, HPSS, 2007). This built upon the progress achieved since the publication of Research for health and wellbeing - A strategy for research and development to lead Northern Ireland into the 21st century (R&D Office, HPSS, 1999). The 2007 strategy was written at a time of significant change driven by: political developments within Northern Ireland; organisational reform across the HPSS; professional initiatives such as Modernising Medical Careers and Modernising Nursing Careers; and national developments such as the implementation of the Cooksey Review (2006) and the establishment of the Office for the Scientific Co-ordination of Health Research (OSCHR). The strategy was designed to further advance and support high quality research and development activities over the next five years.
It was based on five strategic priorities:-

- developing infrastructure,
- building research capacity,
- funding HPSS R&D,
- supporting innovation as a means of transferring research findings into practice. This was particularly highlighted in the Cooksey review (2006) which was highly influential in pushing forward the agenda for translational research that would deliver benefits for patients and the economy. This development is pertinent AHPs doing research as they should be better placed to contribute to research which has a direct impact on practice
- ensuring patient and public involvement in HPSS R&D. (p.9)

Key elements of the strategy reflected the requirement for the HPSS to maintain a highly qualified workforce including many with highly specialised skills and on the importance of research to achieve and maintain the knowledge and skills required to promote best practice. In building research capacity the strategy identified the need to provide specific support for the HPSS professions which traditionally have had a limited R&D base. Included in this group were AHP's, Nursing, Pharmacy and Social Care professionals. The need for skilled and active researchers contributing to the research knowledge base and R&D in NI was therefore emphasised.

The contribution of R&D to building an effective evidence base that would inform decision making in all aspects of health and social care interventions and services was seen as fundamental to achieving improvements in health and wellbeing. In particular the benefits of research in assisting patients and the general public to make informed decisions about the behaviours that influence their health and wellbeing was noted. Research findings should

also help to inform patients and clients about the choices they may need to make about treatment and care matters.

The challenging nature of measuring research outcomes was addressed in the strategy with a commitment to take forward initiatives to develop improved approaches to monitoring research effectiveness. There is little doubt that this strategy and the emerging policy for R&D management dictates that R&D had a fundamental part to play in advancing the research agendas of healthcare professionals. This applied across the whole spectrum of research activity in NI whether it referred to disciplines with well established research cultures and practices or where there was an identified need for support, training and research capacity building measures to facilitate a professional group in progressing a research agenda.

This aspect of the review establishes the context and framework within which AHPs would need to address the challenge of establishing research priorities for their future practice.

## 1.4 The Allied Health Professions

In 1997 the first Regional Strategic Framework for the professions allied to medicine (PAM) in NI was issued (DHSS, 1997b). This strategy was designed to respond to the changing nature of healthcare and the new demands on professionals resulting from developments in healthcare practice and research that was of particular relevance to these professions.

The document acknowledged the limited opportunity available to the professions allied to medicine (PAM) (now AHP) to influence the strategic planning and management of health and social care in NI and noted that this lack of influence had resulted in particular areas of difficulty affecting all six professions within the PAM grouping. Included in these deficits were problems associated with training and development and with research and development. A research commitment by the professions was acknowledged and also that between 1992-97 a national research base had been developed by the PAM. However it was also reported that this has been hampered by limited research capacity, lack of funding, accessible research training and appropriate professional backup to maintain service provision resulting in difficulties in advancing research expertise locally. A key conclusion and recommendation was that PAM in NI should develop an action plan to advance progress on developing research potential and that action needed to address quality issues should include a further dimension of research development.

In 2000, Meeting the challenge: A strategy for the Allied Health Professions (DoH, 2000b) was published in the UK. This set out the detail for developing and supporting the AHP in contributing to the challenges which emerged for them in the NHS Plan (NHS, 2000). It was

concerned with acknowledging and valuing the work that AHPs contributed through meeting the demands of healthcare services. It dealt specifically with supporting the professions in advancing their role and with the contribution they could make in meeting current and future challenges arising from the government's vision for health and social care provision. The central role envisaged for AHPs was contained within the key priorities in the NHS Plan:-

- providing faster, more accessible care,
- improving care for those with cancer, heart disease or mental illness,
- for older people, developing the skills needed within a multi-professional team approach which supports patients,
- driving through protocol-based care, care which is centred on the skills needed to support patients and not on traditional professional roles,
- rehabilitation and intermediate care - joining up health and social care. (p.7)

In order to make a meaningful contribution to the effectiveness of NHS reforms the AHPs needed to be committed to:-

- using clinical governance to ensure the continuing high quality of services and care provided by the allied health professions,
- embracing continuing professional development and changing roles of staff,
- supporting new arrangements for professional regulation,
- supporting the development of support workers to ensure best use of professional skills. (p.40)

Significantly, and in keeping with the need to encompass the demands of advances in patient and client care and new developments in the delivery of services, the strategy emphasised the importance of strengthening the research base and need for the AHPs to be facilitated in developing skills in the following areas:-

- accessing, appreciating and using research evidence,
- undertaking research and considering research careers,
- harnessing existing capacity to influence the wider research and development agenda. (p.31)

Influential across the UK, this strategy established not only the importance of the role of the AHPs within the wider health and social care agenda but also the fundamental requirement for commitment and competence in research and development activities.

The UK Chief Health Professions Officer at the Department of Health (DoH, 2003) consulted across the professional groups concerned and agreed ten key roles that demonstrated that AHPs were involved in a lead role which reflected flexible ways of working, promoting change and advancing new roles designed to improve patient and client care. The ten roles which follow were designed to assist the AHPs in advancing initiatives that would overcome barriers to effective health and social care:-

- To be a first point of contact for patient care, including single assessment,
- To diagnose, request and assess diagnostic tests, and prescribe, working with protocols where appropriate,
- To discharge and/or refer patients to other services, working with protocols where appropriate,
- To train and develop, teach and mentor, educate and inform AHPs, other health and care professionals, students, patients and carers, including the provision of consultancy support to other roles and services in respect of patient independence and functioning,
- To develop extended clinical and practitioner roles which cross professional and organisational boundaries,
- To manage and lead teams, projects, services and case loads, providing clinical leadership,
- To develop and apply the best available research evidence and evaluative thinking in all areas of practice,
- To play a central role in the promotion of health and well being,
- To take an active role in strategic planning and policy development for local organisations and services,
- To extend and improve collaboration with other professions and services, including shared working practices and tools.

While all of these role developments are important, the requirement for the AHP to develop and apply best available research evidence and evaluative thinking in all areas of practice is particularly significant in the context of this study.

In this climate a Position Statement on Research and Development in the Professions Allied to Medicine was published in NI (DHSSPS, 2003b). The use of the term PAM at this stage in NI would ultimately change and the more common usage within the rest of the UK of AHP would be adopted. This position statement was designed to address the issue of progressing research and development within the PAM. This had been identified as a

limitation in the 1997 strategy for PAM. It also took cognisance of developments within the wider NHS and the NI R&D Office deliberations on research and development issues.

The challenge acknowledged by the PAM was that there was a need to ensure that all determinations by the professions would be based on sound evidence and that without their active participation in research and development activities the desired high quality health and social care could not be achieved. One of the main drivers to engage in research in NI was the introduction of clinical governance alongside the policy and strategic initiatives being taken by government to modernise the NHS and advance high quality, evidence-based and value for money health and social care. The position statement acknowledged the work undertaken by the professional bodies representing the therapy professions and summarised the position reached by the professions in respect of achieving a research and development ethos. It also reiterated the difficulties that the professions faced by virtue of the limited influence they could exert on policy development including not being represented on research infrastructures including R&D groups. This established the basis of the existing research culture within the PAM in NI and concluded with a series of recommendations designed to develop research activities within the therapy professions and to advance their greater representation, engagement and active participation in research groups and forums. In addition emphasis was placed on the need to build research capacity including education, training and assuring funding opportunities.

The following year Primary Care – A Position Paper for PAM was published (DHSSPS, 2004a) to develop arrangements for the provision of primary care services in NI in line with Building the Way Forward (DHSSPS, 2000a) and Investing in Health (DHSSPS, 2002b). It also acknowledged the need for the therapy professions to be full and active partners in promoting health and wellbeing as envisaged in Well into 2000 (DHSSPS, 1997a).

The report reiterated and responded to the importance that Building the Way Forward (DHSSPS, 2000a) placed on promoting practice based on evidence. The collaborative role that the PAM played in promoting physical and mental health and in the prevention of ill health across a wide range of services provided by different health and social care professionals including GP's, dentists, optometrists and pharmacists was emphasised. The potential for the application of the unique combination of skills and knowledge that therapists brought to the delivery of primary care including needs assessment, treatment, habilitation, rehabilitation and health promotion. Examples of the new developments taking place where the direct involvement of the therapy professions was making an impact included;

- collaborative practice,

- health screening,
- intermediate care,
- needs assessment,
- health promotion including mental health and learning disability, and
- community development.

However the report also referred to the role of the therapy professions in the overall provision of quality health and social care not yet being fully realised and asserted that they were uniquely placed to do so, setting out the role that they could and should play in the planning, organisation and delivery of primary care services in the following terms:-

- It is essential that the unique skills, knowledge and roles of the PAM are understood, valued and appropriately utilised within the development and delivery of primary care.
- It must be recognised that the PAM are key contributors in health promotion and disease prevention.
- These professions must be given equal status, to that of other professionals at all levels of LCGs to enable them to become full partners within the primary care setting.
- In addition, they must be given opportunities, support and resources to allow them to participate as partners in primary care. (p.13)

Emphasis was placed on the need for the PAM to be provided with opportunities to become full partners in community developments and for them to fully utilise their expertise and knowledge base in primary care provision. This was now seen as essential in order for them to meet the challenges posed by primary care policy developments. This was also in keeping with the vision of Building the Way Forward in Primary Care (DHSSPS, 2000a) which emphasised that the quality of future primary care services would be influenced by the degree to which community development and interagency working could be expanded if more effective targeting of health and social need was to be achieved. Recommendations identifying the need for the PAM to be given equal access to opportunities and systems that could facilitate their research and development emphasised the need for the availability of training in research methodologies, for opportunities to access and use research evidence and for the engagement in patient focused research.

In 2004 the NHS Executive in Scotland published an AHP Action Plan for R&D (NHSS, 2004). This acknowledged the commitment made in Building on Success: Future Directions for the Allied Health Professions in Scotland (SEHD, 2002) to review AHPs research and development.

The action plan recognised that while there was a good record of quality patient centred research activity in some of the AHP professions and that others were emerging as research active, the AHP group as a whole remained relatively new to the research discipline. The consultation which preceded the development of the action plan reflected a commitment of all the professions to pursue research excellence as a goal. This situation was not dissimilar to the conclusions drawn regarding the research status of AHPs in NI.

In considering an R&D strategy for AHP's in Scotland it was noted that the sources of information that contributed to many of the interventions used by the therapy professions included not just input from research but use was also made of experience gained in practice and of expert opinion as well. Proposals were cognisant of this in attempting to direct AHP's along a pathway that would facilitate the production and use of high quality research that could contribute to better service provision in health and social care within the priority areas established for the NHS Scotland. Consultation had included practitioners, researchers and stakeholders from all the AHPs and there was a shared view that there was a need for better partnership working arrangements between all participants in order to quickly advance a research and development agenda as a key priority for the AHPs. The action plan also anticipated the need for research awareness and knowledge of methodologies to be important components of the undergraduate curriculum and also at an advanced level in post graduate study undertaken by AHP's. Considerable emphasis was placed on sustaining research awareness and knowledge and competence in research activity at the forefront of the workplace in order for growth and development for all AHP practitioners from the newly qualified to those who had been in practice for some time.

The strategy envisioned that the contribution of AHP's in facilitating the national agenda was in keeping with other disciplines and that research, development and evidence-based practice were key issues to be addressed. However many of the research projects being undertaken by some AHP's were viewed as small studies with no direct link to meeting wider national priorities and with having little potential for generalisation. There was therefore a perceived need for strategies that would maximise AHPs current research and development activities and provide opportunities for them to be involved in collaboration with policy makers in determining how best to develop their evidence-base. This included action on most of the health and social care challenges common to the UK as a whole including:-

- health improvement,
- promoting safer lifestyles,
- preventing ill health, and
- addressing health inequalities.

To achieve these national outcomes in Scotland broad areas of key research activity had been identified, some highly specific to Scotland while others of more general interest included:-

- defining priority areas for research activity,
- supporting important research projects outwith defined priority areas,
- strengthening research governance,
- developing research partnerships,
- multi-professional approaches, and
- increasing research capacity in under-developed areas. (p.8/9)

The need to build on existing strengths within the AHPs and to advance evidence-based practice in order to provide quality care was included in responses from the consultation process. However in keeping with the situation in other parts of the UK, in order to achieve this, there would be a need to address issues such as developing research skills, research capacity and resources.

AHP's needed therefore to address a number of challenges. These included a wider range of AHP's with the knowledge and skills to enable them to engage in research activities, become informed consumers of research, participate in and lead research initiatives, and engage with the wider research community. This would be necessary in order to produce evidence to underpin clinical practice and to develop a research culture within the professions.

Framing the contribution of AHP's - Delivering High Quality Healthcare (DoH, 2008e) also made an important contribution to making the best use of the expertise available from these professional practitioners in advancing the wider Health for All agenda of government. The AHP'S were seen as integral to the successful implementation of this major initiative and were acknowledged as autonomous practitioners operating at a level which provided the potential for them to play a major role in integrating health and social care.

While this recognised and reinforced the important contribution of the AHP's particularly with regard to their front line, direct, often first contact role across the spectrum of care from primary prevention to specialist care, it also emphasised the improvements needed to assist AHP's in further advancing high quality healthcare.

Three key strands to improve AHP services were proposed:-

- to mandate the collection of referral to treatment time for AHP services,

- to improve access, making use of self-referral to AHPs where appropriate, to improve quality and empower patients. (p.8)

The commitment required from the AHPs was to grasp the opportunity these developments would provide for them to have a major impact on the quality of care at both regional and national level. The report provided considerable detail on the planning designed to facilitate these improvements and set out a timeframe to mandate the AHP's to implement the changes that would arise. These would enable practitioners to understand how they were performing and facilitate future service improvements:-

- collection of referral to treatment data would commence in 2010,
- ease of access would be advanced by promoting the merits and the benefits of self-referral to physiotherapy services and through a range of local and national initiatives encouraging extending this to other AHP provision,
- improvements in quality would be advanced through the development of an integrated set of quality metrics which would have a particular focus on services provided by clinical teams including AHP's,
- the implementation of the concept of information prescriptions would be used to empower patients and clients and to give them more choice and control over the management of services designed to meet their needs.

The commitment to implement recommendations within the Modernising Allied Health Professions (AHP) Careers: A Competence-Based Career Framework (DoH, 2008f) was designed to facilitate the further development of the knowledge, skills and competence base of the AHPs and a realistic clinical academic training pathway for AHP's which would include research based Master's and Doctorate level programmes and would also be seen as enabling significant advances to be led by AHP's. It was also envisaged that the academic training pathway would include strands concerned with Clinical Leadership and a role for Senior Academic Clinical Leaders.

The background to the development of a competency framework for the AHP involved lead AHP officers in England, NI, Scotland and Wales working within the UK Skills for Health initiative since 2005. This collaborative modernising of AHPs careers project was concerned with developing a shared vision for the future and addressed three key areas of developing competencies relevant to the work of the AHPs. These were concerned with mapping roles and encouraging the use of learning design principles in developing qualifications and awards.

The competency based framework demonstrated the contribution that the AHP could make to service improvement and focused on leaders of the AHPs in England, NI, Scotland and Wales working collaboratively to develop a shared vision for the future. It acknowledged that AHP's played an enabling role across all age groups, provided specialist diagnostic services and were fundamental to the management of chronic conditions. In this regard AHPs were ideally placed to administer early intervention strategies.

In a resume of the role, the report viewed the AHPs as:

- working across all healthcare settings,
- supporting all age groups in illness and in disability,
- enabling children and adults in maximising their skills and abilities,
- developing and optimising healthy lifestyles,
- providing specialist diagnostic services and treatment interventions,
- central to the management of chronic conditions and the provision of rehabilitation support. (p.4)

The current patient centred role of the AHPs was facilitating faster access to services and reducing waiting times. Early intervention strategies designed to support independent living and avoid hospital admission where possible were also seen as having a contribution to make in reducing dependence on services and maintaining employment activities. In advancing a competency based model AHPs were seen as having an advanced practice role with the potential to embrace a medicines prescribing role. The importance of the AHP in delivering integrated health and social care within a collaborative, multidisciplinary clinical team approach was acknowledged as was the need to maximise the contribution these professionals can make by empowering them to lead change and implement health and social care improvements.

The AHPs aspiration was viewed as being concerned with translating policy aspirations into meaningful reality and building services that would be fit for the future. In order to do so however would impose upon the professional groups the requirement that their knowledge, skills and expertise are maximised. To enable this, the competency framework was designed to maximise the contribution that the AHPs could make in the transformation of healthcare for the benefit of patients and clients. The approach to care would need to address the issues of role and service development and career development alongside education planning, commissioning and delivery of services.

The career framework described eight components of a job, and nine different levels at which each functional area might be undertaken. These levels described roles which within a

hierarchal approach which included initial entry-level jobs, support workers, practitioners, advanced practitioners, consultant practitioners and more senior staff. The functional areas were described as:-

- knowledge, skills, training and experience,
- supervision,
- professional and vocational competence,
- analytical/clinical skills and patient care,
- organisational skills and autonomy/freedom to act,
- planning, policy and service development,
- financial, administration, physical and human resources,
- research and development. (p.9)

A logical progression to the developments around the modernising and expansion of the AHPs role was the AHP Prescribing and medicines supply mechanisms scoping project report (DoH, 2009b) This described an initial exercise to determine if there was an evidence base to extend the prescribing and medicines supply mechanisms used by the AHPs. The analysis took account of the outcomes from High quality care for all: NHS Next Stage Review final report (DoH, 2008a) which created a vision that included the potential for frontline practitioners to be empowered as a means of contributing to improving the effectiveness of the patient experience. The report of the NHS Next Stage Review: Our vision for primary and community care (DoH, 2008b) had promoted collaboration across traditional boundaries in order to advance more integrated care. A further element was contained within A High Quality Workforce: NHS Next Stage Review (DoH, 2008d) which endorsed flexibility, responsiveness and patient-focused dimensions as being fundamental to developing an effective healthcare workforce.

The AHPs prescribing and medicines supply mechanisms scoping project report (DoH, 2009b) suggested that there was a need for greater flexibility in the arrangements for the prescribing and medicines supply arrangements by the AHPs. Given the lead role undertaken by the AHPs this could reduce treatment days and overall improve the patient experience. However the case for change was seen to differ for each profession within the AHP group given that they have differing roles and experience regarding the use of medicines. In drawing conclusions and proposing the need for further exploration the report indicated that there was a strong case for physiotherapists and podiatrists to have responsibility for independent prescribing and that some evidence could be advanced to support the progression of independent prescribing for radiographers. In addition a strong case could be made for supplementary prescribing to be within the role of dietitians and

there may be a case for speech and language therapists, orthoptists and occupational therapists to undertake supplementary prescribing. Consideration could be given to supporting a strong case for a specific list of Exemptions for orthoptists with the possibility of a specific list of Exemptions for dietitians alongside supplementary prescribing responsibility for this profession. Finally the report prioritised the work that now needs to be taken forward designed to finalise outcomes regarding these issues.

Taken together the actions required to facilitate key components of these visions were taken forward in Transforming Community Services: Enabling new patterns of provision (DoH, 2009c). These developments acted as drivers for advancing the role of the AHPs in delivering high quality health and social care, and as first contact practitioners engaging with primary preventative care through the whole spectrum of service provision up to the level of specialist care including rehabilitation. This was also in keeping with Framing the contribution of allied health professionals: Delivering high quality healthcare (DoH, 2008e) discussed above which was concerned primarily with improving the contribution AHPs can make to delivering high quality care.

The significant developments that have taken place in the AHP role in NI reflect reforms and changes that have taken place in other parts of the UK and these provide the potential for further change. There is commonality regarding the developing and expanding role of AHPs arising from wider healthcare and service developments and from research and development initiatives. The more recent policy developments indicate considerable potential for the future contribution AHPs can make to the provision of quality healthcare. However this must acknowledge the need for an extending and expanding role for the AHP within the current health and social care arrangements and for further advances in research and development activities.

## 1.5 The International Dimension – Broad perspectives

There are wide variations in the designation of what constitutes AHP's across the globe and there is no common definition that applies universally. The term is frequently used to describe a designated group of locally recognised therapy professions but this will vary on a national and international basis. In addition in many instances there is a limited range of international literature on the AHPs generally and more specifically on research in some but not all of the areas of practice undertaken by AHP practitioners in the UK.

While this renders direct international comparisons of AHPs across nations difficult the strategic direction of health and social care policy and practice, including in particular primary care where AHPs have an increasingly significant role shows a considerable degree of consistency. Equally the relevance of research and development which would impact on those carrying out an AHP role has been influenced by international developments and global trends in healthcare and its management.

Evidence based health system reform is linked with health policy development across the international spectrum and at both regional and national levels. The World Health Organisation has been engaged with health systems analysis in most regions of the world. Western European countries present with a range of government initiatives and strategies on health reform and systems development. Four broad themes can be identified as key aspects of health system organisation: economic factors; variable degrees of localised responsibility and planning; levels of citizen involvement and empowerment; and the role of public health administration. Another key factor is the efficiency with which health services are delivered. Steps taken by governments and policy makers to improve efficiency include:-

- re-structuring of the healthcare system,
- quality assurance drives,
- promoting primary and community care, and
- concerns regarding the need for effective measures of healthcare interventions at both systems and delivery levels.

These are areas of development that are replicated throughout the earlier analysis of policy formulation within the UK including NI. In addition it is within these areas that both health professions and other key stakeholder and user views can be accessed to identify priority areas for development and research.

The WHO World Report on Knowledge for Better Health (WHO, 2004) was an important analysis and review of the contribution that the health knowledge base can make to the provision of safe and effective healthcare interventions at both systems level and with application to care interventions. It was therefore influential internationally and had application for individual countries and their individual systems and the healthcare practice professions who deliver them. Science was seen as a conduit for advancing not just academic knowledge or technological and pharmaceutical development but also to improve healthcare systems. It is the application of such science to the care situation that was seen as paramount within the context of differing healthcare systems and populations.

In order to make the best use of knowledge development the report emphasised the importance of the interaction between health systems and research systems in order to maximise the potential of both. At the interface a culture of mutual learning, problem solving and innovation should be shared values. Organisational research structures should be managed effectively with efficient resource allocation and a focus on health problems that have an impact at national level should underpin the generation of research activity and the application of new knowledge. Included within the recommendations of the report and the action plan arising was the proposition that there was a need for research to 'be strongly focused on narrowing the gap between what we have the knowledge to do and what is actually done, and on developing a culture where decisions taken by policy-makers, health professionals and the public are based on evidence' (p. 131).

The involvement of countries in global research and wide distribution and dissemination of research findings should be designed to facilitate the access by users of research and stakeholders in a format that is meaningful to them. This would facilitate policy makers in their decision making processes and other main users including health professionals, researchers, patients and the general public. Building on existing knowledge and translating knowledge into action are main themes throughout this report and suggest that this requires the development of evidence-informed health policies and practices and importantly emphasised the closer collaboration between researchers and users of health research to shape the research agenda in order to achieve meaningful outcomes to improve health. The report identified that key priorities for health systems research need to be identified and that new methodologies and innovations are required in order to respond to the changing environment within which healthcare systems currently operate. Equally the need to reach beyond academic institutions and laboratories to ensure greater involvement of service providers, policy makers, and the public and civic society in research activities is emphasised.

From the research perspective the UK and NI developments which have taken place within the R&D agenda over the last decade and which continue to be advanced reflect the sentiments of this report and can claim to have embraced the recommendations arising. Nevertheless the messages for health systems and professional practitioners remain highly relevant given the limitations that continue to exist regarding research activities and knowledge development in some sectors.

The World Health Report, Now More Than Ever (WHO, 2008) focused on the need to drive a primary care agenda on a global basis. This was seen as a response to a widespread demand across nations for improved primary care provision incorporating knowledge related

healthcare systems that are more equitable, inclusive and fair. The four key areas for reform postulated relate to universal coverage, service delivery, public policy and leadership. A major focus of the report was concerned with promoting the concept of 'putting people first' and translating this through strategies which are person-centred, comprehensive and integrated. Within strategies to address the challenges which underpin this report were key reforms. These included the need for both service delivery reforms and public policy reforms that secured healthier communities through integrated public health strategies. From a global perspective individual countries were invited to drive the reforms cognisant of the specific circumstances which pertained to them and in so doing draw on the best available evidence that could inform effective change. Important from the perspective of health professionals at the centre of the community this vision embraced a structure designed to promote continuity of care with regular points of entry to the healthcare system. This would facilitate the construction of relationships between patients/clients and healthcare professionals that were enduring and based on trust. Throughout the analysis the importance of effectiveness and safety regarding patient/client care and care interventions was emphasised as was the contribution to improving healthcare decision making of evidence-based medicine since the 1980's. The report acknowledged that the continued use of evidence-based practice has improved the choices available to health practitioners with regard to the care they provide.

Another highly relevant aspect of the discourse was the recognition that the role of healthcare workers placed at the interface between the population and service provision was complex given the holistic nature of the care required. This care giving could involve physical, emotional and social concerns of patients/clients and include their whole life experience within the realities that constitutes the world within which they exist. Knowing people within a community and caring for individuals in the family and community environment can provide opportunities for healthcare professionals to identify individual and community needs that may not be easily accessible when patients are managed within other sectors of healthcare provision. Care systems and strategies that were based on a person-centred approach, were integrated and comprehensive with continuity of care involving families and community were seen as the desired outcomes envisaged by the report. In order to deliver a primary care system based on this strategy, multidisciplinary teams located close to the designated catchment they serve should be promoted together with the need for effective coordination strategies with other healthcare sectors involved.

In the context of the UK and NI many aspects of recent strategic developments resonate well with the direction outlined in this WHO report and acknowledge clear implications for all healthcare professions working within the primary care sector including AHPs. The role of

the AHP relates closely to the multidisciplinary, community relationship and care delivery implications of this analysis.

In a European context a White Paper: Together for Health: A Strategic Approach for the EU 2008-2013 (Commission of the European Communities, 2007) reflected the changing nature of health and the need to be responsive to meeting future challenges. The White Paper acknowledged the challenges to the health of populations in Europe, including:-

- demographic change including disability and population ageing,
- threats to health including pandemics and major physical and biological incidents,
- the evolution of healthcare systems influenced by rapid technological advances including innovation in genomics, biotechnology and nanotechnology. (p.2/3)

The detail associated with these developments would significantly influence the way health was promoted and how illness was predicted, prevented and treated. In an effort to take forward aims designed to deliver a new health strategy for Europe consultation resulted in a consensus on how the EU should carry out its role in health and concluded the need for strategies and integrated policies that would:-

- reduce inequalities,
- play a stronger role in global health,
- focus on health promotion
- improve health information. (p.3)

One particular factor influencing global health is therefore the continuing impact of change and this theme was expanded in the World Health Organisation (WHO) Europe Office Health Report (WHO, 2009) which recorded that while there have been improvements in healthcare provision in the European region, countries continue to experience significant demographic, epidemiological and healthcare changes. Controlling communicable disease, an increase in chronic illness and disability leading to increased demand for long-term care and the accelerating cost of healthcare are also viewed as major challenges. This would influence future health demands and challenges throughout Europe and worldwide. In continuing to advance the improvements in the quality of care that have been achieved this report emphasised that the changing nature of healthcare would require a skilled and flexible workforce. In the European Region the pace of change has produced a number of key factors that would impact on the professional practice of all disciplines. These factors are replicated in many parts of the world including the UK:-

- changing patterns of disease,
- demographic factors,
- informed and demanding consumers,
- new technologies,
- growing demands for evidence-based practice,
- changes in the boundaries of healthcare workers, and
- prevailing downward economic conditions.

Worldwide there are examples of recurring themes within policy development that reflect the main changes that have taken place internationally over time and which continue to influencethe role and function of healthcare professionals. These include:-

- public education, health promotion and prevention,
- the need for ongoing research to inform and reform practice and health systems,
- impact on health of wide lifestyle habits and practices,
- the health impact of socio-economic and cultural factors,
- development and management of the healthcare workforce,
- the need for integrated and streamlined services,
- funding and cost-effectiveness of health systems,
- reduction of inequalities,
- improvement access for all to appropriate healthcare.

Associated with these themes and underpinning much of the strategic development involved is the need for research to be an integral part of policy formulation and this can be found in the healthcare strategies adopted by many countries across the globe. In most of the Western economies there is also considerable commonality with the WHO European Region response which has driven quality improvement through an agenda which has included measures to improve patient safety, new regulatory systems, incorporating quality assurance into professional training together with continuous professional development strategies and pursuing clinical guidelines and audit. A significant aspect of the report was concerned with health reforms designed to strengthen primary care reported from across the region. While there are variations in the approaches adopted there was a common thread of development aimed at changing funding arrangements and responding to the needs of communities through reorganisation and delivery of primary care services.

In the United States of America, Advancing the Nation’s Health, A Guide to Public Health Research Needs, 2006-2015 (US Department of Health and Human Services, 2006) was a

comprehensive analysis concerned not just with the importance of establishing an extensive range of national public health research priorities in the USA but also related to the contribution that international collaboration in health research can make to managing global health and disease challenges.

The report was designed to serve as a resource for research that could be addressed in response to current and future healthcare needs in the US and beyond. Health protection research is a particular focus which encompassed research that supported health promotion, prevention of injury, disability and disease. It emphasised therefore that protecting and improving health and wellbeing is at the heart of public health and that research is central to achieving this goal. From a health research priorities perspective the report addressed the national and international challenges to health and identified the need to engage in community-based participatory research to improve the effectiveness of behavioural communication and health interventions which could assist in managing the containment, spread and treatment of disease and reducing risk to populations. Associated with these challenges the need to develop evaluation tools to measure outcomes that would determine the effectiveness of health promotion strategies was emphasised. In addition the importance of evaluating methods for the dissemination and application of research outcomes and interventions where there is evidence of their effectiveness was highlighted. Within an analysis of the research priorities that should be addressed within the US and which had implications for the international community was included the need to develop, evaluate, and apply outcome measures for public health practice. The report reflects upon the major health problems facing the world:-

- emerging infections including influenza,
- obesity,
- age related issues, and
- the impact of natural disasters.

These challenges place increasing demands on public health organisations faced with resource limitations. The need therefore for research to facilitate health professionals to be able to make better use of available resources was seen as paramount and should include the need to identify and evaluate best practice and strategies to strengthen the impact the public health workforce can make in advancing improvements and quality. The research priorities identified within the report extended across a broad spectrum of areas including:-

- social determinants of health and health disparities,
- physical environment and health,

- health systems and professionals,
- public health science, policy, and practice,
- public health education and promotion,
- human genomics in public health,
- mental health and well-being,
- law, policy, and ethics,
- public health education and promotion.

Within this breakdown research into health education and health promotion was given some prominence because it represented a collective approach and a combination of methods and strategies involving a number of healthcare disciplines including behavioural, social and health sciences. The focus of health education and promotion was also important given its wide application to populations through its concentration on the knowledge, attitudes, values and beliefs of individuals, cultures, social groups, communities and organisations.

In the current world economic conditions and the potential resource implications facing healthcare, the view expressed in the report that health promotion research has the potential for reducing costs in health provision is important when determining health related research priorities. Research on all aspects of health education and promotion was therefore seen to be fundamental to supporting evidence-based approaches to health and wellbeing of the US population and across the globe. The report also promoted a strategy to ensure that research across the public sector should build on existing strengths and maximise interdisciplinary contributions in order to facilitate the contribution research findings could make informing public health policy. The resultant programmes of care that could emerge would then be designed to advance more effective and efficient healthcare interventions.

In 2007 the US government set out its five year plan for healthcare development through the publication of the US Department of Health and Human Services Strategic Plan Fiscal Years 2007-2012 (USDHHS, 2007). This was designed to address healthcare, public health promotion and protection, disease prevention, emergency preparedness, human services and scientific development with a vision of improving the health and well-being of the nation. Within the context of healthcare the overarching strategic goals were concerned with improving safety, availability, quality, affordability and accessibility, and with recruiting, developing and retaining a competent healthcare workforce.

In keeping with other international and national trends public health promotion and prevention was given prominence and strategies to prevent and control disease including infection, illness and injury were addressed alongside disability across the lifespan and were

seen as fundamental to achieving positive health outcomes on a national basis. The importance of promoting and valuing life, the family and human dignity through advancing and strengthening the economic and social well-being of individuals, families and communities was emphasised. There was also an acknowledgement of particular needs, including protection and well-being of the young, youth and older people. Integral to all other considerations within the strategy was research and development and a commitment to advancing scientific and biomedical research and development as it related to health and service provision. This would be advanced by increasing the knowledge base to improve human health and strengthening the pool of qualified health and behavioural science researchers. The need to undertake applied research directed at improving health and well-being and for research findings to influence clinical, public health and service provision were key objectives. The strategy incorporated the means through which it envisaged the achievement of the objectives across the nation through a wide range of organisation and professional groups. Although the strategic plan was macro in nature, the main thrust and direction had clear implications for all professional groups engaged in healthcare provision across the US. This attention to quality improvements and for health promotion, prevention of ill health and the identification of research priorities resonates with similar developments in Europe and other international regions.

The development of healthcare in Australia has followed patterns which have been influenced by the wider international dimension of healthcare management and through the influence of a rapidly changing local agenda. Issues of organisational structure, quality, accountability and research and development are reflected in their strategic development and policy making. In keeping with other countries primary care has received considerable attention given its perceived contribution to improving the health and well-being of nations.

Prioritising research figured prominently in developments and Priorities for Primary Health Care, Research, Evaluation and Development in Australia (DHAC, 2001) was the first stage of a priority setting process designed to advance a wider government strategy to develop and maintain an evidence based approach to health service delivery decision making. This was designed to support the primary healthcare research community and addressed priorities and maximised expertise across the key disciplines involved in the delivery of primary healthcare. Developing the knowledge base that would underpin evidence for effective practice and fostering skills and evidence based cultures among primary healthcare practitioners were major objectives of the exercise. The priorities identified in this first stage report in 2001 were within the broad areas of:-

- evidence based practice,
- quality of care,
- models of organisation and deliver of primary healthcare,
- integration and multidisciplinary practice,
- economic issues,
- health inequalities and determinants of health,
- illness prevention and health promotion.

These research areas are replicated throughout the strategic planning across the greater part of the international community and certainly represent the direction of healthcare provision and the research agendas of the major developed regions of the world. Included with the groups involved in a scoping exercise to identify more detailed prioritising were some but not all of the professional groups who would be included within the definition of AHPs in NI.

Research to strengthen the evidence-base theme in primary care was seen to be fundamental to all the others and was required for effective decision making, translating research findings into practice and for developing processes and strategies to achieve best practice in primary care services. Quality and research to address measures of structure, and processes and outcomes that are related to quality of care were emphasised. The effectiveness and efficiency of models of care delivery and research into the development of multidisciplinary primary healthcare practice were considered to be important areas requiring attention together with a wide range of issues related to health inequality and health determinants. The report also emphasised the need for research at delivery and organisational level. In particular, research into primary healthcare interventions that effectively address risk factors associated with chronic disease and into early intervention initiatives and strategies to promote health and well-being across the life cycle were promoted.

Phase 2 (2006-2009) of a Primary Health Care Research, Evaluation and Development Strategy Plan (DHA, 2005) for Australia built upon the earlier developments that had taken place over the first part of the decade and reported that an evaluation of the strategy undertaken in 2004 indicated that significant progress had been made in increasing research capacity within the primary care sector. This had facilitated the sector to engage in relevant research and development activities but there remained further work to be done in order to advance the strategy. In particular an important message was that attempting to embed a research culture within the primary healthcare sector within the five year timeframe

envisaged was not realisable. There are implications in this conclusion for professional groups who do not have a well established research culture and included here would be some groups within the AHP family in NI.

This current phase of the strategy concentrated on expanding a well trained primary healthcare research workforce, engaging in more research projects relevant to practice and policy, advancing the dissemination of evidence based on research in order to ensure that primary care practice and policy was research aware and well informed. With the opportunity to evaluate this strategy the Australian government identified strengths and weaknesses and were able to take account of the ongoing impact of social, economic and political change; circumstances not dissimilar to other parts of the world including NI.

The report made some important and relevant observations. For example there was emphasis on the need to demonstrate value for research money by applying a carefully managed strategic approach to decision making and priority setting in order to maximise the benefit of relevant and high quality research activities. The importance of taking into consideration the current and future needs of healthcare practitioners when establishing research priorities rather than the agenda being determined by other influences would seem to be self-evident but nonetheless was seen as a problem. Another important observation was the ease with which broad priority areas for research could be identified. However translating those into meaningful research activity could be complex and challenging. Consequently it was concluded that there was a need for consultation and collaboration between funders, policy makers, researchers and the consumers of research findings. In particular the report emphasised that policy makers and healthcare practitioners need to view the evidence from research as relevant and their active participation in priority setting as important.

On the broader issues of healthcare provision and its management in Australia, A Healthier Future for All Australians, Final Report (NHHRC, 2009) was a national plan for health reform designed to benefit the population now and in the future. This was a comprehensive report which described the need for reform and the means of achieving changes necessary to improve the health and well being of individuals, their families and communities, especially where there were identified inequalities. Three overriding goals were concerned with addressing the major access and equity issues currently within the healthcare system, redesigning the system so that it is better prepared to respond to emerging challenges and the creation of a more agile and self-improving healthcare system. A wide range of strategies were proposed in order to address these issues and particularly relevant for the

purposes of this review were the strategies relating to primary healthcare provision and to the research and development agenda. Strengthening primary care services in the community based on the need for people to be able to access the right care in the right setting was strongly argued and supported by emphasising that the community should be the first point of contact for providing care. The nature of care envisaged in the community would built upon general practice and embrace a comprehensive service that could deliver health promotion, early detection strategies including interventions, and the management of individuals with acute and chronic conditions. In order to deliver such a service effectively an integrated multidisciplinary primary care focus was essential in order to provide a coordinated approach in the management of people with complex health problems, including:-

- chronic conditions and disabilities,
- families with young children
- disadvantaged groups.

Reorganised primary healthcare structures would facilitate the better management and coordination of services and this would be enhanced by the more effective utilisation of specialists in the community who should be acknowledged as having a central role in the shared management of particular groups. This would include meeting complex and chronic healthcare needs. There were clear implications here for a range of healthcare professionals working in both the hospital setting and the community. In tandem with these plans was a strategy to drive continuous improvement through innovation and research. The means of achieving these objectives included strengthening organisations with responsibility for quality and for disseminating evidence, improved investment in health related research, funding clinical education, and establishing clinical research fellowships. These strategies would also be concerned with promoting a culture where research was valued and advanced as an integral component of providing quality healthcare. These recurring themes serve to reinforce the importance of AHPs in NI having a meaningful research agenda including the identification of research priorities which reflect the healthcare needs relevant to their areas of practice.

Similar strategies to those which can be observed from the foregoing analysis of international perspectives have also been common features of developments in the Republic of Ireland (RoI), a close relative geographically of the UK and in particular of NI where it shares a common border. In recent years in Ireland there have been a number of policy documents which are relevant to this enquiry. Quality and Fairness – A Health System for You (DoHC, 2001a) established national goals for the health service, reflecting the need to

provide better health for everyone, including improved access and a more responsive and effective care delivery system based on high quality care. Research and evidence based practice were seen as central to achieving these goals and for the future development of quality services. An important aspect of the research objective was the need to provide support for health research and in particular supporting health professionals who were anxious to carry out research on identified needs.

In the same year two other significant policies were published. The first of these was Primary Care – A New Direction (DoHC, 2001b). This moved the focus of healthcare provision from the acute sector to primary care settings and maximised the potential for providing treatment and care near or at the patient's environment together with a shift of emphasis from a curative approach to one concerned with promoting health, preventing ill health and with having an overall concern for quality of life issues.

The second of these publications, Making Knowledge Work for Health – A Strategy for Health Research (DoHC, 2001c) made a fundamental contribution to advancing research and development in the country and highlighted the role of research in improving the effectiveness and efficiency of healthcare services. Taken together these policies provided a framework for structural reform, a shift of emphasis in favour of community care provision and a role for research in providing an evidence-based approach to effectiveness and efficiency.

In 2006 a further series of publications influenced healthcare in the ROI across the sectors and in particular the continued relevance of research. Important here was the strategy document Towards Better Health – Achieving a Step Change in Health Research in Ireland, Advisory Council for Science, Technology and Innovation (Foras/DoHC, 2006). The step change envisioned was concerned with advancing the level and quality of health research and innovation. The need for professional groups including clinicians to have the required knowledge, skills and experience to deliver high quality healthcare based on the best available evidence and technological advances was seen as paramount. The widest possible engagement in research, involving the total healthcare system was recommended in order that the service would be capable of making the best use of therapeutic and technological advances. If this was to be achieved an increase in the number of trained researchers and technicians were to be linked to centres of academic and industrial excellence.

Primary Care Research and Development in Ireland (HRB,2006) was commissioned by the Health Research Board and undertaken by Professor Mant to investigate the present state of research and development activity within primary care in Ireland. The findings reflected

limitations in both research activity and research capacity within the sector. One section of the report dealt specifically with speech and language therapy, occupational therapy and physiotherapy. There was some evidence of a wider involvement of professions other than GP's in research but this was limited and it was concluded that there was a need to expand research and development across the therapy professions. This would be seen to be fundamental in advancing an evidence base and for professional development.

This situation led to the publication of the first strategy for the therapy professions, The National Therapy Research Strategy, Therapy Research – Delivering Best Health: A Strategy for the Therapy Professions in Ireland 2008-2013 (DoHC, 2008a). There was recognition of research strengths within the therapy professions but these were not readily identifiable and needed to be identified and disseminated. Research in the therapy professions was currently piecemeal in fashion with a lack of clear strategic direction. To facilitate its development and further its research capacity there were commitments to providing infrastructure including leadership roles, partnerships, funding and the development of career pathways for the therapy professions. Aspects of this analysis of the research limitations of some therapy professions are replicated in the UK including NI.

The overall goal of the strategy was designed to establish therapy research in Ireland over a five year period based on the following strategic goals:-

- develop excellent research capacity and resources in the therapy professions to undertake high quality research,
- promote good research governance to ensure all therapy is conducted to high scientific and ethical standards,
- ensure clear direction for research activities through agreed therapy research priorities,
- support and build on an evidence-based culture,
- ensure effective dissemination of research findings.

Given the specific focus of the present study of research priorities in NI these strategic goals are of particular interest and the specific goal relating to research priorities highly relevant.

The RoI strategy emphasised that research priorities should be determined and be aligned to overall national priorities for healthcare research. In addition existing multidisciplinary research networks should be further strengthened and others established to ensure optimisation of research efforts and outcomes. Finally therapy research priorities must be aligned with those of other sectors including education, environment, transport, trade, enterprise and employment to the benefit of the public and to ensure efficient and cost

effective service provision. This is a particularly challenging agenda for the therapy professions.

## 1.6 Summary and Conclusion

There are, from the examples provided in this review, common themes which transcend nations and have influenced policy developments across all sectors of healthcare provision. These include broad issues involving service integration, promoting primary care strategies, equality and fairness, governance and accountability, and various approaches to achieving health and well-being of populations. The role of research and the need for prioritising research is evident within the broad debates that are incorporated with strategic developments and the policy formulations which underpin many of the publications included in the review.

Throughout the analysis the need to develop evidence-based care is driven by policy concerned with service delivery systems and the current and future challenges facing health and social care on a global scale. A key influence related to strategies has been the acknowledgement of the fundamental role of research and development in advancing improvements in health and well-being on a national or local basis. Equally the impact on individual professional groups will be profound as a result of the reforms and the future challenges which confront healthcare systems globally.

There is a remarkable degree of commonality in health policy across the western world. The strategic direction of policy in NI is comparable with the developments in Europe and the wider international analysis. Broad examples of areas of change include:-_

- the shift from hospital to community care,
- greater emphasis on prevention and health promotion,
- reduction in health inequalities,
- a concern for clinical and cost effectiveness, and
- the health and well-being of the population as a whole.

Trends and developments on this scale have profound implications for the therapy professions with regard to their role in achieving improvements in the organisation and delivery of primary care services. Already committed to significant changes in their role, this results in the potential for further expansion and extension of their traditional roles including:-

- community care leadership responsibilities,
- multidisciplinary working,
- therapy intervention management within care pathway structures,

- patient, client and family education strategies,
- developments toward self referral and
- developments in prescribing arrangements.

Given the scale of input the caring professions must provide in healthcare delivery where AHPs, nurses and midwives are frequently the largest combined group providing direct patient care these groups are confronted with the challenge of developing a significant knowledge base which can be seen to be robust and effective.

However each of the professions under the AHP grouping in NI offer a unique and distinct contribution to improving the health of individuals and groups within the hospital but increasingly within primary care settings. They all share a commitment to improving outcomes for service users and to developing a better evidence base to underpin their practice.

As a result of the impact of policy change AHPs are now responsible for a significant and variable range of patient and client services many of which are innovative at the interface of change in the community and commonly are based on team and multidisciplinary working arrangements. For example AHP's are increasingly involved with:-_

- empowering patients and clients by improving access, choice and convenience in respect of primary healthcare services.
- physiotherapists are involved with self-referral schemes (particularly in England) and have a lead role in some aspects of musculoskeletal services.
- dietitians can have an increasingly important role in key social and health issues including obesity management.
- podiatrists have a leadership role in high-risk foot protection teams and lead vascular triage services. In the mental health sector vocational support involves occupational therapists.
- speech and language therapists engage with the complex management of language delay in early school children.

There are also circumstances where therapists combine to provide services within a team approach in supporting patients at home rather than requiring hospital admission. Independent and supplementary prescribing are now considered to be realistic extensions to the role and would further accelerate access by patients to medication management services.

Within the increasing complexity of national aspirations for improvements in health and well-being the need for professional practice in NI to be located within a knowledge base that will contribute to effective clinical interventions is an imperative. All the professional groups involved need to invest in the development of education, training and other aspects of building research capacity that will enable them to confront the challenges that arise from policy developments.

While the challenges arising from policy development in NI for AHPs are significant there is within a number of the key therapy professions an existing and well developed research portfolio and a well established research culture that will assist other groups who are at the stage of building capacity. For all parties however the identification of research priorities is an immediate challenge arising from health and research and development policies and strategies. These policy objectives and strategies contain within them direction and context for research activities and the identification of research priorities that would be meaningful and relevant to the therapy professions. In the chapter which follows a review of the relevant research literature is provided with particular emphasis on the setting of research priorities for these professions.

# Chapter 2: Identification of Research Priorities for the Six Main Therapy Professions in Northern Ireland

## 2.1 The Delphi Technique

The Delphi technique is a structured process, which uses a series of questionnaires (known as 'rounds') to gather information. This process continues until consensus has been reached (McKenna & Keeney, 2008; Keeney *et al.* 2006). Originally developed by the RAND Corporation, the technique was named after the Greek Oracle at Delphi. Since its inception the Delphi technique has evolved into a number of modifications. Each type of Delphi has one of two aims – to either gain consensus on an issue or to identify priorities – but can differ in the process used to reach these aims. The different types of Delphi include the classical Delphi (McIlfatrick and Keeney, 2003), the modified Delphi (McKenna, 1994), the policy Delphi (Crisp e*t al*., 1997), the real-time Delphi or Conference Delphi (Beretta, 1996; Gordon and Pease, 2006) and more recently the e-Delphi (Avery *et al.*, 2005; McIlrath *et al.* 2009). There are a large number of studies in the literature reporting on studies using these different manifestations and this is a tribute to the flexibility of the method. Three members of the research team have published and presented internationally on this methodological approach over a period of twenty five years (McKenna, Keeney and Hasson).

The Classical Delphi, which was used in the present study, involves the presentation of a questionnaire to a panel of 'informed individuals' (known as experts) in order to seek their judgment on a particular issue. After they have responded, data are summarised and a new questionnaire is designed based solely on the results obtained from the first round of results. This second questionnaire is returned to each participant and they are asked (in the light of the first round's results), to reconsider their initial judgement and to once again return their responses to the researcher. Repeat rounds of this process may be carried out until consensus, or a point of diminishing returns, has been reached. In essence, the Delphi technique is a multistage approach with each stage building on the results of the previous one. Hitch and Murgatroyd (1983) viewed the technique as resembling a highly controlled meeting of experts, facilitated by a chairperson who is adept at summing up the feelings of the meeting by reflecting the participants' own views back to them in such a way that they can proceed further - the only difference is that the individual responses of the members are unknown to one another.

## 2.2 Expert Sample

An expert panel has been defined as: a group of 'informed individuals' (McKenna, 1994); 'specialists' in their field (Goodman, 1987); and an expert is defined as someone who has knowledge about a specific subject (Davidson *et al.,* 1997; Lemmer, 1998, Green *et al*., 1999). Deciding on what experts to include in the Delphi panel is regarded as the 'linchpin of the method' (Green *et al*., 1999) and is the first step in this methodological process. However, there is no universal agreement on what size the expert panel should be and little agreement exists regarding the relationship of the panel to the larger population of experts and the sample method employed (Green *et al*., 1999, Williams & Webb 1994).

The importance of using 'criteria' to select a Delphi expert panel has been growing in popularity and prevalence in recent years (Keeney *et al*. 2006). For example, criteria may include having published at least one paper in the area of investigation if it is an academic issue, or having ten years clinical experience in a certain role if the area of investigation requires specific clinical knowledge.

## 2.3 Consensus

Lindeman (1975) maintained that the Delphi is especially effective for those difficult areas that can benefit from subjective judgments on a collective basis, but for which there may be no definitive answer. Therefore, it would be difficult, if not impossible, to achieve 100% consensus between any group of people on such issues and experts are no exception. A key concept within the Delphi and one which has stimulated much debate is what percentage of agreement among expert panel members constitutes consensus. Loughlin and Moore (1971) believed that 51% was an acceptable consensus level. Other researchers have set much higher levels of consensus including Green *et al.* (1999) who set their consensus level at 80% while McKenna *et al.* (2002) used a level of 75%. While there is no universal agreement or guidelines on the level of consensus, Keeney *et al.* (2006) suggested that researchers should decide on the consensus level before commencing the study and consider using a high level of consensus such as 70%.

## 2.4 The Delphi Technique and Health Research

The use of the Delphi technique in health research generally has been increasing rapidly in recent decades. Bond and Bond (1982) used the technique to establish clinical nursing research priorities as did many others (Lindeman, 1975; Alderson *et al*., 1992; Forte *et al*., 1997; Lynn *et al*., 1998; Daniels and Ascough, 1999; Soanes *et al*., 2000; Cohen *et al*., 2004; Annells *et al*., 2005; Back-Pettersson *et al.,* 2008). The use of the Delphi technique to

identify research priorities in other areas of health research is also common, including school nursing (Edwards, 2002); HIV/AIDS research (Sowell, 2000); occupational health (van der Beek *et al.,* 1997; Sadhra *et al.,* 2001); occupational medicine (Harrington, 1994; Macdonald *et al.,* 2000); health sector library and information services (Dwyer, 1999); oncology (Browne *et al.,* 2002; Efstathiou *et al.,* 2008); paediatric haematology, oncology, immunology and infectious diseases (Soanes *et al.,* 2003) emergency care (Bayley *et al.,* 1994; 2004; Rodger *et al.,* 2004); midwifery (Fenwick *et al.,* 2006; McCance *et al.,* 2007; Butler *et al.,* 2009); respiratory medicine (Sheikh, 2008); orthopaedic nursing (Salmond, 1994; Sedlak *et al.,* 1998); paediatric cancer nursing (Monterosso, 2001); health informatics (Brender *et al.,* 1999); dentistry (Palmer and Batchelor, 2006; Dolan and Lauer, 2008); urologic nursing (Demi *et al.,* 1996) and public health (Misener *et al.,* 1994).

## 2.5 Use of the Delphi Technique in Therapies Research

It is well recognised that health and healthcare, and consequently priority areas for health research, are embedded in social, environmental and economic conditions regionally, nationally and internationally (Labonte & Spiegel, 2003). Web based searches *through* academic libraries and databases, as well as the increasingly used Google Scholar, on the term 'Health Research Priorities' calls up over three million references. The most significant spans across topics as wide as environmental impact on health, women's health, AIDS and vaccine research in developing countries.

Consensus methods have been increasingly applied to identify health research priorities at national and professional level. In the UK and Irish critical care arenas in particular, Vella *et al.* (2000) argued for "*the need to involve as many legitimate stakeholders as possible in the identification and prioritisation of research topics*" (p.976). This is especially so in order to gain a sense of increased ownership and thus likelihood for active uptake among all groups involved.

The extent to which practitioners make use of research findings is a major concern. With regard to Primary Care in the UK, a review by McKenna *et al*. (2003) revealed that practice was not always research-based and that research activity was patchy. Attitudes of Northern Ireland psychiatric nurses to research, as well as the availability of managerial and support structures that encourage research awareness and uptake, were often *ad hoc* in nature and the application of research findings in practice was weak (Parahoo, 1999). More recently, Pennington (2001) cited a number of barriers which preclude the transition of research into speech and language practice including, lack of time, resources and confidence in assessing and evaluating the research literature.

It is crucial therefore that research capacity building among health professions is incorporated into a dynamic strategy. One such regional initiative is reported by McCance *et al.* (2007). Using consensus methods, they addressed both the 'using' and 'doing' of research, as part of the research and development agenda for nursing and midwifery in Northern Ireland. Twelve priority areas were identified including the fostering of leadership and research expertise among individuals and organisations, all within a broad perspective and range of capacity building measures. In the Republic of Ireland, researchers undertook a Delphi study on research priorities for nursing and midwifery. They identified 'outcomes of care delivery' and 'staffing issues', among over twenty further topics, as key areas for future research (Meehan *et al*., 2005),. More recently Butler *et al.* (2009) carried out a three–round Delphi to identify short, medium and long-term research priorities for midwifery in Ireland. Participants identified six high-priority issues with a clinical, management and educational focus for midwifery in the next 3-5 years. The results are being used to guide the focus of future research activities and the allocation of grants by research funding agencies.

Since 2004 the all-Ireland Rehabilitation and Therapy Research Society (RTRS) has concentrated its efforts in developing capability and capacity for research among occupational therapy, speech and language therapy and physiotherapy. Within these three professional groups, physiotherapy shows the greatest capacity (see Hurley *et al.,* 2004). However, this is still limited to a small number of members of the Irish Society of Chartered Physiotherapists (ISCP), primarily those in academic practice and graduate students (full and part time, taught and research) as well as those members of established physiotherapy research groups. Indeed, in a national survey of members of the ISCP (Culleton-Quinn and Yung, 2001), only 14.4% of respondents had completed post-qualification research. It has been noted that while research activities within the profession of physiotherapy have increased in the past two decades, there is not a substantial body of work in any major subspecialty within physiotherapy.

From an analysis of research activity recorded in the UK Register of Therapy Researchers (physiotherapy, occupational therapy and speech and language therapy), Illott and Bury (2002) analysed research capacity within the therapy professions. Members were active in a range of roles, from lead grant holder to participation in ethics and national Research and Development committees. They asserted that as an essential element of evidence based healthcare, research activity as well as research consumption should be continually and strategically developed, through research targets, dedicated centres for research, and

investment in post-doctoral training. This resonates clearly with the aims and activities of the RTRS in Ireland.

The Delphi technique has been used for many purposes within the therapy disciplines. For instance, Henschke *et al.* (2007) used a modified Delphi survey to determine the research priorities of those who manage low back pain. In addition, Ferguson *et al.* (2008) undertook a three-round Delphi in physiotherapy to gain consensus on issues around referrals for low back pain to outpatient physiotherapy. Research using a modified Delphi approach was undertaken in dietetics across seven countries in the European Union (EU) and the USA and Australia to gain consensus among an international expert panel on essential competencies required for effective public health nutrition practice (Hughes, 2004). Other studies using the Delphi to focus on specific therapy areas have included best practice in occupational therapy for Parkinson's Disease (Deane *et al.,* 2003); speech and language therapy criteria for a framework for practice (Rice 1998); intervention categories for physiotherapy for functioning, disability and health (Finger *et al.* 2006); physiotherapists' use of information in identifying concussion (Sullivan *et al.* 2008); defining the sports medicine specialist (Thompson *et al.* 2004); occupational therapy research priorities in mental health (Bissett *et al.* 2001) and leadership, administration, management and professionalism in physiotherapy (Lopopolo *et al.* 2004).

### 2.5.1 Physiotherapy

A major piece of work was undertaken using the Delphi Technique by
the UK Chartered Society of Physiotherapy to identify research priorities for that profession (CSP 2002). Fifty-six research topics were agreed as priorities. Conclusions showed that most areas of physiotherapy are in need of substantial research and the identified research priorities were used by the Scientific Panel at CSP to allocate research funding. Considering the breadth of specialised practice across physiotherapy, the CSP study applied the Delphi technique to a complex sample comprised of a number of specialised expert panels. The cardio-respiratory expert panel, for instance, identified the top ten topics in need of research in the area of cardio-respiratory physiotherapy, including manual chest physiotherapy, passive exercise in ICU and cardiac rehabilitation in chronic heart failure.

As far as wider research foci are concerned, a plethora of topics appear in the general physiotherapy research literature. For instance, Raine (2006) used the Delphi to investigate the Bobath concept as a useful frame for clinical intervention in neurological rehabilitation. They discovered that participants produced expanded understandings of Bobath in clinical practice as a flexible response within the growing clinical knowledge base.

The preparation of an exhaustive listing of physiotherapy research foci would require a study in itself. For the purposes of this report, it is useful to look at the sources and journals which feature as links to current evidence based practice topics on the two professional bodies in UK and Ireland: The Chartered Society of Physiotherapists' website (www.csp.org) and the Irish Society of Chartered Physiotherapists (www.iscp.ie). In a recent edition of the main journal 'Physiotherapy', the following studies were featured; Whiplash Associated Disorder (WAD); social care in rheumatoid arthritis; evidence based guidelines for the management of shoulder pain; the use of video instruction tapes to enhance exercise uptake for patients with shoulder and back pain (Miller et al 2009); and the effectiveness of strength training in COPD (Houchen *et al.* 2009). Elder healthcare support is a topic with a significant link from the ISCP website to the PROP project, an initiative which '*aims to enable physiotherapists working in clinical practice with older people to carry out research relevant to their practice'* (www.medicine.tcd.ie/prop).

Another area of innovative investigation in physiotherapy, recently headlined on the CSP website, is in the application of physiotherapy expertise to mental health. In England, the CSP Clinical Interest Group 'Chartered Physiotherapists in Mental Health Care' (CPMH) recently produced a framework to develop further the potential contribution of physiotherapy to mental health recovery and promotion (CSP, 2007). Service users made a strong contribution to the framework which champions solution-focused, innovative and patient-centred approaches in mental healthcare. Such innovations provide potential scope for the development and application of research capacity within a specialised area of physiotherapy. Whether these topics should only be researched if they reach sufficient consensus to be considered a priority, however, is a key consideration worthy of further debate.

### 2.5.2 Occupational Therapy

According to Bissett *et al.* (2001), identification of research priorities for occupational therapy has been ongoing for over twenty years. In 1987, for example, six general research priorities were identified in the USA. These included: theory development; development of evaluation and measurement instruments; identification of effectiveness of occupational therapy services; refinement of clinical reasoning; increasing community understanding of occupation; and identification and development of research methods for occupational therapy.

In a study carried out in 1998, the College of Occupational Therapists (COT) found that providing evidence of the effectiveness of interventions was the highest priority for respondents (Ilott & Mountain, 1999). Further research priorities for occupational therapy

were identified by COT two years later (Ilott and White, 2001). These, once again, highlighted the effectiveness of specific interventions but also focused on occupational science (which had recently emerged in an attempt to understand the relationship between occupation, health and wellbeing) and occupational therapy service delivery and innovation in a wider health and social care context. Between 2002 and 2005, COT identified research priorities for the specialist sections of the profession. Once again, common themes emerged such as: the relationship between occupation, activity and health; the benefits of occupation-focused interventions for quality of life, wellbeing and financial advantage; increased involvement of service users in research; increased evidence base to support occupational therapy interventions; ongoing development of standardised assessment tools; development of outcome measures for occupation-focused interventions (COT, 2007).

In 2005, the COT commissioned the POTTER project to gain an understanding of the research priorities of its membership. Occupational therapists from all domains of practice, and from the four UK countries, were given the opportunity to contribute. A literature review was undertaken to ascertain service users' and carers' research priorities for occupational therapy. These included: health benefits of increasing occupational choice in interventions; lifestyle redesign to achieve everyday living skills; service re-configuration to benefit service users; outcome measures research to link interventions to outcomes; greater inclusion of service users and carers at all stages of the research process. The project also included a review of national policy documents from each of the four UK countries to identify government priorities for research. These included: ageing and older people; cancer; cardiovascular and cerebro-vascular disease; chronic disease management; coronary heart disease; diabetes; endocrinology; epidemiology; genetics; Infectious diseases; mental health; neurosciences; prevention and early intervention; public health; service organisation and delivery; trauma and rehabilitation (COT, 2007).

Building on the POTTER Project findings, with additional insights from the service user literature and from the College's specialist groupings, the College of Occupational Therapists (COT, 2007) identified key areas in which research should be focused. Some of the overarching topics were: the relationship between occupation, activity and health; quality of life; service user research; testing interventions; and assessment tools.

The purpose of the POTTER Project and the subsequent COT document was to identify research priorities, to inform the research and development strategic vision and action plan (Ilott & White, 2001), and to develop a UK Occupational Therapy Research Foundation (Bannigan *et al.,* 2009). Two consensus conferences were held and a survey involving a

random sample of 25% of the COT membership (n=7,000). However, the response rate equated to 10% of the current BAOT/COT membership. Table 1 outlines the ten top research priorities, which reveals an overarching desire to demonstrate effectiveness (including cost effectiveness) of occupational therapy.

**Table 1: Priorities for Occupational Therapy Research (POTTER Project)**

| | **Top 10 Priorities in Occupational Therapy** |
|---|---|
| 1 | Long-term effectiveness of occupational therapy |
| 2 | The benefits of occupational therapy from the service users' point of view |
| 3 | Effectiveness of early occupational therapy (that is, in the acute stages of an illness/ disease) |
| 4 | Effectiveness of occupational therapy for people with mental health problems |
| 5 | Effectiveness of occupational therapy for people with neurological conditions |
| 6 | Effectiveness of occupational therapy (in general) |
| 7 | Effectiveness of occupational therapy in cognitive rehabilitation |
| 8 | Developing new valid and reliable outcome measures for use in occupational therapy |
| 9 | Effectiveness of specialist areas of occupational therapy |
| 10 | Effectiveness of occupational therapy in intermediate care |

(Source: Bannigan *et al*. 2009)

Duncan *et al.* (2003) remarked on how the COT's (earlier) broad based national priorities did not provide very specific guidelines for any particular area of practice. Consequently, a more targeted Nominal Group Technique survey was undertaken to articulate specific research priorities for forensic occupational therapy. Outcome measures were specified as a priority as were risk assessment tools and group work programmes. These authors concluded that the identification of priorities was worthwhile, but a further challenge is presented by the need to 'gather robust evidence for practice' (Duncan *et al.,* 2003; p55). This need could itself be considered a research priority; indeed efficacy studies abound across the therapies and beyond. An overview of systematic reviews of the efficacy of occupational therapy in different conditions, carried out by Steultjens *et al.,* (2005), found evidence for a positive impact on functioning for occupational therapy input in rheumatoid arthritis and with elderly people.

A different picture emerges when different methods are used to identify research priorities. For example, Bennet *et al*. (2006) identified research topics most often sought by users of the OTseeker database (www.otseeker.com) and compared these with the quantity of topics

available in the database. A random sample of keyword search terms submitted to OTseeker (n=4,500) was coded according to diagnostic and intervention categories, and compared with the amount of research contained in OTseeker in 2004. The most frequently sought topics were relevant to the diagnostic categories of paediatric conditions (19%), neurology and neuromuscular disorders (17%), and mental health (17%). The most frequently sought intervention topics included modes of service delivery, sensory interventions, and physical modalities. Although many frequently sought topics had a correspondingly high volume of research in OTseeker, a few areas had very little research-based content (e.g., fine motor skill acquisition, autistic spectrum disorder).

Research priorities for the American Occupational Therapy Foundation (AOTF) and the American Occupational Therapy Association (AOTA) were identified in 1999 at a consensus conference. They included: providing evidence for the effectiveness and cost effectiveness of occupation-based and environmental interventions, and the influence of occupation on health and well being (American Occupational Therapy Foundation, 2003). In 2003 in the United States, the American Occupational Therapy Foundation (AOTF) reaffirmed research priorities and parameters for occupational therapy for use in guiding funding priorities and programme development (See Table 2). These research priorities are rooted in the World Health Organisation's international classification system for function and disability, known as the International Classification of Function, or ICF (WHO, 2001).

In 1999, a survey of research priorities in mental health by the Association of Occupational Therapists in Mental Health (AOTMH) confirmed that evidence of the effectiveness of occupational therapy interventions (particularly the core areas using activity and occupation) remains an important theme (Craik *et al,* 1999). These priorities were updated in 2001 at which time they remained fairly similar but, in addition, reflected an increased awareness to involve service users in research, research design, and service delivery (Fowler and Hyde, 2002). Bissett *et al.* (2001) also identified research priorities for occupational therapy in mental health in Australia. Five themes emerged including, effectiveness of interventions, the influence of occupation on health and well being, and collaboration with service users. Cusick *et al.* (2008) followed up a 1999 national survey of occupational therapy mental health research priorities in Australia with a focus group (n=8) in 2007 and found that topics identified as priorities 10 years ago continued to be seen as relevant and current to mental health occupational therapists. They continued to be concerned about role definition, intervention efficacy, and service delivery method.

An emerging theme in international occupational therapy research forums (Canadian Association of Occupational Therapists, 2006) is collaborative research between researchers, decision-makers, practitioners and service users. This can potentially produce results that are both relevant to practice and can also inform policy. It can also lower the duplication of similar work across disciplines and organizations.

The College of Occupational Therapists (COT, 2007) most recent research priorities for the profession include: effectiveness and cost-effectiveness of occupation-focused interventions; occupation, health and wellbeing; service delivery and organisation; involvement of service users and carers; and the context of research priorities. It would seem that, in general, research priorities in occupational therapy internationally have not changed substantially over the last ten years.

**Table 2: American Occupational Therapy Foundation Research priorities**

| | **Top 10 Priorities in Occupational Therapy** |
|---|---|
| 1 | Are occupational therapy interventions effective in achieving targeted activity and participation outcomes and preventing/ reducing secondary conditions? |
| 2 | To what extent does occupation-based intervention promote learning, adaptation, self-organisation, adjustment to life situations, and self-determination across the life span? |
| 3 | Are environmental interventions that support occupation effective in preventing impairment and promoting activity and participation at the individual, community, and societal levels? |
| 4 | Where, when, how, and at what level (Body Structure/Body Function, Activity, Participation, and Environment) should an occupational therapy intervention occur to maximise activity and participation, as well as cost-effectiveness of services? |
| 5 | What measures/measurement systems reflect the domain of occupational therapy and identify factors (body structure/body function, activity, participation, and environment) or document the impact of occupational therapy on these factors? |
| 6 | How do activity patterns and choices (occupations), both in everyday life and across the life span, influence the health and participation of individuals? |
| 7 | What is the impact of activity patterns and choices (occupations), both in everyday life and across the life span, on society? |
| 8 | What are the conceptual models that explain the relationships among body structure/body function, activity, environment, and participation? What is the role of occupational therapy within these models? |
| 9 | What factors contribute to effective partnerships between consumers and practitioners that foster and enhance participation of individuals with or at risk for disabling conditions? |
| 10 | What factors support occupational therapy practitioners' capacities to maximize the occupational performance of the persons they serve? |

(Source: AOTF, 1998)

### 2.5.3 Nutrition and Dietetics

Research is recognised as a fundamental part of dietetic practice. In the UK, all registered dietitians at qualification are expected to have achieved the knowledge and skills required to understand, interpret and apply research and should maintain or improve upon these throughout their career (BDA, British Dietetics Association, 2007). In its recently published

research strategy for 2008–2013 (BDA, 2008) the British Dietetic Association (BDA) identified five key components: leading the research agenda; building research capacity; promoting collaboration and involvement; ensuring high-quality research; and advancement of dietetic practice. In addition, an implementation plan that outlines clear objectives and an action plan to ensure effective delivery of the strategy were outlined.

The Irish Nutrition and Dietetics Institute has flagged up current issues and practice initiatives in areas such as coeliac disease, obesity prevention and associated communication management, and diet as related to cancer prevention (www.indi.ie).

The American Dietetic Association (Castellanos *et al.* 2004) has also listed major themes for future research for dietetic professionals. Table 3 outlines the research priority areas. Specific research objectives were identified under each priority area. For example, effective nutrition and lifestyle change interventions details the need for research to examine the facilitators, barriers and models that affect how well dietitians implement research in practice. Customer satisfaction research priority details the need for better understanding of the determinants and predictors of satisfaction among the public regarding the type of practice settings (private, healthcare, long-term care).

**Table 3: American Dietetic Association's Research priorities for Dietetics Professionals**

| | **Priorities in Dietetics (no order)** |
|---|---|
| · | Prevention and treatment of obesity and associated chronic diseases |
| · | Effective nutrition and lifestyle change interventions |
| · | Translation of Research into nutrition interventions and programs |
| · | Effective nutrition indicators and outcomes measures |
| · | Dietetics education and retention |
| · | Delivery of and payment for dietetic services |
| · | Access to safe and secure food supply |
| · | Customer satisfaction |
| · | Nutrients and gene expression |

(Source: Castellanos *et al.,* 2004)

Later, in 2007, a substantial strategic agenda was produced through which the priorities could be made operational (ADA, 2007). This was across a broad spectrum of research from basic science to clinical intervention and policy work. Overall, the ADA identified research priorities for dietetics, nutrition, behavioural and social sciences, management, basic science, and food science, aiming to enhance optimal nutrition and well-being for all (Manore and Myers, 2003).

While the dietetics professional bodies in both the UK and Republic of Ireland have identified research as an important priority, it is recognised that in order to facilitate the successful delivery of such an ambitious research strategy in practice, a culture change within the profession is required in an environment of demanding clinical commitments. A study of the attitudes and perceived barriers to undertaking clinical governance activities by Welsh dietitians identified barriers as being a lack of time to undertake research and reading of research literature and most importantly a lack of funding (Shakeshaft, 2008). No published data currently exist regarding research capacity in the Republic of Ireland or Northern Ireland. Prior to the current study no one has previously attempted to identify research priorities for the profession although it is recognised that many dietitians in both UK and Republic of Ireland are engaged in research at some level.

### 2.5.4 Speech and Language Therapy

In an albeit rather dated paper, Van Hattum (1980) stressed the need for research directed specifically at speech disorders as well as all aspects of the total communication function. In the 1990s work was carried out to examine research priorities in augmentive and alternative communication (AAC) (Beukelman and Ansel, 1995). That work advocated studies to evaluate the impact of AAC on communicational development and to develop tools and strategies for the effective measurement of competencies and outcomes.

Another aspect of research in healthcare provision is systemic research on the provision of therapy services. Winter (1999) described an investigation in Birmingham, England where speech and language therapy managers were asked to profile caseloads in their Trusts in relation to bilingual children. The strong link with educational settings resonates with an ongoing debate in the UK as to how primary care Trusts should plan and deliver speech and language therapy to the school age population (Lindsay *et al*., 2002).

In essence, there is very little literature available on research priorities for speech and language therapy in the UK. This reflects to a large extent the recent entry of this profession into the academy.

### 2.5.5 Podiatry

The Podiatric Research Forum (2003) in the United Kingdom undertook a real-time Delphi exercise to identify the research priorities in podiatry. Priorities were identified in 14 areas including research into the effectiveness of treatment, research into patient compliance and communication. A total of 80 research areas gained consensus and these were then put in order of priority. A series of research topics also reached a state of equilibrium rather than consensus and some did not reach consensus over six rounds. Later Vernon (2005) used a modified Delphi to determine research priorities in podiatry. In six rounds, eight research priorities were defined which covered 14 broad categories. The most agreed topics related to research into treatment effectiveness, followed by targeting of services, cost-effectiveness of treatment, patient compliance, measures of effectiveness, and clinical assessment tools.

Wider research activity within the podiatry profession has explored areas such as management of heel pain (Rome, 2005) and changes in knowledge, functioning and self-care in patients with diabetic foot problems in the Netherlands. In the Dutch study, not only was ulcer healing noted to have improved post-podiatric care, so too were achievements in the realm of preventive goals (Rijken *et al.,* 1999). The topic of evaluating orthotic foot appliances was the focus of an extensive clinical audit at Norwich Primary Care Trust (Cummings & Reid, 2004).

The role of podiatry within multidisciplinary healthcare was highlighted in a UK focus-group study by Vernon *et al.* (2005) that explored podiatrists' perceptions of their status as health professionals. Awareness raising campaigns were recommended as a result of the findings that UK podiatrists' suffered a self-perception of low status and low levels of appreciation and recognition as a professional group.

Like other therapy professions (for instance the growing number of physiotherapists employing acupuncture in their practice and research work), some podiatrists have studied the use of alternative treatments. For instance, Khan *et al.* (1996) carried out a double-blind placebo controlled trial of marigold oil, paste and tincture therapy for the treatment of plantar lesions (corn and callus formations), finding it to be an effective treatment.

As with speech and language therapy there is a dearth of literature on research priorities for podiatry in the UK. This is unsurprising considering the small number of universities offering podiatry training and hence the small number of staff with post doctoral experience.

### 2.5.6 Orthoptics

Eye health is addressed on a world wide scale by the International Centre for Eye Health, at the Institute of Opthalmology in London. It concentrates especially on WHO priorities for the improvement and prevention of childhood low vision and visual problems (Minto and Awan, 2001). In Ireland and the UK, these global priorities have been taken into the research and practice development agenda for ophthalmology and related disciplines. Rahi *et al.* (2001) have commented that these goals depend on primary, secondary and tertiary preventive strategies like screening and rehabilitation at all ages but especially in early years. Linked with ophthalmology and optometry, the knowledge and skill base of orthoptics involves the study and assessment of visual development, binocular vision, eye movements and eye co-ordination. Orthoptists are uniquely skilled in diagnostic techniques, clinical assessment and non-surgical treatment of eye problems such as strabismus/squint, diplopia/double vision and amblyopia/reduced vision as well as other less common visual disturbances (BIOS, British and Irish Orthoptics Society, 2006).

Audit and research has been the subject of two major publications of the British (and Irish) Orthoptic Society. The professional development committee set out guidelines for clinical audit (British and Irish Orthoptic Society (BIOS) 2006) and more recently, professional paper No 5 set out a detailed research strategy for the profession (British and Irish Orthoptic Society (BIOS) 2008). In light of the need to produce evidence based care within broader national service frameworks, translational research was emphasised at the outset, linked with aims to develop research career profiles across academic and clinical settings. Broad plans for 2008-2013 are identified as the instigation of multi-centre and multi-disciplinary research programmes alongside the facilitation of individual research exploits. Operationally, this entails research training, research dissemination and a dynamic culture characterised by '*the inclusion of research activity in every department by every orthoptist so that research becomes the norm rather than an activity only undertaken by a minority'* (p26).

Orthoptics has also been a recent addition to the UK university sector. This would explain why a comprehensive search of the literature only produced a small number of research papers that deal with research priorities.

### 2.5.7 Key Stakeholders and Service Users

A broad range of stakeholders, including service users, have valid perspectives on research priorities for the therapy professions. It has become apparent that the results of this research must be triangulated across the range of expert panels from professions, key stakeholders

and service users in order to present a cohesive action plan for research among the therapies (McDonough, 2009). The key stakeholder panel is derived from a range of senior managers in the Health and Social Care Trusts (therapy and general) and policy officers in various government departments.

Another crucial group were service users. Many of the policy documents highlight the vital role that service users have in the planning, delivery and evaluation of healthcare. There is, however, much debate on the advantages and disadvantages of various modes of incorporating 'lay perspectives' (Entwistle *et al.,* 1998) and 'consumer involvement' (Boote *et al.,* 2002). Alternatively, there is a growing desire for service users to commission, indeed, to lead their own research studies and to produce and disseminate healthcare knowledge (Pathways, 2002; Beresford, 2007; Preston-Shoot, 2007).

With the mental health service user lobby having a particularly high profile within the disability movement (Sayce, 2000), mental health services feature significantly in literature and reports related to service user involvement in research. Indeed, any online search of the term 'service user led research' uncovers a predominance of mental health references. For instance, a UK wide series of Mental Health Task Force user conferences, as well as a literature review, revealed ten major priorities for service development that although originating in mental health, could conceivably be relevant to any form of disability or service user profile. The priorities included access, advocacy, user run services, expert as well as practical help and responsiveness to individual needs and conditions (Thornicroft *et al.,* 2002). These authors go on to describe initiatives within one particular NHS Trust (South London and Maudsley) where service users took an active role in the identification of mental health research priorities for the Trust. Emergent criteria included user involvement in all stages of the research process, arts as therapies, alternative therapies and addictions research (p.2). It was noted too that 'service users' priorities were not the same as those identified by professionals and funding bodies' (p.3).

# Chapter 3: A Delphi Study to Identify Research Priorities for the Therapy Professions in Northern Ireland

## 3.1 Aim of the Study

The overall aim of this study was to identify research priorities for the therapy professions in Northern Ireland through the application of the Delphi technique. These priorities span from broad areas for research to more profession-specific topics. Results apply to a combination of the wide, general field of therapy professions, key stakeholders and service users, as well as each professional group (physiotherapy, occupational therapy, speech and language therapy, clinical nutrition and dietetics, podiatry and orthoptics) including academic, managerial and clinical practitioner perspectives.

## 3.2 Methodology

A three round classical Delphi technique (McKenna, 1994) was used to identify research priorities for the therapy professions from expert panels recruited across Northern Ireland. Therefore, this was a large multi-panelled Delphi study including experts from six different professional areas and two further areas representing the perspectives of key stakeholders and service users.

## 3.3 Consensus Level

The consensus level for this study was determined at the outset as 70%. This means that an identified research idea or issue had to achieve agreement from 70% of the specific expert panel before it could be considered to be a research priority.

## 3.4 Recruitment of the Expert Panels

The expert panels for this study were recruited from different sectors relevant to the therapies professions. This included:

*Professionals working in the clinical areas:*

- Podiatrists;
- Dietitians;
- Occupational Therapists;
- Orthoptics;
- Physiotherapists;
- Speech and Language Therapists.

*Academics from the above therapy professions working in higher education institutions*

- University of Ulster.

*Key Stakeholders*

- Department of Health, Social Services and Public Safety;
- Health and Social Care Trusts;
- Professional Therapy Organisations;
- Regulation and Quality Improvement Authority (RQIA);

*Service Users*

- Patient and Client Council.

An extensive trawling exercise was undertaken to recruit each of the panels, during which potential panel members were contacted and asked to take part in the study. The planned target size for each panel in this study was thirty. However, for some of the smaller professions, such as Orthopics, this was unrealistic due to the size of the profession in Northern Ireland.

## 3.5 Inclusion Criteria

Expert panel members had to meet specific inclusion criteria to be eligible to take part in the study. Criteria differed slightly for the smaller therapy disciplines to ensure adequate representation.

*Inclusion criteria for therapies professionals working in the clinical area*

- Must have 3 years post-qualification experience in the clinical area;
- Must be currently employed in a clinical area;
- Willing to participate.

*Inclusion criteria for academics working in the therapies disciplines*

- Must have 3 years post-primary degree experience working in an academic setting;
- Must be currently employed by a university or further education college;
- Willing to participate.

*Inclusion criteria for key stakeholders*

- Must be employed by a relevant therapies focused organisation or department;

- Should have been in post for at least three years;
- Willing to participate.

*Inclusion criteria for service users*

- Should be a service user who has used statutory therapy services within the last six months;
- Willing to participate.

## 3.6 Expert Panel Composition

There were a total of six professional expert panels which included both clinical and academic staff. Each panel member met the appropriate inclusion criteria. The numbers included in the six professional panels and key stakeholder and service user panels are shown in Table 4 below. The full Delphi sample totalled 180 expert panel members.

**Table 4: Expert Panel Sizes**

| **Panel** | **Size** |
|---|---|
| Physiotherapy | 34 |
| Occupational Therapy | 33 |
| Podiatry | 30 |
| Nutrition and Dietetics | 28 |
| Speech and Language Therapy | 22 |
| Orthoptics | 11 |
| Key Stakeholders | 14 |
| Service Users | 8 |
| **Total** | **180** |

## 3.7 Round One

As is the norm for the Classical Delphi, round 1 was a qualitative round. Each expert panel member was sent an information pack with the first round questionnaire (see Appendix 1). The information pack included instructions on how to complete the round 1 questionnaire as well as information about the study, expectations of panel members within the study, information on consent, and information on withdrawal from the process. The first round questionnaire collected demographic information such as age, gender, years' experience, qualifications, and to which of the therapies professions they belong. The question that the round 1 questionnaire posed was: ***What do you think are the research priorities for your profession at present?*** A variation on this question was used for service user and

stakeholder expert panels: ***What do you think are the research priorities for the therapies professions at present?***

Members of the expert panels were invited to complete up to ten priorities and asked to keep their responses as concise as possible. Round one responses were returned to the researcher by means of an enclosed stamped addressed envelope.

### 3.7.1 Analysis of round one

Round 1 of the Delphi produced copious qualitative material from each of the eight panels. This was comprised of hundreds of individual statements on research priorities. The qualitative material was content analysed for themes. Once the Round 1 analysis for each panel was undertaken, these results were used to design the Round 2 questionnaire. Both the content analysis and the Round 2 questionnaire were reviewed independently by two experts for each of the six professional groups.

## 3.8 Round Two

The Round 2 questionnaire was designed using the items generated from Round 1 for each expert panel (see Appendix 2). Research priorities were listed in no particular order and expert members from the appropriate panel were sent the questionnaire along with instructions on how to complete it. They were asked to rate each of the priorities on a five point Likert scale from 'most important' to 'least important'. Again panel members were asked to return the completed questionnaire within the given time period using the enclosed stamped addressed envelope. Once returned to the researcher, a master code was allocated to link each expert panel members' responses to each round. Follow up reminders were sent to expert panel members as necessary so as to keep the response rate as high as possible.

### 3.8.2 Analysis of round two

Data from each panel returned in Round 2 questionnaires were inserted into SPSS for analysis. Summary statistics (frequencies; descriptives) were computed on the data to determine the number of statements that had reached over 70% consensus at this stage. It is the practice with Delphi that those statements that had reached consensus were eliminated at this stage and not included in a Round 3 questionnaire. A list of these was provided to the expert panel. It was made clear to them that this does not mean that these are the highest research priorities, merely that they have reached consensus in Round 2.

The medians of the remaining statements (that had not reached consensus) were calculated using SPSS. This was used to give feedback to the expert panels on both the panel's overall response from Round 2 and the individual's own response. It should be noted that the median is used to give feedback between rounds but the mean is used after Round 3 of the Delphi to give more specificity for ranking purposes.

## 3.9 Round Three

Round 3 of the Delphi was designed around the results of Round 2 (see Appendix 3). It provided feedback to each of the expert panel members on the statements to date and provided an opportunity for them to change their response from the previous round. Statements that had not yet reached consensus were presented again and three columns of information were provided beside each statement:

1. The individual's response from the last round;
2. The group response (median);
3. A space for the individual to change their response.

Round 3 was sent to each expert panel member with clear instructions on how to complete the round. As with the previous rounds, they were asked to return the completed questionnaire within the allocated time period using an enclosed stamped addressed envelope. Follow up reminders were sent as necessary and as before every possible effort was made to keep the response rate as high as possible.

### 3.9.1 Analysis of round three

As Round 3 was the last round of the Delphi process for this study, overall analysis was undertaken at this stage. This involved entering Round 3 responses into SPSS. As before, frequencies and descriptives were computed on the data to determine the number of statements that have reached consensus. All such statements were added to those that had reached consensus in Round 2. This formed the final list of research priorities. The mean of each of these statements was calculated and used to rank the statements in order from most important to least important. The top twenty priorities from each panel are presented in the findings section of this report.

## 3.10 Timeframe Exercise

Panel members were sent the top twenty research priorities after the final analysis of the Round 3 was completed. They were asked to indicate their views on each priorities in relation to the timeframe for the research to be undertaken. This could be indicated as short-

term priority, medium-term priority or long-term priority. Identified timeframes for implementation of these priorities are also included in the results section of this report. Full lists of consensus items for each panel are also provided as appendices.

## 3.11 Response Rates

Table 5 shows the response rates to the three rounds of the Delphi Study. The Delphi is notorious for its low response rates as the number of rounds increases. This is not surprising considering that the researchers are asking busy individuals to respond to three different surveys. Therefore the overall (average) response rate to Round 3 of 73% is excellent.

**Table 5: Response rates to Rounds 2 and 3**

| **Panel** | **Round One – numbers recruited to panels** | **Round Two Response Rates % (n)** | **Round Three Response Rates* % (n)** |
|---|---|---|---|
| Key Stakeholders | 14 | 93% (13) | 85% (11) |
| Physiotherapy | 34 | 85% (29) | 62% (18) |
| Occupational Therapy | 33 | 82% (27) | 67% (18) |
| Nutrition and Dietetics | 30 | 67% (20) | 85% (17) |
| Speech and Language Therapy | 22 | 73% (16) | 88% (14) |
| Podiatry | 30 | 63% (19) | 74% (14) |
| Orthoptics | 13 | 92% (12) | 67% (8) |
| Service users | 8 | 75% (6) | 67% (4) |
| **Total** | **180** | **79% (142)** | **73% (104)** |

*Note: Response rates for Round 3 calculated based on numbers returned in Round 2

## 3.12 Reliability and Validity

As with any research study, issues of rigour and trust are important. Lincoln and Guba's (1985) criteria for rigour in qualitative studies will be applied. These are: credibility (truthfulness), fittingness (applicability), auditability (consistency) and confirmability.

A number of authors (Sackman 1975; Woudenberg 1991) have challenged the Delphi method claiming that the reliability of measures obtained from judgments is questionable. As the responses from different panels to the same question can differ substantially the consensus achieved in later rounds may be attributed to pressure to conform rather than a

genuine consensus of opinions. Nonetheless, the methodological challenges to the Delphi are similar to those targeted at any survey that uses questionnaires to obtain data.

Validity is also an area that requires careful consideration when using the Delphi technique. Goodman (1987) believed that because panel members have in-depth knowledge of the issue under investigation, content validity is assured. Furthermore, she states that the use of successive rounds increases concurrent validity.

## 3.13 Ethical Considerations

The Delphi technique is open to the same ethical considerations as any postal survey (Keeney *et al.*, 2001). Ethical approval for the study was granted by the Office for Research Ethics for Northern Ireland. Written consent was gained from each expert panel member before the study commenced. This was explained in a letter to all members of the Delphi expert panels, along with a written explanation of the research. Expert panel members were informed that they could withdraw from the study at any time. Assurances were provided on the confidential nature of the data, with expert panel members not being identified in any way during the research process.

It should be noted that complete anonymity is not possible when using the Delphi technique. This is because to undertake successive rounds the researcher needs to be able to link the panel member with their responses. The reason for this is due to the fact that the researcher will provide feedback in the form of their individual response to the previous round as well as the overall group response. It is also often the case that panel members may know other panel members. This is expected in a small profession or geographic area but it is important to note that they cannot attribute responses to any other member. It is like being in an elite 'expert' club where the membership is known but they do not meet face to face to discuss their individual decisions. McKenna (1994) used the term 'quasi-anonymity' to describe this situation. Rauch (1979) postulated that knowing who the other subjects are should have the effect of motivating the panelists to participate.

This assurance of quasi-anonymity also facilitates panel members to be open and truthful about their views; this, in turn, provides insightful data for the researchers. The only difficulty in this scenario may be if a panel member and the researcher know each other and the former's responses are influenced because of this. This was not an issue in this study. The concept of quasi-anonymity was made explicit in the information provided to potential expert panel members before the study commenced.

# Chapter 4: Findings and Discussion

## 4.1 Introduction

This chapter will outline the findings from the Delphi process for each expert panel. Each section will cover response rates, the demographic profile of the panel and the top twenty priorities identified by expert panel members. Discussion of the priorities is included for each panel. The timeframes for addressing these priorities are also discussed. Furthermore, a comparison with the priorities identified by the service user panel and the key stakeholder panel is included within each of the professional panel sections.

## 4.2 Physiotherapy

### 4.2.1 Response Rates

Thirty-four physiotherapists responded to the round 1 questionnaire, 85% (n=29) responded to round 2 and 62% (n=18) responded to round 3.

### 4.2.2 Demographic Profile

Of the members of the panel (n=34) the majority were female (n=26; 76.47%) with 8, (23.53%) male. Twenty-one (61.76%), were from a clinical practice background with 13 (38.23%), from an academic setting. The vast majority of the panel were between 35 and 54 years of age (n=28; 82.35%). Of this total 17/34 (50.00%) were in the 45-54 age range and 11/34 (32.35%) aged between 35 and 44 years. Four (11.76%) members were aged between 25-34 and 1 between 55 and 65. Data in respect of (n=1; 2.94%) was not recorded.

There was a broad distribution of professional experience gained by the panel members. Of the 58.82% (n=20) based in clinical/practice management roles the largest group (n=7; 20.59%) had 21-25 years experience. There were 3 members (8.82%) in each of the experience ranges of 16-20 and 26-30 years. Two members (5.88%) were in each of the 6-10, 11-15 and 31-35 year bandings and one member (2.94%) had 0-5 year's experience. The remainder of the expert panel (n=14; 41.18%) were based in academic positions.

Both the HSC Trusts in Northern Ireland (n=19; 55.88%) and the university sector (n=14; 41.18%) were well represented within the employment profile of the panel membership. Roles within the HSC sector were senior managerial and clinical lead specialist positions and in the university sector extended from professorial to clinical lectureship roles. The remaining member (2.94%) was from an independent/voluntary organisation.

All members of the panel were qualified to diploma/degree level and above with those holding Masters degrees (n=12; 35.29%) and PhD's (n=12; 35.29%) representing the greater proportion of the qualifications held. Eight (23.53%) members held first degrees with one (2.94%) holding a diploma level qualification. Missing data for the remaining number (n=1; 2.94%).

### 4.2.3 Research Priorities

The top 20 priorities for the physiotherapy panel are shown below in Table 6.

**Table 6: Top Twenty Research Priorities identified by Physiotherapy Panel**

| Research Priority | Consensus % | Mean | Rank | Timeframe |
|---|---|---|---|---|
| An exploration of the factors associated with adherence to exercise and physical fitness programmes. | 94% | 1.61 | **1** | Short/Medium |
| An examination of the role of exercise in improving mental health of mild/moderate depression. | 94% | 1.66 | **2** | Medium |
| An investigation into how exercise capabilities should be assessed dependent on disease state including the identification of an exercise prescription. | 83% | 1.72 | **3 joint** | Medium |
| An exploration of the impact of the pressure of targets, waiting lists and the volume of repeat referrals on achieving intervention outcomes that reflect the needs and expectations of patients. | 83% | 1.72 | **3 joint** | Short |
| Identification of optimal duration and intensity of treatment and engagement with patients linked to outcomes. | 100% | 1.77 | **5** | Short/Medium /Long |
| Cost benefit analysis of the provision of services. | 89% | 1.77 | **6** | Short/Medium |
| More effective incorporation of health economics within future research design. | 83% | 1.77 | **7** | Medium |
| To research the benefits of physiotherapy intervention in promoting an enablement ethos with chronic conditions | 89% | 1.82 | **8** | Medium |
| An exploration of the relationship between skill mix and clinical outcomes. | 94% | 1.83 | **9** | Long |
| Identification of areas for development in the structure of how therapy is provided – self-management in adults, parent-led therapy in children, and group therapy versus one-to-one approaches. | 94% | 1.83 | **9** | Short/Medium |

| | | | | |
|---|---|---|---|---|
| Research designed to assess the impact of physical activity on health and wellbeing. | 83% | 1.83 | **11** | Medium |
| The effectiveness of exercise interventions in lymphoedema management. | 100% | 1.88 | **12** | Long |
| Assessing the effectiveness of treatments in the management of chronic pain including exercise, acupuncture, education, hypnosis and biopsychosocial approaches. | 94% | 1.88 | **13 joint** | Medium |
| An assessment of the effectiveness of interventions in the management of back pain including traction, manual therapy and core stability strategies. | 94% | 1.88 | **13 joint** | Medium |
| Contrasting the clinical effectiveness of the use of classes with one to one treatment approaches. | 94% | 1.88 | **13 joint** | Medium |
| An investigation into the benefits of exercise based rehabilitation of soft tissue injury. | 89% | 1.88 | **16 joint** | Medium |
| Evaluation of the role of exercise in cancer rehabilitation. – intensify/frequency etc. | 89% | 1.88 | **16 joint** | Medium |
| Research into the use of functional tests in assessment. | 89% | 1.88 | **16 joint** | Long |
| An exploration of optimal assessment and treatment times for physiotherapy appointments – do longer appointment times result in better long term outcomes? | 89% | 1.88 | **16 joint** | Long |
| The impact of exercise intensity on symptom management and recovery in long term conditions. | 94% | 1.94 | **20 joint** | Long |
| The effectiveness of individualised development care for preterm infants born at less than 32 weeks gestation. | 94% | 1.94 | **20 joint** | Long |

### 4.2.4 Key Themes for Physiotherapy Panel

The key themes emerging from the physiotherapy panel's top twenty research priorities were exercise, management of services, practice evaluation, health promotion and education and training – building research capacity. The majority of the items relate to evaluation of practice interventions, and in particular of exercise. This is not surprising when you consider the definition of physiotherapy, as physical approaches (including exercise) are a key part of physiotherapy practice.

***Practice evaluation***

This key theme represented the majority of the top twenty priorities, with a very strong theme around exercise prescription and adherence (discussed further in the next section).

The need to evaluate a range of aspects of interventions and techniques and their effectiveness in clinical practice was reflected in ranks 5, 8, 13 (joint), 16 (joint), and 20 (joint). Optimal duration of treatment and engagement with patients and the relationship of these aspects of intervention with clinical outcomes was the highest ranking (5) item in this group.

The importance of evaluating effectiveness of interventions for chronic conditions including the promotion of an enablement ethos and in particular the management of chronic pain and low back pain were highlighted in ranks 8, and 13 (joint). The need for research into the use of functional tests in assessment while not condition specific (rank 16 (joint)) was also addressed.

Physiotherapy with children and infants and the effectiveness of the care and treatment of this patient/client group just managed to get into the top twenty priorities at 20 (joint) and was the only item with a direct relationship with children and infants. It addressed the issue of the effectiveness of individualised development care for pre-term infants born at less than 32 weeks gestation

***Exercise as a therapeutic intervention***

Exercise as a therapeutic intervention was the largest group of research priorities representing 33.33% of the items (ranks 1, 2, 3 (joint), 12, 16 (joint) and 20 (joint)). This included a number of the top ranked items which highlighted the need to explore and evaluate the role of exercise including the factors associated with adherence to exercise and fitness programmes (rank 1), and with assessing exercise capabilities, (rank 3 (joint)). Of particular interest was the high priority given to the need to explore the role of exercise in improving mental health in degrees of depression (rank 2). This reflects the importance of exercise and its management within the total range of physiotherapy activities that are designed to promote health and wellbeing.

The role of exercise was also prioritised in relation to its effectiveness in the management of specific conditions. These included, lymphoedema, soft tissue injury, (both jointly ranked 16) in long term conditions (ranked 20 (joint)), cancer rehabilitation (also ranked 16) and back pain core stability, (joint13).

***Health promotion***

The need to assess the impact of physical activity on health and wellbeing (rank 11) is a wide ranging, contemporary and important area of research but was the only item within the top twenty priorities to directly address health promotion. This key theme therefore only represented 4.76% of the total items, but fits well with the exercise items.

***Management of services***

The second largest group of key themes representing 28.57% of the top twenty items (3 (joint), 6, 9 (joint), 13 (joint), and 16 (joint)), reflected issues concerned with both structure and processes for effective service delivery. Within this theme the need to explore the impact of the pressure of targets, waiting lists and repeat referrals was jointly ranked the third highest, with cost benefit analysis of service provision ranked sixth. The relationship between skill mix and clinical outcomes was a further management issue that ranked highly (rank 9 (joint)).

More specific service management priorities related to areas for the development of structures concerned with how physiotherapy is provided for self-management in adults, parent led therapy for children, and group versus one-to-one provision of therapy (rank 9 (joint)). This latter issue was also reflected in rank 13 (joint), which dealt with the need to contrast the effectiveness of clinical interventions based on classes as opposed to one-to-one treatment approaches. In the lower order rankings (16 (joint)), there was a perceived need to explore optimal assessment and treatment times for physiotherapy appointments with a view to determining if longer appointment times result in improved long term outcomes.

***Education and training – building research capacity***

Only one item, (rank 7), representing 4.76% of the top twenty items, was included within this key theme and relates specifically to the need for the more effective incorporation of health economics within future research design.

***Timeframes***

The timeframe for the majority of the top twenty research priorities was medium indicating that the panel considered that the research should commence within twelve months. The greater proportion of these medium-term priorities were exercise related including the second and third ranking priorities.

Only four priorities were identified as short-term (commenced immediately) or short to medium-term as a result of the panel being equally divided on the timeframe for some items. All of these related to management and service delivery issues and included the highest ranking research priority but also items ranked joint third, and ranks 6 and 9.

A research priority that was concerned with the relationship between aspects of treatment and clinical outcomes was ranked 5 within the top twenty priorities but the panel were equally divided on the timeframe for its implementation resulting in it falling into the short, medium and the long term categories.

Six research priorities were deemed to be long-term, i.e. carried out within 5 years. Interestingly these included a management of service research priority concerned with the relationship between skill mix and clinical outcomes (rank joint 9). The remaining long-term items fell within the lower half of the rankings.

### 4.2.5 Discussion of the Physiotherapy Research Priorities

'Physiotherapy uses physical approaches to promote, maintain and restore physical, psychological and social well-being, taking account of variations in health status' (CSP, 2010a). The panel identified very specific areas for research with adherence to exercise programmes and prescription of programmes in the top three items. It is interesting that alongside the more traditional aspects of physiotherapy care (soft tissue injuries and long term conditions) research into exercise/physical activity is being prioritised in many newer areas of clinical practice e.g. cancer rehabilitation, mental health disorders and health promotion and reflects recent documents on the role of physiotherapists in these areas.

In NI, the strategy for promoting mental health and emotional wellbeing (DHSS, 2000b) viewed all AHP's as having an important role to play in promoting both physical and mental health and considered that the full potential these professions could make to mental health had not been realised. As part of the investing for health strategy in NI a strategy and action plan for 2003-2008 to promote mental health (DHSSPS, 2003a) acknowledged the increasing recognition of mental illnesses, notably depression, in the community as a major public health issue. While no specific reference is made to particular professional groups the primary care implications and the challenges to professional carers are evident within the analysis.

The importance of mental health is also acknowledged in physiotherapy as a discipline and this is reflected in a framework for the role of physiotherapy in mental health and wellbeing (CSP, 2007). The framework identifies how developing the role of physiotherapy within

mental health can support the delivery of integrated care that is focused on the individual. In developing the framework the contribution of users and carers was seen to be significant. In acknowledging the high incidence of mental health issues and in particular its tendency to be a factor of chronic illness the framework plans to develop the role of the physiotherapist to provide services tailored to meet individual needs, support client centred care in mental health within multidisciplinary care pathways. In particular the need for care to be based on the best available evidence is emphasised.

Mental health strategies for physiotherapists are also reinforced in the role of physiotherapists in Scotland (CSP, 2010b) where it is envisaged that all mental health teams in the community would include physiotherapy being involved in assessment of physical conditions including in particular those with chronic conditions that are known to impact on mental health and general functioning. Those suffering mental ill-health frequently also suffer poor physical health and research has shown the positive impact of physiotherapeutic activity on mental health. In particular this report cites the benefits of exercise in preventing or reducing the severity of depression (SIGN, 2010).

Although some long term conditions are identified and reflect the problems associated with increasing elderly populations, longer lifespan resulting from improvements in the quality of life and advances in medical science with the implications these have for age related chronic illness including diabetes, cancers, heart disease and arthritis (DHSSPS, 2004c, 2005), it is surprising that there are not any specific research questions around exercise and neurological conditions or respiratory conditions, which would be traditionally be taught at undergraduate level, and considered to be at the cornerstones of physiotherapy practice. However chronic pain (and low back pain specifically) were identified in two priorities in terms of the need for clinical evaluation of a range of interventions. In addition, the need for research into the benefits of physiotherapy, and exercise specifically, for chronic conditions was identified, which could encompass all practice areas of physiotherapy.

Organisational management and service delivery was also a strong theme from the physiotherapy panel, similar to the stakeholder and service user panels and may reflect that some of this panel are working both as clinicians and managers. The impact of service delivery systems such as referral and waiting times and skill mix featured in the priorities identified and may reflect concerns regarding resources and the capacity of physiotherapy to accommodate current service challenges within the healthcare system. More specific management and service provision issues relate to how physiotherapists view the importance of the developments that could advance and improve their services together with a need to provide an evidence base for progress in these areas of practice.

The importance of practice evaluation, and assuring therapy interventions also contributed significantly to the research priorities identified and appears to reflect a continuing and growing commitment to advancing an evidence based approach to the delivery of physiotherapy. The range of interventions is limited with regard to children and adults despite this being an important focus of physiotherapy services.

Only one research priority specific to health promotion was included and this must be surprising given the increasing importance being attributed to this area of physiotherapy practice (CSP, 2009). Equally only one research priority with a relationship to building research capacity reached the top twenty list and this must be surprising given the need for professional groups to advance their research culture and profile. However this may be explained by the fact that a relatively high proportion of the physiotherapy panel was made up of University academics and clinical staff who have PhDs and so this may be less of a priority in this group.

***Comparison with other physiotherapy research priority studies***

Unlike occupational therapy there are no recent reports in the physiotherapy literature on the identification of research priorities to which the current results can be compared. The last major research priority exercise was published by the CSP in 2002, and unlike the current study, it identified separate specialist panels. It was beyond the remit of the present study to have more than one physiotherapy panel. However, the advantages of this study are that we can compare research priorities across the six professional groups, along with those of stakeholders and service users.

***Comparison to Service User Priorities and Key Stakeholder Priorities***

A key difference in the priorities for the key stakeholder panel and the physiotherapy panel was the number of items that related to practice evaluation (and exercise in particular) in the latter. Physiotherapists identified more statements (50% versus 25%) that related to their day to day practice. The overlaps in the areas for practice evaluation between the two panels were chronic conditions and mental health.

Both the key stakeholder and physiotherapy panel prioritised items around service organisation; and both identified skill mix, and development of structures for new services/or specialists teams, as a priority. Physiotherapists suggested that research is needed on: the relationship between (i) the pressure of targets, waiting lists and repeat referrals and (ii) the duration and intensity of treatment/engagement, on patient centred outcomes. Whereas the stakeholders identified role expansion and development of multidisciplinary teams to maximise AHPs input, as priorities. They also identified more generic topics that cut across

the AHP professions i.e. research into generic versus profession specific assistants, and local inequalities and access to services.

When comparing the service users and the physiotherapy priorities, the first key difference was the lack of items under practice evaluation for the service users, with the majority of their items coming under service organisation. Their main concerns were about getting access to AHPs as early as possible both to aid in detection and treatment. Similar to the key stakeholders they prioritised the effectiveness of multidisciplinary teams, and access to services (especially rural access and location versus load factors).

## 4.3 Occupational Therapy

### *4.3.1 Response Rates*

Thirty-three occupational therapists responded to the round 1 questionnaire, 82% (n=27) responded to round 2 and 67% (n=18) responded to round 3.

### *4.3.2 Demographic Profile*

Of the 33 members of the panel 90.90% (n=30) were female with 3 (9.10%) male and this reflects the predominance of females within the profession. Twenty-four (72.72%), were from a clinical practice background with 9 (27.27%), from an academic setting. Most of the panel were in the 45-54 age range (n=12; 36.36%) but closely followed by the 35-44 age group (n=11; 33.33%). Eight members (24.24%) were between 25 and 34 with only 2 (6.06%) of the panel in the age range 55-65.

There was a broad distribution of professional experience gained. Of the 72.72% (n=22) based in clinical roles six members were in each of the 11-15 years and the 26-30 years groups (n=6; 18.18%). Two members had only 0-5 years (6.06%) experience with 3 (9.09%) in each of the 6-10, 16-20 and 21-25 ranges. Only 1 (3.03%) had between 36-40 years experience. The remainder of the panel (n=9; 27.27%) were based in academic positions.

The vast majority (n=22; 66.67%) were employed by HSC Trusts throughout NI as occupational therapists in practice and management roles with the largest single group (n=8; 24.24%) in the Belfast Trust. The university sector employed 9 (27.27%) with the remaining 2 (6.06%) engaged within independent and statutory agencies.

All members of the panel were qualified to diploma/degree level and above with the largest group (n=10, 30.30%) holding Diplomas. First degrees were held by 9 members (27.27%) and similar number Master's degrees. Five members (15.15%) of the panel were qualified at Doctoral level.

### *4.3.3 Research Priorities*

The top 20 priorities for the occupational therapy panel are shown below in Table 7.

**Table 7: Top Twenty Research Priorities identified by Occupational Therapy Panel**

| Research Priority | % Consensus | Mean | Rank | Timeframe |
|---|---|---|---|---|
| Reviewing the advisory role and representation of the Allied Health Professions at government level in Northern Ireland with particular regard to the management and funding of services and availability of research funding for both academics and clinicians. | 94% | 1.38 | **1** | Short |
| To research the effects of post-stroke executive dysfunction on occupational performance and personal activities of daily living. | 93% | 1.70 | **2** | Medium |
| An exploration of the therapeutic contribution Occupational Therapists can make to care and rehabilitation including assistive technology across a range of acute and chronic specialist clinical conditions in hospital and the community. | 85% | 1.74 | **3** | Medium |
| Does early Occupational Therapy intervention lead to improved physical and functional outcomes in those who have had a stroke? | 85% | 1.78 | **4** | Medium |
| An exploration of the influence of rehabilitation and discharge assessment strategies based on length of hospital stay and meeting government discharge targets. | 81% | 1.81 | **5** | Short |
| Research into the impact of Occupational Therapy in elderly rehabilitation. | 94% | 1.88 | **6** | Medium |
| Effectiveness and cost effectiveness of occupational therapy interventions. | 88% | 1.88 | **7** | Medium |
| Is activity / number of contacts the most meaningful way to commission Occupational Therapy services? | 81% | 1.88 | **8** | Short |
| An evaluation of Condition Management Programmes in facilitating return to work strategies. | 85% | 1.89 | **9** | Medium |

| | | | | |
|---|---|---|---|---|
| How effective is splinting in the promotion of maintenance of hand function following stroke/spinal cord injury. | 78% | 1.93 | **10 joint** | Long |
| An evaluation of the benefits of a home visits with elderly patients compared to only pre and post discharge visits, or no visit at all. | 78% | 1.93 | **10 joint** | Medium/Long |
| Research into the effectiveness of Occupational Therapy interventions in cardiac rehabilitation. | 88% | 1.94 | **12** | Short |
| Investigation of the potential for rehabilitation for chronic conditions to lead to a reduction in domiciliary care packages and increase in patient independence and quality of life | 81% | 1.94 | **13** | Short/Medium /Long |
| The effectiveness of long term rehabilitation services following hospital discharge for those who have had a stroke. | 82% | 1.96 | **14** | Long |
| An evaluation of the effectiveness of Occupational Therapy interventions in pulmonary rehabilitation. Are the specific assessments recommended by the NICE guidelines being used in practice? | 88% | 2.00 | **15** | Medium |
| What is the role of Occupational Therapy for children with Aspergers syndrome in education settings? | 81% | 2.00 | **16** | Medium |
| Do discharge home visits from a rehabilitation unit improve transition to community and client satisfaction? | 70% | 2.04 | **17 joint** | Medium/Long |
| Evidence to support provision of complex seating in acute medical setting. | 70% | 2.04 | **17 joint** | Short/Medium |
| Effectiveness of vocational rehabilitation with mental health clients. | 81% | 2.06 | **19** | Medium/Long |
| An evaluation of the effectiveness of the management of fatigue. | 75% | 2.06 | **20 joint** | Medium |
| Effectiveness of vocational rehabilitation in brain injury. | 75% | 2.06 | **20 joint** | Long |
| What are the experiences of carers when taking a loved one home from hospital when they are in the advanced stages of cancer? Do they feel they have the skills to provide the necessary assistance with activities of daily living? Was this need identified and supported at discharge planning? | 75% | 2.06 | **20 joint** | Long |

### 4.3.4 Key Themes for Occupational Therapy Panel

Three key themes were identified; the effectiveness of clinical interventions, rehabilitation and health promotion, and management of services. Within this range there were a number of areas that reflected some significant macro issues but many others related to specific conditions, therapies and care strategies undertaken by occupational therapists. Concerns related to key areas of the management of services are also reflected within the research priorities identified.

In terms of specific conditions stroke and mental health were included, and the priorities also identified a wide range of conditions, including cardiac, pulmonary and brain injury rehabilitation, management of fatigue, spinal cord injury, and Aspergers syndrome. The interventions and strategies addressed were vocational rehabilitation, splinting and seating and priorities also specifically referred to assistive technology, Condition Management Programmes and return to work strategies.

***Evaluation of practice***

Half (50 %; ranks 2, 4, 6, 9, 10 (joint), 12, 14, 15, 19, 20 (joint), and 20 (joint)) of the top ranked items highlighted the need to address the issue of the effectiveness of occupational therapy interventions and techniques.

The effectiveness of occupational interventions and specific therapeutic techniques and strategies associated with a number of specific conditions were considered to be areas of research priority including stroke (ranks 2, 4, and 14), elderly rehabilitation (rank 6), return to work strategies (ranks 9 and 10 (joint)), cardiac and pulmonary rehabilitation (ranks 12 and 15), the management of fatigue (rank 20 (joint)), and vocational rehabilitation in mental health and in brain injury.

***Management and service delivery***

A significant proportion (36.36%; ranks 1, 3, 7, 8, 10 (joint), 16, 17 (joint), and 20 (joint)) of items fell within the management of services theme.

The top priority (rank 1) reflected a management concern of the need to review the advisory role and representation of AHP's at government level and with the management of funding for service provision and the availability of research funding.

This was closely followed by a wide ranging priority (rank 3) which considered the need for an exploration of the therapeutic contribution the occupational therapist makes across a range of acute and chronic conditions. More specifically the role of occupational therapy in the management of one child related condition in an educational setting (rank 16) was also

considered to be a priority. Research priorities within the management domain also emphasised cost effectiveness of services (rank 7) and the effectiveness of commissioning strategies (rank 8). Benefits associated with specific care strategies also rate highly in the research priorities identified (ranks 7, 8 and 10 (joint)).

***Rehabilitation and health promotion***

Although this theme received least attention (13.64%; ranks 5,13, and 17 (joint)), within the highest ranking research priorities for occupational therapy there was, throughout these results, a concern with rehabilitation. Some priorities falling within the effectiveness of clinical interventions and management themes also contained an element of rehabilitative activity. There was an element of health promotion incorporated into some of the priorities identified and this resonates with current government policies emphasising the importance of health promotion as a key element in advancing the health and wellbeing of populations (DHSSPS, 2002b, DoH, 2003, DHSSPS, 2004a, DoH, 2008b). In particular, occupational therapists are concerned with promoting health and well being through occupation. However, apart from one priority (rank 2), themes did not explicitly refer to "occupation" although this may have been understood to have been implicit and not require specific mention. The influence and impact of interventions on the discharge, rehabilitation and promotion of the health of patients and clients was a key focus (ranks 5, 13 and 17 (joint)) and the rehabilitation of the elderly (rank 6) was high in the list of priorities.

***Timeframes***

The majority of the top twenty research priorities from the occupational therapy panel were identified by the panel as being of medium-term with the research to commence within 12 months. This category included ranks 2, 3, 4, and 6, 7 and 9. Practice evaluation of interventions and rehabilitation were prominent in this group alongside the management issues of cost effectiveness of interventions and an evaluation of Condition Management programmes.

Four research priorities were designated as requiring research to commence immediately (short-term) and included the top ranking research priority together with ranks, 5, 8, and 12. Unusually, the top ranked item for occupational therapy was a management concern rather than a research priority i.e. the advisory role and representation of the AHP at government level; whilst management of services issues were also prominent in this short-term category.

The long-term and medium to long-term priorities were mostly within the bottom ranks of the priority list and included the only item relevant to mental health issues.

### 4.3.5 Discussion of Occupational Therapy Research Priorities

According to the World Federation of Occupational Therapists (2004), "Occupational therapy is a client-centred health profession concerned with promoting health and well being through occupation. The primary goal of occupational therapy is to enable people to participate in the activities of everyday life. Occupational therapists achieve this outcome by working with people and communities to enhance their ability to engage in the occupations they want to, need to, or are expected to do, or by modifying the occupation or the environment to better support their occupational engagement."

The top twenty research priorities for occupational therapists in NI generally reflect those identified in earlier international studies (American Occupational Therapy Foundation, 2003; Bannigan *et al,* 2006) but there are some notable exceptions. No previous study, for example, has addressed assistive technology (rank 3) or Condition Management Programmes (rank 9) which are new and emerging areas of research in occupational therapy practice.

The greater proportion (50.00%, ranks 2, 4, 6, 9, 10 (joint), 12, 14, 15, 19, 20 (joint), 20 (joint)) of the top ranked items highlighted the need to address the issue of the effectiveness of occupational therapy interventions and techniques.

As with previous studies, the occupational therapy panel would appear to have focused on research priorities that are important and meaningful to them as occupational therapists. However it is worth noting that the top ranked priority by occupational therapy is quite unusual in that articulates a management concern as opposed to a research question. This may be explained, in part, by the fact that previously a senior AHP advisory role was held by a member of the occupational therapy profession. This issue was not identified by any other professional panels or the stakeholder panel as a matter of concern that required further investigation.

A search of OTDBASE, an online indexing and search service comprising all international occupational therapy journals, suggests that the most widely researched topics over the last two years are, in order: stroke rehabilitation, brain injury, and sensory integration. While the first two are identified as priorities in the current study, it is surprising that two statements focusing on sensory integration did not reach consensus as this is one of the most widely used models of practice among occupational therapists working with children and young people in Canada, America, UK, and Australia (Brown et al, 2007). Nine statements focusing on mental health and six statements focusing specifically on dementia did not reach

consensus at round 2. This is particularly surprising as there has been a recent focus on dementia service in NI. Considering that occupational therapists have always played a major role in promoting mental health and emotional wellbeing, it is surprising to find only one theme (rank 19) addressing mental health, especially, as has been previously noted, the DHSS (2000b) acknowledges that *all* AHP's have an important role to play in this area. Furthermore, the College of Occupational Therapists strategy for occupational therapy in mental health services 2007–2017 (COT, 2006a, 2006b, 2006c) - has the following key messages for occupational therapists:

- focus on providing evidence for a causal relationship between occupation, health and wellbeing;
- seek opportunities to engage in research that will provide evidence of the effectiveness of occupational therapy interventions;
- work with academics to undertake practice evaluations and research that will demonstrate the effectiveness of occupational therapy services;
- seek support from major funders for research in mental health occupational therapy;
- support occupational therapists in contributing to a culture of research that will provide evidence of the effectiveness of occupational therapy interventions.

Seven statements focusing on occupational therapy with children did not reach consensus at round two and only one (rank 16) reached consensus. This is surprising as occupational therapy for children and young people has been a growth area within N I within the last few years.

***Comparison with other occupational therapy research priority studies***

When Fowler-Davis and Bannigan (2000) explored research priorities in mental health in 1999, the involvement of service users in research was identified as a low priority. However, it was in the top three when occupational therapists for mental health were surveyed again in 2001 and was the second priority in the 2005 POTTER study (COT, 2007). However, in the current study it did not rank at all in the top 20.

In 2001, the emerging science of occupation was identified as a priority for research (Ilott & White, 2001) but does not appear in name (occupational science) in the current study. However, terminology related to occupational science is addressed once, briefly and indirectly, in the use of the term "occupational performance" (rank 2).

The POTTER project (COT, 2007) identified 'effectiveness of occupational therapy for people with mental health problems' as the fourth highest priority. However, in the current study it just got into the top 20 (rank 19).

The AOTA/AOTF consensus conference (AOTF, 2003) identified the use of standardised assessments and outcome measures as a priority while the POTTER project (COT, 2007) ranked "Developing new valid and reliable outcome measures for use in occupational therapy" in eighth place. However, in the current study outcome measures did not rank at all in the top 20.

Previous studies do not appear to have identified research on older people. In the current study research on older people is ranked in 6th and 10th places.

***Comparison to service user priorities and Key Stakeholder Priorities***

Research into the effectiveness of OT intervention for stroke (ranks 2, 4, 10 and 14), cardiac rehabilitation (rank 12), vocational rehabilitation (ranks 19 and 20 (joint)) and fatigue management (rank 20a) featured in the OT priorities but were not identified specifically as priorities by either the service users or Key Stakeholders.

The contribution of assistive technology for care and rehabilitation was ranked highly (ranked 3) by the OT panel but was not identified as a specific topic by either the service users or Key Stakeholders.

Length of hospital stay was an issue addressed by the OT panel (rank 5) but was not addressed by the services users or Key Stakeholders panels.

Cost effectiveness of interventions was ranked 7 by the OT panel while cost effectiveness of research studies of therapy interventions was ranked 9 by the Key Stakeholders. The service users ranked "a cost benefit analysis for early versus late intervention" in ninth position and "effective use of time" as rank 14. The Key Stakeholders also identified "best use of time" in 19th place.

Research into elderly rehabilitation was ranked 6 by the OT panel while Key Stakeholders ranked research "to support the elderly" in second place.

The benefits of home visits was a priority identified by the OT panel (rank 11) but was not addressed by the services users or Key Stakeholders panels.

## 4.4 Nutrition and Dietetics

### *4.4.1 Response Rates*

Thirty nutrition and dietetic therapists responded to the round 1 questionnaire, 67% (n=20) responded to round 2 and 85% (n=17) responded to round 3.

### *4.4.2 Demographic Profile*

All of the members of the panel (n=30) were female. The vast majority (n=25; 83.33%), were from a clinical practice background with 5 (16.67%), from an academic setting. Most of the panel were in the 35-44 age range (n=14; 46.67%) with a sizable group (n=10; 33.33%) in the 25-34 age range. Of the remaining members (n=5; 16.67%) were aged between 45-54 years and data was not disclosed in respect of one (3.33%) member.

There was a broad distribution of professional experience gained by the panel members. Of the 25 (83.33%) in clinical and/or service management roles the largest group (n=8; 26.67%) had 6-10 years of experience. This was closely followed by a group (n=7; 13.33%) with 16-20 years experience. There were 3 (10.00%) members in each of the 0-5, 11-15 and 21-25 years ranges and one (3.33%) who had gained between 26 and 30 years experience. The remainder of the expert panel (n=5; 16.66%) were based in academic settings.

There was a very broad range of roles within the employment profile of the panel. The vast majority (n=24; 80.00%) were employed by HSC Trusts throughout NI as practising dietitians, as clinical and community specialists and in leadership and senior managerial positions with the largest single group (n=10; 33.33%) in the Belfast Trust. The university sector (n=5; 16.67%) were represented on the panel by professorial and lecturer grades members and 1 (3.33%) member, completing the employment profile, was employed within a relevant statutory agency.

All members of the panel were qualified to degree level and above with the largest group (n=16; 53.33%) holding a first degree with a further 6 (20.00%) qualified to Masters' level. Post graduate qualifications were held by 3 (10.00%) of the panel members and of the remainder (n=4; 13.33%) were Doctoral graduates. Details were not disclosed in respect of one (3.33%) panel member.

### *4.4.3 Research Priorities*

The top 20 priorities for the nutrition and dietetics panel are shown below in Table 8.

**Table 8: Top Twenty Research Priorities identified by Nutrition and Dietetics Panel**

| Research Priority | % Consensus | Mean | Rank | Timeframe |
|---|---|---|---|---|
| A study of the efficacy of oral nutritional support in community settings. | 94% | 1.88 | **1 joint** | Medium |
| An investigation into the most effective obesity treatment programme for children. | 94% | 1.88 | **1 joint** | Short |
| A study designed to determine the benefits, including cost effectiveness of the MUST tool when in use within a hospital setting. | 88% | 1.88 | **3** | Medium |
| An exploration of the effectiveness of the implementation of nutritional screening tools in adult and paediatric wards. | 81% | 1.88 | **4 joint** | Medium |
| An exploration of strategies for obesity prevention in children and adults. | 81% | 1.88 | **4 joint** | Medium |
| A study of the impact of the use of dietetic assistants in the changing world of dietetics. Does this show an improvement in outcomes? Which clinical areas does this work best in? | 88% | 1.94 | **5** | Short |
| An exploration of the extended role of the Dietitian in providing nutrition support. | 81% | 1.94 | **6** | Medium |
| An exploration of the health economics of nutritional interventions. | 81% | 1.94 | **6 joint** | Short |
| To explore the most appropriate structured patient education programme for children with type one diabetes. | 81% | 1.94 | **6 joint** | Medium |
| An investigation of the most effective way to use dietetic services to treat obesity in Type 2 Diabetes Mellitus. | 80% | 1.95 | **9** | Short/Medium |

| | | | | |
|---|---|---|---|---|
| An evaluation of the effectiveness of dietetic treatment in various paediatric conditions, e.g. renal inborn errors of metabolism, cystic fibrosis. | 81% | 2.00 | **10** | Long |
| Investigation of the benefits to the patient and healthcare costs of treating under-nutrition. | 75% | 2.05 | **11** | Short |
| To research how dietary interventions enhance quality of life outcomes for patients suffering from specified diseases. | 88% | 2.06 | **12** | Long |
| An assessment of the effectiveness of food fortification training in hospital and community settings. | 81% | 2.06 | **13 joint** | Medium |
| An exploration of the effectiveness of dietary advice for patients receiving radiotherapy and the effect of outcomes in cancer care. | 81% | 2.06 | **13 joint** | Medium |
| An exploration of patients and their carer's perspectives of clinical decision making and the provision of information regarding dietary interventions. | 81% | 2.06 | **13 joint** | |
| An exploration of health and lifestyle including diet and exercise in childhood to determine why public health recommendations are not being achieved. e.g. increased incidence of obesity, poor understanding on the importance of vegetables and fruit. | 81% | 2.06 | **13 joint** | Medium/Long |
| Research into the identification of malnutrition in childhood. | 81% | 2.06 | **13 joint** | Long |
| Research to determine how best to engage nursing staff with nutritional screening methods. | 75% | 2.06 | **18** | Short/Long |
| An exploration of the role of the Dietetian in stemming the tide of obesity in Northern Ireland? | 70% | 2.10 | **19** | Medium |
| Is all nutritional information provided to patients up to date and evidence based? | 70% | 2.10 | **20** | Medium |

### 4.4.4 Key Themes for Nutrition and Dietetics Panel

A number of important themes emerged from the top 20 research priorities; malnutrition and nutrition support, (ranks 1, 3, 4 (joint), 6, 11, 13 (joint), 13 (joint), and 18), prevention and treatment of obesity (ranks 1 (joint), 4 (joint), 9, 13 (joint), and 19), nutrition strategies in neonates, children and young adults (ranks 1 (joint), 6 (joint), 10, 13 (joint), and 13 (joint)), evaluating nutrition interventions (ranks 1, 10, 13 (joint),13 (joint), 13 (joint), and 20) and management issues and healthcare costs (ranks 3, 5, 6 (joint), 11, 12, and 13 (joint)).

***Malnutrition and nutrition support:***

The importance of identifying malnutrition in both adults and children emerged as a strong priority (15.00%) and was referred to in several of the items (ranks 3, 4 (joint), 13 (joint)). The specific use and evaluation of screening tools to identify malnutrition was highlighted in two of the items (3, 4 (joint)), and the challenge of engaging nursing staff in this process was also ranked (18). The joint top ranking priority highlighted the need to determine the effectiveness of nutrition support specifically in the community setting.

***Prevention and treatment of obesity:***

Not surprisingly many items (25.00%) focused on issues related to obesity and particularly the management of obesity in children (1 (joint), 4 (joint), and 13 (joint)). The specific role of the dietitian in the treatment of obesity also emerged as a priority (ranks 19).

***Nutrition strategies in neonates, children and young adults***

Several items (35.00%) made specific reference to children and the dietetic management of paediatric conditions was highlighted. In addition to obesity mentioned above the management of chronic diseases, such as diabetes in childhood, were also highlighted.

***Effectiveness of nutrition interventions***

Evaluating nutrition interventions was identified as a strong theme throughout (55.00%). The effectiveness of interventions in patients with obesity, diabetes and cancer were ranked as priorities (ranks 1 (joint), 4 (joint), 6 (joint), and 13 (joint)). One item identified the importance of considering whether information / advice given to patients' was evidence-based (rank 20). Interestingly, the patient and/or carers perspective of clinical decision making including dietary intervention was also highlighted (rank 13 (joint)).

***Management issues and healthcare costs***

Several of the items recognised cost effectiveness to be a key priority (15.00%), particularly in relation to under nutrition. Importantly, the health economics of nutritional interventions and the impact of nutrition interventions on quality of life outcomes were included as priorities (rank 6 (joint)). In relation to service provision an investigation of the role and impact of Dietetic Assistants was identified as a key priority (rank 5) as was consideration of the extended role of the Dietitian in providing nutritional support (rank 6 (joint)).

***Timeframes***

Eleven of the research priorities from the top 20 were identified by the nutrition and dietetics panel as being medium-term and required to be taken forward within 12 months. Over half of these medium-term items were concerned with issues concerning nutrition management and they also included items dealing with obesity and the evaluation of specific therapy interventions. A joint top ranking research priority (a study of the efficacy of oral nutritional support in the community) was included together with items ranked 3, 4 (joint), and 6 (joint) dealing with diabetes management including children and aspects of the evaluation of therapy intervention.

The other top ranking priority was deemed to be a short-term priority (to commence immediately) and this was concerned with investigating the most effective obesity treatment programme for children. Other short-term priorities reinforced the importance of the management of nutrition as a research priority and a management orientated fifth ranking research priority looking at the impact of the use of dietetic assistants was also seen as short-term.

### 4.4.5 Discussion of the Nutrition and Dietetics Priorities

The diagnosis and treatment of malnutrition in both adults and children emerged as an important priority in this study and the need to evaluate screening tools used in the identification of malnutrition was highlighted. This is not surprising given that it has recently been estimated, using the 'Malnutrition Universal Screening Tool (MUST)' (Stratton et al, 2006) that over 3 million adults in the UK are considered to be at risk of malnutrition. Previous statistics have grossly underestimated the extent of the problem and indeed the estimated number of malnutrition-related deaths, which are thought to be as high as 100,000 per year (Elia et al, 2010). This has led to a call by the authors of that particular publication for a national policy to ensure that malnutrition, which is largely treatable, is identified and managed appropriately. Elia et al (2010) also recognised that appropriate training of healthcare staff is required to facilitate this. In the current study staff training wasn't

specifically identified as a priority however the Nutrition and Dietetics panel did identify the need to investigate the role of the dietician in providing nutrition support and also recognised the importance of engaging with nursing colleagues in order to successfully implement nutritional screening. Furthermore the effectiveness of food fortification training in hospital and community settings was highlighted.

In the current study while most of the items concerned with the identification of malnutrition were focused on patients in the acute setting, interestingly the number 1 (joint) research priority identified the need to study the effectiveness of oral nutrition support in the community setting. This is relevant given that government policies in recent years have tended to support a shift in care from the acute setting to the community. This has however happened without appropriate guidelines on nutritional care in the community and a lack of awareness of the needs of different population groups (Elia, 2009). The absence of robust evidence based guidelines for nutrition support has been highlighted in two major International reports. In the National Institute for Health and Clinical Excellence guidelines on oral nutrition support only 10% of a total of 77 recommendations made were considered to be of grade A evidence (NIHCE, 2006). A similar finding was reported by The European Society for Clinical Nutrition and Metabolism in 2006 (Schutz et al, 2006). In both cases the majority of the recommendations were based on expert opinion.

The need to evaluate nutrition interventions aimed at managing and treating specific diseases emerged as a strong theme highlighting the importance of evidence based practice for the dietetics profession, a theme that was also picked up in item 20. The nutrition interventions described included programmes aimed at managing chronic diseases in adults such as obesity and diabetes but also interventions for patients with advanced cancer and interventions in children with various paediatric conditions. The effect of dietary interventions on quality of life outcomes for patients was recognised as an important priority and interestingly the impact of nutrition interventions on health economics was ranked in the top 10 priorities. This is important in the current financial climate and especially given that the National Institute of Health and Clinical Excellence have identified nutritional support as the fourth most likely intervention to save money for the NHS. Cost effectiveness was also highlighted as an issue to be investigated in relation to screening for malnutrition.

As expected a number of the priorities highlighted the need for further research on the prevention, management and treatment of obesity in both children and adults. Ranks 1 and 4 focused on prevention and treatment of obesity while rank 13 recognised the multidisciplinary nature of the problem. The interaction between obesity and type 2 diabetes

was also highlighted. The specific role of the Dietitian in obesity management was also identified as a priority research question (rank 19). Obesity remains one of the most important public health challenges faced by health professionals and the prevention and management of obesity is of major concern to governments worldwide and has been the subject of a number of national and international health strategy documents. The Foresight report (HMSO, 2007) has predicted that 60% of men and 50% of women in the UK could be clinically obese by 2050 with an estimated associated cost to society of £49.9 billion per year. It is suggested however in the Foresight report that the obesity epidemic cannot be prevented by individual action and that a multi-disciplinary societal approach is required. Obesity was also highlighted by a number of the other AHP's including physiotherapists, speech and language therapists and key stakeholders as being a priority area of practice.

Unexpectedly health promotion did not emerge as a strong theme in this study although research to identify reasons why public health campaigns aimed at tackling obesity and promoting healthy eating were not achieving their aims was ranked as a priority. Furthermore there was no specific reference made to either the prevention *or* treatment of cardiovascular disease (CVD) which is most surprising given the incidence of CVD and associated illness and indeed considering the mortality rates associated with CVD in NI. Interestingly cardiovascular disease was only included by one of the AHP's, physiotherapists, as a key area of practice.

In the context of the service management and delivery cost effectiveness and health economics related to nutritional issues were addressed as priorities and in the current climate of change and limited resources these concerns are not surprising. Also relevant in terms of the future management of services within the specialty the role of dietetic assistants was highlighted and specifically research to evaluate the impact of dietetic assistants on clinical outcomes. Aspects of patient/public involvement were reflected within the analysis with priority being given to researching the views of patients/clients/carers on clinical decision making processes. There was no reference made to access or lack of access to education and training to facilitate an increase research capacity.

***Comparison with other nutrition and dietetics research priority studies***

Few studies have focused on identifying research priorities for Dieticians and to the best of our knowledge this is the first of its kind in NI. The British Dietetic Association, the professional organisation for UK Dieticians recognise the importance of research and the need for a professional commitment by Dieticians to research'. In the UK all newly qualified registered dieticians are expected to have achieved the knowledge and the skills required to

understand, interpret and apply research and should maintain or improve upon these throughout their career (BDA, 2007).In its most recently published research strategy for 2008-13 (BDA, 2008) the Association identified five key components: leading the research agenda; building research capacity; promoting collaboration and involvement; ensuring high quality research; and advancement of dietetic practice. In addition, an implementation plan that outlines clear objectives and an action plan to ensure effective delivery of the strategy were implemented.

The American Dietetic Association (2007) outlined a research agenda to support the future of Dietetics that included research focused on three main areas, practice, policy and education. Areas which were prioritised as being critical to the advancement and practice of the dietetic profession were research involving the basic sciences, nutrition, lifestyle and food science. Research to determine the effect of nutrition interventions was recognised by the ADA as a priority similar to the current study. The identification of the most effective methods for the delivery of dietetic services and the cost effectiveness of such methods was also highlighted by the ADA as being an important priority, and again these themes were evident in the current investigation. While the 2007 report from the ADA did not focus on specific diseases obesity has previously been recognised by the profession as a major research priority area (Castellanos, 2004).

***Comparison to Service User priorities and Key Stakeholder Priorities***

The priorities identified by the nutrition and dietetics panel were, in many cases disease focused, and primarily related to practice evaluation and thus differed significantly compared to those identified by the service user panel. Cost effectiveness was however highlighted by both panels although only it only emerged in one of the priorities for service users and related to the cost benefit of early versus late intervention. Service users were specifically considered in two of the top 20 priorities for the Nutrition and Dietetics panel. Item 13 (joint) was concerned with the patient's perspective in terms of clinical decision making and provision of information while rank 20 was concerned with the quality of information provided to service users. Issues related to the management and care of children were highlighted by both panels. Both the Key Stakeholders and the Nutrition and Dietetics panel identified research investigating the role of support workers as a priority. The Key Stakeholders also recognised the importance of evaluating the effectiveness of interventions which was a strong theme emerging from the Nutrition and Dietetics panel. Cost effectiveness not surprisingly was identified by both panels as a research priority.

## 4.5 Speech and Language Therapy

### *4.5.1 Response Rates*

Twenty-two speech and language therapists responded to the round 1 questionnaire, 73% (n=16) responded to round 2 and 88% (n=14) responded to round 3.

### *4.5.2 Demographic Profile*

All of the 22 members of the panel were female. This is representative of a profession where the employment profile is predominately female. Eighteen (81.8%), were from a clinical practice background with 2 (9.1%), from an academic setting and a further 2 (9.1%) in joint clinical/academic roles. Most of the panel were in the 35-44 age range (n=9; 40.9%) but closely followed by the 25-34 age group (n=7; 31.8%). Five (22.7%) members were between 45 and 55 with only 1 (4.5%) of the panel in the age range 55-65.

There was a broad distribution of professional experience gained by the panel members. Of the 19 (86.36%) with clinical/practice managerial roles the largest group (n=6; 27.3%) had 21-25 years experience with a further 5 (22.7%), 16-20 years. Four members (18.2%) had gained 6-10 years practice experience while 2 (9.1%) had 11-15 years. Only 2 (9.1%) were limited to 0-5 years experience. The remainder of the panel (n=3; 13.6%) were based in academic positions.

The vast majority (n=19; 77.2%) were employed by HSC Trusts throughout NI as speech and language therapists with the largest single group (n=7; 31.8%) in the Belfast Trust. HSC Trusts and the university sector jointly employed 2 (9.1%) and the university sector (n=2; 9.1%) in practice and lectureship roles while an independent specialist organisation (n=1; 4.5%) completed the employment profile.

All members of the panel were qualified to degree level and above with the largest group (n=13; 59.1%) holding a first degree with 7 (31.8%) at Master/Post Graduate Diploma level and the remainder (n=2; 9.1%) who were qualified to Doctoral level.

### *4.5.3 Research Priorities*

The top 20 priorities for the speech and language panel are shown below in Table 9.

**Table 9: Top Twenty Research Priorities identified by Speech and Language Panel**

| Research Priority | % Consensus | Mean | Rank | Timeframe |
|---|---|---|---|---|
| Research to measure the Health Related Quality of Life outcomes of people with speech, language and communication difficulties. | 100% | 1.38 | **1** | Short/Medium |
| Assessment of the effectiveness of intensive versus non intensive speech and language therapy for a range of conditions. | 94% | 1.38 | **2** | Short |
| Research designed to demonstrate the impact of therapy on communication outcomes. | 81% | 1.56 | **3** | Medium |
| An exploration of the role of the Speech and Language Therapist in Dysphagia. | 100% | 1.62 | **4** | Long |
| Research to assess the effectiveness of therapeutic interventions in the management of:- Dysphonia, Dysphasia, Dysarthria, Dyspraxia, Stammering | 94% | 1.62 | **5 joint** | Medium |
| An assessment of the efficacy of Speech and Language Therapy in adult acquired disorders. | 94% | 1.62 | **5 joint** | Long |
| An evaluation of the impact and effectiveness of speech and language therapy on quality of life in people with asphasia. | 88% | 1.63 | **7** | Medium/Long |
| Working with parents – how important is their involvement in therapy and what level of involvement is most effective for progress in therapy? | 88% | 1.69 | **8 joint** | Short/Long |
| An investigation into the outcomes of utilising support workers e.g. parents, teachers etc in speech and language therapy treatments. | 88% | 1.69 | **8 joint** | Medium |
| Effective engagement of teachers in addressing the needs of children with Speech, Language and | 88% | 1.75 | **10** | Medium |

| | | | | |
|---|---|---|---|---|
| Communication Needs in mainstream schools. | | | | |
| Research to assess speech and language therapy outcomes in the management of:- Dysphonia, Dysphasia, Dysarthria, Dyspraxia, Stammering | 81% | 1.75 | **11** | Long |
| An evaluation of the clinical effectiveness of school based therapy models as opposed to traditional clinical intervention. | 75% | 1.75 | **12** | Short/Medium |
| To investigate the role of the Speech and Language Therapist in Health Promotion / Early Intervention and provision of services. | 81% | 1.81 | **13 joint** | Medium/Long |
| Research to evaluate the impact of training on the service user. | 81% | 1.81 | **13 joint** | Short/Long |
| Research designed to demonstrate effective outcomes for a range of different models of therapy provision. | 75% | 1.81 | **15** | Short/Long |
| Studies to elicit evidence for the identification of Speech and Language Therapy outcomes in rehabilitation following (adult) stroke and brain injury. | 79% | 1.86 | **16** | Medium |
| Investigation of outcome measures to include qualitative as well as quantitative outcomes. | 81% | 1.87 | **17** | Short |
| An exploration of meeting education/training needs of carers/family, including communication partners in the implementation of communication therapy within the patients' own environment. | 81% | 1.88 | **18** | Medium |
| To investigate the effectiveness and efficacy of VitalStim or Neuromuscular stimulation as a treatment for dysphagia including acute stroke patients. | 75% | 1.88 | **19** | Medium |
| An exploration of the costs and benefits of speech and language therapies. | 86% | 1.93 | **20** | Short/Medium |

### 4.5.4 Key themes for Speech and Language Therapy

From the top 20 priorities from the Speech and Language panel four key themes were identified; Practice evaluation, Health promotion, Management and service delivery, and Outcome measures.

***Practice Evaluation***

The majority of items (60%) (ranks 2, 3, 5 (joint), 7, 8 (joint), 11, 12, 13 (joint), 15, 16, and 19) concentrated on practice and the evaluation of therapy interventions. There was a general focus in seven of these items with no specific reference to condition, age group or intervention type. Of these general items two make it into the top three of the 20 top ranking items from the speech and language panel. Of these, the second highest ranking item was concerned with an assessment of the effectiveness of intensive versus non intensive speech and language therapy for a range of conditions, while the third ranked item related to the impact of therapy on communication outcomes.

In the condition specific items adult acquired disorders; aphasia, dysphagia, and stroke and brain injury were the target of four items (rank 5 (joint), 7, 16 and 19). Younger age groups were specifically included in one of the items (rank 12). Exploring different models of therapy was a sub theme within this larger theme and was considered in five items (rank 2, 8 (joint), 12, 13 (joint) and 15).

***Health Promotion***

Exploring the area of health promotion was the core theme of three items (15.00%), (rank 8 (joint), 10, and 18). Within these research priorities parents, teachers and carers/ family were viewed as key agents in supporting roles and acknowledged that their involvement needed further investigation.

***Service Organisation***

Three items from the top 20 priorities were concerned with aspects of service organisation (15.00%) (rank 4, 13 and 20). An important aspect of service organisation relates to the costs and benefits of service provision but the need to explore this in relation to speech and language therapies was the lowest ranked of the top 20 priorities.

Investigating the role of the speech and language therapist appeared in two of the top 20 priorities (rank 4, and 13). The need to explore the role of the speech and language therapist in the management of dysphagia was the higher of these priorities and was condition

specific whereas rank 13 was a reflection of a broader research need which encompassed aspects of the role in health promotion, early intervention and with regard to service delivery.

***Outcome measures***

Two items in the top twenty focused on outcome measures, (rank 1 and 17). The top ranking priority was specifically concerned with health related quality of life outcomes of people with speech, language, and communication difficulties. The other item was concerned with including both quantitative and qualitative outcomes in research. While outcome measures are mentioned in other items they are not considered to be the main focus of those priorities.

***Timeframes***

In keeping with other disciplines the speech and language therapy panel identified most of the research priorities as medium-term to be carried out within the next 12 months. Within this category there is a balanced representation of issues concerned with the effectiveness of therapy interventions, health promotion and measuring outcomes. It includes a number of the top ranking items including ranks 3, 5 (joint), 8 (joint) and 10.

Two research priorities are viewed as requiring immediate attention (short-term). These refer to assessing the effectiveness of intensive versus non-intensive therapy for a range of conditions and ranked 2, and the only research capacity building issue included in the top 20 priorities. Although only ranked 17 it is seen as a short-term priority. The top ranking priority which is concerned with research to measure the HRQL outcome of people with speech, language and communication difficulties divided the panel and was equally categorised as short and medium term. This situation also applied to two other priorities, one dealing with models of intervention and the other an exploration of the costs and benefits of speech and language therapies. As one of only three management of services issues, this item was the lowest of the top 20 priorities but was identified as requiring a short/medium term timeframe.

### 4.5.5 Discussion of the Speech and Language Therapy research priorities

The final results for Speech and Language Therapy reflect a significant concentration of evaluating practice and the intervention therapies that are widely employed within the specialty with less emphasis on the remaining themes. Only two items had a relationship with outcome measures (however outcomes was included in many of the priorities but it was felt that their main aim was the evaluation of therapy). There was some concern for matters relevant to health promotion and involvement of carers, families and teachers. The role of the speech and language therapist is addressed in the context of service organisation and reference was made of the cost and benefits of speech and language services. Additionally

service organisation is considered in relation to models of therapy delivery in a number of items. Given the acknowledgement in the literature of a limited research profile and culture within the profession it may be conjectured that the responses reflect a concern to substantiate current practice as an immediate priority for the profession.

This is reflected in the Royal College of Speech and Language Therapists (RCSLT), (2009a) strategic plan for the period 2009 – 2012; as a top priority they aim to encourage research and develop the evidence base in the profession which runs in parallel with the findings from this research priority study. In this strategy for the next 2 years specific areas of priority for influencing policy include stroke, mental health, dementia, learning difficulties, cancer, autism, rehabilitation and long term conditions. Campaigns that are running or have recently run include; young offenders and criminal justice, children and young people with communication needs and improvements in stroke care. Specifically, in NI, the RCSLT (2008a) requested from the health committee a regional strategy for users of alternative and augmentative communication, implementation of; the stroke strategy, the NI SLT task force with recommendations for improving SLT services to children with speech, language and communication needs, and the autism report. While these campaigns do not exactly replicate the research priorities there are some parallels to be drawn.

The RCSLT (2009b) have published a recent research strategy document for the UK. The vision is to create a profession with a strong evidence base and high quality research. This is emphasised further by the strategy outlined above and its need to promote the evidence base within the profession. The evaluation of interventions is recognised as crucial to establishing the efficiency and effectiveness of different approaches and this is clearly reflected in the priorities. O'Connor and Pettigrew (2009) discuss the lack of research within the profession stating that the evidence base does not reflect the breadth of interventions currently used by speech and language therapists. They go on to report that 93.70% of therapists see the value of research for practice which echoes the findings from this study. The conclusion to their study calls for more research to be carried out to ensure practice is evidence based. To support this further, the strategy for research and development to lead NI into the 21st century recognises the need for evidence based services. The R&D Office, HPSS (2007) recognised and promoted the need for research in the AHPs.

Areas of clinical practice addressed in the priorities include adult acquired disorders (including stroke and brain injury), dysphonia, dysphasia, dysarthria, dyspraxia, stammering and children with speech, language and communication needs and reflects recent policy documents relevant to speech and language therapy practice. The RCSLT campaign for

children and young people with communication needs has been a strong focus, including the Bercow review (DCSF, 2008) and the response, “Better communication: An action plan” (DCSF, 2009). The aim is to improve services for children with speech, language and communication needs and understanding in those who work with children. There is a recommendation to provide prevention, early identification and intervention by early years, education and health services. The role of parents and carers is recognised in this provision along with the importance of joint working. In recent research, service delivery models have been evaluated for children and this has parallels with some of the research priorities identified. An economic evaluation of direct versus indirect and individual versus group modes of delivery for children with primary language impairment was implemented by Boyle et al (2009). This randomised controlled trial concludes that there may be a case for indirect therapy and group therapy, although further research is needed in this area. Mecrow et al (2010) investigated the effectiveness of an enhanced consultative model for delivering SLT in schools and found with this intensive approach there were language gains for the children, but these authors call for further research into the clinical and cost effectiveness of its approach. The RCSLT (2009c) resource manual for speech and language impairment also considers how SLT interventions are delivered, such as by training parents, and concludes that further research is required to establish which children and parents would benefit from different models of therapy delivery. Likewise, the DoH (2008b) recognised the key role that SLT has in the provision of early intervention for effective communication in family life and education.

Stroke and the subsequent communication and swallowing difficulties appear in a number of the top twenty priorities. Stroke and SLT strategy for its effective management is a priority in the RCSLT at both UK and NI levels. The RCSLT (2008b) stroke campaign called for the government to implement the RCSLT workforce planning to ensure adequate, equitable and appropriate communication support in the immediate and long term care of those who have had a stroke to include both communication and swallowing. The DoH (2007) stroke strategy recognises the role of SLT in the early stages and long term and the importance for quality of life and participation in community life. A detailed RCSLT (2007) policy statement specifies the role of the SLT in all stages of the rehabilitation process for stroke survivors. The RCSLT (2009d) resource manual for aphasia synthesises the literature and this supports the priorities in identifying the need to investigate components of therapy for aphasia and their impact on outcomes, with a further need to explore the model and timing of therapy delivery, including the evaluation of training lay people to be part of therapy.

Dysphagia appears a number of times in the priorities and is a focus in the professional literature, such as the 2007 policy statement. The RCSLT published a position paper, Kelly et al. (2007), considering the role of the SLT in Fibreoptic Endoscopic Evaluation of Swallowing (FEES), recognised the changing role of the SLT with this population, in improving methods of diagnosis and treatment. The RCSLT (2009e) in their synthesis of literature for dysphagia recognise the need for research to evaluate the role of SLT in the multidisciplinary team for the management of dysphagia.

The top ranking research priority identifies the need for more research into health related quality of life outcomes for people with speech, language and communication difficulties. Markham and Dean (2006) concluded that there is a need for HRQOL measures for children with SLCN to further efficacy research. HRQOL with certain groups of communication impaired adults is better established according to Hilari et al. (2003) and Klugman and Ross (2002).

Themes and client groups that did not make the top twenty priorities but gained consensus at round 3 did include some areas that we might have expected to see in the final top twenty. Alternative and augmentative communication (AAC) featured in a number of the items and is a key theme in the RCSLT NI strategy. Similarly autism which appears in this same strategy, featured in items that did not make it into the top twenty. Items in the lower ranks tended to be more specific in their research question, with either client group or intervention, when compared to the top twenty. An ongoing campaign by the RCSLT, (RCSLT, 2008c) is promoting SLT's work with young offenders and it was surprising that items investigating young offenders did not reach consensus in this study. Mental health which is another area identified in the strategic plan, did not gain consensus. Items related to children and their speech, language and communication needs frequently featured in items that did not make the top twenty, although they were also represented in the top twenty priorities. Other areas such as dementia, learning difficulties or cancer which are outlined in RCSLT strategic plan did not feature specifically in any of the items.

***Comparison with other speech and language therapy priority studies***

There is a clear need for investigation into research priorities in speech and language therapy. Almost three decades ago, Van Hattum (1980) investigated research priorities in speech and called for research into the whole spectrum of the communication function. Some research priority studies exist in specialist areas of speech and language therapy. For instance, Beukelman and Ansel (1995) addressed research priorities in augmentative and alternative communication. These were identified through a research priorities workshop

involving experts in the field. The priorities focused on the evaluation of augmentive and alternative communication (AAC) on the individual's communication, potential variables and developing measurement tools. Additionally, support for research capacity in the area was identified as the priority ranked 6. While AAC did not make it into the top twenty priorities it did gain consensus at round 3 and featured a number of items at this stage of the process. It also features prominently in the RCSLT commissioned work.

Recently, Ludlow et al. (2008) identified research priorities in the area of spasmodic dysphonia through a multidisciplinary working group. The top priority was to further define the disorder and evaluate the risk factors. Research in this area is recommended to enhance the quality of life of patients living with this voice and speech disorder. Dysphonia appears broadly in the top twenty, and more specifically, in the items that did not gain consensus.

***Comparison to service user priorities and Key Stakeholder Priorities***

It is of interest that 75.00% of the service users made use of speech and language services. Health promotion was a key theme in the SLT panel (3 items) and likewise has 3 items identified in the service user panel primarily around the quality and quantity of support that is provided to parents for children's progress and informed decisions. The evaluation of therapies was the main theme in the SLT panel and this does not feature in the same way in the service user panel where it is more focused on the management of services. An exploration of cost and benefit ranks at item 20 in the SLT panel but is much higher at number 9 (joint) in the service user panel specifically looking at early versus late intervention. Time is a major theme in the service user panel, ranking at number 1, 2, 3, 5, 9 (joint), 14, and two of items jointly rated 15, and is not such a feature of the SLT panel.

In the key stakeholder panel, research capacity ranks at number one and interestingly is number 20 in the SLT panel. Priority ranked 2 was proposed to investigate services for the elderly and while this group are not specifically targeted in the SLT panel, they are included in the majority of items. Cost effectiveness is ranked at number 9 (joint) and in the SLT panel at number 20. The role of AHPs is investigated in item 17 and features in 2 items in the SLT panel.

## 4.6 Podiatry

### *4.6.1 Response Rates*

Thirty podiatrists responded to the round 1 questionnaire, 63% (n=19) responded to round 2 and 74% (n=14) responded to round 3.

### *4.6.2 Demographic Profile*

Within the total panel membership (n=30) 18 (60.00%) were female and 40.00% (n=12) male. This was representative of the gender distribution within the profession. The vast majority (n=26; 86.70%) were clinically based, with 3 (10.00%) from an academic setting and 1 (3.33%), with a joint clinical/academic role. Most of the panel (n=13; 43.33%) were in the 25-34 age range with 9 (30.00%) between 35 and 44 years of age. Six (20.00%) panel members were in the 45-54 range and a small number (n=2; 6.67%) did not disclose age related data.

There was a broad distribution of professional experience gained. Of those members of the expert panel engaged in clinical practice or service management roles (n=26; 86.67%) the largest group (n=7; 23.33%) had 6-10 years experience. This was closely followed by 6 (20.00%) in each of the 11-15 and 16-20 categories. There were 3 (10.00%) in the 21-25 years range and 2 (6.67%) who had between 26 and 30 years. A further 2 (6.67%) had 0-5 years experience. Information in respect of 1 (3.33%) panel member was not disclosed. The remainder of the panel (n=3; 10.00%) were based in academic positions.

The vast majority of the panel (n=26; 86.67%) were employed by HSC Trusts throughout Northern Ireland as practice podiatrists and/or lead managers and specialists in practice with the largest groups (n=8; 26.67%) in each of the South Eastern and Northern Trusts closely followed by 7 (23.33%) in the Belfast Trust. One HSC Trust and the university sector jointly employed 1 (3.33%) and the university sector; a further 2 (6.67%) in practice and lectureship roles and 1 member (3.33%) from an independent statutory organisation completed the employment profile.

All members of the panel were qualified to degree level and above with the largest group (n=14; 46.67%) holding a first degree with 5 (16.67%) at Masters level and 10 (33.33%) holding post graduate diploma level qualifications. Data on one member (3.33%) was not disclosed.

### *4.6.3 Research Priorities*

The top 20 priorities for the podiatry panel are shown below in Table 10.

**Table 10: Top Twenty Research Priorities identified by Podiatry Panel**

| Research Priority | % Consensus | Mean | Rank | Timeframe |
|---|---|---|---|---|
| An exploration of the effectiveness of podiatry interventions in reducing amputation rates. | 90% | 1.63 | **1** | Short/Medium |
| A comparative analysis of podiatric wound care regimes and their effectiveness. | 85% | 1.74 | **2** | Medium |
| An evaluation of the effectiveness of different offloading techniques in the management of diabetic foot ulcers. | 90% | 1.79 | **3** | Medium |
| An evaluation of the effectiveness of podiatry vascular assessment in predicting wound healing outcomes. | 84% | 1.79 | **4** | Medium |
| Does a podiatrist in a renal unit reduce the rate of amputations? | 79% | 1.79 | **5** | Long |
| An exploration of the competencies and skills required for specialist practice. | 93% | 1.80 | **6** | Long |
| Research into the effectiveness of footwear for the high risk/at risk foot. | 89% | 1.84 | **7** | Medium |
| Research into the modalities for healing high risk feet/wounds. | 84% | 1.84 | **8** | Medium |
| Research to demonstrate the value of biomechanic and orthotic interventions in podiatric diagnosis, treatment and management. | 79% | 1.84 | **9** | Medium |
| An exploration of the effectiveness of NHS supplied orthopaedic footwear in preventing recurrence of ulceration. | 84% | 1.89 | **10** | Short/Medium /Long |
| An assessment of the benefits of podiatry interventions in the management of tissue viability. | 93% | 1.93 | **11** | Medium |
| An evaluation of the effectiveness of dressings used in treating foot ulceration. | 87% | 1.93 | **12** | Short/Medium /Long |

| | | | | |
|---|---|---|---|---|
| An evaluation of the effect of the duration of prescribed antibiotic treatment on wound healing. | 84% | 1.95 | **13** | Medium |
| Research into the management of Charcot foot. | 79% | 1.95 | **14** | Short |
| An exploration of the current assessment and diagnostic techniques used in the high risk foot. | 74% | 1.95 | **15 joint** | Long |
| An evaluation of the effectiveness of sharp debridement in wound care, with regard to different types of foot ulcers. | 74% | 1.95 | **15 joint** | Medium |
| An exploration of the correlation between swab results and the use of antibiotics. | 93% | 2.00 | **17** | Short/Medium |
| An assessment of the efficacy of topical negative pressure in wound healing compared to conventional therapy. | 87% | 2.00 | **18** | Medium/Long |
| An exploration of regional differences in podiatric wound care management in Northern Ireland. | 80% | 2.00 | **19** | Long |
| Does early intervention in children's foot problems prevent/alleviate problems in later life? | 80% | 2.00 | **20** | Medium/Long |

### 4.6.4 Key Themes for Podiatry Panel

Three key themes were identified; wound management, efficacy of assessment and intervention in clinical practice and education and training-building research capacity.

***Podiatric Wound Management (Practice Evaluation)***

Wound management emerged as a very strong theme within the results through a variety of ranks representing 40.00% of the items (2, 8, 11, 12, 13, both 15 joint items, 18). Most notable, the area of podiatric wound care was noted as the second top ranked statement where the respondents highlighted the need for a comparative analysis of wound care regimes and the need to research their efficacy.

Further to this there were a number of priorities that detailed the need to carry out an evaluation of how wounds are managed. While the overarching statement of the need to assess the benefits of podiatry interventions in the management of tissue viability was ranked 11, a range of detailed statements on these actual interventions were further highlighted (ranks 8, 12, 13, 15 joint, 18). For example the need to research modalities for

healing in at risk feet was ranked 8. One such modality was noted as topical negative pressure where the need for a comparative study into its effects was ranked 8 in the top 20 research priorities. It was apparent that the need for research into effective ulceration management permeated throughout the research priorities where the efficacy of sharp debridement (rank 15 joint), the duration of antibiotic therapy (rank 13) and the efficacy of dressings used in ulceration (rank 12) were all highlighted as areas requiring research. Thus within this large theme, there was a range of focussed areas of research well detailed by the Podiatry panel.

***Efficacy of assessment and intervention in clinical practice***

The area of exploring efficacy of assessment and intervention was a strong theme (ranks 1, 3, 4, 5, 7, 9, 10, 14, 15 joint, 17, 20). It is interesting to note that, as with the above theme there was a particular emphasis placed on the high risk foot of wound management. Specific areas for research into reducing amputation rates was noted (ranks 1, 5). More specific areas detailing the need to research efficacy of intervention in the management of the high risk foot included areas in offloading techniques (rank 3), footwear and orthopaedic footwear (ranks 7, 10). Of particular interest was the need to not only research the interventions, but also the need to explore assessment and diagnostic techniques (rank 15 joint), and again wound healing ranked as a high research priority (rank 4). Here the panel identified the need to evaluate the efficacy of podiatry vascular assessment in predicting wound healing outcomes. Discrete areas of interventions in areas outside of the high risk foot are also noteworthy where the need for research into the value of biomechanics and orthotic interventions was ranked 9. It was further noted that the area of podopaediatrics was highlighted as a research priority (rank 20) and the need to investigate if early intervention was a prophylactic measure to the progression of adult foot pathologies.

It is of particular interest to note that the use of antibiotics featured again in this second theme, this time in relation to the need to investigate if there is a correlation between laboratory swab results and their use (rank 17).

***Education and training-building research capacity***

The need for research into the competencies and skills required for specialist practice was the only item in this key theme despite this ranking high (rank 6) in comparison to items that fell into the themes discussed above.

***Timeframes***

In keeping with other disciplines within the study the majority of the top twenty research priorities in podiatry were identified as medium-term to be commenced within the next 12 months. These were areas of research concerned with wound management and foot care management together with other aspects of practice evaluation. This group included ranks 2, 3 (joint) and 4 of the research priorities.

Three items were designated as short-term (to commence immediately) or short to medium-term (12 months) as a result of the panel being equally divided on the timeframe for some items. The top ranking item, an exploration of the effectiveness of interventions in reducing amputation rates was included as a short/medium timescale. However the other items in this short/medium category were only ranked 14 (management of Charcot foot) and 17 which was concerned with the correlation between swab results and the use of antibiotics.

Some research priorities that were in the top half of the list were only deemed to be long-term research priorities (in the next 5 years) and these included the role of podiatry in a renal unit in reducing the rate of amputations and an exploration of the competencies and skills for specialist practice.

Although overall rated as important from the perspective of the need for early research, some aspects of foot management divided the panel to the extent that there was an equal division of opinion on ranks 10, 12 and 15 (joint) resulting in these priorities being equally categorised as short, medium and long-tem.

### 4.6.5 Discussion of the Podiatry Research Priorities

The current study indicated findings consistent with research that has been carried out previously in podiatry. It is not surprising that the area of wound care and the high risk foot emerged as a strong theme within the top 20 priority areas for research throughout the various statements that were noted as priority areas. The importance of this healthcare area and its underpinning strategies have previously been highlighted by the Diabetes Service Delivery Group (DSDG), (2002).

The findings of the current study concur with thoughts reported by a review published by Boulton (2008) who noted that despite much progress having been made into the pathogenesis of diabetic foot problems and their management, that there was still a lack of evidence available for many treatments. The current study findings had a particular

emphasis on this area with detailed aspects of management (e.g. debridement, dressings and antibiotic therapy, footwear) comprising many of the research priority items (3, 7, 8, 10, 12, 13, 14, 15 joint, 17).

It is interesting to note that the area of amputation was also noted as an area requiring research (ranked 1, 5). While much work has already been conducted into the development of preventative strategies globally to decrease amputation rates (CREST 1998; International Consensus on the Diabetic Foot, 2007), it is apparent that the panel recognised this as an area for further research.

The current study noted a focussed number of items detailing research around many strands of management of ulceration e.g. naming topical negative pressure, debridement, antibiotic therapy, dressings. These findings are not surprising given the service frameworks within the current NHS in NI and the role of the specialist practitioner in the management of the high risk foot.

Efficacy of assessment and intervention was evidently a very important theme. Again, much of this referred back to the high risk foot area and to some extent reiterated the top ranked research priority of investigating efficacy of intervention to prevention of amputation rates, with the 'how we do that' underlying the wound care theme. It was interesting to note that podopaediatrics and biomechanics were noted as discrete areas of clinical practice requiring research.

It is also interesting to discuss several of the items that did not quite make it into the top 20 research priorities. Surprisingly, in contrast to the results obtained for other professional groups, health promotion fell into this category. The need to explore the role of podiatry in multidisciplinary and interdisciplinary working, (including its contribution to health promotion) reached 73.00% consensus. More specifically, the need to assess the effectiveness of current health promotion strategies including management of diabetes and foot health also reached 73.00% consensus and did not make it into the top 20.

There were no other unexpected items that did not reach consensus. For example, the need for research into cardiovascular risk factors including smoking and the incidence of diabetes mellitus and its complications leading to lower limb amputation (60.00%) was ranked well below the top 20. Despite recent work having been published through the cardiovascular health and wellbeing service framework (DHSSPS, 2008), research by Podiatrists does not fit within this area. It is also not surprising that quality of life of patients with diabetic foot

amputations did not reach consensus given the amount of research that has already been conducted in this field (Benbow et al, 1998; Brod et al, 1998; Ashford et al, 2000; Tennvall and Apelqvist, 2000).

It is important to note that these findings of the need to evaluate clinical practice are concurrent with the findings reported in a recent policy published by the Department of Health who noted that there should be a focus on health and treatment outcomes with the need for AHPs to prioritise an ongoing examination of current practice (DoH, 2008b).

***Comparison with other podiatry research priority studies***

As with many of the other therapy professions, there is a dearth of podiatry literature on research priorities to enable comparison with the current results. An earlier research priority exercise was published by the Podiatry Research Forum in 2003 that reported the results of a 'real-time' Delphi exercise (Curran, 2003). A later Delphi study conducted by Vernon in 2005 identified the research topics most frequently suggested as those related to research into treatment effectiveness. This is in keeping with the second theme identified in the current study. Vernon et al (2003) stressed the need for a formal research strategy to be put in place for podiatry. A more recent paper maintained that podiatrists are becoming more involved in research. However, there is a need for greater coordination and focus for research-related activity in podiatry where podiatric practice will be relevant and evidence-based within a respected, supported research culture by the year 2105 (Vernon and Campbell, 2006).

***Comparison to service user priorities and Key Stakeholder Priorities***

It is interesting to note the links in results obtained for the podiatry panel to that of stakeholders where items in the lower ranks of the top 20 research priorities can be compared. The need to explore the regional differences in podiatric wound care management in NI was ranked 19 by the Podiatry panel. Interestingly, the stakeholders panel also prioritised this same area where they noted the need for the development of regional provision of specialist teams (rank 14). A further area that emerged for comparison between these two panels was that of professional practice (rank 6). There were no emerging similar themes noted between the Podiatry and service users panels.

## 4.7 Orthoptics

### *4.7.1 Response Rates*

Thirteen orthoptists responded to the round 1 questionnaire, 92% (n=12) responded to round 2 and 67% (n=8) responded to round 3.

### *4.7.2 Demographic Profile*

Of the 13 members of the panel 11 (84.62%) were female, the remainder being male (n=2; 15.38%). All were from a clinical background. Most of the panel were in the 35-44 age range (n=7; 53.84%) with 4 (30.77%) aged between 45-54 years. One (7.69%) panel member was in the 18-24 age range and 1 (7.69%) aged between 25 and 34.

There was a broad distribution of professional experience gained by the panel members. The largest group (n=; 4; 30.77%) had 16-20 years experience with a further 3 (23.08%), 21-25 years. Two members (15.38%) had gained 11-15 practice experience. At either end of this spectrum there was one (7.69%) member in each of the ranges of 0-5 and 6-10 years while in each of the upper categories of 26-30 and 31-35 years there was also 1 member (7.69%).

The vast majority (n=12; 92.30%) were employed by HSC Trusts throughout NI as orthoptists in a range of clinical and senior managerial roles. One (7.69%) additional panel member was in a significant leadership role on behalf of the specialty within a representative statutory organisation.

All members of the panel were qualified to degree level and above with each of the largest groups (n=6; 46.15%) holding either a first degree or a Post Graduate Diploma. The remaining member (7.69%) of the panel was qualified to Master's degree level.

### *4.7.3 Research Priorities*

The top 20 priorities for the orthoptics panel are shown below in Table 11.

**Table 11: Top 18 Research Priorities identified by Orthoptics Panel**

| Research Priority | % Consensus | Mean | Rank | Timeframe |
|---|---|---|---|---|
| An exploration of the role of the Orthoptist in the management of stroke/brain injury rehabilitation. | 100% | 1.08 | **1** | Short |
| Identification of the incidence and type of orthoptic defect among stroke survivors. | 100% | 1.42 | **2** | Short/Medium |
| An evaluation of current interventions to facilitate the development of an evidence base for orthoptic clinical practice. | 92% | 1.42 | **3 joint** | Short |
| An exploration designed to address evidence based gaps in clinical therapeutics e.g. amblyopia therapy / nystagmus therapy / timing of surgical intervention. | 92% | 1.42 | **3 joint** | Medium |
| An exploration of the most effective way to use atropine in amblyopia therapy. | 92% | 1.42 | **3 joint** | Medium |
| An evaluation of the cost effectiveness of treatments and specialist orthoptic services. | 89% | 1.64 | **6** | Short/Medium |
| Research to improve clinical tests used in orthoptics leading to more accurate testing e.g. Snellen Logmar. | 100% | 1.67 | **7 joint** | Medium |
| An assessment of the role of the Orthoptist in special needs vision screening. | 100% | 1.67 | **7 joint** | Short |
| An exploration of new ways of working designed to consider the relevance of concepts of multidisciplinary approaches, shared care and extended roles for Orthoptists. | 92% | 1.67 | **9** | Medium |
| An exploration of factors influencing recruitment into orthoptics. | 83% | 1.83 | **10** | Medium |

| | | | | |
|---|---|---|---|---|
| What is the best type of surgery for true convergence excess squints? | 75% | 2.00 | **11 joint** | Long |
| Research into possible geographical and genetic links in the incidence of eye disease e.g. squint. | 75% | 2.00 | **11 joint** | Medium |
| Research to improve information for parents/users. | 75% | 2.08 | **13** | Long |
| Epidemiological study to elicit information on the prevalence and incidence of orthoptic and related conditions. | 75% | 2.09 | **14** | Long |
| An evaluation of the impact of supervision on day to day working practices. | 75% | 2.13 | **15** | Medium |
| A comparative study contrasting the effectiveness of early surgery on a 'recent' onset squint depending on history from parents, with delayed intervention until binocular functions can be improved? | 75% | 2.17 | **16** | Medium |
| Research to improve approaches to clinical investigation of e.g. vision assessment / amblyopia / efficacy of vision screening. | 83% | 2.33 | **17** | Medium/Long |
| Experimental research to investigate orthoptic approaches to investigation, management and mechanisms, and to develop theory. | 88% | 2.38 | **18** | Long |

### 4.7.4 Key Themes for Orthoptics Panel

Two themes, Management and service provision and Evaluation of practice dominated the themes that emerged from the Orthoptics panel. Other themes reflected the need for research related to the development of Evidence based practice, Epidemiological research and Education and training – building research capacity.

***Management and service delivery***

A strong theme that emerged and represented one third of the top priorities determined by the Orthoptics panel were concerned with management of service issues. (ranks; 6, 7 (joint), 9, 10, 13 and 15). Cost effectiveness of treatments and services was ranked sixth and the need for an exploration of new ways of working including multidisciplinary approaches, shared care and extended roles for Orthoptists was also ranked highly (rank 9). A more specific role dimension was concerned with an assessment of the role of the Orthoptist in special needs vision screening, (rank 7 (joint)).

The need to address recruitment issues was reflected in the need to carry out an exploration of the factors influencing recruitment into orthoptics and this item was ranked tenth.

An important aspect of patient/public involvement was addressed with the highlighting of research to improve information for parents/users, (rank 13).
Day to day working practices were contained within the priorities and an evaluation of the impact of supervision on them was a management perspective that was also included as a priority but ranked 15.

***Evaluation of practice***

A number of general and specific clinical interventions and the need for exploration into their effectiveness was included in this theme (ranks; 1, 3 (joint), 11 (joint)), and 16 which also represented 27.78% of the top research priority items from the Orthoptics panel. This key theme includes two of the top three ranking items from the list of top priorities identified by the Orthoptics panel.

The top ranking research priority related to exploring the role of the Orthoptist in the management of stroke/brain injury rehabilitation. Specific treatment evaluations are also highlighted and include the use of atropine in amblyopia (rank 3 (joint)) and different surgical interventions for squints (rank 11 (joint) and 16)

A significant though generalised priority was ranked third and highlighted the importance of evaluating current interventions in order to facilitate the development of an evidence base for orthoptic clinical practice. (rank 3 (joint))

***Evidence based practice***

Representing 16.66% of the top priorities this theme included one of the joint third items and this priority reflected the need for an exploration designed to address gaps in the evidence base associated with clinical therapeutics.

The need for evidence to support diagnostic approaches within orthoptic practice referred specifically to research to improve clinical tests (e.g. Snellen Logmar) (rank 7 (joint)) and improve clinical investigations in a number of clinical conditions, (rank 17). These included vision assessment, amblyopia, and efficacy of vision screening.

***Epidemiological research***

Three items (16.66%) related to epidemiological issues were included within the top priorities identified by the Orthoptics panel. These included the second highest ranking research priority concerned with the incidence and type of orthoptic defect among stroke survivors (rank 2) and research into possible geographical and genetic links in the incidence of eye disease (rank 11 (joint)) together with a more wide ranging epidemiological study to elicit information on the prevalence and incidence of orthoptic and related conditions, (rank 14).

***Education and training – building research capacity***

There was one item (5.55%), (rank 18) related to research capacity that referred to the need for experimental research in order to investigate orthoptic approaches to investigation, management and mechanisms which would also facilitate the development of theory. The item was however at the bottom of the priority ranking.

***Timeframes***

Three of the top twenty research priorities have short-term timeframes meaning that the research should commence immediately (ranks 1, 3 (joint) and 7 (joint)). This includes the top rated priority research priority for this panel. The panel were equally divided on the timeframe for two further priorities (ranks 2 and 6) with them being either short or within 12 months (medium-term). The majority of priorities (n=8) had medium term priorities with a further four identified as long-term meaning that research should commence in the next five years. One research priority was equally categorised by the panel as being medium or long-term.

The top three ranking priorities reflect the importance attached to practice evaluation and with these being rated as short-term or short to medium term research priorities. The

importance of the cost effectiveness of treatments and services is also identified as a soft to medium-term priority.

The research priorities that were within the lower rankings are viewed as long-term or medium-long term but it is interesting to note that they include issues concerned with research to improve clinical investigation techniques, and experimental research to generate and develop theory around orthoptic approaches to investigation, management and mechanisms.

### 4.7.5 Discussion of the Orthoptics Research Priorities

A significant number of research priorities were concerned with for management and service delivery matters including the cost effectiveness of therapies, recruitment to orthoptics, and multidisciplinary working and this reflects an awareness of the range of issues that are contained within policy development affecting the therapy professions ((DoH, 2008a; DoH, 2008b; DoH, 2008e.). The current and future extended role of the orthoptist and day to day work practices are also addressed both in a generic context but in relation to areas of specialised practice and inclusion of these issues is indicative of an acknowledgement of the developments that are taking place with healthcare provision and how this affects the therapy professions.

Equally important research priorities concerned the evaluation of orthoptic practice including general issues related to orthoptic practice. An emphasis was also placed on specific conditions such as interventions related to stroke and brain injury and surgery, amblyopia and nystigmus treatment. Within many of the priorities identified there is an acknowledgement of the importance of developing evidence based practice through improving clinical tests and investigations. The need to build research capacity was acknowledged and reflected in the need to engage in experimental research and this was directly related to developing theory. While this was also the lowest ranking ordered priority it identified the importance of addressing issues that would facilitate research activity and influence the health and illness of populations through the development of an evidence based approach to healthcare. This and the advancement of treatments was also acknowledged in the epidemiological issues that were included within the top priorities identified by the panel.

Taken together this analysis reflects a realistic assessment of the need for a structured approach to developing a meaningful research strategy that would advance orthoptics practice. This is also articulated in a significant, though generalised priority that was ranked

third and highlighted the importance of evaluating current interventions in order to facilitate the development of an evidence base for orthoptic clinical practice.

***Comparison with other orthoptics research priority studies***

Eye health is addressed on a world wide scale by the International Centre for Eye Health, at the Institute of Ophthalmology in London. It concentrates especially on WHO priorities for the improvement and prevention of childhood low vision and visual problems (Minto and Awan, 2001). In the UK, these global priorities have been taken into the research and practice development agenda for ophthalmology and related disciplines. Rahi et al. (2001) have commented that these goals depend on primary, secondary and tertiary preventive strategies like screening and rehabilitation at all ages, but especially in early years. Linked with ophthalmology and optometry, the knowledge and skill base of orthoptics involves the study and assessment of visual development, binocular vision, eye movements and eye co-ordination. Orthoptists are uniquely skilled in diagnostic techniques, clinical assessment and non-surgical treatment of eye problems such as strabismus/squint, diplopia/double vision and amblyopia/reduced vision as well as other less common visual disturbances (BIOS, 2006).

Audit and research has been the subject of two major publications of the British Orthoptic Society, (BIOS). The professional development committee set out guidelines for clinical audit (BIOS, 2006) and more recently, professional paper No 5 set out a detailed research strategy for the profession (BIOS, 2008). In light of the need to produce evidence based care within broader national service frameworks, translational research was emphasised at the outset, linked with aims to develop research career profiles across academic and clinical settings. Broad plans for 2008-2013 are identified as the instigation of multi-centre and multi-disciplinary research programmes alongside the facilitation of individual research exploits. Operationally, this entails research training, research dissemination and a dynamic culture characterised by ‘the inclusion of research activity in every department by every orthoptist so that research becomes the norm rather than an activity only undertaken by a minority’ (p. 26).

Orthoptics has also been a recent addition to the UK university sector. A comprehensive search of the literature only produced a small number of research papers that deal with research priorities in this profession. A significant investment would be required to enhance research capacity and capability.

***Comparison to service user priorities and Key Stakeholder Priorities***

The role of the AHP and the need to research the extended role of the AHP in terms of the tasks previously undertaken by other professional staff is highlighted by key stakeholders and resonates with the need for the current and future extended role of the orthoptist to be examined. Issues of multidisciplinary working and the day to day role of the orthoptists and how these link to patient outcomes, and efficiency of service provision were also shared. Equally both the key stakeholder and orthoptics panels consider the need for the cost effectiveness of services to be researched including the cost effectiveness of therapy interventions.

While there is little direct comparison with service user priorities there is some overlap in areas that relate to the role of the AHP and the effectiveness of therapy interventions in a broad context and by implication there is a shared concern to address issues of cost effectiveness.

As would be anticipated the key stakeholder and service user panels placed greater emphasis on the detail of service organisation than the individual therapy professions including orthoptics.

## 4.8 Key Stakeholders

### *4.8.1 Response Rates*

Fourteen key stakeholders responded to the round 1 questionnaire, 93% (n=13) responded to round 2 and 85% (n=11) responded to round 3.

### *4.8.2 Demographic Profile*

Of the 14 members of the panel there was an equal division between male (n=7; 50.00%) and female (n=7; 50.00%). The professional background of members was diverse with 9 (64.29%) being drawn from five different AHP specialties with one member (7.14%) from a medical background and one other (7.14%) from a human resources background. Three (21.43%) members of the panel were not professionally categorised.

Most of the panel were in the 45-54 age range (n=8; 57.14%) with 4 (28.57%) aged between 35 and 44. One (7.14%) of the panel membership was aged between 25-34 and one (7.14%) in the upper 55-65 age range.

There was a broad distribution of professional experience gained by the panel members. Six members (42.86%) were in the 26-30 years of experience group with 3 (21.43%) in each of the 11-15 and 21-25 ranges. Of the remainder 1 (7.14%) had between 6-10 years experience and 1 other (7.14%) 16-20 years.

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The majority of the panel (n=9; 64.29%) were employed by HSC Trusts throughout NI in senior service managerial positions with a further 4 (28.57%) in senior policy roles in government departmental and government agency organisations. One (7.14%) was employed at a senior level in a professional organisation at national level.

All members of the panel were qualified to degree level and above with the largest group (n=9, 64.29%) holding Master's degrees. One member (7.14%) was qualified to first degree level, 3 (21.43%), held Post Graduate Diplomas and one (7.14%) was qualified at Doctoral level.

### *4.8.3 Research Priorities*

The top 20 priorities for the Key Stakeholders panel are shown below in Table 12.

**Table 12: Top Twenty Research Priorities identified by Key Stakeholders Panel**

| Research Priority | % Consensus | Mean | Rank | Timeframe |
|---|---|---|---|---|
| Comparative study of the funding allocated for medical and nursing research with that allocated to the Allied Health Professions. | 100% | 1.50 | **1** | Short |
| Is further research needed into the range of services needed to support the elderly? | 100% | 1.70 | **2** | Medium |
| Research designed to inform improvement of multi-professional care pathways including maximising the contribution of Allied Health Professionals. | 90% | 1.70 | **3** | Short |
| Research to identify user perceptions of Allied Health Professionals and user participation in service development, including delivery of care to the chronically ill. | 90% | 1.80 | **4** | Short/Long |
| Research concerned with developing a process to | 80% | 1.80 | **5** | Long |

| | | | | |
|---|---|---|---|---|
| tackle local health inequalities. | | | | |
| A study designed to explore factors that influence the image/standing of Allied Health Professionals in the community and with peers. | 90% | 1.90 | **6 joint** | Medium |
| How do therapists assess health literacy and how does health literacy impact on the effectiveness of interventions? | 90% | 1.90 | **6 joint** | Medium |
| To research the effectiveness of a generic assistant compared to a profession specific assistant? | 90% | 1.90 | **6 joint** | Short/Medium |
| Research into the cost effectiveness of research studies of therapy interventions. | 80% | 1.90 | **9 joint** | Short/Medium |
| Is there scope to enhance workforce productivity through greater skill-mix? | 80% | 1.90 | **9 joint** | Medium |
| An exploration of the role of the Allied Health Professional therapist in the management of mental health. | 70% | 1.90 | **11** | Long |
| Exploration of an integrated approach to tackling obesity. | 70% | 2.00 | **12 joint** | Short |
| Is there scope to develop regional specialist teams for Mental Health and Learning Disability clients? | 70% | 2.00 | **12 joint** | Long |
| Is there need for regional provision of disease-specialist therapy teams? | 70% | 2.10 | **14** | Long |
| An evaluation of the Condition Management Programme in relation to outcomes. | 70% | 2.20 | **15 joint** | Medium |
| Research into equality of access to services including the barriers users identify in relation to accessing services. | 70% | 2.20 | **15 joint** | Medium |
| Research into the expanded role of Allied Health | 83% | 1.83 | **17** | Short/Medium |

| | | | | |
|---|---|---|---|---|
| Professionals i.e. tasks previously undertaken by other professional staff and whether this leads to improved outcomes, efficiency etc | | | | |
| Exploration of the effectiveness of interventions in the treatment of specific conditions such as obesity and diabetes. | 100% | 1.42 | **18** | Short/Long |
| What involvement by Allied Health Professionals is most productive and cost effective and makes best use of their scarce and valuable time? | 92% | 1.58 | **19** | Short |
| Research to identify and explore the experience of patients/clients to various treatments. | 75% | 1.67 | **20** | Short/Long |

### 4.8.4 Key Themes for Key Stakeholders Panel

Four themes emerged from within analysis of the top twenty priorities identified by the Key Stakeholders panel. As might be expected management and service delivery was by far the largest theme with evaluation of practice, health promotion and education and training – building research capacity completing the key themes.

***Management and service delivery***

The greater proportion (70%) of the top twenty key stakeholder research priorities fell within this theme (ranks 2, 3, 4, 6 (joint), 9 (joint), 11, 12 (joint), 14, 15 (joint), 17, 19). This represented a broad range of service management issues within which the need to research into the services needed by the elderly was ranked second and with improving multidisciplinary care pathways and maximising the contribution of AHP's being the third ranked item. An integrated approach to service provision in tackling obesity forms the basis of another priority which is jointly ranked fifteen.

Patient/public involvement was another significant priority with research to identify user perceptions of AHP's and user participation in service development, including delivery of care to the chronically ill being ranking fourth. Interesting however was that the need to research into equality of access to services including the barriers users identify in relation to accessing services was only ranked joint 15.

The role of the AHP and factors that influence their professional standing with the community and peers was ranked sixth. Other role issues included the need to research the extended role of the AHP in terms of the tasks previously undertaken by other professional staff and whether this leads to improved outcomes, and efficiency (rank 17).

The cost effectiveness of services also rated as an important priority area with research into the cost effectiveness of research studies of therapy interventions being identified (rank 9 (joint)) along with the need for the identifying the most productive and cost effective involvement of AHP's in service provision (rank 19).

Skill mix issues also rated highly within the top twenty priorities with a generalised research priority related to improving performance through more effective skill mix jointly ranked ninth and research into the effectiveness of a generic assistant compared to a profession specific assistant being jointly ranked sixth. Another dimension of skill mix related to the role of AHP therapist in the management of mental health and this was an interesting priority in the middle ranking order (rank 11) and is clearly represented the importance being attached to management of mental health issues. Also relevant here was the priority given to the need to assess if there was scope for developing regional mental health and learning disability teams (rank 12 (joint)). This concern also extended into the need for regional provision of disease-specialist therapy teams (rank 14) and may reflect the need for research into the effectiveness of the current provision of regional services.

***Evaluation of practice***

One fifth of the 20 top priorities were concerned with the effectiveness of clinical practice interventions. How therapists assess health literacy and how this impacts on the effectiveness of interventions was the highest ranking item in this category (rank 6 (joint)).
Within the lower order rankings research priorities the need to evaluate the Condition Management Programme (rank 15 (joint)) was prioritised.

The effectiveness of the treatment of specific conditions such as obesity and diabetes was also lower in the ranking of priorities (15 (joint)) and the need to identify and explore the patient/client experience in the treatment of various conditions was ranked 20 in the list of priorities.

***Health promotion***

Research concerned with developing a process to tackle health inequalities was the single item within the health promotion theme and was ranked fifth within the top twenty.

***Education and training – building research capacity***

The highest ranked research priority was the only item in this key theme and represented just 5.00% of the top twenty items but highlighted the need for a comparison of funding allocated for medical and nursing research with the provision allocated to the AHP's.

***Timeframes***

The dominance of organisational and service management oriented research priorities identified within the top 20 priorities of the key stakeholders panel is well represented across the timeframes. Most of the top ranking research priorities are located within the short-term timeframe (immediate priority) and the medium-term (within 12 months). The research priorities concerned with evaluation of interventions were also generally perceived as medium-term priorities. However research concerned with factors that influence the standing of AHP's in the community (rank 5) divided the panel on an equal basis regarding whether this was a short or long-term priority. In addition rank 5, health promotion related research concerned with processes to tackle local health inequalities is seen as a long term issue.

The only research building item in the top 20 research priorities concerned the funding of AHP research and the panel identified it as a short-term priority.

### 4.8.5 Discussion of the Key Stakeholders Research Priorities

The majority of priorities in the top 20 for the stakeholder group are around service delivery (and equality of access), team working and how to maximise the role of the therapies, and in particular expanding the role of therapists in terms of healthcare delivery. Issues related to multidisciplinary team working, integrated service provision and aspects of regional provision of services with emphasis placed on developing regional services for mental health and learning disability. This is currently highly relevant and was a key issue emerging from the review of mental health and learning disability in NI – a strategic framework for adult mental health services in NI, (Bamford Review, 2005). Research into current effectiveness of regional services in a wider context is also highlighted. Collectively these priority areas fit well within a series of policy reports relevant to the role of the AHP and the delivery of services (DoH, 2008b, DoH, 2008f, DoH, 2008c; 2009a). A number of these policies have also identified the importance of multi-disciplinary team working, and the increased role of the therapy professions in these teams.

Skill mix within themes was also a dominant feature, with the stakeholders identifying the need to establish the value of generic versus profession specific assistants to AHPs, the issue of assistant roles (DoH, 2000b).

Health promotion was only identified in one of the top twenty research priorities and this was specifically in relation to tackling obesity. No items related to health promotion reached consensus at stage 3. This is a little surprising considering the drive for advancing the health promotion agenda in recent NI and UK policy (DHSSPS, 2004c, DHSSPS, 2005, DoH, 2008b). The health promotion theme did emerge from some of the discipline specific panels although for the greater part was not given the priority that policy developments would suggest was warranted. However research priorities identified by the Nutrition and Dietetics panel related to obesity and nutritional management contained a significant health promotion dimension and also represented 18.80% of the top twenty research priority items from the Occupational Therapy panel and 15.00% from the Speech and Language panel. The Physiotherapy panel only identified one research priority in this area of practice and none were identified in Podiatry and Orthoptics.

Another point of difference between the Key Stakeholder panel and the therapies panels was the difference in balance between the numbers of items which related to evaluation of practice. Nonetheless, the key stakeholders did identify the importance of investigating whether interventions were cost effective (especially for mental health) and the need to involve the service user (rank 4) in the evaluation of the health service. Two other specific areas of practice were identified that overlapped with the physiotherapy panel priority areas: stroke and elderly care.

Cost effectiveness was not a particularly strong theme in the stakeholder group with two items in the lower (ranks 9, 19). This is surprising as cost containment in publicly funded health services is a major area of national and international interest.

Finally the key stakeholders recognised the importance of building research skills in the therapies and one specific aspect of this was the top research priority (rank 1) which was concerned with comparing funding for medical staff and nurses with that for AHPs. Well defined clinical academic training has been identified as a priority for medical staff (UKCRC, 2005) and for nurses and AHP's (UKCRC, 2007). This was designed to build on the positive impact and contribution that research makes to healthcare delivery as reflected in a series of policy initiatives, (DoH, 2000a, DoH, 2006, R&D Office, HPSS, 2007).

Over the last ten years, in direct response to these policy documents AHP-led research has received approximately £2.9M funding (including personal bursaries) from the HSC R&D

Fund. Capacity building schemes in NI such as the Doctoral Fellowships scheme have been open to any of the health & social care professions and although applications from AHPs for Doctoral Fellowships in previous years have been small, good quality applications have been made by AHPs and were allocated funding. In comparison the CAT Pathway NIHR Fellowship awards for Nurses, Midwives & AHPs in England have received a robust response from AHPs with quality applications that have competed effectively with those from nursing. Encouragingly in 2010 there has been an increase in the number of applications from AHPs in NI. Efforts to further develop clinical academic career pathways (CAT) for AHPs in NI has been affected by recent constraints of the Public Health Agency R&D Division budget so that the implementation of the CAT Pathway is currently on hold. However the Public Health Agency R&D Fellowships programme remains open to AHPs and the NIHR Fellowships programme remains open to NI applicants from all professions, and includes doctoral, post-doctoral & senior researcher level awards. Successful applicants from NI to the NIHR Fellowships programme are supported from the Public Health Agency R&D Fund. In summary there is funding support and capacity building potential for AHPs in NI. However the concern of the Key Stakeholders panel regarding availability of research funding for AHP's is an important issue which highlights the need for stakeholders to explore the barriers to the uptake of funding opportunities, and emphasises the priority that AHP's need to place on capitalising on the opportunities already provided by the NI R&D Division in pursuit of research funding through an increase in the numbers of funding applications. One such opportunity is the call for NIHR Fellowship awards for research capacity and development which would support salary and research costs for postdoctoral researchers carrying out research relevant to NHS healthcare delivery.

## 4.9 Service Users

### *4.9.1 Response Rates*

Eight service users responded to the round 1 questionnaire, 88% (n=7) responded to round 2 and 71% (n=5) to round 3.

### *4.9.2 Demographic Profile*

Six (75%) of the members of the panel (n=8) were female with (n=2; 25%) male. There was a fairly even spread across the age profile with 3 (37.5%) aged between 35-44 years and 2 (25%) in each of the age ranges of 45-54 and 55-65. The remaining member (12.5%) was aged between 25 and 34 years.

As service users, 75% of the panel members made use of speech and language services while 50% used both physiotherapy and occupational therapy. 37.5% made use of podiatry but only 25% used orthoptic services and 12.50% nutrition and dietetic services.

### *4.9.3 Research Priorities*

The top 20 priorities for the service user's panel are shown below in Table 13.

**Table 13: Service Users Top Twenty Research Priorities Identified by Service User Panel**

| **Research priority** | **% Consensus** | **Mean** | **Rank** | **Timeframe** |
|---|---|---|---|---|
| An investigation of how to reduce the time between referral and consultation. | 100% | 1.00 | **1** | Short |
| Research into why the lead time is so long. | 100% | 1.14 | **2** | Short |
| An investigation into the importance of early diagnosis/detection of any issues associated with allied health professional therapies | 100% | 1.29 | **3** | Short |
| Research into causative factors associated with suicide, including warning signs and prevention strategies. | 86% | 1.29 | **4** | Short |
| Research into the effectiveness and efficiency of an allied health professional triage service at the point of diagnosis and at the point of relapse. | 100% | 1.43 | **5** | Short/Medium |
| Research into the effectiveness of cross functional therapy approaches as opposed to a single source of intervention. | 100% | 1.57 | **6** | Short/Medium |
| Research into how to provide allied health professional support in rural areas | 86% | 1.57 | **7 joint** | Short/Medium |
| Research into mental illness in children. | 86% | 1.57 | **7 joint** | Short |
| A cost benefits analysis for early versus late | 86% | 1.71 | **9** | Short/Medium |

| | | | | |
|---|---|---|---|---|
| intervention of allied health professional services. | | | **joint** | |
| Research into self-harm with regards to young people. | 86% | 1.71 | **9 joint** | Short |
| An exploration of causative factors associated with obsessive compulsive disorder including the role of trauma. | 86% | 1.71 | **9 joint** | Short |
| Is there adequate and appropriate information available for parents to enable them to support their child's progress when in receipt of allied health professional services? | 86% | 1.71 | **9 joint** | Short |
| Research into whether all information and viewpoints are shared with parents to enable them to make informed decisions about care for their child when subject to allied health professional services. | 86% | 1.71 | **9 joint** | Short |
| Research into the most effective use of time by allied health professionals in delivering services. | 71% | 1.71 | **14** | Short |
| Research into the frequency of sessions with therapies professionals – are they insufficient? | 86% | 1.86 | **15 joint** | Short/Medium |
| An exploration of resource availability for allied health therapies and strategies designed to maximise the effective use of available resources. | 86% | 1.86 | **15 joint** | Short |
| Is quality and quantitative support provided to children and their parents during the provision of allied health professional service? | 86% | 1.86 | **15 joint** | Short |
| Research into location versus load factor for all allied health professionals | 71% | 1.86 | **18** | Short |
| Research into mechanisms to deal with unresponsive clients – should sessions be ended and should there be a system of early return follow up appointments for such situations? | 83% | 2.00 | **19** | Medium |

| | | | | |
|---|---|---|---|---|
| An exploration of how to make allied health professional service relevant in a modern health care environment. | 71% | 2.00 | **20** | Medium |

### 4.9.4 Key Themes for Service Users Panel

The key themes emerging from the Service User panel's top 20 priorities were dominated by management and service provision issues. Mental health issues also emerged as a significant concern regarding the need for research and there was also a theme concerned with the development of evidence based practice.

***Management and service delivery***

This theme represented 75.00% of the top 20 priorities (ranks 1, 2, 5, 6, 7 (joint), 9 (joint), 14, 15 (joint), 18, 19, and 20) and included the top two ranked items. These items highlight key areas of service delivery; referral and lead time and these were linked to the cost benefit analysis of late versus early intervention (rank 9 (joint)).

Key issues around patient/public involvement (PPI) were highlighted in the top 20 ranks, particularly with respect to fully involving parents in the care plans for their children e.g. concerns around support of patients and carers included questioning the adequacy information for parents (rank 9 (joint)); whether shared information enabled parents to make informed decisions about care for their child (rank 9 (joint)); and if the quality and support provided to children and their parents during the provision of AHP services was adequate (15 (joint)).

The provision and quality of AHP services in specific areas was also highlighted i.e. the effectiveness of provision related to triage, AHP support in rural areas (ranks 5,6), frequency of AHP sessions, and the capacity of AHP's to maximise resources (rank 15 (joint)). The effectiveness of cross functional therapy as opposed to single source intervention was also questioned (rank 7 (joint)) and other AHP delivery issues included the need for research into location versus load factor for all AHPs, (rank 18) and the management of appointments for unresponsive clients (rank 19).

The final priority (rank 20) from service users was interesting and challenging in that it reflected concerns regarding the relevance of AHP professional services and called for an

exploration as to how to make the AHP service relevant in a modern healthcare environment (rank 20).

***Mental health***

Mental health issues represented 20.00% of the top 20 priorities determined by the Service User panel (ranks 4, 7 (joint), and 9 (joint)). The key issues highlighted were concerned with the mental health of children and young people and reflect current concerns regarding suicide and self-harm (rank 7 (joint) and 9 (joint)). An interesting inclusion within the top 10 priorities was the need for research into the causative factors, including the role of trauma, and of obsessive compulsive disorder (rank 9 (joint).

***Evidence based practice***

A wide ranging investigation into the importance of early diagnosis/detection of any issues associated with AHP therapies was highlighted (rank 3), and can be linked to some of the management of services issues above (ranks 1 and 2); and is also highly relevant in terms of the future understanding of the management of AHP therapies.

***Timeframes***

The responses from the service user panel identify the greater number of the research priorities as needing to be addressed immediately (short-term). Short-term priorities were identified for the first four top ranking research priorities and a short-term need was also attributed to items as far down the ranking order as 18. In a number of instances the panel were equally divided on whether the item fell into the short-term category or could be addressed in the next 12 months (medium-term). Only on research into mechanisms to deal with unresponsive clients, and an exploration of how to make AHP service relevant in a modern healthcare environment, were the panel firmly committed to a medium-term priority.

### 4.9.5 Discussion of the Service Users' Research Priorities

It was interesting that although 75% of the service user's panel had made use of speech and language services the overall responses were quite generic with relevance across the AHP spectrum of practice. A very high proportion (75%) of the topics identified by service users were concerned with the management of AHP services and their delivery. Key areas of service delivery that emerged from the service user group, including referral and lead time, were also linked to cost benefit analysis of late referral and with early intervention. This is not surprising in a climate of economic restraint, ongoing budgetary control, and with regard to increasing demand and expectations from the general public concerning access and quality within healthcare provision.

The need for an investigation into how to reduce the time between referral and consultation resonates with this climate, as does the question as to why the lead time is so long. Effectiveness and efficiency across a range of services also formed the basis of a number of the key priorities and may reflect the concern of users regarding the equality of healthcare within the AHP sector. Some of the areas addressed included the most effective use of time by AHP's in delivering services and the frequency of sessions; triage services at the point of diagnosis and at relapse; cross functional therapy as opposed to a single source of intervention, and support in rural areas. However the concerns reflected in identifying these areas for research priority appeared to be related to the need for an exploration of resource availability for therapies and strategies designed to maximise available resources.

These issues have been reflected in policy considerations (DoH, 2008f) which reflected the current patient centred role of the AHPs as facilitating faster access to services and reducing waiting times through care management strategies. Framing the contribution of AHP's - Delivering High Quality Healthcare (DoH, 2008e) also addressed the contribution of AHP's to many of these issues including improving ease of access, empowering patients, advancing self referral, information prescriptions, and integrated approaches to care. Not all the AHP roles envisaged within these policy determinations appear however to have fully impacted on practice in NI to date, given the need for research in these areas.

Another important area of concern, raised by service users, related to the area of PPI, particularly with respect to parents being able to be fully involved in their child's therapy. The priorities highlighted the need to provide parents with relevant information, in order for them to support their children when receiving AHP services, and questioned the degree to which all information and care perspectives were being shared with parents. These issues were acknowledged as significant in order to enable parents to make informed decisions, and choices regarding the care their children may receive. These priorities fit well with strategic documents which identify the key role that AHPs can play in developing patient centred practice and enabling children and adults to maximise their skills and abilities (DoH, 2008c).

The mental health items given priority by service users would appear to be a reflection of current serious social concerns affecting children and young people e.g. suicide and self-harm These research priorities resonate with policy direction and care strategy identified in a number of important policy initiatives to address these issues (DHSS, 2000b, DHSSPS, 2003a, DHSSPS, 2002b, Bamford Review, 2005, DHSSPS, 2006). These publications also identify the need for a much wider investigation into mental illness including children as well as an exploration of obsessive compulsive disorder and the role of trauma.

The third highest ranking priority for the service users related to the development of research based evidence in relation to early diagnosis and detection of any issues associated with AHP therapies. While a very wide ranging and ambitious priority it has direct relevance for many of the areas of concern reflected within the priorities for management and service provision and would contribute significantly to developing the knowledge base across the specialities within the AHP family.

## 4.10 Limitations of the study

As with all research studies, this study too had some limitations which require highlighting here. These were related to the consensus level and the emerging data and to the difficulty in recruiting the target numbers for the expert panels. Recruitment to the expert panels for the study proved very difficult and as a result some panels did not achieve the anticipated numbers of panel members despite extensive efforts made by the research team to recruit to the expert panels. Service user recruitment was a particular issue in this regard. While the Delphi technique is not prescriptive concerning the number of experts within each panel the difficulties may be regarded as a limitation of the study.

### 4.10.1 Service user recruitment

Much has been written on the topic of service user involvement in health research, detailed in previous sections of the full report (Faulkner & Thomas, 2002; Beresford, 2007; Thornicroft et al., 2002). In relation to research focused on the development of health policy, the issue of service user involvement is perhaps addressed most notably by Preston-Shoot (2007). Service users are seen to be ‘’experts by experience’’ yet a number of barriers were noted that have an impact on their involvement in health and policy research. Broadly, these were: patchy involvement, with their views being reported through third parties; a constrained role within the overall research process; and a sense of falling short of any meaningful partnership or participation.

This was borne out in the current study. In spite of extensive efforts to enlist organisations and individuals as potential participants, the service user panel was smaller and less comprehensive than had been anticipated. It is possible that this influenced – and possibly skewed – the priority list that emerged.

These experiences can inform future research of this type and clarify how to involve service users in a more productive manner including:-

- Involving service users in all steering and advisory groups from as early as possible in the research process.
- Approaching potential participants face to face: this can be more inviting than contact through the post.
- Exploring site-specific and organisation-specific ethics and governance requirements at an early stage to allow recruitment procedures to be initiated within the time frame of the study.
- Writing service user material that is accessible to ‘’lay’’ readers.

This key limitation of the study needs further discussion and should be prioritised in the design and implementation of future studies**.** Recent developments within the HSC Public Health Agency Research and Development Division should assist with this, given their appointment of a dedicated PPI position, and the publication of a strategy for personal and public involvement in Health and Social Care research in May 2010.

### 4.10.2 Consensus level

The study required a 70 per cent consensus across the panel members. It is possible that a research priority identified in Round 1 by a specialist in a particular discipline did not achieve consensus because it was too esoteric or specialised for most of the other panel members to vote for in that discipline. Conversely, while it is also probable that some of the top priority items are too broad based and non-specific to be useful in the targeting of government funds, they attracted a high ranking from the professional therapist panel members.

## 4.11 Summary

This chapter presented and discussed the findings for each of the six therapy professions and cross referenced these to what the key stakeholder and service user identified as research priorities. This was supplemented by a separate results section and discussion for the service users and the key stakeholders. It also included a limitations section.

It can be seen that there was many examples of overlap across and between the research priorities. Furthermore, several overall themes dominated the areas of research priority identified such as practice evaluation and service organisation. In contrast health promotion

as a significant area of practice attracted less attention in a research context than would have been anticipated. These and other commonalities will be discussed in greater detail in the following chapter and recommendations emanating from this discussion will be presented.

# Chapter 5: Conclusions

## 5.1 Introduction

The therapy professions make up a significant and growing proportion of healthcare workforce both in NI and the UK as a whole. They have therefore an important role to play in the provision of quality healthcare and in the prevention of ill health. The therapy professions are also fundamental to the implementation of government led healthcare policies and strategies which encompass complex care interventions often within multidisciplinary teams and increasingly in community settings. Consequently their community role is increasing and they are contributing to expanded and extended care services across a range of challenging environments. Developments in healthcare over time have resulted in the AHPs operating across professional boundaries to engage with other professionals, patients, clients and the general public in a holistic approach to the delivery of direct front-line care. Services are provided closer to patients' homes; there is emphasis on public education, health promotion and disease prevention are key activities within streamlined integrated community and hospital provision and integrated health and social care provision. Major government strategies which underpin this approach are concerned with the reduction of health and social inequalities; and addressing the health impact of lifestyle habits and practices.

The need for ongoing research to generate and test the best available evidence to advance health policy and deliver quality healthcare is another target embedded in much of the literature addressed in the policy review in Chapter 1. In addition a review and exploration of research literature (Chapter 2) demonstrated a shortage of research within therapy professions in NI. This is a challenge for their role in achieving the policy and strategic direction of government led initiatives designed to advance high quality care and promote service delivery objectives outlined in the policy review within the study. The literature also suggests that research capacities and capabilities are more advanced in some therapy professions than in others despite the fact that all the therapy professions included in the study are university based and research active. Despite calls from professional bodies and government departments, the actual volume of therapy research remains low, with little evidence of service user involvement being reported. This highlights the importance of identifying research priorities for these professions. Some progress in terms of developing research capacity and accessing funding opportunities has been achieved but this remains patchy and there is a need for the therapy professions in NI to maximise the opportunities available to them from research funding agencies and to increase the number of funding applications submitted. This is important in the context of maximising the benefits of identifying research priorities for the therapy professions in NI.

The overall aim of the study was therefore to identify research priorities for each of six therapy professions (Physiotherapy, Occupational therapy, Podiatry, Speech and language therapy, Nutrition and dietetics and Orthoptics). This was achieved through gaining consensus on these priorities from the professionals themselves as well as from key stakeholders and service users. To reach consensus, a three round Delphi technique was used over a twelve month period. The top research priorities for each of the therapy professions have been presented and discussed in Chapter 4. The resultant priorities extend across a broad range of areas for research to more profession-specific topics.

## 5.2 Comparative overview of panel outcomes

Once the research priorities from the discipline-specific panels, the service user panel and the key stakeholder panel were triangulated, a number of significant themes (which could be recommended as key research priorities) emerged. From the analysis of the findings and the identification of themes across the different therapy professions most of these can be categorised into seven major areas:

(1) practice evaluation;

(2) health promotion;

(3) service organisation;

(4) clinical academic training;

(5) service user perspective;

(6) cost-effectiveness of services;

(7) epidemiology.

Table 14 summarises the rankings under each of these themes and provides details of the key areas of practice, the main techniques/interventions and issues around service organisation that were prioritised by each expert panel. This also indicates the ranking for the top research priority items for each panel across a range of topics.

## Table 14: Summary of Priority Areas Northern Ireland

| | Practice evaluation | Health promotion | Service organisation | Clinical academic training | Service-user perspective | Cost-effectiveness | Epidemiology | Other | Areas of practice | Techniques/interventions | Service Organisation |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **PT** | 1,2,3 joint, 5,8,12, 13joint 13 joint 16 joint 16 joint, 20 joint, 20 joint | 11 | 3,6,9, 13 joint, 16 joint | 7 | | 6 | | | Chronic pain, low back pain, chronic long terms conditions, cancer, lymphodema, soft tissue injury, depression. | Exercise prescription, exercise adherence, acupuncture, education, hypnosis, bio-psychosocial approaches, group vs single, self management. | Relationship between pressure of targets, waiting lists and repeat referrals on patient centred outcomes; optimal duration and intensity of treatment/engagement and links to outcome; skill mix; development of the structure for new service approaches; |
| **POD** | 1, 2, 3, 4, 5, 7, 8,9, 10 11, 12, 13, 14, 15 joint 17, 18, 20 | | 19 | 6 | | | | | Ulceration, high risk foot, Charcot foot, Biomechanics, Podopaediatrics | Offloading in the diabetic foot, vascular assessment, footwear, Biomechanics and orthoses, Orthopaedic footwear, Wound dressings, Antibiotic therapy, Assessment and diagnostic techniques used in the High risk foot, topical negative pressure in wound healing versus conventional therapy. | Regional differences in wound care management |

| | Practice evaluation | Health promotion | Service organisation | Clinical academic training | Service-user perspective | Cost-effectiveness | Epidemiology | Other | Areas of practice | Techniques/interventions | Service Organisation |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **OT** | 2, 3, 4, 6, 9, 10 joint 12, 13, 14, 15, 19, 20 joint 20 joint | | 1, 5, 8, 10 joint 16, 17 joint 20 joint | | | 7 | | | Vocational rehabilitation, stroke, cardiac and pulmonary and brain injury rehabilitation, management of fatigue, spinal cord injury, Aspergers syndrome, fatigue, | Splinting, complex seating, vocational rehabilitation techniques, assistive technology, Condition Management Programmes, return to work strategies, | Representation of AHPs at government level; management and funding of services and research; rehabilitation and discharge assessment strategies; government discharge targets; discharge planning; commissioning occupational therapy services; benefits of home visits; role of occupational therapy for children in education settings; identification and support of experiences and skills of carers |
| **SLT** | 1 2, 3, 5 joint 7, 8,joint 11, 12, 13 joint 15, 16, 17 19, | 8 joint 10, 18 | 4, 13, 20 | | | | | | Dysphagia, Dysphonia, Dysphasia, Dysarthria, Dyspraxia, Stammering, Adult acquired, Stroke Brain injury Children with speech, language and communication needs | Intensive vs non intensive, School based therapy models, Traditional clinical intervention, Vital stim, Neuromuscular stimulation, Educating and training significant others | Intensive versus non intensive therapy, exploration of the role of SLT, using support workers, school based therapy models compared to traditional clinical intervention, cost and benefits of SLT |
| **N&D** | 1joint, 1 joint, 3, 4 joint 6 joint 10,12, 13 join, 13 joint, 13 joint, 20 | 4 joint 13joint | 5,6 joint, 9,19, 18 | | 13 joint | 6 joint 11 | | | Nutrition support, Dietary / management / treatment of chronic diseases (obesity, diabetes, cancer), health promotion. | Nutrition interventions, malnutrition screening tools, structured patient education. | Role of Dietetic Assistants; engaging nursing staff in nutritional screening; most effective use of Dietetic services to treat Obesity; The extended role of the Dietitian in Nutrition Support; role of Dietitian in Obesity prevention |

| | Practice evaluation | Health promotion | Service organisation | Clinical academic training | Service-user perspective | Cost-effectiveness | Epidemiology | Other | Areas of practice | Techniques/interventions | Service Organisation |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **ORP** | 1,<br>3 joint<br>3 joint,<br>3 joint,<br>11 joint,<br>16 | | 6,<br>7 join<br>9,10,13,<br>15 | | | | 2,<br>11joint<br>14 | | Stroke, brain injury, squints, | Amblyopia treatment, nystagmus treatment, surgery, | Role of orthoptist in vision screening; MDT approaches, shared care and extended roles; impact of supervision on working practices; |
| **KS** | 6 joint,<br>12 joint<br>15 joint<br>15 joint<br>20 | 5 | 2,3,4,<br>6 joint<br>9 joint,<br>9 joint,<br>11<br>12 joint<br>14,17 | 1 | 1 5<br>joint<br>20 | 19 | | | Elderly, chronic illness, obesity, mental health and learning disability, diabetes | Condition management programme, health literacy | Design of multidisciplinary care pathways to maximise AHP input; skill mix and productivity/expanded role of AHPs; local health inequalities and access to services; generic assistances versus profession specific; development of regional disease/condition specialists teams; |
| **SU** | 3 | | 1,2,5,6,<br>7 joint,<br>9 joint<br>14<br>15 joint<br>15 joint,<br>15 joint,<br>18,19,20 | | | | | Mental health<br>4<br>7 join<br>9 joint | Mental health, suicide, self harm, OCD, | Triage service, education of carers/parents | Reduce waiting time between referral and consultation; early diagnosis/detection; effectiveness of triage services/cross discipline working; rural access to AHPs and location vs load factors/; effective/sufficient use of AHP time and resources and relevance to modern NHS; Follow up services for unresponsive clients. |

Key: AHP = Allied Health Profession; MDT = Multidisciplinary Team; N&D = nutrition and dietetics; NHS = National Health Service; OCD = Obsessive Compulsive Disorder; ORP = orthoptics; PT = physiotherapy; POD = podiatry; OT = occupational therapy; SLT = speech and language therapy; KS = key stakeholders; SU = service users.

### 5.2.1 Practice Evaluation

Practice evaluation was the dominant theme across all six professional panels. The podiatry panel identified the greatest number of their research priorities in this category, followed by physiotherapy, and occupational therapy. Speech and language therapy, and nutrition and dietetics' research priorities were also well represented with over half of their priorities being concerned with the evaluation of practice. Orthoptics was less well represented in this area of research priority although this theme also represented where the majority of their priorities was located. Implicit within the context of some of the research priorities across subjects was an acknowledgement of the importance of outcome measures. The speech and language panel were however more specific in this regard with specific research to measure quality of life outcomes identified as a priority and the need for investigation into both quantitative and qualitative outcomes. In all instances a significant number of the top ranked research priorities were included in the practice evaluation theme across the professional panels. In contrast to this being the dominant theme for the practice professions, service users identified only one research priority in this category and key stakeholders identified five.

Therapists therefore identified more statements that related to their practice as being their research priority, and this would appear to be an acknowledgement of the need for evidence to underpin the treatments and interventions that are fundamental to effective and safe practice and the provision of quality care. The emphasis for key stakeholders is often at the strategic level and this is reflected in the distribution of their research priorities with particular emphasis being placed on service organisation. Nonetheless the key stakeholders did identify a small number of practice evaluation issues in the lower ranks of their priorities. They also focused on the service user perspective and cost effectiveness of service provision.

A number of areas of practice and condition management transcended individual therapy professions and other panels. These included chronic long-term conditions (including elderly conditions); cancer; stroke; brain injury; obesity; diabetes and depression. This is an interesting perspective which must be relevant in the context of the need for interprofessional collaboration in advancing therapy research.

Some overlap was found between the panels – for instance, in those specific areas of practice that are a priority for evaluation and which require the development of an evidence base. These included obesity, care of older adults (and those with dementia), chronic disease, mental health, and diabetes. Service users identified cancer care as a priority, and this was reflected in the physiotherapy and the nutrition and dietetics panels.

Three areas of practice emerged as significant areas of research priority within the theme of practice evaluation: (a) obesity; (b) diabetes; (c) chronic disease management.

**(a) Obesity**

The nutrition and dietetics panel not surprisingly highlighted the importance of the prevention and management of obesity in all age groups and the need for research in this area with a discreet theme incorporating a number of research priorities emerging to address this issue. Obesity was also highlighted by a number of the other AHP's including physiotherapists, speech and language therapists and key stakeholders as being a priority area of practice. This is representative of a major health related issue which extends beyond NI to the national and international health agendas. The importance attached to this issue is not surprising in the light of the emphasis placed on obesity in terms of its adverse effect on health, well-being and longevity by many current national and international health policies (UK: DoH, 2008b); Ireland: DoHC, 2008b; DoHC, 2009. Europe: Donaldson & Banatlava, 2007. USA: US CDCP DHHS, 2009a; 2009f).

**(b) Diabetes**

Podiatrists, nutritionists and dieticians and key stakeholders supported research on various aspects of diabetes. This area of research is also a major theme in national and international policy and healthcare strategy (UK: DoH, 2009a, b. Europe: Donaldson & Banatlava, 2007, USA: US CDCP DHHS, 2009b; 2009g) because of its role in severe complications for cardiovascular or ocular health, and the risk of lower-limb ulceration and amputation. Diabetes also emerged as a central condition that linked into other areas requiring research attention; in particular in podiatry where the areas of wound care and high risk foot emerged as a very strong theme. More specifically, the management of complications of diabetes were clearly noted as areas requiring specific research. This was reflected in the practice evaluation priorities e.g. noting the need for research in Charcot foot management and the need to evaluate the efficacy of different offloading techniques in the management of diabetic foot ulcers. Equally important, nutrition and dietetics included research priorities concerned with exploring the most appropriate structured patient education programme for children with Type 1 Diabetes and an investigation of the most effective way to use dietetic services to treat obesity in Type 2 Diabetes Mellitus. These triangulated research priorities formed a common goal from the podiatrists, nutritionists and dieticians, and key stakeholders.

### (c) Chronic Disease Management

Research priorities related to the management of chronic and long term conditions including those associated with the aged population were identified by the physiotherapy occupational therapy, speech and language, orthoptics, nutrition and dietetics and by the key stakeholder panel. While some of the priorities identified are of a generic nature the research priorities as a whole resonate with policy development in this area nationally and internationally (Ireland: DoHC, 2008c. UK: DHSSPS, 2004c; DoH, 2008b; DoH, 2008c; DoH, 2008f DoH 2009a. USA: US CDCP DHHS 2009c; 2009d; 2009e; ) and reflect the importance of the management of chronic health conditions in relation to quality of life issues, the need to assure the quality of care interventions through meaningful research activities to elicit the evidence for practice and to assure the cost effectiveness of therapy provision in the management of chronic disease.

Specific chronic conditions in addition to obesity and diabetes which have been separately addressed above were those that are acknowledged widely to increase mortality and morbidity and included cancer; stroke; pulmonary conditions; and cardiac disease. Other research into related chronic conditions that impact on quality of life issues including occupational performance and activities of daily living was also seen as highly important. This included the important contribution exercise can make in the management of chronic pain; and the rehabilitation including elderly rehabilitation for the restoration of physical functioning is well represented within the research priorities identified. This included rehabilitation in stroke, cancer, pulmonary conditions and vocational rehabilitation in brain injury and in mental health illness.

The number of therapy professions associated with the provision of interventions across the spectrum of chronic health conditions is again indicative of the potential for interprofessional collaboration in undertaking meaningful research into the management of chronic conditions and related therapeutic interventions.

## 5.2.2 Health Promotion

Health promotion has been a major focus of policy development throughout the UK and beyond and is seen to be a primary driver in advancing health and wellbeing of populations. A number of policy documents within the policy review in chapter one emphasise the relevance of health promotion for the therapy professions (DHSS, 2000b; DHSSPS, 2002b; DHSSPS, 2004a; DoH, 2008b; DoH, 2008c, DHHS, 2006)) and there

would therefore be an expectation that considerable emphasis would be placed on this area of practice in determining research priorities for the therapy professions.

However health promotion did not emerge as a strong theme in this study. research to identify reasons why public health campaigns aimed at tackling obesity and promoting healthy eating were not achieving their aims was ranked as a priority but there was no specific reference to the prevention or treatment of cardiovascular disease which given its the incidence and the mortality rates associated with cardiovascular disease is surprising. A small number of the therapy panels did produce priorities for health promotion the overall response across the panels does not appear to reflect the importance that this area of practice would warrant.

The occupational therapy panel had three items on health promotion within their research priorities that were concerned with rehabilitation and in promoting health and wellbeing through occupation. While in nutrition and dietetics there were no specific priorities that were health promotion specific emerging themes on obesity and nutrition were heavily laden with the importance of promoting health and wellbeing in these areas of practice. The need to assess the impact of physical activity on health and wellbeing was the only item within the top twenty priorities of the physiotherapy panel to directly address health promotion but this resonated with the major area of exercise which dominated the higher ranking priorities of this panel. The speech and language panel with three middle ranking health promotion research priorities emphasised the role of parents, teachers and carers/ family as key agents in supporting roles and acknowledged that their involvement in therapy interventions and practice was fundamental and needed further investigation.

In keeping with this overall low response from professional panels in identifying research priorities in this key area of policy development and practice no research priorities were identified by podiatry or orthoptics. Research concerned with developing a process to tackle health inequalities was the single item within the health promotion theme identified by the key stakeholder panel and no specific health promotion or prevention of ill health issues were identified by the service user panel.

### 5.2.3 Service Organisation

As might be anticipated there was greater emphasis placed on service organisation by the key stakeholder panel and the service user panel than by the six professional panels.

However all the practice panels did reflect the importance of aspects of service provision through their research priorities.

The key stakeholder panel highlighted areas of service delivery including services needed by the elderly and with improving multidisciplinary care pathways and maximising the contribution of AHP's as high ranking priorities. Integrated approaches to service delivery and multidisciplinary working were also viewed as priorities areas for research. The most effective use of therapists was an important theme which encompassed referral system issues. Referral and lead time were also linked to cost benefit analysis. Patient/public involvement was another significant priority with research to identify user perceptions of AHP's and user participation in service development, including delivery of care to the chronically ill. This area of research was also identified by the service user panel with issues concerning the greater involvement of parents in the care plans for their children being highlighted. The need to research into equality of access to services including the barriers users identify in relation to accessing services was highlighted.

The need for regional provision of disease-specialist therapy teams was seen as a priority shared with the podiatry panel and reflects the need for research into the effectiveness of the current provision of regional services. This concern extended into the need for research into the development of regional mental health and learning disability teams.

The role of the therapy professions emerged as a theme and included extended roles, skill mix related to improving performance through more effective skill mix and research into the effectiveness of a generic assistant. Another dimension of skill mix related to the role of therapists in the management of mental health reflecting the importance attached to mental health issues. The role of the therapist and factors influencing their professional standing with the community and peers also emerged as priority research issues as well as the development of structures of new services with commissioning arrangements.

Not surprisingly in the current economic climate the cost effectiveness of services were rated by key stakeholders as an important priority area with research into the cost effectiveness of research studies of therapy interventions being identified along with the need for the identifying the most productive and cost effective involvement of AHP's in service provision.

There is a degree of overlap between the priorities identified by the key stakeholder panel and the service user panel. In considering the provision and quality of AHP services service users highlighted specific areas including the effectiveness of provision related to triage; support in rural areas; frequency of AHP sessions, and the capacity of AHP's to maximise resources. In addition service users posed research issues concerning the effectiveness of cross functional therapy as opposed to single source intervention and the management of appointments for unresponsive clients.

An interesting and challenging priority identified by service users, called for an exploration as to how to make the AHP service relevant in a modern healthcare environment. This contrasts with priorities identified by therapy and key stakeholder panels which related to AHP professional issues including representation of AHP's at government level, and issues of funding of services and research.

In addition more discreet service management and care delivery issues are reflected in the research priorities identified by professional panels. These concerned the pressure of meeting targets, waiting lists and repeat referrals, service delivery systems, commissioning of services, and regional differences in care management. Across the professions there are issues regarding their role both in the managerial context and with regard to their contribution to specific aspects of care management and treatment interventions.

### 5.2.4 Clinical Academic Training

The importance of clinical academic training that would contribute to professional development and in particular build research capacity in order to maximise potential for meaningful research activities including developing or expanding an appropriate research culture within professional practice cannot be over emphasised. This is particularly relevant in the context of this study regarding professions that may be in the process of nurturing or developing a research ethos.

The contribution of clinical academic training to effectively identify research priorities is equally fundamental. Policy development with the UK including NI has over time consistently identified the importance of basing healthcare practice on a sound evidence base through meaningful and relevant research activity. As discussed within the policy review in Chapter one these issues are acknowledged across time in range of policy determinations and strategic development for research within the UK including NI. This included an acceptance that some health and social care professionals were not appropriately equipped to determine best practice from the existing available evidence and that research culture was not well developed (R&D Office, HPSS, 1999). Other

publications recommended the development of research activity within the therapy professions, emphasising the need to build research capacity including education, training (DHSSPS, 2003b; DoH, 2006; R&D Office, HPSS, 2007, DoH, 2008f).

It is therefore surprising that within the study the number of research priorities identified within this theme was limited to one from the physiotherapy panel relating to research design, and the podiatry panel prioritising a need for research into the competencies and skills required for specialist practice. The orthoptics panel identified a priority related to developing research capacity and referred to the need for experimental research in order to investigate orthoptic approaches to investigation, management and mechanisms which would also facilitate the development of theory. The item was however at the bottom of the priority ranking. In contrast the key stakeholder panel identified issues related to AHP funding for research as the highest ranking research priority from this panel.

While it is difficult to fully explain the absence of a more definitive and extensive range of research priorities being identified within this theme, the constitution of panels, where there was a significant number of participants with an academic location or role, might have resulted in assumptions regarding the need for clinical academic training and building research capacity. However it is important to emphasise that in order for research capacity initiatives to succeed in the clinical setting, it is vital that the therapy professions and key stakeholders undertaking policy making and managerial roles acknowledge the importance of this issue and are fully committed to this process.

### 5.2.5 Service User Perspective

Key stakeholder panel members were more aware of the policy shift relating to the greater involvement of service users including service user involvement as partners in the research process, and the need to seek service user views and experiences in relation to conditions, treatments and services. This was reflected in the identification of the need for research into equality of access to services including the barriers users identify in relation to accessing services as well as research to identify and explore the experience of patients/clients to various treatments.

Patient/public involvement was a significant priority with the need for research to identify user perceptions of AHP's and user participation in service development, including delivery of care to the chronically ill. This received support from a number of the

professional panels as discussed above under Service Organisation. This area of research was also identified by the service user panel with issues concerning the greater involvement of parents in the care plans for their children being highlighted. However the need to research into equality of access to services including the barriers users identify in relation to accessing services was in the lower range of priorities.

### 5.2.6 Cost-effectiveness of Services

Cost-containment in publicly funded health services is a major area of national and international interest. Within policies that influence the provision of healthcare within the UK and beyond, cost effectiveness of service provision and the quality of care provision are common themes which underpin most developments that have taken place in recent times. Developments in primary care have reflected these strategies (DHSSPS, 2005).This of course is also linked to ensuring that treatment and care interventions are evidence based and that inefficient and ineffective service provision is eradicated. Issues of this nature have become essential components of the delivery of modern healthcare and are central to decision making processes (DoH, 2008a).

The importance of ensuring cost-effectiveness is acknowledged by therapy professions although not all identified research priorities in this area. As would be anticipated key stakeholders also addressed the issue. Overall however there was less attention given to cost-effectiveness and value for money considerations than might have been expected given the current relationship this has with healthcare management and delivery of services.

The physiotherapy, occupational therapy and speech and language therapy panels identified broad areas of research to explore the cost effectiveness of their various services and interventions and in physiotherapy for a cost benefit analysis to be undertaken with regard to services provided. The nutrition and dietetics panel identified a number of priorities that acknowledged cost-effectiveness as a key priority. These were more specifically related to issues of under-nutrition and in particular the health economics of nutritional interventions and the impact of nutrition interventions on quality of life outcomes.

A broad examination of the role of AHPs in care provision was the subject of one research priority that the key stakeholder panel related to cost-effectiveness and proposed an exploration of what AHP involvement is most productive and cost effective and makes best use of their scarce and valuable time.

### 5.2.7 Epidemiology

Epidemiology is the study of factors affecting the health and illness of populations and as such contributes in evidence based healthcare to identifying risk factors for disease and for determining optimal treatment to clinical care.

Only the orthoptics panel identified research priorities under this heading. Three items emerged from the results from the panel and these included the second highest ranking research priority which was concerned with the incidence and type of orthoptic defect among stroke survivors. In addition research into possible geographical and genetic links in the incidence of eye disease was seen to be important and a more wide ranging epidemiological study to elicit information on the prevalence and incidence of orthoptic and related conditions was also included.

Although there is reference throughout the analysis of results across the panels to some aspects of mental health and learning disability these instances have a direct relationship with the care management of the application of therapeutic interventions in a clinical condition context or are exploring the impact of effectiveness of therapy intervention where there are considerations other clinical disease processes.

However the service user panel identified a number of highly specific mental health concerns and proposed a number of research priorities that deserve to be considered separately to the forgoing set of conclusions arising from the analysis of results.

Mental health issues represented 20.00% of the priorities determined by the service user panel and the key issues highlighted the mental health of children and young people and reflected current concerns regarding suicide and self-harm. An interesting inclusion was the need for research into the causative factors, including the role of trauma, and of obsessive compulsive disorder. These are issues that are reflected in policy literature relevant to mental health (DHSS, 2000b; DHSSPS, 2002b; Bamford Review 2005).

While some aspects of these research priorities will have an impact on the practice of the therapy professions to a greater or lesser degree and may not in all cases be directly within the acknowledged remit of AHP practice it is nonetheless interesting that the service user panel should place such emphasis on these matters and consider them to require action within the short term.

## 5.3 Recommended timeframes for commencing the research

Timeframes for each of the research priorities have been recommended by each of the expert panels. The recommendations for each priority are reported in the tables of top twenty research priorities in Chapter 4 for each of the six therapy professions and for the key stakeholders and service users.

A short timeframe indicates a sense of urgency and that the research should commence immediately. Research which should start immediately suggests a high level of concern, with the implication that specific short term priorities are being viewed as having a relationship with the need for evidence of effectiveness of therapy interventions and aspects of integration in the provision and delivery of services, and the importance of those services being seen to have been designed around research based evidence.

A medium timeframe suggests that the research should commence within 12 months. The medium-term rated research priorities are viewed as requiring a longer time period in order to plan and organise given the likely nature of the investigation required. Such priorities may nonetheless be equally important in the context of advancing an evidence base in the areas of enquiry being identified.

A long time frame suggests that the research should commence within five years and reflects the nature of the content of the research priority and the likely methodological approach that would be required to carry the research forward.

Within the study it was the responsibility of the panel of experts for each of the disciplines and for the key stakeholders and service users to determine the level of urgency for addressing the identified research priorities. The results of this exercise indicate a degree of variability in determining timeframes for the research priorities being considered. Many of the timeframes identified did not fall neatly into one of the designated categories and in some cases straddled all the available timeframes. This may have been a reflection of the significant range and variation in the areas of research being highlighted within the results for each discipline and the competing nature of many of the issues being addressed. It may also be the case that in those disciplines at an early stage of developing a research profile there are significant and outstanding areas of research that need to be addressed and that in these situations it may be difficult to differentiate the level of urgency.

# Chapter 6: Recommendations

## 6.1 General recommendations

From the conclusions outlined above and taking into account the themes identified, the following general recommendations can be made.

### 6.1.1 Practice evaluation

There is an urgent need for research into the evaluation of clinical practice from a multidisciplinary perspective.

**Recommendation 1**: Research should be undertaken into the evaluation of clinical practice from a multidisciplinary perspective in the following topics: mental health, cancer, obesity; diabetes; chronic disease management (especially stroke and brain injury).

### 6.1.2 Health promotion, disease prevention and patient education

The key role of AHPs has been identified in national strategic documents and profession specific strategic documents (e.g. Chartering the Future, CSP, 2009), and by the key stakeholders, physiotherapy, occupational therapy, nutrition and dietetics, and speech and language therapy, in the current study.

**Recommendation 2**: Multidisciplinary research programmes are required to investigate the following: the role of each AHP in health promotion and disease prevention; and how to optimise cross disciplinary working in this area.

### 6.1.3 Service organisation

Service delivery and organisation research should be prioritised in order to address the research priorities identified both by stakeholders and the therapy professions. Specific research questions should focus on the clinical and cost-effectiveness of AHP services. Research should also be undertaken to explore how to optimise multidisciplinary team-working (including the skill mix), the extended role of AHPs, models of service delivery, and the use of support workers/assistants; and equality of access to services.

**Recommendation 3**: In order to support research projects and programmes focused on service delivery and organisation, mechanisms should be considered for supporting research in these areas.

**Recommendation 4**: Key stakeholders should collaborate with the therapy professions to research how best to deliver regional provision of specialist teams.

### 6.1.4 Clinical academic career

The HSC Public Health Agency R&D division has had a programme of funding to develop research capacity and capability building in the AHPs. Further work is required to build on work by the R&D division to further develop clinical academic careers in all the therapy professions.

**Recommendation 5:** Explore how to build on the funding opportunities available via the HSC Public Health Agency R&D division in order to further develop clinical academic training across all members of the therapy professions.

### 6.1.5 Service user perspective

Service users should be involved in all aspects of the research process from design to dissemination (see Strategy for personal and public involvement in Health and Social Care research, 2010). Researchers should be explicit in communicating how the proposed research has implications for enhanced user engagement. Particular attention should be paid to the needs and experiences of service users and their carers.

**Recommendation 6:** All research should include service users and their carers' as partners in research plans, processes and outputs in order to capture their perceptions and views of AHP services.

### 6.1.6 Cost-effectiveness

Value for money is central to decision making in a modern health service. The balance between clinical effectiveness and cost-effectiveness should be investigated.

**Recommendation 7**: Research should be undertaken into the cost-effectiveness of specific therapy treatments and/or models of service delivery.

## 6.2 Specific Recommendations

Some specific recommendations emanating from the research priorities identified by individual therapy professions can also be made.

### 6.2.1 Physiotherapy

**Recommendation 8**: Clinical studies are needed to investigate how to prescribe, measure adherence and evaluate the optimum exercise approach in the management of long-term conditions (including painful musculoskeletal and soft tissue injuries).

**Recommendation 9:** Evaluate less conventional techniques/approaches such as hypnosis, self management, acupuncture and CBT.

**Recommendation 10**: Explore the role of physiotherapy in areas such as mental health and cancer rehabilitation.

**Recommendation 11**: Investigations around resources and the capacity of physiotherapy to accommodate current service challenges within the healthcare system in terms of referral routes, waiting times and skill mix

### 6.2.2 Podiatry

**Recommendation 12**: Research should be conducted to determine the efficacy of assessment and intervention in podiatry clinical practice.

**Recommendation 13**: Research into Podiatry wound care and the high risk foot needs to be undertaken.

**Recommendation 14**: The high risk foot, biomechanics and podopaediatrics are areas of practice that should be researched.

### 6.2.3 Occupational Therapy

**Recommendation 15**: Identify the therapeutic contribution occupational therapists can make to care and rehabilitation across a range of acute and chronic specialist clinical conditions in hospital and the community.

**Recommendation 16**: Evaluate the effectiveness of occupational therapy interventions and specific therapeutic techniques and strategies associated with a range of conditions including neurological, cardiac and pulmonary.

**Recommendation 17**: Evaluate the effectiveness of occupational therapy commissioning strategies.

**Recommendation 18**: Evaluate the impact of occupational therapy interventions in elderly rehabilitation.

**Recommendation 19**: Identify the role of occupational therapy for children with Aspergers syndrome in educational settings.

**Recommendation 20**: Investigate the therapeutic contribution occupational therapists can make to care and rehabilitation, including assistive technology, across a range of acute and chronic specialist clinical conditions in hospital and the community.

**Recommendation 21:** Investigate the effects of post-stroke executive dysfunction on occupational performance and personal activities of daily living.

**Recommendation 22**: Evaluate the impact of early occupational therapy intervention on the physical and functional outcomes in stroke.

### 6.2.4 Speech and Language Therapy

**Recommendation 23**: Evaluate the evidence base by conducting systematic reviews across Speech and Language Therapy specialisms.

**Recommendation 24**: Further develop a research culture within speech and language therapy.

**Recommendation 25**: Evaluate speech and language therapy interventions to develop the evidence base across all conditions and age groups.

**Recommendation 26**: Development of outcome measures to reflect health related quality of life and to include quantitative and qualitative measures.

### 6.2.5 Nutrition and Dietetics

**Recommendation 27**: Evaluation studies should be conducted to determine the effectiveness of different nutrition interventions. In particular studies evaluating the effectiveness of nutrition support interventions and interventions designed to tackle the challenge of obesity in adults and children were highlighted as being priorities In Dietetics.

**Recommendation 28:** Research is required to evaluate the health economics and cost effectiveness of nutrition interventions.

**Recommendation 29**: Studies should be undertaken to consider how best to deliver Dietetic services and to explore the extended role of the Dietitian in the management of a number of chronic conditions. Consideration should also be given to the role of support workers and other health professionals e.g. nursing colleagues in the delivery of dietetic services.

### 6.2.6 Orthoptics

**Recommendation 30**: Epidemiological research should be carried out into the incidence and type of orthoptic defect among stroke survivors.

**Recommendation 31**: Epidemiological research should be carried out into the geographical and genetic links in the incidence of eye disease.

**Recommendation 32**: Epidemiological study to elicit information on the prevalence and incidence of orthoptic and related conditions.

## 6.3 Summary

A number of reports have identified the importance of the contribution of the therapy professions in addressing the policy imperatives in healthcare planning, organisation and delivery within NI, and the UK as a whole. This has taken place during periods of significant change over time which resulted in: the transition of services from acute hospitals to community and home care; the importance of focusing on health promotion and disease prevention; the health impact of lifestyle habits; the need to embrace new technologies in healthcare and treatment; the involvement of service users as partners in the research, planning and delivery of services; the need for integrated and streamlined services; and the

reduction of health and social inequalities, and improvement of access for all to appropriate health care. However, making a meaningful contribution to an agenda of such scale and complexity requires the therapy professions to develop a body of knowledge and skills that relates directly to the treatment and interventions that form the basis of their contribution to care and health services in order to maintain and develop high quality patient/client care. This needs to be based on the highest quality research. The literature review in Chapter 2 indicated the variability of research capacity and activity across the therapy professions and that some professions remain in an early stage of development. There is therefore a need for research priorities to be identified specifically for the therapy professions.

This research team used the Delphi technique to gain consensus among six different therapy professions as to what these research priorities should be. Key Stakeholders representing policy makers and managers and service users were also given the opportunity to identify research priorities for these professions. Following analysis of the data it was possible to identify the top twenty research priorities for each of these responding groups. Themes emerged within the analysis of the priorities for each panel and a careful study of them indicated that there was identifiable overlap across and between groups. It was therefore possible to categorise them into seven recurrent themes across the panel responses. These were: practice evaluation; health promotion; service organisation; clinical academic training; service user perspective; cost effectiveness, and epidemiology. A small number of priorities from the service user panel proposing specific mental health orientated issues fell outside these categories and are referred to separately with the discussion of conclusions above. Many of these themes emerging from the analysis can be located within the review of policy and strategic developments that have taken place as highlighted in Chapter 1.

This study provides policy makers, health strategists, research funders and therapy professionals with an important road map regarding those clinical and professional issues, which need to be addressed by research as a matter of priority. However, it should be acknowledged that research of this nature can be time limited, since as healthcare develops so too will the research topics that become a priority. The findings of the report need therefore to be disseminated widely within the professions, institutions and services affected in order to maximise its potential in advancing meaningful research, and contributing to the development and maintenance of high quality healthcare. The study is also important as it is the first study of its kind that sought to identify research priorities for six different therapy professions in NI and involved service users, managers and policy makers in the process.

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# Appendix 1: Example of Delphi Round 1

**INSTRUCTIONS TO DELPHI ROUND 1**

The first round of this Delphi asks you a question – what are the current research priorities for your profession?

There are ten spaces for you to detail your answers. You can complete as many or as few of these spaces as you wish. Please be as detailed in your response as possible.

**It would be very helpful if your responses were as specific as possible within your discipline, in terms of statements that will easily convert to researchable questions.**

For example, stating that "Research should be undertaken to improve quality of care" is very broad. An example of a more specific priority would be "To research how best to involve service users in educating other service users." You can see how the second example could be more easily researched.

Please complete the demographic sheet at the end of the questionnaire. It is important that the researcher can identify your responses as the Delphi process has individual feedback to every panel member built into the process.

Once you have completed the questionnaire, please return it by email to…..

**DELPHI QUESTIONNAIRE: ROUND 1**

**Identification of Research Priorities for the Therapy Professions in Ireland**

## Delphi Round One

Please list your answers to the following question. You can list as many answers as you wish and they do not have to be in any particular order.

### Question: What are the current research priorities for your profession?

| |
|---|
| 1. |
| 2. |
| 3. |
| 4. |
| 5. |
| 6. |
| 7. |
| 8. |
| 9. |
| 10. |

## Demographic Sheet

**Current Employment**

Name: _____

Present Job Title: _____

Employing Organisation: _____

Practice setting (please tick): Urban ☐ Rural ☐ Mixed ☐

**Background Details** *(please type an x beside the relevant boxes)*

| | | | | |
|---|---|---|---|---|
| Are you… | Male | ☐ | Female | ☐ |
| What age are you? | 18-24 | ☐ | 45-54 | ☐ |
| | 25-34 | ☐ | 55-65 | ☐ |
| | 35-44 | ☐ | Over 65 | ☐ |

Please list your qualifications:

_____

_____

Please state number of years experience since qualifying:

_____

_____

Please indicate which therapies profession you are a member of:

| | | | |
|---|---|---|---|
| Chiropody/Podiatry | ☐ | Orthoptics | ☐ |
| Dietetics | ☐ | Physiotherapy | ☐ |
| Occupational Therapy | ☐ | Speech & Language Therapy | ☐ |
| None of the above | ☐ | Other (please state):_____ | |

**Please indicate by what method you would prefer to receive the next questionnaire:**

**Email** ☐ Please indicate your email address: _____

**Post** ☐

***Thank you for taking the time to complete this first round questionnaire***

# Appendix 2: Example of Delphi Round 2

# (extract from questionnaire)

**Instructions on how to complete Delphi Round 2**

The second round of this Delphi lists all the responses from panel members in Round 1. These responses have been content analysed and similar responses grouped together to ensure that the questionnaire is not repetitive and easily completed. The meaning of the responses has not been changed.

You will see a scale beside each research topic. This scale is numbered 1 to 5. Please place an X in the box which you feel best describes how important the research topic is. Remember you are rating each statement individually in terms of how important you feel it is rather than ranking the statements in order of importance.

These numbers correspond to a response as below:
1 – Very Important
2 – Important
3 – Neither important or not important
4 – Not important
5 – Unimportant

If you are completing the questionnaire on your computer, please open the attachment and save it to your desktop or suitable location. Open the file to complete. To place an x in the box for each statement, double click on the appropriate box, select 'checked' and click OK. This will place an x in the appropriate box.

If you have received the questionnaire by email and would prefer to receive a hard copy with a stamped addressed envelope, please contact…..

Once you have completed the questionnaire, please return it to the researcher in the enclosed envelope or by email to…..

**Identification of Research Priorities for the Therapies Professions in Ireland**

**Physiotherapy Panel - Delphi Round Two**

**Please place an X in the box which you feel best describes how important the research topic is. These numbers correspond to a response as below:**

**1 – Very Important**

**2 – Important**

**3 – Neither important or not important**

**4 – Not important**

**5 – Unimportant**

| **Research Priority** | **1 2 3 4 5** |
|---|---|
| **Theme – Effectiveness of clinical interventions** | |
| Effectiveness of surgical intervention versus conventional physiotherapy management of shoulder pain. | ☐ ☐ ☐ ☐ ☐ |
| An evaluation of treatment strategies and physiotherapy management of shoulder impingement syndrome. | ☐ ☐ ☐ ☐ ☐ |
| Effectiveness of real time ultrasound used for biofeedback. | ☐ ☐ ☐ ☐ ☐ |
| Identifying the benefits of the use of vibration plate therapy. | ☐ ☐ ☐ ☐ ☐ |
| To research the benefits of physiotherapy in maintenance of long term neuromuscular conditions. | ☐ ☐ ☐ ☐ ☐ |
| Investigation of the effectiveness of various techniques in neurological rehabilitation e.g. Constraint induced movement therapy, functional electrical stimulation, vestibular rehabilitation. | ☐ ☐ ☐ ☐ ☐ |
| To research the benefits of physiotherapy intervention in musculoskeletal conditions. | ☐ ☐ ☐ ☐ ☐ |
| An exploration of the validity, reliability and sensitivity of tests used by physiotherapists to assess the musculoskeletal system. | ☐ ☐ ☐ ☐ ☐ |

| **Research Priority** | **1 2 3 4 5** |
|---|---|
| Assessing the effectiveness of treatments in the management of chronic pain including exercise, acupuncture, education, hypnosis and biopsychosocial approaches. | ☐ ☐ ☐ ☐ ☐ |
| Cost-effectiveness of chronic pain management syndromes. | ☐ ☐ ☐ ☐ ☐ |
| To research the benefits of physiotherapy intervention in promoting an enablement ethos with chronic conditions | ☐ ☐ ☐ ☐ ☐ |
| Effectiveness of electrotherapy modalities such as ultrasound and laser for specific conditions / pain relief. | ☐ ☐ ☐ ☐ ☐ |
| An investigation of optimal dose parameters for surface electrical nerve stimulation for pain relief and with regard to the development of tolerance. | ☐ ☐ ☐ ☐ ☐ |
| Exploration of differences in pressure for effective manual mobilisation of the spine. | ☐ ☐ ☐ ☐ ☐ |
| An assessment of the effectiveness of interventions in the management of back pain including traction, manual therapy and core stability strategies. | ☐ ☐ ☐ ☐ ☐ |
| An evaluation of the effectiveness of steroid injection for osteoarthritis of the knee. | ☐ ☐ ☐ ☐ ☐ |
| An exploration of the effectiveness of physiotherapy treatments, especially graded motor imagery in the management of Complex Regional Pain Syndrome/maladaptive pain. | ☐ ☐ ☐ ☐ ☐ |
| Research into the effectiveness of physiotherapy interventions in the management of common respiratory diseases and associated conditions in line with NI service framework for respiratory health and wellbeing (2009). | ☐ ☐ ☐ ☐ ☐ |
| An investigation of the effectiveness of the cough assist device in respiratory conditions. | ☐ ☐ ☐ ☐ ☐ |
| Evaluation of commonly used treatment approaches. | ☐ ☐ ☐ ☐ ☐ |
| To investigate the potential role of prophylactic compression garment for “at risk” lymphoedema patients. | ☐ ☐ ☐ ☐ ☐ |

# Appendix 3: Example of Delphi Round 3

# (excerpt from questionnaire)

**Instructions on how to complete Delphi Round 3**

The third round of this Delphi includes those research topics that have not yet reached agreement from the panel on their importance. You will see three columns beside each statement.

- Column one shows the group response to the research topic. This will appear as a number which corresponds to the same scale as in round two which is outlined below.
- Column two shows your own individual response to the research topic from Round 2. Again this will appear as a number which corresponds to the scale below.

1 – Very Important
2 – Important
3 – Neither important or not important
4 – Not important
5 – Unimportant

Column three is provided as an opportunity for you to reconsider your response since round two. We would appreciate it if you would reconsider your original response in the context of the group response to each statement and if you wish to change your response, please do so by placing an X in the appropriate box beside each statement. Please note that you do not have to change your original response if you do not wish to.

If you are completing the questionnaire on your computer, please open the attachment and save it to your desktop or suitable location. Open the file to complete. To place an x in the box for each statement, double click on the appropriate box, select 'checked' and click OK.

Once you have completed the questionnaire, please return it to the researcher in the either by email to sr.keeney@ulster.ac.uk or by post to Dr. Sinead Keeney, Senior Lecturer, Institute of Nursing Research, School of Nursing, University of Ulster, Shore Road, Newtownabbey, Co. Antrim, BT37 0QB. The date for return of the questionnaire is

**Friday 25th June 2010.**

**Identification of Research Priorities for the Therapies Professions in Northern Ireland**

**Nutrition and Dietetics Panel - Delphi Round Three (ND**)**

Please reconsider your response in the context of the feedback provided. If you wish to change your response, please place an X in the box which you feel best describes how important the research topic is. These numbers correspond to a response as below:

**1 – Very Important**

**2 – Important**

**3 – Neither important or not important**

**4 – Not important**

**5 – Unimportant**

| | **Overall Group Response** | **Your Response from Round 2** | **New Response** |
|---|---|---|---|
| **Research Priority** | | | **1 2 3 4 5** |
| **Theme – Role of the Dietitian** | | | |
| An exploration of the extended role of the Dietitian in providing nutrition support. | 2 | 1 | ☐ ☐ ☐ ☐ ☐ |
| **Theme – Effectiveness of clinical interventions** | | | |
| An exploration of the effectiveness of the implementation of nutritional screening tools in adult and paediatric wards. | 2 | 1 | ☐ ☐ ☐ ☐ ☐ |
| An exploration of the effectiveness of guidelines for nutrition in the critical care setting. How can implementation and adherence be improved? | 2 | 2 | ☐ ☐ ☐ ☐ ☐ |
| An evaluation of the effectiveness of artificial nutrition support in advanced progressive illness at end of life stage. | 2 | 1 | ☐ ☐ ☐ ☐ ☐ |
| A study of the efficacy of oral nutritional support in community settings. | 2 | 2 | ☐ ☐ ☐ ☐ ☐ |
| **Research Priority** | | | **1 2 3 4 5** |
| An assessment of the effectiveness of food fortification training in hospital and community settings. | 2 | 2 | ☐ ☐ ☐ ☐ ☐ |

| | | | |
|---|---|---|---|
| A comparative study of obesity prevention programmes in the Republic of Ireland and the United Kingdom. | 3 | 3 | ☐ ☐ ☐ ☐ ☐ |
| A study designed to determine the benefits, including cost effectiveness of the MUST tool when in use within a hospital setting. | 2 | 1 | ☐ ☐ ☐ ☐ ☐ |
| An exploration of the benefits and contraindications of appetite stimulants in patients with chronic inadequate nutrition intake. | 2 | 2 | ☐ ☐ ☐ ☐ ☐ |
| An exploration of the effectiveness of dietary advice for patients receiving radiotherapy and the effect of outcomes in cancer care. | 2 | 2 | ☐ ☐ ☐ ☐ ☐ |
| Is the nutritional advice and support provided in the management of eating disorders adequate and appropriate? | 3 | 3 | ☐ ☐ ☐ ☐ ☐ |
| **Theme - Outcome Measures and improving clinical effectiveness** | | | |
| To determine if dietary advice given in a different setting to the clinical hospital surrounding will be more effective e.g. in the home. | 3 | 3 | ☐ ☐ ☐ ☐ ☐ |
| A study to identify the outcomes for head and neck cancer patients who receive early enteral feeding. | 2 | 2 | ☐ ☐ ☐ ☐ ☐ |
| Research designed to develop and implement standardised clinical practice guidelines for nutrition in the critical care setting within Northern Ireland. | 3 | 3 | ☐ ☐ ☐ ☐ ☐ |
| An exploration of evaluation techniques relevant to the management of community food and nutrition programmes. | 3 | 3 | ☐ ☐ ☐ ☐ ☐ |
| An exploration of the use of nutritional supplements including pharmanutrients designed to improve clinical outcomes in Intensive care units. | 2 | 2 | ☐ ☐ ☐ ☐ ☐ |

# Appendix 4: Example of Timeframe Exercise Questionnaire

## Instructions on how to complete the attached list in relation to timeframe

The attached list details the top twenty research priorities identified by the panel that you have been involved with. They are ranked from the most important to the least important. Some are jointly ranked.

It is also important to determine timeframes for each priority. On the attached list you will see the top twenty research priorities listed. Please put an X in the box which you feel best reflects the timeframe for this priority. The numbers correspond to the timeframes as below:

**1 – Research topic is an immediate priority**

**2 – Research topic should be undertaken within the next 12 months**

**3 – Research topic should be undertaken within the next 5 years**

As with the previous questionnaires, please double click on the box you wish to mark and select 'checked', then click 'OK'.

**PHYSIOTHERAPY PANEL**

| | Research Priority | 1 Immediate priority | 2 Next 12 months | 3 Next 5 years |
|---|---|---|---|---|
| 1 | An exploration of the factors associated with adherence to exercise and physical fitness programmes. | ☐ | ☐ | ☐ |
| 2 | An examination of the role of exercise in improving mental health of mild/moderate depression. | ☐ | ☐ | ☐ |
| 3 | An investigation into how exercise capabilities should be assessed dependent on disease state including the identification of an exercise prescription. | ☐ | ☐ | ☐ |
| 3 | An exploration of the impact of the pressure of targets, waiting lists and the volume of repeat referrals on achieving intervention outcomes that reflect the needs and expectations of patients. | ☐ | ☐ | ☐ |
| 5 | Identification of optimal duration and intensity of treatment and engagement with patients linked to outcomes. | ☐ | ☐ | ☐ |
| 6 | Cost benefit analysis of the provision of services. | ☐ | ☐ | ☐ |
| 7 | More effective incorporation of health economics within future research design. | ☐ | ☐ | ☐ |
| 8 | To research the benefits of physiotherapy intervention in promoting an enablement ethos with chronic conditions | ☐ | ☐ | ☐ |
| 9 | An exploration of the relationship between skill mix and clinical outcomes. | ☐ | ☐ | ☐ |
| 9 | Identification of areas for development in the structure of how therapy is provided – self-management in adults, parent-led therapy in children, and group therapy versus one-to-one approaches. | ☐ | ☐ | ☐ |
| 11 | Research designed to assess the impact of physical activity on health and wellbeing. | ☐ | ☐ | ☐ |
| 12 | The effectiveness of exercise interventions in lymphoedema management. | ☐ | ☐ | ☐ |

| | Research Priority | 1 Immediate priority | 2 Next 12 months | 3 Next 5 years |
|---|---|---|---|---|
| 13 | Assessing the effectiveness of treatments in the management of chronic pain including exercise, acupuncture, education, hypnosis and biopsychosocial approaches. | ☐ | ☐ | ☐ |
| 13 | An assessment of the effectiveness of interventions in the management of back pain including traction, manual therapy and core stability strategies. | ☐ | ☐ | ☐ |
| 13 | Contrasting the clinical effectiveness of the use of classes with one to one treatment approaches. | ☐ | ☐ | ☐ |
| 16 | An investigation into the benefits of exercise based rehabilitation of soft tissue injury. | ☐ | ☐ | ☐ |
| 16 | Evaluation of the role of exercise in cancer rehabilitation. – intensify/frequency etc. | ☐ | ☐ | ☐ |
| 16 | Research into the use of functional tests in assessment. | ☐ | ☐ | ☐ |
| 16 | An exploration of optimal assessment and treatment times for physiotherapy appointments – do longer appointment times result in better long term outcomes? | ☐ | ☐ | ☐ |
| 20 | The impact of exercise intensity on symptom management and recovery in long term conditions. | ☐ | ☐ | ☐ |
| 20 | The effectiveness of individualised development care for preterm infants born at less than 32 weeks gestation. | ☐ | ☐ | ☐ |

**Sincere thanks for your participation in the study.**

# Appendix 5: Full results for Physiotherapy Panel

### Physiotherapy Panel – Round 2 Items that gained consensus

| Research Priority | % Consensus | Mean |
|---|---|---|
| To research the benefits of physiotherapy in maintenance of long term neuromuscular conditions. | 72.4% | 2.17 |
| Physiotherapy management for pelvic girdle pain in pregnancy – acupuncture, mobilisation, stability exercises. | 72.4% | 2.31 |
| To research the benefits of physiotherapy intervention in musculoskeletal conditions. | 71.4% | 2.21 |
| Evaluation of the effectiveness of specific exercises in the management of Low Back Pain. | 75.9% | 2.03 |
| Exploring the effectiveness of exercise in the management of musculoskeletal and neurological conditions. | 72.4% | 2.24 |
| Determining the specificity of exercise programmes for common musculoskeletal conditions. e.g. (shoulder pain). | 72.4% | 2.21 |
| An exploration of teaching and learning strategies designed to promote effective clinical reasoning skills. | 71.4% | 1.96 |

**Physiotherapy Panel Items which gained Consensus at Round 3**

| Research Priority | % Consensus | Mean |
|---|---|---|
| The effectiveness of exercise interventions in lymphoedema management. | 100% | 1.88 |
| Identification of optimal duration and intensity of treatment and engagement with patients linked to outcomes. | 100% | 1.77 |
| Effectiveness of surgical intervention versus conventional physiotherapy management of shoulder pain. | 94% | 2.00 |
| Assessing the effectiveness of treatments in the management of chronic pain including exercise, acupuncture, education, hypnosis and biopsychosocial approaches. | 94% | 1.88 |
| An assessment of the effectiveness of interventions in the management of back pain including traction, manual therapy and core stability strategies. | 94% | 1.88 |
| The impact of exercise intensity on symptom management and recovery in long term conditions. | 94% | 1.94 |
| An exploration of the factors associated with adherence to exercise and physical fitness programmes. | 94% | 1.61 |
| An examination of the role of exercise in improving mental health of mild/moderate depression. | 94% | 1.66 |
| Contrasting the clinical effectiveness of the use of classes with one to one treatment approaches. | 94% | 1.88 |
| Identifying longer term needs for patients at different time points post diagnosis of long term conditions | 94% | 2.00 |
| An exploration of the relationship between skill mix and clinical outcomes. | 94% | 1.83 |
| Identification of areas for development in the structure of how therapy is provided – self-management in adults, parent-led therapy in children, and group therapy versus one-to-one approaches. | 94% | 1.83 |
| The effectiveness of individualised development care for preterm infants born at less than 32 weeks gestation. | 94% | 1.94 |
| To research the benefits of physiotherapy intervention in promoting | 89% | 1.82 |

| | | |
|---|---|---|
| an enablement ethos with chronic conditions | | |
| Investigations into the effectiveness of physiotherapy interventions with patients within the last year of life (palliative patients) including qualitative approaches exploring patient experiences. | 89% | 2.00 |
| The role of exercise/conditioning programmes in musculoskeletal health e.g. pilates. | 89% | 1.94 |
| An investigation into the benefits of exercise based rehabilitation of soft tissue injury. | 89% | 1.88 |
| Evaluation of the role of exercise in cancer rehabilitation. – intensify/frequency etc. | 89% | 1.88 |
| Research into the use of functional tests in assessment. | 89% | 1.88 |
| Identifying the role of Allied Health Professions in promoting health issues in the public health arena | 89% | 1.94 |
| Cost benefit analysis of the provision of services. | 89% | 1.77 |
| Home base programmes – an evaluation of the role of telephone advice from physiotherapists. | 89% | 1.94 |
| An exploration of optimal assessment and treatment times for physiotherapy appointments – do longer appointment times result in better long term outcomes? | 89% | 1.88 |
| Is routine client physiotherapy in asymptomatic infants diagnosed with CF by neonatal screening valuable in terms of long-term outcome? | 88% | 2.05 |
| Research into current practice in physiotherapy clinical intervention in children with cerebral palsy. | 88% | 1/94 |
| Cost-effectiveness of chronic pain management syndromes. | 83% | 1.99 |
| Effectiveness of clinical interventions including electrotherapy, joint mobilisation, manipulation and acupuncture. | 83% | 2.00 |
| An investigation into how exercise capabilities should be assessed dependent on disease state including the identification of an exercise prescription. | 83% | 1.72 |
| An investigation of optimal dose in combining an exercise programme and acupuncture in the management of low back pain. | 83% | 2.00 |

| | | |
|---|---|---|
| Identification of outcome measures to investigate whether physiotherapy interventions are effective. | 83% | 2.05 |
| What physiotherapy management is most clinically and cost effective for patients with osteoarthritis of peripheral joints? | 83% | 2.00 |
| What is the clinical and cost effectiveness of physiotherapy for people with Multiple Sclerosis? | 83% | 2.11 |
| Research into undergraduate Allied Health Professional training for emerging roles e.g. Cognitive Behavioural Therapy. | 83% | 1.94 |
| More effective incorporation of health economics within future research design. | 83% | 1.77 |
| Research designed to assess the impact of physical activity on health and wellbeing. | 83% | 1.83 |
| Research into maintaining health and fitness in chronic neurological conditions. | 83% | 2.00 |
| Exploration of service user feedback on telephone triage. | 83% | 2.00 |
| Exploration of the evidence base for group therapy versus individual treatments. | 83% | 2.05 |
| How is a post operative pulmonary exacerbation, requiring physiotherapy intervention, defined in a surgical patient? | 83% | 3.05 |
| Determination of staffing levels for different specialities. | 83% | 2.05 |
| Evaluation of different modes of service delivery. | 83% | 1.94 |
| An exploration of the impact of the pressure of targets, waiting lists and the volume of repeat referrals on achieving intervention outcomes that reflect the needs and expectations of patients. | 83% | 1.72 |
| To assess and evaluate levels of stress and its impact on Allied Health Professionals working in the modern day National Health Service. | 83% | 2.05 |
| To determine the age of walking attainment of children in Northern Ireland as compared to the USA according to the norm reference charts for the Bayley III Assessment of Infant and Toddler Development. | 82% | 3.05 |

| | | |
|---|---|---|
| To establish a standardised assessment tool for use with infants diagnosed with talipes equinovarus. | 82% | 2.11 |
| An evaluation of treatment strategies and physiotherapy management of shoulder impingement syndrome. | 78% | 2.22 |
| Investigation of the effectiveness of various techniques in neurological rehabilitation e.g. Constraint induced movement therapy, functional electrical stimulation, vestibular rehabilitation. | 78% | 2.16 |
| An exploration of the validity, reliability and sensitivity of tests used by physiotherapists to assess the musculoskeletal system. | 78% | 2.11 |
| Identifying Quality of Life measures which would best assess the psychological aspects of living with lymphoedema. | 78% | 2.11 |
| A study of the psychosocial long term needs of patients post stroke. | 78% | 2.11 |
| Investigation of methods that influence compliance with activity programmes and improve rehabilitation compliance including the use of accelerometers. | 78% | 2.11 |
| An investigation of methods of disseminating and teaching self-management techniques/strategies for people with low back pain. | 78% | 2.00 |
| Identification of the evidence base to support the treatment, management and physiotherapy practice including manual therapy, taping and electrotherapy techniques, in relation to: Fibromyalgia, Musculoskeletal conditions, Neurology | 78% | 1.94 |
| Research into the benefits of physiotherapy interventions in a “see and treat” service for musculoskeletal patients presenting at Accident and Emergency departments. | 78% | 2.05 |
| Exploration of the use of alternative treatment delivery models e.g. multimedia, web, telephone reviews. | 78% | 2.00 |
| To research the most cost effective physiotherapy treatment model for stroke patients. | 78% | 2.11 |
| An exploration of career pathways and future professional pathways in physiotherapy. | 78% | 2.05 |

| | | |
|---|---|---|
| Investigating pathways of care and interventions which could enhance speed of recovery for patients following critical illness in line with NICE (2009). | 78% | 1.94 |
| Effectiveness of 2:1 model of clinical supervision. | 78% | 3.00 |
| Effectiveness of hydrotherapy for children with cerebral palsy in maintaining joint range of movement as compared to land based treatment. | 77% | 2.23 |
| An investigation of the effectiveness of the cough assist device in respiratory conditions. | 72% | 2.22 |
| To investigate the potential role of prophylactic compression garment for “at risk” lymphoedema patients. | 72% | 2.16 |
| Investigate the effectiveness of passive stretching and positioning in the prevention of contractures for immobile patients. | 72% | 2.05 |
| Examination of the role of exercise /rehabilitation covering all tumour groups in oncology patients (including palliative patients) | 72% | 2.11 |
| Which outcome measures should be used to determine the efficacy of an airway clearance intervention in respiratory disease? This research should further investigate if there is a need for separate outcome measures for mild/moderate/severe disease state. | 72% | 2.11 |
| Development of outcome measures for physiotherapy for use in clinical trials and practice in patients with respiratory conditions in line with FDA. | 72% | 2.11 |
| Investigation of the role of the Physiotherapist in effecting behavioural change. | 72% | 2.16 |
| Identification of rehabilitation priorities in cancer populations. | 72% | 2.00 |
| Identification of musculoskeletal risk factors for injury. | 72% | 2.16 |
| Establishing the key components of therapy in neurological rehabilitation. | 72% | 2.22 |
| Is the evidence produced by clinical guidelines being incorporated into the clinical practice management of people with respiratory disease? | 72% | 2.11 |

| | | |
|---|---|---|
| To research the most appropriate skill mix to use in rehabilitation service models within community settings. | 72% | 2.22 |
| An evaluation and economic analysis of the impact of community respiratory services. | 72% | 2.16 |
| Development of technology and innovation to advance more inventive therapies that are more effective at the levels of function and participation, particularly within the paediatric population. | 71% | 2.23 |

### Items which did not gain consensus after three rounds

| Research Priority | % Consensus | Mean |
|---|---|---|
| Investigating interventions which promote patient education, self management and self efficacy. | 67% | 2.00 |
| Development of preventative management programmes for individuals who may be at risk of developing musculoskeletal problems. | 67% | 2.16 |
| To research the most appropriate risk triage model for service delivery. | 67% | 2.33 |
| Research into the effectiveness of physiotherapy interventions in the management of common respiratory diseases and associated conditions in line with NI service framework for respiratory health and wellbeing (2009). | 61% | 2.16 |
| Further research into Bobath versus other approaches for treatment of stroke. | 61% | 2.33 |
| Evaluation of the implementation of research in curriculum design. | 56% | 2.44 |
| An investigation of sub grouping of low back pain. | 56% | 2.27 |
| An investigation of the physiological effects of acupuncture and its use and effectiveness in current physiotherapy practice. | 50% | 2.38 |
| Establishing outcome measures for clinical trials. | 50% | 2.27 |
| Survey of users' views on physiotherapy interventions designed to identify their needs and promote patient involvement. | 50% | 2.44 |
| Histology studies on chronic overused tendons – is there inflammation? | 50% | 2.50 |
| Investigate the effectiveness of Bowen technique for cerebral palsy. | 47% | 2.52 |
| Effectiveness of electrotherapy modalities such as ultrasound and laser for specific conditions / pain relief. | 44% | 2.61 |
| Long term benefits and effectiveness of transfer aids and walking aids in maintaining physical abilities. | 44% | 2.50 |

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| What are the movement strategies used by older people with normal functional ability to perform everyday tasks, specifically transfers, sit to stand and turning? | 44% | 2.38 |
| Identification of the impact of musculoskeletal pain on physical activity. | 44% | 2.50 |
| Exploration of falls management in people with neurological disability. | 44% | 2.55 |
| Investigation into the influence of obesity on Osteoarthritis of the knees and hips. | 44% | 2.55 |
| An exploration of community staff understanding of the role of the physiotherapist in oncology and palliative care – are patients who could benefit from physiotherapy being missed? | 44% | 2.44 |
| An exploration of the effectiveness of physiotherapy treatments, especially graded motor imagery in the management of Complex Regional Pain Syndrome/maladaptive pain. | 39% | 2.55 |
| Investigate risk of lymphoedema in different gynaecological radiotherapy procedures. | 39% | 2.50 |
| An investigation of the benefits of combining an exercise programme and surface electrical nerve stimulation for managing knee osteoarthritis. | 39% | 2.50 |
| Comparative study of outcomes of treatments carried out in specialist centres versus community based facilities. | 39% | 2.50 |
| An investigation of the benefits of early movement within spinal cord patients and the long term effects. | 39% | 2.38 |
| An exploration of injury prevention in adolescent sporting activity. | 39% | 2.55 |
| An exploration of the psychosocial and physical needs of carers. | 39% | 2.55 |
| What does an optimum palliative care service look like for different populations? | 35% | 2.52 |
| To carry out a longitudinal study to explore the natural history of Obstetric Brachial Plexus Palsy and the outcome of surgery for children in Northern Ireland. | 35% | 2.70 |
| Evaluation of commonly used treatment approaches. | 33% | 2.77 |
| Do physiotherapy programmes assigned to enable repetitive practice | 33% | 2.61 |

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| enhance skill acquisition in stroke rehabilitation? | | |
| Can technology (Robotics, VR) be used to deliver therapy in neurological rehabilitation as an alternative to current methods and used to extend practice time for patients waiting to improvement, activity or participation outcomes? | 33% | 2.61 |
| Does improvement in patient self-efficacy change rehabilitation outcomes for the better in neurological rehabilitation? | 33% | 2.77 |
| Research into the factors associated with recurrence in soft tissue injury. | 33% | 2.88 |
| Can physical activity make a difference to symptoms in adults with schizophrenia as well as improve levels of fitness? | 33% | 2.77 |
| An exploration of patients' understanding of the terms 'hospice' and 'palliative care' – are patients missing out on services because of fear or preconceived ideas? | 33% | 2.66 |
| Qualitative research – exploring the patients' experience of low back pain and their perception of the management of the condition. | 33% | 2.61 |
| An exploration of best practice in the management of Bell's palsy. | 33% | 2.77 |
| Qualitative research, particularly into teenagers/young adults with chronic conditions designed to identify needs and desires within this population. | 33% | 2.77 |
| Developing patient records that incorporate a more holistic profile of the patient; which may inform the effectiveness of interventions and contribute to predicting future outcomes. | 29% | 2.64 |
| An evaluation of the effectiveness of steroid injection for osteoarthritis of the knee. | 28% | 2.83 |
| A comparative study of arthroscopic subacromial decompression surgery with relative rest and physiotherapy. | 28% | 2.72 |
| Exploration of the appropriate parameters for laser and soft tissue injuries – acute and chronic. | 28% | 2.71 |
| Does the introduction of clinical simulation enhance learning in undergraduate education? | 28% | 2.66 |

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| Exploration of the management of Cachexia – knowledge of the condition and best nutritional / rehabilitation approach? | 28% | 2.72 |
| How can service users of neurological rehabilitation be involved more in research? | 28% | 2.61 |
| Exploring the mechanisms underlying recovery in post stroke individuals | 28% | 2.72 |
| Identification of the use of specialist rehabilitation in the community. | 28% | 2.55 |
| Developing different models of therapy provision in different settings. | 28% | 2.66 |
| To research the benefits of physiotherapy being part of a core COPD team. To research the benefits of physiotherapy being involved in a critical outreach (ICU) team within acute settings. | 28% | 2.61 |
| Effectiveness of real time ultrasound used for biofeedback. | 22% | 2.94 |
| Exploration of differences in pressure for effective manual mobilisation of the spine. | 22% | 2.88 |
| To assess the feasibility of using pre/post cancer surgery screening with lymphoedema. (e.g. bioimpedence). | 22% | 2.66 |
| Dexamethazone and its effects on muscle mass / weakness – can rehabilitation / physiotherapy help? | 22% | 3.00 |
| Adapting the environment: orthoses, aids and adaptations, access to leisure facilities, transport etc – how does this compare to prescriptive therapy in terms of participation and quality of life? | 22% | 2.77 |
| An exploration of the patient's perspective in the use of intravenous therapy lines for pain control regarding loss of power/functioning versus improved pain control. | 18% | 2.88 |
| Identifying the benefits of the use of vibration plate therapy. | 17% | 3.22 |
| Does the use of a virtual environment enhance learning in undergraduate education? | 17% | 2.77 |
| An investigation of optimal dose parameters for surface electrical nerve stimulation for pain relief and with regard to the development of tolerance. | 11% | 3.05 |

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| Comparison of performance on clinical practice of male/female physiotherapy students. | 6% | 2.94 |

# Appendix 6: Full Results for Occupational Therapy Panel

## Occupational Therapy Panel – Round 2 Items that gained consensus

| Research Priority | % Consensus | Mean |
|---|---|---|
| An exploration of the therapeutic contribution Occupational Therapists can make to care and rehabilitation including assistive technology across a range of acute and chronic specialist clinical conditions in hospital and the community. | 85.2% | 1.74 |
| To research the effects of post-stroke fatigue on occupational performance and personal activities of daily living. | 74.1% | 2.04 |
| How effective is splinting in the promotion of maintenance of hand function following stroke/spinal cord injury. | 77.8% | 1.93 |
| To research the effects of post-stroke executive dysfunction on occupational performance and personal activities of daily living. | 92.6% | 1.70 |
| Does early Occupational Therapy intervention lead to improved physical and functional outcomes in those who have had a stroke? | 85.2% | 1.78 |
| To research the effects of post-stroke unilateral spatial neglect on occupational performance and personal activities of daily living. | 70.4% | 2.07 |
| The effectiveness of long term rehabilitation services following hospital discharge for those who have had a stroke. | 81.5% | 1.96 |
| An evaluation of Condition Management Programmes in facilitating return to work strategies. | 85.2% | 1.89 |
| Evaluation of outcomes for vocational rehabilitation through an occupational therapy service compared to those achieved through the Department of Education and Learning. | 74.1% | 2.11 |

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| Assessing the availability of Continuous Professional Development pathways and opportunities for post graduate qualifications for Occupational Therapists. | 70.4% | 2.07 |
| An examination of the need for the development of information management, leadership and counselling skills for Occupational Therapy professionals in order for them to advance their role. | 70.4% | 2.56 |
| Evaluating the success of the condition management programme in getting people back to work. | 81.5% | 1.96 |
| Do discharge home visits from a rehabilitation unit improve transition to community and client satisfaction? | 70.4% | 2.04 |
| An examination of the effectiveness of Occupational Therapists role in promoting health and well-being. | 70.4% | 2.19 |
| Evidence to support provision of complex seating in acute medical setting. | 70.4% | 2.04 |
| An evaluation of the impact of Occupational Therapy services in Accident and Emergency on hospital length of stay. | 70.4% | 2.19 |
| An evaluation of the benefits of a home visits with elderly patients compared to only pre and post discharge visits, or no visit at all. | 77.8% | 1.93 |
| How effective is an Occupational Therapy referral criteria in an acute hospital environment, in identifying appropriate patients? | 74.1% | 2.26 |
| Is prescribing a custom wheelchair cheaper over time than regularly renewing standard wheelchairs? | 74.1% | 2.19 |

## Occupational Therapy Panel – Items that gained consensus at Round 3

| Research Priority | % Consensus | Mean |
|---|---|---|
| Reviewing the advisory role and representation of the Allied Health Professions at government level in Northern Ireland with particular regard to the management and funding of services and availability of research funding for both academics and clinicians. | 94% | 1.38 |
| Research into the impact of Occupational Therapy in elderly rehabilitation. | 94% | 1.88 |
| Research into the effectiveness of Occupational Therapy interventions in cardiac rehabilitation. | 88% | 1.94 |
| An evaluation of the effectiveness of Occupational Therapy interventions in pulmonary rehabilitation. Are the specific assessments recommended by the NICE guidelines being used in practice? | 88% | 2.00 |
| Effectiveness and cost effectiveness of occupational therapy interventions. | 88% | 1.88 |
| Evaluating the use of virtual reality to teach wheelchair skills for physically disabled children. | 88% | 2.25 |
| Exploring alternative models of practice placement education and evaluating the effectiveness of role-emerging placements as learning experiences. | 81% | 2.18 |
| Effectiveness of Occupational Therapy in cardiac rehabilitation. | 81% | 1.94 |
| An exploration of the influence of rehabilitation and discharge assessment strategies based on length of hospital stay and meeting government discharge targets. | 81% | 1.81 |
| Is activity / number of contacts the most meaningful way to commission Occupational Therapy services? | 81% | 1.88 |
| Population needs analysis to inform planning/prioritisation of Occupational Therapy service delivery and future workforce needs. | 81% | 2.12 |
| Investigation of the potential for rehabilitation for chronic conditions to lead to a reduction in domiciliary care packages and increase in patient independence and quality of life | 81% | 1.94 |
| Assessment of the benefits of occupational therapy from the service user's perspective. | 81% | 2.12 |

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| Effectiveness of vocational rehabilitation with mental health clients. | 81% | 2.06 |
| Effectiveness of occupational therapy with clients with dementia in hospital/residential care and following discharge maintaining clients at home. | 81% | 2.18 |
| What is the role of Occupational Therapy for children with Aspergers syndrome in education settings? | 81% | 2.00 |
| An evaluation of the effectiveness of the management of fatigue. | 75% | 2.06 |
| An evaluation of cognitive assessments with the visually impaired client. | 75% | 2.38 |
| Effectiveness of vocational rehabilitation in brain injury. | 75% | 2.06 |
| Developing valid and reliable outcome measures for occupation focused interventions. | 75% | 2.31 |
| An exploration of the effectiveness of outcome measures evidenced through practice developments. | 75% | 2.31 |
| The identification of standardised assessments and outcome measures in work rehabilitation relevant to United Kingdom practice. | 75% | 2.31 |
| What are the outcomes of peripheral median ulnar nerve repairs at wrist and forearm levels as measured at one year by return to work and occupation performance? | 75% | 2.25 |
| What are the experiences of carers when taking a loved one home from hospital when they are in the advanced stages of cancer? Do they feel they have the skills to provide the necessary assistance with activities of daily living? Was this need identified and supported at discharge planning? | 75% | 2.06 |
| An exploration of the impact of a rheumatological diagnosis on occupational functioning including work assessment and rehabilitation. | 75% | 2.25 |
| A study of carers experiences of community Occupational Therapy interventions. | 75% | 2.38 |
| What are the seating and pressure care needs of an advanced stage oncology patient? Are these needs being met within the community setting? | 75% | 2.25 |
| What is the impact of electronic assistive technology on the lives of people with a physical disability? | 75% | 2.19 |
| An evaluation of early Occupational Therapy intervention for | 75% | 2.19 |

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| postural/seating prescriptions. | | |
| An evaluation of the impact of community stroke schemes on acute and non acute sites – do patients receive the quality of AHP assessment in the acute / non acute sector that is required to accurately signpost towards community schemes? | 75% | 2.31 |
| Are review appointments essential or effective? | 75% | 2.37 |
| A survey of the use of nursing auxiliary staff on ward and community setting to reinforce therapy objectives – 24 hr rehabilitation. | 75% | 2.25 |
| Do life skills programmes improve the functions of schizophrenic patients living in the community? | 75% | 2.18 |
| An evaluation of the support services available to assist dementia sufferers to remain in the community including all aspects of psychosocial intervention. | 75% | 2.12 |
| Evaluating the use of cognitive strategies to improve occupational performance of children with co-ordination difficulties. | 75% | 2.25 |
| Establishing best practice for seating assessments of children with physical disabilities. | 75% | 2.37 |
| Assessing the influence of virtual reality play on children's motivation. | 75% | 2.38 |

**Occupational Therapy Panel: Items which did not gain Consensus after three Rounds**

| Research Priority | % Consensus |
|---|---|
| Do postural back supports on wheelchairs improve function of the client in the wheelchair? | 69% |
| How effective is relaxation in the management of pain, nausea/vomiting, fatigue and anxiety in cancer patients? | 69% |
| What are the best functional outcome measures for use in chronic pain management? | 69% |
| Identifying sensitive and manageable outcome measures for rheumatology/hand patients. | 69% |
| Evidence for a reflective practice tool in continuing professional development. | 69% |
| Can activities/occupations enhance self esteem/self confidence? | 69% |
| Investigating the role of Occupational Therapy in the prevention of illness. | 69% |
| Identification of and response to the rehabilitation needs of patients with malignant disease or injury of the brain and spinal cord. | 69% |
| Researching the impact of occupation on health and/or quality of life. | 69% |
| Evaluating the effectiveness of the role of Occupational Therapy in vocational rehabilitation. | 69% |
| Qualitative research to understand the patients' experience of having and managing chronic disability. | 69% |
| A comparative study of group based therapy versus individual therapy. | 69% |
| An investigation into the effective use and management of braces and splints in arthritic conditions and in reducing pain and deformity. | 69% |
| What strategies can Occupational Therapy advance in order to best promote the effective management of the physical and psychological aspects of chronic pain including facilitating return to work programmes? | 69% |
| Do tetraplegic clients return to work after their injury? | 69% |
| Does pressure mapping in a clinical area change cushion selection? | 69% |
| Research into the effects of post-stroke apraxia on occupational performance in personal activities of daily living. | 69% |
| Research to determine if Occupational Therapy is client focused or resource driven? | 69% |

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| An examination of the cost effectiveness of Occupational Therapy interventions compared with generic working. | 69% |
| Evaluation of the effectiveness of multi-disciplinary working and its potential for improving rehabilitation outcomes? | 69% |
| Effectiveness of targets and savings on the morale and stress levels of therapist/therapy staff. | 69% |
| An evaluation of what service users and carers value about Occupational Therapy. | 69% |
| An evaluation of the value of leisure activity and Occupational Therapy interventions physical and mental health conditions. | 69% |
| What is the evidence that clients with enduring mental illness get adequate support including community support? | 69% |
| What is the evidence that there is effective support for the informal carers of people with dementia? | 69% |
| What is the evidence that there is a need for 'care and support skills' teaching to informal carers of people with dementia? | 69% |
| Identification of the perceptual and cognitive screening assessment procedures for children, prior to determining suitability for powered wheelchair use. | 69% |
| Developing outcome measures for children with complex disability. | 69% |
| A study of the assessment and management of cognitive functioning of alcohol dependent patients in an acute setting. | 63% |
| An exploration of clinical reasoning skills / how they develop over time / experience with certain conditions/ influences etc. | 63% |
| Do upper limb and hand programmes maintain function and reduce deformity in rheumatology patients? | 63% |
| A survey of the use of standardised assessments in Occupational Therapy. | 63% |
| Dependency study of client's now entering rehabilitation and increasing complexity of cases compared to 10 years ago. | 63% |
| Identifying evidence for complex seating and lying supports for functioning and managing disability. | 63% |
| Does the provision of equipment to the appropriate height, prevent dislocations in total hip replacements? | 63% |
| Does Occupational Therapy intervention in Intensive Care prevent/reduce critical illness myopathy? | 63% |

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| What are the consequences of non-professionally aligned team working on professional roles of community occupational therapists? | 63% |
| An exploration of the therapeutic value of stopping state benefits. | 63% |
| An evaluation of the health and economic effectiveness of Occupational Therapy interventions in work practice. | 63% |
| Do self-management programmes work for people with mental health issues? | 63% |
| An exploration of the daily living activities of people suffering from dementia that might contribute to a meaningful life experience. | 63% |
| Evaluating the use of sensory modulation in young autistic children. | 63% |
| Evaluation of the effectiveness of Sensory Integration therapy for individuals with learning disabilities. | 56% |
| An exploration of Functional Seating options for the frail kyphotic community dwelling patient. | 56% |
| An exploration of the causal relationship between occupation, health and wellbeing across a range of client groups. | 56% |
| What is the availability of services for people with malignant spinal cord compression? | 56% |
| Assessment of the benefit of housing and adaptation work for service users in terms of quality of life and wellbeing and financial advantages. | 56% |
| A study into the effects of occupational deprivation. | 50% |
| What factors influence the uptake and adoption of telecare technologies by older people living within their own home environment? | 50% |
| What evidence is there to support the involvement of Occupational Therapists in transient ischaemic attack clinics to screen patients following stoke or transient ischaemic episode where there is some cognitive loss in the early phase? | 50% |
| Should all clients using a wheelchair have a pressure relieving cushion? | 50% |
| Exploration of issues influencing the management and effectiveness of complex seating and lying for functioning and managing disability in a variety of settings and for acute and chronic conditions. | 50% |
| An evaluation of different occupational therapy interventions and outcome measures with different groups. | 44% |
| Exploring an understanding of ethical dilemmas regarding the integration of technology and its use with vulnerable groups and people with cognitive | 44% |

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| impairment. | |
| Is the use of a structure programme of activity beneficial in maintaining an activity baseline and improving quality of life for patients experiencing significant functional debilities? | 44% |
| Identification of evidence to support the use of the regional visual screening tool in stroke patients. | 44% |
| Evidence to support energy conservation and fatigue management with inpatient Chronic Obstructive Pulmonary Disease. | 44% |
| Does early intervention in oedema management in the upper limit increase function of use of hands? | 44% |
| Exploration of strategies to ensure standardisation of critical pathways and the practise of Occupational Therapy across Northern Ireland. | 44% |
| An exploration of skill mix in the context of Technical Instructors or Occupational Therapy assistants carrying out an Occupational Therapy role with children. | 44% |
| Effectiveness of multidisciplinary goal setting in an acute stroke unit. | 44% |
| An evaluation of skill mix in relation to Allied Health Professional assistant/technical instructor roles. | 44% |
| What do service-users of mental health occupational therapy services think of Occupational Therapy? | 44% |
| An exploration of how people with mental health problems modify their behaviour. | 44% |
| Investigating the use of functional measures such as Assessment of Motor and Process Skills in diagnosing dementia. | 44% |
| Evaluation of the impact of care giving for physically disabled children. | 44% |
| How do children's therapists use research and evidence based practice in their work? | 44% |
| Development of research strategies to incorporate active user involvement, mixed methodologies and multidisciplinary collaboration. | 38% |
| Research into developing the role of e-learning to supplement traditional face to face student clinical education. | 38% |
| An evaluation of the effectiveness of thumb splints in the management of Osteoarthritis and Rheumatoid arthritis. | 38% |
| Review of the numbers of patients leaving rehabilitation who do not achieve | 38% |

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| independent mobility-walking or wheelchair and the reasons why? | |
| Exploring standards/protocols/guidelines for hand therapy. | 38% |
| What are the long-term benefits from joint conservation interventions with arthritic/rheumatology patients? | 38% |
| Identification of an effective system for review of clients, using assistive equipment, e.g. electrically powered wheelchairs. | 38% |
| Research designed to achieve an understanding of the role and potential for occupational therapists through partnership working. | 38% |
| Exploration of the organisational policies which impact on occupational therapists and their brief to work across the total spectrum of self care, productivity and leisure. | 38% |
| Research into the organisation and delivery of services with a focus on workforce design and diversity, skill mix, demographic trends and population needs. | 38% |
| Assessing the life experiences of children with disabilities and their families. | 38% |
| Evaluating the use of lycra splints to improve upper limb function in children with cerebral palsy. | 38% |
| Effectiveness of constraint induced movement therapy to improve upper limb function of children in cerebral palsy. | 38% |
| What functional outcomes are gained from metacarpal phalangeal (MCP) replacement surgery? | 31% |
| Assessing definitions of interventions – advancing knowledge and understanding of terminology. Seeking consensus and consistency. | 31% |
| What is the evidence that people in Day Care have their needs met? | 31% |
| An evaluation of goal directed exercise compared to exercise for movement sake alone. | 31% |
| A survey of bench marking across hand units regarding staffing and grade of staff in relation to demographic areas. | 31% |
| Developing programmes for personal motivation(s) to achieve life goals through constructive leisure activity. | 31% |
| An exploration of the role of Occupational Therapy in the Forensic Sciences including risk management issues. | 25% |
| Is talking therapy more or less effective than ‘doing’? | 25% |
| Replication of “Lifestyle Redesign” USA research study in a Northern Ireland | 25% |

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| context with the view to assessing its potential benefits. | |
| Research into the means of improving the understanding and potential benefits of Occupational Therapy for those diagnosed with a Haempoplilia condition? | 25% |
| An exploration of attitudes towards disability and the inclusion of individuals with disabilities. | 25% |
| What factors influence a move into housing with support by older people in Northern Ireland? | 25% |
| Developing an evaluation framework for technology interventions within healthcare. | 25% |
| Exploration of the perception of the role of practitioners in teaching Occupational Therapy students. | 19% |
| A survey of patient and therapists perceptions of splinting. | 19% |
| An investigation of barriers and stigma which impact on people with disabilities getting into work. | 19% |
| Evaluation of use of assessment tools/range of tools in use in physical and mental health. | 19% |
| An evaluation of the generic managerial role of Occupational Therapists. | 13% |
| A survey of the cultural and social attitudes of Occupational Therapy students. | 13% |
| What are the needs of oncology patients in relation to wheelchairs? Are these needs met? | 13% |
| An examination of the relevance of occupation focused interventions in a diverse range of environments. | 12% |
| An exploration of the incidence of post traumatic cold intolerance with e.g. digit amputation, multiple crush injuries or peripheral nerve repairs | 6% |

# Appendix 7: Full Results for Nutrition and Dietetics Panel

## Nutrition & Dietetics Panel – Items that gained Consensus at Round 2

| Research Priority | % Consensus | Mean |
|---|---|---|
| An investigation of the most effective way to use dietetic services to treat obesity in Type 2 Diabetes Mellitus. | 80% | 1.95 |
| Investigation of the benefits to the patient and healthcare costs of treating under-nutrition. | 75% | 2.05 |
| An exploration of the role of the Dietitian in stemming the tide of obesity in Northern Ireland? | 70% | 2.10 |
| Is all nutritional information provided to patients up to date and evidence based? | 70% | 2.10 |
| An evaluation of the role of dietitians in structured patient education for diabetes. | 75% | 2.15 |
| A comparative study of the outcomes of structured group education programmes contrasted with individual consultation approaches in the management of Diabetes Mellitus, weight management and other common nutritional conditions. | 75% | 2.15 |
| Research to determine dietician's use of evidence base practice and how fitness to practice is maintained | 70% | 2.25 |

## Items that gained Consensus at Round 3

| Research Priority | % Consensus | Mean |
|---|---|---|
| A study of the efficacy of oral nutritional support in community settings. | 94% | 1.88 |
| An investigation into the most effective obesity treatment programme for children. | 94% | 1.88 |
| A study designed to determine the benefits, including cost effectiveness of the MUST tool when in use within a hospital setting. | 88% | 1.88 |
| An exploration of the effectiveness of the implementation of nutritional screening tools in adult and paediatric wards. | 81% | 1.88 |
| An exploration of strategies for obesity prevention in children and adults. | 81% | 1.88 |
| A study of the impact of the use of dietetic assistants in the changing world of dietetics. Does this show an improvement in outcomes? Which clinical areas does this work best in? | 88% | 1.94 |
| An exploration of the extended role of the Dietitian in providing nutrition support. | 81% | 1.94 |
| An exploration of the health economics of nutritional interventions. | 81% | 1.94 |
| To explore the most appropriate structured patient education programme for children with type one diabetes. | 81% | 1.94 |
| An evaluation of the effectiveness of dietetic treatment in various paediatric conditions, e.g. renal inborn errors of metabolism, cystic fibrosis. | 81% | 2.00 |
| To research how dietary interventions enhance quality of life outcomes for patients suffering from specified diseases. | 88% | 2.06 |
| An assessment of the effectiveness of food fortification training in hospital and community settings. | 81% | 2.06 |

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| An exploration of the effectiveness of dietary advice for patients receiving radiotherapy and the effect of outcomes in cancer care. | 81% | 2.06 |
| An exploration of patients and their carer's perspectives of clinical decision making and the provision of information regarding dietary interventions. | 81% | 2.06 |
| An exploration of health and lifestyle including diet and exercise in childhood to determine why public health recommendations are not being achieved. e.g. increased incidence of obesity, poor understanding on the importance of vegetables and fruit. | 81% | 2.06 |
| Research into the identification of malnutrition in childhood. | 81% | 2.06 |
| Research to determine how best to engage nursing staff with nutritional screening methods. | 75% | 2.06 |
| An exploration of the use of nutritional supplements including pharmanutrients designed to improve clinical outcomes in Intensive care units. | 88% | 2.12 |
| A study of the relationship between communication and behaviour change in dietetic practice. | 81% | 2.12 |
| An exploration of therapeutic doses of micronutrient supplements in disease states including burns. | 81% | 2.12 |
| An exploration of parent and family perception of nutrition and what constitutes a healthy diet. | 75% | 2.13 |
| A study to identify access to food, food intake, and nutritional status of older people living in their own homes in Northern Ireland? | 75% | 2.13 |
| Research designed to determine optimal management of nutritional support in advanced illness and palliative care. | 75% | 2.13 |
| A comparative study to assess oesophagectomy patients who are fed post operatively with those who are prescribed nil orally for up to 5 days. How does this regime affect outcomes including length of stay, post operative complications, weight loss, and wound healing? | 75% | 2.13 |
| An investigation into the impact of the introduction of Band 3 grades | 75% | 2.13 |

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| on the quality of dietetic services. | | |
| Research into nutritional modulation of response to injury or disease. | 88% | 2.18 |
| An evaluation of the effectiveness of artificial nutrition support in advanced progressive illness at end of life stage. | 75% | 2.25 |
| An exploration of the role of diet in the treatment of diabetes. | 75% | 2.25 |
| To research the effectiveness on the use of parental nutrition with neonatal infants. | 75% | 2.25 |
| An exploration of the effectiveness of guidelines for nutrition in the critical care setting. How can implementation and adherence be improved? | 75% | 2.31 |
| A study to identify the outcomes for head and neck cancer patients who receive early enteral feeding. | 75% | 2.31 |
| A study investigating quality of life/socio-cultural impact of disease and diet. | 75% | 2.31 |
| An exploration of the benefits and contraindications of appetite stimulants in patients with chronic inadequate nutrition intake. | 75% | 2.38 |

## Nutrition & Dietetics Panel – Round 3 Results

**Items that did not gain Consensus after 3 Rounds**

| **Research Priority** | **% Consensus** |
|---|---|
| A comparative study of the outcomes of different structured patient education programmes. | 69% |
| A study to identify factors influencing adults and older people who do not follow a healthy eating and mechanisms that influence positive change. | 69% |
| How useful are Schofield requirements in estimating basal metabolic rate in hospitalised patients within a variety of disease states? | 69% |
| An investigation into the relationship between stress levels of staff and staff shortages, demands of caseload management and role change; and the impact of stress levels on the quality of services. | 69% |
| An exploration of the outcomes of dietetic support workers, particularly within uniprofessional specialities. | 69% |
| Research to identifying cost savings and general efficiencies linked with appointing a 'nutritional support dietitian' – acute and community. | 69% |
| Are current stress factors used in everyday practice for various disease states appropriate? | 69% |
| Group education/structured education for Diabetes in Northern Ireland. | 68% |
| A comparative study investigating patient preference regarding primary versus secondary diabetes care designed to evaluate outcomes. | 63% |
| An evaluation of the communication skills required by dieticians for competent practice. | 63% |
| A study of the influence of support groups on dietary compliance and the motivation to follow a gluten free diet in those with Coeliac disease. | 63% |
| Research into the role of diet in the prevention of osteoporosis. | 63% |
| An exploration of the perceived needs and satisfaction levels of users of dietary and nutritional services. | 63% |

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| Research designed to develop and implement standardised clinical practice guidelines for nutrition in the critical care setting within Northern Ireland. | 56% |
| An exploration of evaluation techniques relevant to the management of community food and nutrition programmes. | 56% |
| An investigation into the learning experience available for patients /clients and an exploration of how best they learn. | 56% |
| A study comparing those patients fed post oesophagectomy and those patients that are prescribed nil orally for 5 days to determine variations in outcomes including length of stay. | 56% |
| A comparative study of obesity prevention programmes in the Republic of Ireland and the United Kingdom. | 50% |
| An evaluation of the impact and outcomes of governmental strategies and initiatives in public health nutrition. | 50% |
| An evaluation of the preparation and involvement of dieticians in clinical research activities. | 50% |
| Exploration of the role of nutrition in the primary prevention of cardiovascular disease. | 50% |
| A review of the evidence for the impact of improved nutritional care on nutritional and clinical outcomes and care. | 50% |
| What are the benefits of having a dietician within the multiprofessional team within an Intensive Care Unit? | 50% |
| Research into refeeding syndrome with children/adolescents – what dose of thiamine and vitamin B co-strong can be administered in the first 10 days of refeeding? | 50% |
| A study designed to investigate the barriers influencing children and young people who do not eat a healthy diet and to identify mechanisms for effecting positive change. | 50% |
| A study of the incidence of misplaced nasogastric tubes and staff knowledge of how to manage nasogastric tubes. | 44% |
| Research into the development of novel (functional) foods with evidence of health benefits. | 44% |

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| Research into how best to involve service users in educating other service users. | 44% |
| Investigation into the factors influencing the non attendance of patients and clients at education and clinic sessions: designed to inform strategies for achieving and sustaining improved attendance. | 44% |
| Comparative study designed to identify the Whole Time Equivalent (WTE) ratio of dietitians required per population in Northern Ireland compared with staffing throughout Ireland. | 44% |
| Is the nutritional advice and support provided in the management of eating disorders adequate and appropriate? | 38% |
| To determine if dietary advice given in a different setting to the clinical hospital surrounding will be more effective e.g. in the home. | 38% |
| A study into the quality of life in Diabetes/chronic diseases. | 38% |
| Are there barriers to the consumption of 'healthy' foods? | 38% |
| An evaluation of other health professionals' knowledge and understanding of nutrition and dietetics. e.g. medical, nursing, health visitors in relation to infants and children's nutrition. | 38% |
| An exploration of the use of dietetic staff in assisting nurse practitioners with obesity management and other long term conditions. | 38% |
| Does the amount of sugar consumed by adolescents predict health risks in later life? | 38% |
| An investigation into the relationship between nutrition and healthy ageing e.g. maintenance of cognitive health. | 31% |
| An exploration of family influence on attitudes, behaviour and control in Type I and Type 2 diabetic patients where two or more members of family have the same diagnosis. | 31% |
| An investigation into the prevention and treatment of overgranulation at stoma sites. | 31% |
| Does the amount of refined carbohydrate consumed affect health outcomes? | 31% |
| A study of the relationship between dietary patterns, consumption of fruit and vegetables and chronic disease risk. | 31% |

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| What is the relationship between adipokines, body weight status and risk of disease? | 31% |
| A comparative study to assess the effects of feeding during daylight hours with slow rate feeding and with 24 hour feeding in post gastrectomy patients. How does this affect outcomes including weight, length of stay and incidence of post operative ileus? | 31% |
| A pilot study to assess the potential benefits of establishing a dietitian linked with hospital and community catering departments. | 31% |
| Research into diet and pregnancy to encompass maternal, fetal and neonatal consequences and health outcomes in early childhood. | 31% |
| Research into the generation of evidence based dietary recommendations for healthy populations. | 25% |
| A study of enteral feeding designed to ensure safe and evidence based practice: clinical management and its effects on patients with diabetes and cancer. | 25% |
| How effective is a low salt diet in alleviation of ascites in patients with hepatic disease? | 25% |
| An exploration of the nutritional adequacy and individual expertise related to dietary interventions. | 19% |
| How much Ascorbic acid is required for wound healing in burns patients? | 13% |
| Research into nonprofessional education to improve inter-professional working. Do role clarifying exercises improve inter-professional work and effectiveness of teams? | 13% |

## Appendix 8: Full Results for Speech and Language Therapy

## Speech and Language Panel – Round 2 Items that have gained consensus

| Research Priority | % consensus | Mean |
|---|---|---|
| An exploration of the role of the Speech and Language Therapist in Dysphagia. | 100% | 1.62 |
| An exploration of the role of the Speech and Language Therapy in managing auditory processing disorders. | 87.5% | 1.94 |
| An evaluation of consultative role of Speech and Language Therapy in paediatric service. | 81.3% | 2.06 |
| To investigate the role of the Speech and Language Therapist in Health Promotion / Early Intervention and provision of services. | 81.3% | 1.81 |
| An exploration of the role of the Speech and Language Therapist in Dyslexia. | 75% | 2.31 |
| Research to assess the effectiveness of therapeutic interventions in the management of:- Dysphonia, Dysphasia, Dysarthria, Dyspraxia, Stammering | 93.8% | 1.62 |
| An assessment of the efficacy of Speech and Language Therapy in adult acquired disorders. | 93.8% | 1.62 |
| Assessment of the effectiveness of intensive versus non intensive speech and language therapy for a range of conditions. | 93.8% | 1.38 |
| An evaluation of the impact and effectiveness of speech and language therapy on quality of life in people with asphasia. | 87.5% | 1.63 |
| An assessment of the impact of Speech and Language Therapy in long term conditions. | 82.3% | 2.19 |
| An evaluation of the clinical effectiveness of school based therapy models as opposed to traditional clinical intervention. | 75% | 1.75 |
| To investigate the effectiveness and efficacy of VitalStim or Neuromuscular stimulation as a treatment for dysphagia including acute stroke patients. | 75% | 1.88 |
| Research to measure the Health Related Quality of Life outcomes of people with speech, language and communication difficulties. | 100% | 1.38 |

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| An investigation into the outcomes of utilising support workers e.g. parents, teachers etc in speech and language therapy treatments. | 87.5% | 1.69 |
| Research to assess speech and language therapy outcomes in the management of:- Dysphonia, Dysphasia, Dysarthria, Dyspraxia, Stammering | 81.3% | 1.75 |
| Research designed to demonstrate the impact of therapy on communication outcomes. | 81.3% | 1.56 |
| Research designed to demonstrate effective outcomes for a range of different models of therapy provision. | 75.1% | 1.81 |
| Investigation of outcome measures to include qualitative as well as quantitative outcomes. | 81.3% | 1.87 |
| Working with parents – how important is their involvement in therapy and what level of involvement is most effective for progress in therapy? | 87.6% | 1.69 |
| Effective engagement of teachers in addressing the needs of children with Speech, Language and Communication Needs in mainstream schools. | 87.5% | 1.75 |
| An exploration of meeting education/training needs of carers/family, including communication partners in the implementation of communication therapy within the patients' own environment. | 81.3% | 1.88 |
| Research to evaluate the impact of training on the service user. | 81.3% | 1.81 |
| Research to measure the effectiveness of awareness programmes on changing attitudes toward speech, language and communication difficulties. | 81.3% | 2.13 |
| An exploration of the range of variation within normal swallowing function. | 75.1% | 2.06 |
| Research to compare effectiveness/efficacy of training others versus direct therapy from a Speech and Language Therapist on a range of speech & language difficulties/client groups. | 87.5% | 1.63 |
| An exploration of the effective management of aspiration when Nil by Mouth is the prescribed status and the patient is aspirating on own saliva – implications for mouth care and oral hygiene. | 81.3% | 1.87 |

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| Research into the use of free water protocol in patients at risk of aspiration. | 81.3% | 2.06 |
| Research to develop specific therapy approaches which can be trialled for effectiveness/efficacy over more conventional therapy. | 81.3% | 1.88 |
| Research to compare effectiveness/efficacy of group therapy versus individual therapy for a range of specific disorders. | 81.3% | 1.81 |
| To investigate the influence of phoneme level phonological awareness work on the speech and language skills of children with specific language impairment and hearing impairment. | 81.3% | 2.06 |
| To research the long term effects of aphasia and benefits of continued support and access to therapy. | 81.3% | 1.94 |
| Research designed to identify evidence to support diagnostic, assessment and treatment interventions employed by Speech and Language Therapists. | 81.3% | 1.94 |
| Robust research studies to provide an evidence base for dysphagia interventions. | 75% | 2.19 |
| An exploration of hearing and health problems in adult learning disability. | 75% | 3.00 |
| An exploration of the involvement of service users in the structuring of speech and language services. | 75.1% | 2.81 |
| Research to evaluate the effectiveness of collaborative working within care settings, especially the education setting. | 75% | 2.06 |
| Research to measure the effectiveness of individual interventions compared with group intervention. | 81.3% | 2.06 |
| Research to evaluate direct treatment carried out by a speech and language therapist contrasted with indirect approaches to care delivery. | 75% | 2.06 |
| Is the government policy of assessing clients within nine weeks providing an effective service to service users? | 81.3% | 1.94 |
| To investigate how current speech and language therapy service provision meets the needs of clients/carers. | 81.3% | 1.88 |
| A study into effective phonological/articulation therapy for children with Down's Syndrome. | 81.3% | 2.67 |
| Research to identify prognostic indicators of long term difficulties | 81.3% | 2.19 |

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| with speech and language development e.g. in preschoolers with speech and language difficulties and children with cochlear implants/hearing aids. | | |
| An exploration of the efficacy of speech and language therapy with cochlear implantation including timing of intervention following the procedure. | 81.3% | 2.25 |
| An exploration of communication impairment in the classroom including best practice in training teachers and others supporting children with communication needs. | 81.3% | 2.13 |
| Research designed to explore best practice speech language and communication interventions with children, their parents and carers. | 75.1% | 2.19 |
| Would greater collaboration with education be more effective than withdrawing children to health centres for therapy? | 75.1% | 2.06 |
| Research to identify which approaches used to improve short-term memory are most effective in children with specific language impairment and hearing impairment. | 75% | 2.25 |

## Speech and Language Panel – Items that gained Consensus at Round 3

| Research Priority | % Consensus | Mean |
|---|---|---|
| Studies to elicit evidence for the identification of Speech and Language Therapy outcomes in rehabilitation following (adult) stroke and brain injury. | 79% | 1.86 |
| An exploration of the costs and benefits of speech and language therapies. | 86% | 1.93 |
| Research designed to standardise assessment for dysphagia. | 79% | 1.93 |
| Research to develop objective measures of auditory processing defects in children and adults. | 79% | 1.93 |
| Research into the means of advancing the potential for Speech and Language Therapists to develop their qualitative and quantitative research base and publication profile. | 86% | 2.00 |
| Research into prevention and health promotion in relation to communication disorders. | 79% | 2.00 |
| An evaluation of the impact of dysphagia awareness training on patient care and referral patterns to Speech and Language Therapists. | 79% | 2.00 |
| An evaluation of the use of the care aims model in Speech and Language Therapy. | 79% | 2.00 |
| Evaluation of the role of the community Speech and Language Therapy in diagnosing Autistic Spectrum Disorder. | 86% | 2.07 |
| Research into the efficacy of transdisciplinary approaches. | 86% | 2.07 |
| A study designed to identify associations between phonological awareness skills and spoken language skills in a range of client groups with delayed speech and language development. | 79% | 2.07 |
| An exploration of the factors associated with clients not engaging with speech and language services offered. | 71% | 2.07 |
| An evaluation of the impact of funded projects e.g. Sure Start, on the delivery of care services. | 71% | 2.07 |

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| Investigation of the heterogeneous nature of speech sound difficulties – what levels of psycholinguistic breakdown map to different speech sound profiles in disorder? | 79% | 2.14 |
| Longitudinal study to determine the long term needs of language impaired clients following stroke. | 79% | 2.14 |
| An evaluation of the impact of 'patient choice' on the effectiveness of augmentative and alternative communication interventions. | 86% | 2.21 |
| An investigation of assessment criteria for measuring improvement in stammering. | 79% | 2.21 |
| Research into the benefits of educational placements for people diagnosed with Specific Language Impairment or Autistic Spectrum Disorder. | 79% | 2.21 |
| To investigate the extent of the impact of chronic aphasia on relationships and social circles. | 79% | 2.21 |
| An exploration of the impact of voice output communication aids in speech and language therapy intervention. | 72% | 2.21 |
| Research designed to identify and audit outcome measures for dysphagia. | 71% | 2.21 |
| An investigation into the potential transferability of the outcomes of working with auditory comprehension for the development of verbal speech. | 71% | 2.21 |
| An exploration of the role of Speech and Language Therapy in palliative care in community settings | 79% | 2.29 |
| What is the most effective regional model for delivery of augmentative and alternative communication assessment? | 71% | 2.29 |
| An exploration of the impact of role of Speech and Language Therapy in day care for physically disabled. | 71% | 2.36 |

**Speech and Language Panel – Items that did not gain consensus after three Rounds**

| Research Priority | Consensus Level |
|---|---|
| Evaluation of the impact of Speech and Language Therapy in community brain injury services | 69% |
| An exploration of current models of care for children in special schools designed to identify components of service which produce the most effective outcomes. | 69% |
| To research how to best involve service users in the education of other service users. | 68% |
| To research the effectiveness of working on Phonological awareness with children presenting with speech and language difficulties and the impact on their literacy development. | 68% |
| An evaluation of the benefits of working on oral skills i.e. lip and tongue movements in children with phonological delays. | 68% |
| An evaluation of the incidence of nonfluency in preschool and P1 populations including incidence beyond P1 stage. | 68% |
| An exploration of the participation of service users e.g. stroke patients. | 64% |
| To investigate the use/effectiveness of transcranial magnetic stimulation as a treatment for dysphagia. | 64% |
| Investigation into the speech and language difficulties encountered by young offenders and people suffering mental health problems. | 64% |
| An exploration of models of management of dysphagia in community settings. | 64% |
| To research standards for converting information into easy format for all with language difficulties. | 64% |
| An exploration of the effectiveness of inter-professional working in maximising rehabilitation outcomes. | 63% |
| Exploration of the role of Speech and Language Therapy in the criminal justice system including the importance of communication for offenders. | 57% |
| To investigate the effectiveness of electrical stimulation for facial stimulation for facial weakness. | 57% |
| Do sources of referral have sufficient training to allow for appropriate referrals to speech and language services? | 56% |

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| To research the efficacy of computer based therapy programmes and validity of the use of new technology for communication including Email and mobile phones. | 56% |
| Research into differential diagnosis of auditory processing disorders with deaf children. | 56% |
| A survey of collaborative working between Speech and Language Therapists and teachers of the deaf across Health and Social Services Trusts in Northern Ireland. | 50% |
| An investigation into the benefits of using signed input to young, deaf children. | 50% |
| Exploration of factors which influence voice output communication aids being abandoned. | 50% |
| Evaluation of the clinical effectiveness of the Listening Programme | 50% |
| To research the link between speech / language services and dyslexia and follow up on management approaches. | 44% |
| Research into neonatal hearing screening. | 38% |
| An exploration of service user perceptions of the communication or swallowing service provided by Speech and Language Therapy. | 36% |
| Investigation into why some individuals who fail to respond fully to Speech and Language Therapy input following cleft surgery, still attend for speech and language therapy into adulthood. | 35% |
| Exploration of the role of the Speech and Language Therapist supporting voice output communication aids in the classroom setting. | 31% |
| An exploration of types of presentation and social communication problems in brain injured clients. | 29% |
| An exploration of the role of the Speech and Language Therapist in Attention Deficit Hyperactivity Disorder. | 29% |
| An exploration of Speech and Language Therapists' judgements of severity of presenting disorders. | 29% |
| An evaluation of the effectiveness of voice output communication aids in the Speech and Language Therapy management of children with Autistic Spectrum Disorder. | 25% |
| An exploration of the incidence of laryngopharyngeal reflux in the Ear Nose and Throat/voice caseload and recommended treatment techniques. | 21% |
| Is cleft type in correlation with severity of resonance/speech difficulty? | 21% |
| An evaluation of the role of the Speech and Language Therapist in administering hearing tests. | 21% |

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| What models can capture the costs and benefits of voice output communication aids in speech and language therapy intervention? | 14% |
| Research into residual meaning difficulties that are not resolved despite therapy and good underlying ability. | 14% |
| Exploration of the incidence of vocal nodules and other laryngeal lesions in school aged children and response to various treatments. | 7% |
| An exploration of the major risk factors for adult females developing Ear Nose and Throat/voice related difficulties | 7% |
| Research to identify the general public's perceptions of cleft palate, both visually and from a communication point of view. | 7% |

# Appendix 9: Full Results for Podiatry

## Podiatry Panel – Round Two Items that did reach consensus

| Research Priority | % Consensus | Mean |
|---|---|---|
| An evaluation of the effectiveness of sharp debridement in wound care, with regard to different types of foot ulcers. | 73.6% | 1.95 |
| An evaluation of the effectiveness of podiatry vascular assessment in predicting wound healing outcomes. | 84.2% | 1.79 |
| An evaluation of the effect of the duration of prescribed antibiotic treatment on wound healing. | 84.2% | 1.95 |
| A comparative analysis of podiatric wound care regimes and their effectiveness. | 84.2% | 1.74 |
| An exploration of the effectiveness of diabetes foot screening. | 79% | 2.05 |
| A study of the application of biomechanical interventions and the effectiveness of orthotics in the prevention of deformity/foot pathology including issues of patient compliance. | 73.6% | 2.00 |
| An evaluation of the effectiveness of different offloading techniques in the management of diabetic foot ulcers. | 89.5% | 1.79 |
| Research into the modalities for healing high risk feet/wounds. | 84.2% | 1.84 |
| An assessment of the benefits of podiatry interventions in the management of tissue viability. | 73.7% | 2.11 |
| An exploration of the effectiveness of NHS supplied orthopaedic footwear in preventing recurrence of ulceration. | 84.2% | 1.89 |
| Research into the effectiveness of footwear for the high risk/at risk foot. | 89.4% | 1.84 |
| A study designed to assess current patient education strategies and investigate effective means of educating and empowering patients with regard to the management of diabetes and other disease | 73.7% | 2.16 |

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| An exploration of the effectiveness of podiatry interventions in reducing amputation rates. | 89.5% | 1.63 |
| Does a podiatrist in a renal unit reduce to rate of amputations? | 79% | 1.79 |
| An exploration of the current assessment and diagnostic techniques used in the high risk foot. | 73.7% | 1.95 |
| An evaluation of postgraduate training in podiatry - does it make a difference in clinical practice. | 84.3% | 2.05 |
| An exploration of the training needs of Allied Health Professionals to support their role as educators. | 73.7% | 2.32 |
| Research designed to improve podiatry skills including the value of refresher courses. | 77.9% | 2.79 |
| Research into the use and efficacy of physical therapies to manage chronic painful foot conditions e.g. Low level laser therapy, ultrasound. | 73.7% | 2.21 |
| Diabetes in Northern Ireland – research into the need for increased podiatry intervention of the diabetic foot. | 73.7% | 2.16 |
| Research into the management of Charcot foot. | 78.9% | 1.95 |
| Research to demonstrate the value of biomechanic and orthotic interventions in podiatric diagnosis, treatment and management. | 78.9% | 1.84 |
| An exploration of the effective diagnosis of peripheral arterial disease including the use of Doppler results. | 73.7% | 2.16 |
| Research into peripheral vascular disease and the incidence of lower limb amputation/complications. | 78.9% | 2.05 |

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| An investigation of the role of bespoke footwear in the reduction of foot ulcers. | 88.9% | 1.89 |
| Research into the management of rheumatoid foot including ulcer prevention. | 84.2% | 1.89 |

**Podiatry Panel – Items that gained consensus at Round 3**

| Research Priority | % Consensus | Mean |
|---|---|---|
| An exploration of the competencies and skills required for specialist practice. | 93% | 1.80 |
| An assessment of the benefits of podiatry interventions in the management of tissue viability. | 93% | 1.93 |
| An evaluation of the effectiveness of dressings used in treating foot ulceration. | 87% | 1.93 |
| An exploration of the correlation between swab results and the use of antibiotics. | 93% | 2.00 |
| An assessment of the efficacy of topical negative pressure in wound healing compared to conventional therapy. | 87% | 2.00 |
| An exploration of regional differences in podiatric wound care management in Northern Ireland. | 80% | 2.00 |
| Does early intervention in children's foot problems prevent/alleviate problems in later life? | 80% | 2.00 |
| Research into the relationship between renal disease and the diabetic foot. | 73% | 2.00 |
| An evaluation of the long term tissue effects of topical iodine and silver antiseptics. | 73% | 2.13 |
| An exploration of the cost effectiveness of orthotics. | 73% | 2.13 |
| An exploration of patient compliance in relation to treatment of foot wounds. | 80% | 2.20 |
| A survey of attitudes and expectations of the public and other healthcare professionals to the role and function of podiatry. | 80% | 2.20 |
| An assessment of the effectiveness of current health promotion strategies including the management of diabetes and foot health. | 73% | 2.20 |

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| An exploration of the healing rates for ulceration of the diabetic foot. | 73% | 2.20 |
| Identification of the risk factors for patients with foot pathologies | 73% | 2.27 |
| An exploration of the role of podiatry in multidisciplinary and interdisciplinary working, including its contribution to health promotion. | 73% | 2.27 |
| Survey of the number of patients who receive an annual diabetic assessment and to assess the effectiveness of diabetic foot screening and education in reducing lower limb amputation. | 80% | 2.33 |
| Assessment of patient outcomes following nail surgery procedures including regrowth rates. | 73% | 2.33 |
| An investigation into new podiatry therapies and how to improve on current available therapies. | 73% | 2.33 |
| An exploration of methods of effective clinical assessment of vascular and neurological disease of the lower limb. | 73% | 2.40 |

## Podiatry Panel – Items that did not reach consensus after three rounds

| Research Priority | % Consensus |
|---|---|
| An evaluation of the use of motivational interviewing techniques or peer education in wound healing / patient concordance. | 68% |
| An exploration of the role of Podiatry assistants and how the role can be developed? | 67% |
| A study of the correlation between social deprivation and economic status and the incidence of foot ulceration and lower limb amputation. | 67% |
| A research study designed to assess and evaluate the evidence to support the effectiveness of dressing in podiatric wound management. | 67% |
| An exploration of the quality of life of patients with diabetic foot/hand/amputations. | 67% |
| Research into the potential development and role extension of podiatry practice in Northern Ireland to include independent prescribing, podiatric surgery and sports. | 67% |
| Evidence to support podiatric interventions for lower back problems. | 67% |
| A comparative study of podiatry courses offered in Northern Ireland with preparation programmes offered in other parts of the United Kingdom. | 67% |
| Research into the incidence of pain and injury among podiatrists including back/neck pain and repetitive strain injury. | 60% |
| A study of the impact of Continuous Professional Development on practitioners and patients. | 60% |
| Research into the role of podiatry following orthopaedic interventions. | 60% |
| An assessment of care pathways and risk registers to facilitate the provision of effective podiatry services. | 60% |
| An assessment of current compliance with infection control procedures. | 60% |

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| A survey of the number of patients who are referred back to podiatry services having been discharged from NHS caseload. | 60% |
| An evaluation of the effectiveness of maggot debridement therapy. | 60% |
| A comparative study of lifestyle changes alone with lifestyle changes and drug therapy intervention in the treatment of intermittent claudication. | 60% |
| Research into cardiovascular risk factors including smoking and the incidence of diabetes mellitus and its complications leading to lower limb amputation. | 60% |
| Research into validation of a risk assessment tool to improve patient assessment. | 53% |
| A comparative study of the different treatment interventions for neuro-vascular corns. | 53% |
| Assessment of the cost effectiveness of podiatry nail surgery compared with GP surgery and hospital based surgical intervention. | 50% |
| An evaluation of current clinical practice for manipulation within the role of biomechanics and exploration of how to standardise its use. | 48% |
| An evaluation of the benefits of podiatric surgery versus orthopaedic surgery. | 47% |
| An exploration of the knowledge and skills required to deal with problematic patients. | 47% |
| An assessment of the purpose and use of podiatric treatment in patients with learning disabilities. | 47% |
| Evaluation of the different types of limb revascularisation techniques | 47% |
| A study of the correlation between the incidence of falls and the effectiveness of health promotion on foot health and on falls prevention. | 40% |
| Are patients with Type 2 diabetes more prone to foot complications than patients with Type 1 diabetes? | 40% |
| Research to examine the changes in the timing and strength of lower | 33% |

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| limb muscle contraction with/without orthoses? | |
| Research to validate the use of acupuncture and reflexology by podiatrists. | 33% |
| An investigation into the approaches available for the treatment and management of verruca pedis. | 33% |
| An exploration of patients' perceptions of the management of their pain. | 27% |
| Patient/user surveys to identify patient and user perceptions of the provision and quality of podiatry services across. | 27% |
| Research to examine neurological proprioceptive feedback as a mechanism of foot orthoses function. | 27% |
| An assessment of the cost to service provision of patient non-attendance at podiatry clinics. | 27% |
| Patient satisfaction survey of biomechanical triage. | 27% |
| An exploration of skill mix for the effective provision of social foot care. | 27% |
| An investigation into the need for service developments into specific areas of clinical practice across programmes of care. | 20% |
| A qualitative study designed to identify measurable outcomes for all the therapy professions following common clinical interventions. | 20% |
| Research including analysis of audit and governance data into the quality and effectiveness of podiatry services to identify strengths and weaknesses | 20% |
| An evaluation of the benefits of podopaediatric input to child health including foot screening for young children. | 20% |
| An evaluation of the effectiveness of quality footwear education in schools. | 20% |
| An exploration of care pathways/service delivery to high risk populations' e.g. transient communities. | 20% |
| A comparative assessment of patient perceptions of the quality of | 13% |

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| podiatry services in the public and private sectors. | |
| An exploration of the effectiveness of laser treatment of onychomycosis. | 13% |
| Research into the effectiveness of sterilisation techniques and CSSD services. | 13% |
| An evaluation of the effectiveness of the use of phenol compared with electro surgery in the management of ingrown toenails. | 13% |
| Research into the establishment of outcomes for the practise of homeopathy in podiatry. | 13% |
| Should podiatrists perform basic nail cuts? | 13% |
| Does nail surgery increase the risk of developing onychomycosis? | 7% |
| Research to elucidate the mechanics of the lower limb and foot in gait from an evolutionary perspective. | 7% |
| A survey of podiatrists to identify the level of awareness of marketing strategies in a changing health care climate. | 0% |

# Appendix 10: Full Results for Orthoptics Panel

**Orthoptics Panel - Round 2 Items that gained consensus**

| Research Priority | % Consensus | Mean |
|---|---|---|
| An evaluation of current interventions to facilitate the development of an evidence base for orthoptic clinical practice. | 91.7% | 1.42 |
| Research to improve approaches to clinical investigation of e.g. vision assessment / amblyopia / efficacy of vision screening. | 83.4% | 2.33 |
| An exploration designed to address evidence based gaps in clinical therapeutics e.g. amblyopia therapy / nystagmus therapy / timing of surgical intervention. | 91.7% | 1.42 |
| Research to improve clinical tests used in orthoptics leading to more accurate testing e.g. Snellen Logmar. | 100% | 1.67 |
| An exploration of the role of the Orthoptist in the management of stroke/brain injury rehabilitation. | 100% | 1.08 |
| A comparative study contrasting the effectiveness of early surgery on a ‘recent’ onset squint depending on history from parents, with delayed intervention until binocular functions can be improved? | 75% | 2.17 |
| What is the best type of surgery for true convergence excess squints? | 75% | 2.00 |
| An exploration of the most effective way to use atropine in amblyopia therapy. | 91.7% | 1.42 |
| Identification of the incidence and type of orthoptic defect among stroke survivors. | 100% | 1.42 |
| An evaluation of the cost effectiveness of treatments and specialist orthoptic services. | 88.6% | 1.64 |

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| Epidemiological study to elicit information on the prevalence and incidence of orthoptic and related conditions. | 75% | 2.09 |
| An assessment of the role of the Orthoptist in special needs vision screening. | 100% | 1.67 |
| An exploration of new ways of working designed to consider the relevance of concepts of multidisciplinary approaches, shared care and extended roles for Orthoptists. | 91.7% | 1.67 |
| Research to improve information for parents/users. | 75% | 2.08 |
| An exploration of factors influencing recruitment into orthoptics. | 83.3% | 1.83 |

**Orthoptics Panel - Round 3 Items that gained consensus**

| **Research Priority** | **% Consensus** | **Mean** |
|---|---|---|
| Experimental research to investigate orthoptic approaches to investigation, | 88% | 2.38 |
| Research into possible geographical and genetic links in the incidence of eye disease e.g. squint. | 75% | 2.00 |
| An evaluation of the impact of supervision on day to day working practices. | 75% | 2.13 |

**Orthoptics Panel – Items that did not gain consensus after three rounds**

| **Research Priority** | **% Consensus** |
|---|---|
| Research into management and mechanisms and to develop theory. | 63% |

# Appendix 11: Full Results for Key Stakeholders Panel

### Key Stakeholders Panel – Round 2 Items that gained consensus

| Research Priority | % Consensus | Mean |
|---|---|---|
| Research into the expanded role of Allied Health Professionals i.e. tasks previously undertaken by other professional staff and whether this leads to improved outcomes, efficiency etc | 83.2% | 1.83 |
| Exploration of the effectiveness of interventions in the treatment of specific conditions such as obesity and diabetes. | 100% | 1.42 |
| What involvement by Allied Health Professionals is most productive and cost effective and makes best use of their scarce and valuable time? | 91.7% | 1.58 |
| Research to identify and explore the experience of patients/clients to various treatments. | 75% | 1.67 |
| Research to measure the outcomes of Allied Health Professional interventions in terms of quality of life with various treatments/interventions. | 91.7% | 1.50 |
| An exploration of areas of clinical excellence in therapies and implementing these locally. | 91.6% | 1.92 |
| Research to evaluate interventions and define evidence based interventions and care. | 91.7% | 1.83 |
| An exploration of new and innovative therapeutic interventions including technological advances and approaches to treatment and care compared with established methods. | 83.3% | 1.83 |
| Exploration of strategies for improving joint working between primary and secondary care. | 75% | 2.00 |
| Research designed to investigate aims and models of care, including care pathways and effective audit. | 75% | 1.92 |
| An exploration of the role of assistive technologies and | 75% | 2.17 |

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| adaptations, their funding, cost effectiveness and their contribution to treatment and care including hospital discharge and safety in the home. | | |
| An investigation into the impact on level and quality of care which results from meeting waiting time targets. | 75% | 1.83 |
| Is there scope to enhance workforce productivity through greater skill-mix? | 75% | 2.00 |
| Research designed to evaluate if the full potential of Allied Health Professional service within programmes of care is being realised. | 75% | 2.00 |

**Key Stakeholders Panel – Items that gained consensus at Round 3**

| **Research Priority** | **% Consensus** | **Mean** |
|---|---|---|
| Comparative study of the funding allocated for medical and nursing research with that allocated to the Allied Health Professions. | 100% | 1.50 |
| Is further research needed into the range of services needed to support the elderly? | 100% | 1.70 |
| Research designed to inform improvement of multi-professional care pathways including maximising the contribution of Allied Health Professionals. | 90% | 1.70 |
| Research to identify user perceptions of Allied Health Professionals and user participation in service development, including delivery of care to the chronically ill. | 90% | 1.80 |
| Research concerned with developing a process to tackle local health inequalities. | 80% | 1.80 |

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| A study designed to explore factors that influence the image/standing of Allied Health Professionals in the community and with peers. | 90% | 1.90 |
| How do therapists assess health literacy and how does health literacy impact on the effectiveness of interventions? | 90% | 1.90 |
| To research the effectiveness of a generic assistant compared to a profession specific assistant? | 90% | 1.90 |
| Research into the cost effectiveness of research studies of therapy interventions. | 80% | 1.90 |
| Is there scope to enhance workforce productivity through greater skill-mix? | 80% | 1.90 |
| An exploration of the role of the Allied Health Professional therapist in the management of mental health. | 70% | 1.90 |
| Exploration of an integrated approach to tackling obesity. | 70% | 2.00 |
| Is there scope to develop regional specialist teams for Mental Health and Learning Disability clients? | 70% | 2.00 |
| Is there need for regional provision of disease-specialist therapy teams? | 70% | 2.10 |
| An evaluation of the Condition Management Programme in relation to outcomes. | 70% | 2.20 |
| Research into equality of access to services including the barriers users identify in relation to accessing services. | 70% | 2.20 |

**Key Stakeholders Panel – Items that did not reach consensus after three rounds**

| **Research Priority** | **% Consensus** |
|---|---|
| An exploration of the costs and benefits of investing in housing adaptation services including meeting the needs of older and disabled people. | 40% |
| An exploration of evidence of reflective practice tools in continual professional development. | 50% |
| Is there scope for further work with the young to help future disease prevention? | 56% |
| An evaluation of the knowledge base of therapy practitioners regarding organisational corporate objectives and their relevance to staff. | 60% |
| An evaluation of the effectiveness of equity release schemes for funding private sector adaptations. | 30% |
| An evaluation of the costs and user benefits of deploying prefabricated relocatable housing extensions | 30% |
| Research designed to explore the developing the role of the expert patient. | 20% |
| Is enough value placed on case review to inform future planning of care? | 20% |
| Evaluative research into the potential for the development of generic clinicians. | 30% |

# Appendix 12: Full Results for Service User Panel

### Statements that gained consensus after Round 2

| Research priority | Consensus Level | Mean |
|---|---|---|
| An investigation of how to reduce the time between referral and consultation. | 100% | 1.00 |
| Research into why the lead time is so long. | 100% | 1.14 |
| An investigation into the importance of early diagnosis/detection of any issues associated with allied health professional therapies | 100% | 1.29 |
| Research into causative factors associated with suicide, including warning signs and prevention strategies. | 86% | 1.29 |
| Research into the effectiveness and efficiency of an allied health professional triage service at the point of diagnosis and at the point of relapse. | 100% | 1.43 |
| Research into the effectiveness of cross functional therapy approaches as opposed to a single source of intervention. | 100% | 1.57 |
| Research into how to provide allied health professional support in rural areas | 86% | 1.57 |
| Research into mental illness in children. | 86% | 1.57 |
| A cost benefit analysis for early versus late intervention of allied health professional services. | 86% | 1.71 |
| Research into self-harm with regards to young people. | 86% | 1.71 |
| An exploration of causative factors associated with obsessive compulsive disorder including the role of trauma. | 86% | 1.71 |
| Is there adequate and appropriate information available for parents to enable them to support their child's progress when | 86% | 1.71 |

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| in receipt of allied health professional services? | | |
| Research into whether all information and viewpoints are shared with parents to enable them to make informed decisions about care for their child when subject to allied health professional services. | 86% | 1.71 |
| Research into the most effective use of time by allied health professionals in delivering services. | 71% | 1.71 |
| Research into the frequency of sessions with therapies professionals – are they insufficient? | 86% | 1.86 |
| An exploration of resource availability for allied health therapies and strategies designed to maximise the effective use of available resources. | 86% | 1.86 |
| Is quality and quantitative support provided to children and their parents during the provision of allied health professional service? | 86% | 1.86 |
| Research into location versus load factor for all allied health professionals | 71% | 1.86 |
| Research into mechanisms to deal with unresponsive clients – should sessions be ended and should there be a system of early return follow up appointments for such situations? | 83% | 2.00 |
| An exploration of how to make allied health professional service relevant in a modern health care environment. | 71% | 2.00 |
| Research into Cochlear implants and speech development. | 71% | 2.14 |
| An evaluation of quantity versus quality of allied health professional services across Northern Ireland. | 71% | 2.29 |

**Statements that gained consensus in Round 3**

| | | |
|---|---|---|
| Research into the efficiency of clinics – comparative analysis of availability versus best in class. | 80% | 2.40 |

**Statements that did not reach consensus after three rounds**

| | | |
|---|---|---|
| Research into stigma associated with allied health services and strategies to make them more user friendly. | 60% | 2.60 |