Allied Health Professions

The Workforce and the Services they provide

Comprehensive guide

March 2017

bucks new university
NHS
Health Education England

‘We know their (the Allied Health Professions) contribution often holds the key to unlocking inefficiencies in care pathways but this is not always optimised (1).’

The cost to the NHS of healing one foot ulcer is between £3k and £7.5k. Should this progress to amputation the cost is estimated to escalate to £65k. Podiatrists as part of ‘Foot Protection Teams’ working in community settings and leading multidisciplinary teams in secondary care, can potentially reduce the 7000 annual amputations in diabetes in the UK by 80% which equates to a saving of £364M. Also, preventative orthoses have been shown to save the NHS £4 for every £1 spent (2).

Funded by Health Education England North West London and undertaken by the Allied Health Enterprise Development Centre, a joint venture between Allied Health Solutions and Buckinghamshire New University.

The authors would like to thank all those that contributed to the information in this guide.

Authors:

June Davis & Professor Mary Lovegrove OBE
Directors, Allied Health Enterprise Development Centre
www.alliedhealthsolutions.co.uk

CONTENTS

	Contributors	7
	Executive summary	8
1.0.	Introduction	14
2.0.	Description of the Allied Health Professions in the UK	17
2.1.	The number of AHPs in the UK, North West London and AHP pay grades	18
2.1.1.	The number of AHPs in the UK	18
2.1.2.	The number of AHPs in North West London	20
2.1.3.	The pay grades of AHPs	21
2.2.	AHP roles and the services they provide	21
2.2.1.	The role of each AHP	22
2.2.2.	The different sectors in which different AHPs work	26
2.2.3.	Clinically facing services provided by AHPs	27
2.2.4.	AHP clinical specialists, advanced practitioners, extended scope practitioners and consultant practitioners	31
2.2.5.	AHP groups with prescribing responsibilities	32
2.2.6.	Clinical specialities in which AHPs work	34
2.2.7.	Non-clinically facing services provided by AHPs	38
2.2.8.	Allied Health Support Workers working with AHPs	39
2.3.	The professional bodies that represent AHPs	41
2.4.	Education and training of AHPs	42
2.4.1.	Undergraduate and post graduate education and training of AHPs	42
2.4.2.	The funding of students on AHP courses in the future	46
2.4.3.	Approach taken by Health Education England	46
3.0.	The AHP contribution to Quality, Innovation, Productivity and Prevention	47
3.1.	The positive impact on QIPP of services provided by AHPs	48
3.2.	Examples of AHPs demonstrating QIPP	49
3.2.1.	Accident and Emergency	49
3.2.2.	AHP employment models in the acute sector	49
3.2.3.	Cancer services	50
3.2.4.	Falls management	50
3.2.5.	Impact of AHPs supporting adaptations, care packages and long term care provision	51
3.2.6.	Musculoskeletal services	51

3.2.7.	Nutritional support	51
3.2.8.	Paediatric services	52
3.2.9.	Primary care	52
3.2.10	Stroke Services	52
4.0.	AHP staffing levels and skill mix	53
4.1.	Factors used to inform AHP staffing levels	54
4.2.	Guidance and evidence available about staffing levels for AHPs	57
4.3.	Other guidance on staffing levels in allied health services	61
4.3.1.	Acute therapy benchmarking project	61
4.3.2.	Diagnostic imaging benchmarking project	63
4.3.3.	National Cancer Action Team	63
4.3.4.	Stroke	64
4.3.5.	Acquired brain injury	65
4.3.6.	Specialist neurology	65
4.3.7.	Critical care staffing guidance	65
4.3.8.	NICE Guidance	67
4.3.9.	Services for older people with urgent and emergency care needs	67
5.0.	Data and information available in the services provided by AHPs	70
5.1.	The types of data and information available to help define the work AHPs do	71
5.2.	How AHPs measure outcomes	76
5.3.	How AHPs measure clinical effectiveness	76
6.0.	Workforce planning in allied health services	78
7.0.	Commissioning of AHP services	84
7.1.	Clinical commissioning group commissioned services	85
7.2.	Specialised commissioning	87
7.3.	Local authority commissioning	89
7.4.	Co-commissioning	89

8.0.	Accessing services provided by AHPs	90
8.1.	Referring patients to services provided by art therapists, dietitians, dramatherapists, music therapists, occupational therapists, orthoptists, physiotherapists, podiatrists, prosthetists and orthotists and speech and language therapists?	91
8.2.	Referring patients to services provided by diagnostic radiographers and therapeutic radiographers	92
8.3.	Referring patients to services provided by paramedics	93
8.4.	Methods used to refer patients to allied health services	94
8.5.	Settings where patients can see the different AHPs	94
8.6.	The length of time, on average, AHPs spend with a patient	96
	Abbreviations	102
	References	104

Index of tables

1	Total AHP WTE across NWL and total WTE allied health support workers across NWL	20
2	A description of the role of each AHP	22
3	The sectors in which AHP staff work	26
4	Minimum threshold entry route to the HCPC register for Allied Health professionals	43
5	Education providers that support the AHP workforce for HEE NWL	44
6	Summary of the published staffing ratios for dietitians, occupational therapists, physiotherapists, podiatrists and speech and language therapists	55
7	Current evidence and information available for AHP staffing levels	58
8	Key findings from the acute therapy benchmarking work	62
9	Recommended staffing levels for stroke	64
10	Critical care staffing guidance for AHPs	66
11	The types of data collected in allied health services	72
12	The six steps of workforce planning for allied health services	80
13	CCG commissioned services and AHPs involved in supporting delivery of these services	86
14	Specialised commissioned services and AHPs involved in supporting delivery of these services	88
15	Where patients can be seen by the different allied health professions	95
16	Examples of the length of time patients are seen in an appointment with different AHPs and the lengths of time for episodes of care	96

Index to figures

1	Adult clinical specialities in which AHPs work	34
2	Paediatric clinical specialities in which AHPs work	36
3	Examples of the clinical areas in which allied health support workers work	40
4	The logos of the 12 AHP professional bodies	41

CONTRIBUTORS

Charlotte Allanby, Therapy Executive lead, Imperial College Healthcare NHS Trust
Helen Armstrong, Head Orthoptist, Royal Free Hospital NHS Foundation Trust
Valerie Asemah, Professional Officer, Society of Radiographers
Ian Bullamore, Practice learning manager, London Ambulance Service NHS Trust
Lee Curtis, Senior Lecturer, Buckinghamshire New University
Diane Eagles, Head of Arts Therapy for Older Adults, Central and North West London NHS Foundation Trust
Richard Evans, OBE, Chief Executive Officer, Society of Radiographers
Dr Joanne Fillingham, Clinical Director, Allied Health Professions (AHPs) and Deputy Chief Allied Health Professions Officer
Dr Wilfred Foxe, Director of Education & Development, Education Team, The College of Podiatry
Spencer Goodman, Professional Officer, Society of Radiographers
Dr Sally Gosling, Chartered Society of Physiotherapy, Practice & Development – Assistant Director
Dr Val Huet, Chief Executive Officer, British Association of Art Therapists
Dr Kathryn Jones, Dean of Healthcare Education, Health Education England North West London
Sue Kellie, Deputy Chief Executive Officer, British Dietetic Association
Andy Knapton, Director, Strategic Modelling, Analysis and Planning Limited
Richard Leigh, Head of Podiatry, Royal Free Hospital NHS Foundation Trust
Maria Luscombe, Associate Director. Paediatric speech and language therapy North West London Hospitals NHS Trust and Community services in Harrow and Brent
Sally Miller, Professional Lead for Physiotherapy, Central London Community Healthcare NHS Trust
Suzanne Rastrick, Chief Allied Health Professions Officer, NHS England
Julia Skelton, Director of Professional Operations, Royal College of Occupational Therapists
Andy Sharman, AHP Clinical Fellow, Health Education England
Seema Trivedi, Health Education England North West London
Gordon Turner, Assistant Director, Quality Improvement & Clinical Assurance, Ealing CCG
Grace Watts, British Association for Music Therapy, Public Relations Officer
Jackie Wilkinson, Darzi Clinical Fellow, Health Education England – working across North West London

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This comprehensive guide about the Allied Health Professional workforce, and the services they provide, has been produced as a reference document, primarily for trust board members in North West London (NWL). However, the authors believe that it has wider application for others working in service provider and clinical commissioning organisations both in and outwith NWL.

The development of this guide formed part of a wider workforce project funded by Health Education England North West London which commenced in March 2014. This guide includes information on the AHP workforce up until the end of March 2017. It is acknowledged that the health and care landscape is constantly changing. Since the completion of the work two additional professions, operating department practitioners and osteopaths, joined the allied health professions on 1st April 2017. Information about these two professions is not included in this guide.

The Allied Health Professional groups are:

- Arts therapists (Art, Drama, Music)
- Chiropodists/podiatrists
- Dietitians
- Occupational therapists
- Orthoptists
- Paramedics
- Physiotherapists
- Prosthetists and Orthotists
- Radiographers (Diagnostic and Therapeutic)
- Speech and language therapists

All these groups are considered in this guide.

Allied Health Professionals (AHPs) constitute the third largest healthcare workforce and are uniquely positioned to help organisations deliver the vision of the Five Year Forward View (3).

In January 2017 NHS England published Allied Health Professionals into Action (118) which describes:

- The impact of the effective and efficient use of AHPs for people and populations
- A commitment to the way services provided by AHPs are delivered
- The priorities to meet the challenges of changing care needs.

This document illustrates the breadth and diversity of the different AHPs; the functions they undertake; the positive impact they have in the health and social care system, in a variety of settings, and their significant contribution to patient care. AHPs work across a vast array of patient pathways interacting with patients

at many different stages, in different sectors and settings. AHPs are very well positioned to identify the gaps in current service provision, support integrated care and provide a bridge between secondary and primary services, between acute and community and between health and social care (4). There is also good evidence of the AHPs' contribution to the provision of QIPP (quality, innovation, productivity and prevention).

An overview of current evidence and guidelines relating to AHP staffing levels is provided and a methodical approach is set out for workforce planning for AHPs that can be tailored to individual settings and needs.

This reference document is presented in seven sections as summarised below:

Description of the Allied Health Professions in the UK

AHPs are regulated by the Health and Care Professions Council (HCPC) with 191,572 registered in the UK as at March 2017. There are twelve professional bodies to represent the AHP disciplines. Nationally there were 64,377 whole-time equivalent (WTE) AHPs working in the NHS (5) in 2013 with 3886.3 WTE working in NWL (3415 WTE AHPs and 471.3 WTE allied health support workers)[a]

a) Health Education England North West London data extracted from electronic staff record (ESR) for the end of March 2017. Please note that as this data is from ESR it is reliant on Trust ESR records being up to date. These figures are for staff in post and should not include any vacancies

Across the AHPs the roles and functions of the different professional groups are diverse. AHPs work in a wide range of clinical specialities in both adult and children's services.

AHPs can:

- Provide one to one clinical care and support for individual patients and their families.
- Participate in multidisciplinary team working and group sessions for children and adults.
- Participate in and deliver education, training and mentoring.
- Provide specialist advice.
- Fulfil the role of 'key worker' ensuring continuity of support to patients.
- Promote public health and wellbeing.
- Undertake strategic planning and policy development for local organisations.
- Undertake service evaluations.
- Undertake scholarly activity and research.
- Plan and implement innovation and service improvement.

There are a number of different AHP roles including clinical specialists, advanced practitioners, extended scope practitioners and consultant practitioners. AHPs work across a range of adult and paediatric specialities both in NWL and nationally.

The pay grades of AHPs in the clinical services range from Agenda for Change Band 5 – Band 8D or the equivalent outside of the NHS.

The minimum entry qualification into the professions varies widely from a Certificate of Higher Education (academic level 4) for paramedics to a Master's degree for the arts therapists. For paramedics this will change to Level 6 education, as the minimum entry level for all new registrants, in line with the recommendations of the PEEP Report (6) which is being phased in from Sept 2016. Students across many of the allied health professions register to practice with a level postgraduate award.

All the remaining professions are at Honours Degree level (academic level 6).

AHP contribution to Quality, Innovation, Productivity and Prevention (QIPP)

AHPs have a key role in the delivery of quality care, innovation, productivity and prevention of ill health.

Examples of the positive impact AHPs have are described in section B of the full report for falls services, stroke services, diabetes care, nutritional support, musculoskeletal services, primary care, cancer services, paediatric services, long term care and urgent care.

AHP staffing levels

There is no single guidance or standard approach to inform staffing levels required in services provided by AHPs. Each allied health profession has profession specific information and guidance available to support staffing levels of a particular type of service.

AHP staffing levels are generally determined via a range of methods which include the use of demand and capacity data, data collected on patient and non- patient related activity, patient outcomes, patient complexity, patient acuity and patient need. In addition, guidance that is nationally available for specific clinical services and/or conditions is also used e.g. stroke services, critical care and cancer services.

The extent to which allied health services employ and deploy allied health support workers (AHSWs) varies according to the profession and clinical speciality. These roles can effectively support the regulated AHP workforce to deliver patient care.

Data and information available in allied health services

Quantitative and qualitative data are collected in allied health services to help measure activity on a regular basis, including direct and indirect patient contacts and other activities related to the delivery of patient care. AHPs use a wide variety of measures to capture the impact of their interventions on patient clinical outcome, patient experience and the cost effectiveness of their service. They can also demonstrate their impact on the delivery of the outcomes set out in the national outcome frameworks (7, 8, 9, 10).

AHPs, in particular dietitians, occupational therapists, physiotherapists, podiatrists and speech and language therapists are engaged in measuring the clinical effectiveness of their interventions. Two examples include the contribution of interventions provided to stroke services and to intermediate care (11,12).

Workforce planning in allied health services

In this context workforce planning refers to reviewing existing and future AHP staff resources in line with changing models of care and patient needs, and considers future workforce demand and supply.

A six step plan for workforce planning for allied health services is proposed in the guide. This approach is systematic, practical and can be applied in small, medium or large allied health services.

Commissioning services delivered by AHPs

The majority of allied health services are commissioned by clinical commissioning groups (CCGs) at a local level, including the following:

- Children's healthcare and education
- Community health
- Elective hospital care
- Maternity and newborn
- Mental health and learning disabilities
- Occupational health/fit for work initiatives
- Primary care and GP practices
- Rehabilitation
- Public health
- Urgent and emergency care

Some allied health services are commissioned by:

- NHS England as part of specialised commissioning. These include services for internal medicine, cancer, mental health, trauma, women and children's and blood and infection disorders.
- Local authorities such as public health, and some by education authorities for allied health services to nurseries, schools and academies.
- NHS England in partnership with CCGs, particularly where allied health services are provided in primary care.

Accessing services provided by AHPs

Patients can access allied health services in a number of different ways including referral by their GP, a medical consultant or other healthcare professionals. In some cases patients can self-refer to services provided by AHPs. In addition teaching staff and early years' professionals can refer children to AHPs dedicated to working with paediatric patients.

Depending on which AHP they are being referred to, patients may be seen in hospital, minor injuries units, community settings, primary care, occupational health departments, leisure centres, gyms, their own home, care home/residential home, nurseries, schools and colleges.

The length of time of an AHP intervention, or of an overall episode of care, will vary depending on the professional the patient is seeing and their clinical need. For example a diagnostic radiographer could see a patient for an intervention which could last between 6 minutes e.g. for a breast imaging appointment and 1 hour or longer for a procedure such as a complex MRI (magnetic resonance imaging) scan. Alternatively a patient could see an occupational therapist (OT) in their own home for up to one and a half hours and they could see an OT several times over a period of weeks or months.

Summary

It is hoped that this guide will inform those delivering healthcare services, commissioning services provided by AHPs and those responsible for workforce planning about the wide breadth of allied health professions and the diversity of services they provide. The information in this guide can be used at a national, regional and local level to help advise on the development of allied health services and how they can contribute to supporting different and new models of care.

1.0 / INTRODUCTION

1.0 / INTRODUCTION

This guide provides detailed information about Allied Health Professionals (AHPs)[a] and the services they provide.

The development of this guide formed part of a wider workforce project funded by Health Education England North West London which commenced in March 2014. This guide includes information on the AHP workforce up until the end of March 2017. It is acknowledged that the health and care landscape is constantly changing. Since the completion of the work two additional professions, operating department practitioners and osteopaths, joined the allied health professions on 1st April 2017. Information about these two professions is not included in this guide.

The government is committed to implementing integrated care, increasing care in the community and providing seven day services. Furthermore, Sustainability and Transformation Plans (STPs) (13) that have been drawn up to deliver showing how local services will deliver NHS England's Five Year Forward View vision are being embedded (3).

a Art therapists, Dietitians, Diagnostic radiographers, Dramatherapists, Music therapists, Occupational therapists, Orthoptists, Paramedics, Physiotherapists, Podiatrists, Prosthetists and Orthotists, Speech and language therapists and Therapeutic radiographers.

North West London (NWL) is one of 44 geographic footprints defined within the STP programme in England. The NWL STP continues the work of the Shaping a Healthier Future programme (14). The aim of the programme is to reshape hospital and out of hospital health and care services in NWL. Such changes in the delivery of healthcare services further highlight the need for improved planning for the AHP workforce.

In January 2017 NHS England published Allied Health Professionals into Action (118) which describes:

- The impact of the effective and efficient use of AHPs for people and populations
- A commitment to the way services provided by AHPs are delivered
- The priorities to meet the challenges of changing care needs.

There is likely to be more demand for allied health services in the future as a result of change in the age profile of the population. AHPs have the ability to offer solutions, and innovative ways of delivering services to patients across the population from prevention through to the management of acute and chronic long term conditions. This guide serves as an important tool to aid the AHP workforce planning process and to aid with business planning within allied health services.

The sections of the guide are:

2.0. Description of the Allied Health Professions in the UK
3.0. The AHP contribution to Quality, Innovation, Productivity and Prevention (QIPP)
4.0. AHP staffing levels and skill mix
5.0. Data and information available in allied health services
6.0. Workforce planning in allied health services
7.0. Commissioning AHP services
8.0. Accessing services provided by AHPs

This guide has been written primarily for leaders in HEE NWL (NHS and non-NHS): trust board members, trust service managers, trust workforce planners, primary and community care service managers and planners, clinical and education commissioners. However, this guide has wide application and UK relevance.

2.0 / DESCRIPTION OF ALLIED HEALTH PROFESSIONALS IN THE UK

2.0 / DESCRIPTION OF ALLIED HEALTH PROFESSIONALS IN THE UK

In the UK there are ten Allied Health Professional groups with protected titles that are regulated by the Health and Care professions Council (HCPC). Arts therapists include art, music and drama therapists which brings the total number of allied health professions to 12.

The ten regulated AHP professions in the UK are:

- Arts therapists (Art, Drama, Music)
- Chiropodists/podiatrists
- Dietitians
- Occupational therapists
- Orthoptists
- Paramedics
- Physiotherapists
- Prosthetists and Orthotists
- Radiographers (Diagnostic and Therapeutic)
- Speech and language therapists

In addition AHPs work with clinical allied health support workers (AHSWs) in their teams to support the delivery of care.

This section is set out as follows:

2.1. The number of AHPs in the UK, North West London and AHP pay grades
2.2. AHP roles and the services they provide
2.3. The professional bodies that represent the AHPs
2.4. The education and training of AHPs

2.1. The number of AHPs in the UK, North West London and AHP pay grades

2.1.1. The number of AHPs in the UK

According to the March 2017 Health and Care Professions Council (HCPC) data there are 191,572 AHPs regulated in the UK. This collective group represents the third largest workforce.

The recently published Carter review (1) highlighted the significant variation in the number of AHPs employed across acute trusts. It is thought that this is because of the variation in the way that different organisations deploy AHPs. There is a need to identify what good looks like, in this context, to ensure that a more consistent approach to the management and deployment of AHPs. The Carter review recommends that this approach should then be routinely adopted by all trusts that

employ them, recognising the diversity of roles and professions across the group. Work is currently underway to collect AHP workforce data from all acute trusts including the number of AHPs employed, information about the organisational structures of which they are a part and the practices which identify how their work is scheduled.

From 2002 to 2013, the total number of HCPC registered AHPs increased by 53 per cent and those working in the NHS increased by 34 percent (5). In 2013 there were 172,686 HCPC registered AHPs and 64,377 WTE AHPs employed in the NHS across the UK.

‘In 2013, on average, there were 1.2 AHPs working in the NHS for every 1,000 people; this compares with 2.6 for all doctors and 6.0 for nurses.(5)’

2.1.2. The number of AHPs in NWL

As at the end of March 2017[a] there were 3886.3 WTE AHPs working across NWL in the NHS (Table 1).

AHP profession	Sum of contracted Whole Time Equivalent (WTE)	Qualified contracted WTE Band 5 - Band 9	Allied Health Support Workers (AHSWs) contracted WTE Band 2-band 4
Arts therapists (art, music and dramatherapists)	48	48	
Diagnostic radiographers	740.8	645	95.8
Dietitians	284.5	262	22.5
Occupational therapists	820.2	671	149.2
Orthoptists	16	15	1
Physiotherapists	1142.2	994	148.2
Podiatrists	166.7	151	15.7
Speech and language therapists	508.9	464.6	45.4
Therapeutic radiographers	159	158	1
Total	**3886.3**	**3415**	**471.3**

a) Health Education England North West London data extracted from electronic staff record (ESR) for the end of March 2017. Please note that as this data is from ESR it is reliant on Trust ESR records being up to date. These figures are for staff in post and should not include any vacancies. Prosthetist and orthortists are not specifically identified in the table defined due to a lack of a specific ESR code.

Please note that these figures are only for AHPs working in NHS organisations, excluding paramedics as data for this AHP group is provided Pan-London and those working in local authorities, third sector, the independent and private sector.

Table 1 Total AHP WTE across NWL and total AHSWs

2.1.3. The pay grades of AHPs

AHPs working in NHS services in NWL are employed across Bands 5-8D.

The Carter review (1) has suggested reviewing **'skill-mix and competencies, examining the relationship between specialist and generalist AHP roles in terms of productivity and the contribution unregistered clinical support staff can make in optimising the role of AHPs'.**

Nationally and locally, in NWL, it is known that there is a shortage of middle grade therapy staff i.e. Band 6 staff, particularly in occupational therapy and physiotherapy. Support workers, employed at Band 2 - Band 4, are very often part of the AHP workforce. The majority of whom are employed at Band 3. These staff are most frequently employed as emergency ambulance crew/patient transport staff; imaging assistants, dietetic assistants or as therapy assistants.

2.2. AHP roles and the services they provide

- This section describes the:
- Role of members of each Allied Health Profession
- Sectors in which different AHPs work
- Clinically facing services provided by AHPs
- AHP clinical specialists, advanced practitioners, extended scope practitioners and consultant practitioners
- Allied Health Professions with prescribing responsibilities
- Clinical specialities in which AHPs work
- Non-clinical facing activities undertaken by AHPs
- Allied Health Support Workers working with AHPs

2.2.1. The role of each AHP

All AHPs are autonomous practitioners and the degree of autonomy varies within their scope of practice. A description of the role of each AHP is provided in table 2. The descriptions are taken from a combination of references and also contribution from representatives of the professional bodies.

AHP regulated profession	Description of the role of each AHP
Art therapist	Art therapists work with children, young people, adults and the elderly. They use the creative process of making art to improve a person's physical, mental, and emotional wellbeing. Clients may have a wide range of difficulties, disabilities or clinical problems. These include emotional, behavioural or mental health problems, learning or physical disabilities, life-limiting conditions, neurological conditions and physical illnesses (15).
Chiropodist/podiatrist	A podiatrist assesses, diagnoses and treats clinical conditions of the lower limb. They are qualified to treat people with conditions such as arthritis, diabetes, and those with sports injuries. Podiatrists have a vital role in the prevention and treatment of lower limb amputation associated with diabetes (16).They work with people of all ages but have a particularly important role in helping older people to stay mobile and, therefore, independent (17). There is no difference between a podiatrist and a chiropodist. Podiatrist is the more modern name for the profession.

Diagnostic radiographer	Diagnostic radiographers employ a range of different imaging techniques and uses sophisticated equipment to produce high quality images of an injury or disease. They perform the imaging procedures and may also report on them.. Radiographers use a range of imaging techniques including: Plain X-ray, Ultrasound, Fluoroscopy, Angiography, CT (computed tomography), MRI (magnetic resonance imaging), and Nuclear Medicine(18). Diagnostic radiographers image people of all ages and all backgrounds, and are involved in screening well people, to rule out conditions such as breast cancer, fetal abnormality and abdominal aortic aneurysm.
Dietitian	Dietitians are the only qualified healthcare professionals who assess, diagnose, and treat dietary and nutritional problems at an individual and wider public health level. They work with both healthy and sick people. Uniquely, dietitians use the most up-to-date public health and scientific research on food, health and disease, which they translate into practical guidance, to support people to make appropriate lifestyle and food choices (19).
Dramatherapist	Dramatherapists focus on the intentional use of the healing aspects of drama and theatre as the therapeutic process. They use methods of working and playing that apply action methods to facilitate creativity, imagination, learning, insight and growth (20).

Music therapist	Music therapists employ music and sound to help improve peoples' emotional wellbeing, relieve stress and improve confidence. They help people of all ages, whose lives have been affected by injury, illness or disability through supporting their psychological, emotional, cognitive, physical, communicative and social needs.
Occupational therapist	Occupational therapists work with adults and children of all ages who suffer from a wide range of clinical conditions: most commonly those who have difficulties due to a mental health illness, physical or learning disabilities. They provide practical support to enable people to facilitate recovery and overcome any barriers that prevent them from doing the activities (occupations) that matter to them. This helps to increase people's independence and satisfaction in all aspects of their life.
Orthoptist	Orthoptists are autonomous practitioners who investigate, diagnose and treat defects of binocular vision and abnormalities of eye movement. For example, they may deal with: • misalignment of the eyes (strabismus or squint) • double vision (diplopia) • reduced vision (amblyopia) • Orthoptists work with patients of all ages, for example: • assessing the vision of babies and small children including children with special needs, • treating adults with double vision associated with diabetes, thyroid disorders or multiple sclerosis, • ensuring speedy rehabilitation of patients who have suffered stroke or

	brain injuries, • diagnosing and monitoring long term eye conditions such as glaucoma, • assessing patients before and after surgery for cataracts (21). They are recognised as experts in childhood vision screening, and have a lead role in the primary screening of children aged four to five years.
Paramedic	Paramedics are autonomous practitioners who respond to 999 calls and are trained in all aspects of pre-hospital emergency care, ranging from acute problems such as cardiac arrest, strokes, spinal injuries and major trauma, to urgent problems such as minor illness and injury. In recent years, the paramedic profession has evolved from a provider of treatment and transportation to a provider of mobile 'urgent' healthcare. This has required a greater focus on assessment, diagnosis, decision-making, treatment and where appropriate, onward referrals in line with changing patient profiles.
Physiotherapist	Physiotherapists help people affected by injury, illness or disability through movement and exercise, manual therapy, education and advice. They maintain health for people of all ages, helping patients to manage pain and prevent disease. A physiotherapist helps to encourage development and facilitate recovery, enabling people to stay in work while helping them to remain independent for as long as possible(22).

Prosthetist and Orthotist	Prosthetists are autonomous practitioners who provide gait analysis and engineering solutions to patients with limb loss. They treat patients with congenital loss as well as loss due to diabetes, reduced vascularity, infection and trauma. They usually work closely with physiotherapists and occupational therapists as part of multidisciplinary amputee rehabilitation teams. Similarly orthotists are autonomous practitioners who provides gait analysis and engineering solutions to patients with problems of the neuro, muscular and skeletal systems. Prosthetists and Orthotists treat patients with a wide range of conditions including diabetes, arthritis, cerebral palsy, stroke, spina bifida, scoliosis, musculoskeletal conditions, sports injuries and trauma. They form part of multidisciplinary teams such as within the diabetic foot team or neuro-rehabilitation team. An orthotist provides splints, braces and special footwear (orthotics) (23).
Speech and language therapist	Speech and language therapists provides life-changing treatment, support and care for children and adults who have difficulties with communication, or with eating, drinking and swallowing (24). They work together with children, adults, families, carers and the wider workforce, to carry out assessments and plan personalised therapy programmes which meet each individual's communication and swallowing needs. Speech and Language Therapists work in wide variety of contexts and environments including community health centres, hospital wards and intensive care units, outpatient departments, children's centres, mainstream and special schools, assessment units, day centres and nursing homes, clients' homes, courtrooms, prisons and young offenders' institutions (25).

Therapeutic radiographer	Therapeutic radiographers play a vital role in the delivery of radiotherapy services. They are the only health professional qualified to plan and deliver radiotherapy. They constitute over 50% of the radiotherapy workforce working with clinical oncologists, medical physicists and engineers. They are responsible for the planning and delivery of accurate radiotherapy treatments using a wide range of technical equipment(18). Therapeutic radiographers also have a pivotal role in caring for patients before, and during radiotherapy, and into the survivorship phase of their care pathway.

Table 2 A description of the role of each AHP

2.2.2. The different sectors in which different AHPs work

AHPs work across a wide diversity of sectors and settings: public, private, independent, education and voluntary as illustrated in table 3.

AHP discipline	Sectors						
	NHS	Social care	Voluntary and third sector	Public health	Independent sector	Education (Nurseries, schools, colleges, academies)	University sector
Art therapist	X		X		X	X	X
Diagnostic radiographers	X			X	X		X
Dietitians	X		X	X	X	X	X
Dramatherapists	X		X		X	X	X
Music therapists	X	X	X	X	X	X	X
Occupational therapists	X	X	X		X	X	X
Orthoptists	X				X	X	X
Paramedics	X				X		X
Physiotherapists	X	X	X	X	X	X	X
Podiatrists	X		X	X	X	X	X
Prosthetists and Orthotists	X				X		X
Speech and language therapists	X		X	X	X	X	X
Prosthetists and Orthotists	X				X		X

Table 3 The sectors in which AHPs work

2.2.3. Clinically facing services provided by AHPs

a) Examples of settings where AHPs provide clinical services

AHPs assess, diagnose, treat, discharge and/or refer patients to other services for a whole range of clinical conditions. The clinical setting in which they provide these services are many and varied. For example, on a ward, in an outpatients department, in a specialist clinical support department, in a patient's home or in a community setting such as in schools. Examples are set out below.

- Ward based interventions across a wide range of specialities including medicine, surgery, paediatrics, elderly patients' wards, and rehabilitation settings.
- Outpatient clinics delivered by AHPs across a range of specialities e.g. gastroenterology clinics led by dietitians, musculoskeletal outpatients led by physiotherapists, voice clinics led by speech and language therapists, hand therapy clinics led by occupational therapists, orthotics clinics led jointly by orthotists and physiotherapists, visual field clinics for children led by orthoptists, foot and ankle clinics led by podiatrists.
- Paramedics supporting patients in GP surgeries, in their own home, in a care home/residential home or any other public place.
- Speech and language therapists work with teachers, teaching assistants and educational psychologists to support children with communication difficulties in schools.

b) Multidisciplinary team working

AHPs are integral to many multidisciplinary teams (MDTs) as illustrated below.

- Arts therapists (art, music and drama) are members of multidisciplinary teams caring for patients with mental health problems and those with learning disabilities.
- Diagnostic radiographers are members of multidisciplinary teams when they are working in interventional procedures, in operating theatres or working as part of the breast care service. Radiographers who are trained to report images attend multidisciplinary team meetings to discuss cases they have reported.
- Dietitians, podiatrists and nurses work as an MDT to deliver education, monitoring and reviewing of services for patients suffering from diabetes.
- Dietitians, occupational therapists, physiotherapists and speech and language therapists are members of a multidisciplinary stroke care team.
- Orthoptists work as an integral member of the ophthalmology team.

- Orthotists are members of diabetes and neurological teams.
- Paramedics are core members of rapid response teams to support patients in the community.
- Physiotherapists, along with dietitians, occupational therapists and speech and language therapists are members of multidisciplinary teams in critical care.
- Podiatrists are integral members of the diabetes team alongside dietitians and orthotists. They also work closely with MDTs in vascular surgery, rheumatology, orthopaedics, plastic surgery and other specialist teams.
- Prosthetists are members of the multidisciplinary amputee team working with physiotherapists and occupational therapists.
- Speech and language therapists, occupational therapists and physiotherapists work as a team to support children and their families with complex conditions.
- Therapeutic radiographers are key members of a multiprofessional radiotherapy team working closely with clinical oncologists, physicists and oncology nurses. Therapeutic radiographers who work at advanced and consultant levels often attend multidisciplinary team meetings and contribute to the decision making regarding radiotherapy and patient care.

c) Group sessions for children and adults

AHPs, including dietitians, occupational therapists, physiotherapists, speech and language therapists and therapeutic radiographers support patients and their families, relatives and carers through group sessions which could be in addition to or instead of one to one interventions.

Group sessions could include a combination of education and other activities within specially created groups of patients for example:

- Groups for autistic children, those with communication disorders and complex disabilities supported by occupational therapists, physiotherapists and speech and language therapists. These groups also include parents and allied health support workers.
- Groups for adults on pulmonary rehabilitation exercise and balance classes for falls supported by physiotherapists, cardiac rehabilitation supported by dietitians and physiotherapists, behavioural therapy supported by occupational therapists, arts therapies supported by art therapists, music therapists and drama therapists and diabetes education groups supported by dietitians.
- Pre-radiotherapy patient information sessions are routinely offered to most patients as part of ensuring patients fully understand the benefits of treatment, the possible side effects and the logistics involved in attending for their course of radiotherapy. Many patients are offered this in a group setting delivered by therapeutic radiographers.

d) Provision of specialist advice

This could be to patients, carers, relatives and other healthcare professionals.

- For those AHPs working in paediatrics there is a wider role of advice, teaching and training of school staff and early years practitioners.
- Art therapists provide advice and focussed art therapy interventions to those with learning disabilities and the wider multidisciplinary team caring for these clients.
- Physiotherapists provide education, support and advice to healthcare professionals regarding the management of patients with chronic obstructive pulmonary disease in the community.
- As part of a palliative care team AHPs teach and advise the wider multidisciplinary team about the rehabilitation of patients.

Occupational therapists provide specialist advice to patients, relatives, carers and other professionals about interventions to support those with mental health needs.

e) Innovation and clinical service improvement

AHPs regularly innovate and improve the patient experience. Below is a list of examples of where AHPs have led innovation and improvement in patient care (4):

- A surgical rehabilitation unit developed at Imperial College Healthcare NHS Trust, has brought together a full multidisciplinary team led by a consultant orthogeriatrician to manage those patients likely to have a complex discharge and continuing rehabilitation needs.
- A multidisciplinary clinic for patients post stay in ITU has been established at the Royal Brompton and Harefield NHS Foundation Trust comprising a physiotherapist, clinical psychologist and medical consultant.
- A rapid response team in Hillingdon Community Healthcare, part of Central and North West London NHS Foundation Trust, has a full multidisciplinary team comprising a doctor, occupational therapist, physiotherapist, rehabilitation assistants, mental health nurse and a handy man. They act as a one stop shop for patients, thereby minimising referral to other services. They only signpost patients to other services following the team's intervention.
- AHPs in the London Borough of Hammersmith and Fulham, are members of a virtual ward multidisciplinary team managing the top 2% of complex cases highlighted from local GP practices. AHPs often lead this team's discussions.

- Promoting socialisation for people suffering from dementia with the occupational therapist developing and leading a breakfast group, creating a café style atmosphere to enable patients to interact with each other.
- A pathway has been created for adults with learning disabilities to have their vision assessed by an orthoptist rather than by an optician at Moorfields Eye Hospital.
- A pathway for gastrostomy care has been developed by dietitians at Imperial College Healthcare NHS Trust where they have developed additional skills to offer a 'one stop shop' for patients.
- Open referrals to some AHPs in a number of the organisations across NWL to enable quicker access, assessment and treatment.
- Prevention of an admission pathway led by occupational therapists and physiotherapists in London Northwest Healthcare NHS Trust in collaboration with paramedics in the London Ambulance Service.
- Award winning pain management service at Central London Community Healthcare NHS Trust where cognitive management strategies are taught to help patients deal with chronic pain. This clinic, which includes physiotherapist,focusses on getting the patients back to more 'normal' activities including returning to work.
- Podiatrist leading a service working particularly with vulnerable adults including the homeless in the London Borough of Westminster.
- Multiagency pathway, including the involvement of paediatric occupational therapists and physiotherapists, to ensure effective transitions of young people with disabilities from paediatric services to adult care has been developed at London North West HealthcareNHS Trust.

f) Public health and wellbeing

AHPs provide a central role in the promotion of public health and wellbeing the across four domains of public health (26):

- Health protection – screening programmes, infection control, appropriate use of antibiotics, radiation protection.
- Healthcare public health – Early diagnosis and interventions, supporting self-management, rehabilitation and enablement, management of chronic conditions.
- Wider determinants – Influencing strategy, promoting health environments, access to education and employment, supporting vulnerable communities.
- Health improvement – Falls prevention, Making Every Contact Count, health improvement campaigns, occupational health ergonomics, and community development programmes.

2.2.4. AHP clinical specialists, advanced practitioners, extended scope practitioners and consultant practitioners

Increasingly, innovative approaches to skill mix, role configuration and role substitution are being implemented by AHPs. AHP managers have developed extended and advanced clinical practitioner roles with cross boundary responsibilities.

Clinical specialists, advanced and extended scope practitioners and consultant AHP posts exist across a number of the allied health professions and services within NWL and more widely across the UK. Examples in NWL include:

- Advanced paramedic practitioners based at Brent and Westminster Ambulance Hub.
- Musculoskeletal physiotherapy extended scope practitioners working at Imperial College Healthcare NHS Trust.
- Neuro-rehabilitation and stroke care clinical specialist AHPs working in Central London Community Healthcare NHS Trust.
- Clinical specialist speech and language therapists working in paediatric services at London North West Healthcare NHS Trust.
- Hand therapy clinical specialists in occupational therapy working at Chelsea and Westminster Hospital NHS Foundation Trust and Imperial College Healthcare NHS Trust.
- Podiatric surgery undertaken by a consultant podiatric surgeon working at Imperial College Healthcare NHS Trust.
- Advanced practice dietitians at London North West Healthcare NHS Trust are managing complex intestinal failure patients requiring specialised enteral and parenteral nutrition, and leading research into nutritional and immune function of patients on home parenteral nutrition.
- Advanced practitioner neuro-oncology radiographer at Guy's and St Thomas' NHS Foundation Trust, who is responsible for patients' care across the entire radiotherapy pathway from decision to treat at the multidisciplinary team through to follow up.

The four Health Education England (HEE)'s geographies: HEE North; HEE Midlands and East; HEE London and the South East and HEE South, have developed regional advanced practice programmes leading to a national consensus model of advanced practice (119). The aim of this work is to develop a more consistent approach to advanced clinical practice including agreement on key competencies and masters level education. These advanced clinical practitioner roles will cross traditional boundaries and impact on the roles traditionally undertaken by AHPs. This is an

opportunity for AHPs to demonstrate their clinical decision making skills and their ability to work across health and care sectors.

In addition the Chartered Society of Physiotherapy has recently produced a new advanced practice resource (29).

The Roland Commission report on the future of primary care recommends that (32):

'GP practices should analyse their workforce and clinical case mix when deciding what skills they need to employ. They then need to agree clear criteria for what each health professional will do and ensure that staff are competent in the roles they undertake.'

Emerging roles and opportunities exist for AHPs in primary care (30). These include:

- Dietitians working as part of the medicines management teams in primary care.
- Occupational therapists specialising in mental health working as part of primary care teams.
- Paramedics working as part of a multidisciplinary team in primary care (31).
- Physiotherapists delivering musculoskeletal outpatient clinics in GP surgeries
- Podiatrists providing foot health clinics in primary care settings.

2.2.5. AHP groups with prescribing responsibilities

Currently four allied health professions (dietitians, physiotherapists, podiatrists and radiographers) have medicines prescribing rights (33) either as independent prescribers or supplementary prescribers:

- Independent prescribing – physiotherapists, podiatrists, therapeutic radiographers
- Supplementary prescribing – dietitians, diagnostic radiographers

Orthoptists are allowed to supply and administer specific medicines under exemptions within Human Medicines Regulations 2012 and independent prescribing for paramedics is still being consulted upon.

AHPs who have achieved all the competencies and passed an HCPC approved prescribing course are identified, through annotation, on the HCPC register. Only HCPC approved prescribing courses provide eligibility for this annotation. Currently all approved prescribing programmes are delivered by HCPC approved Higher Education Institutions.

The law contains 'exemptions' for some AHPs on the HCPC register to administer,

sell or supply from a list of specific medicines on their own initiative, when that practice would normally be restricted to independent prescribers. Currently exemptions exist for three AHP groups. These are chiropodists/podiatrists, paramedics and orthoptists.

The law also allows local arrangements to be developed for professionals, without prescribing rights, to supply or administer medicines to certain types of patients, in certain circumstances. These can be through either a patient specific direction or a patient group direction (PGD) (34).

Currently, the following AHPs are approved to administer or supply medicines under a patient group direction (PGD):

- Dietitians
- Occupational therapists
- Orthoptists
- Paramedics
- Physiotherapists
- Podiatrists
- Prosthetists and Orthotists
- Radiographers
- Speech and language therapists

Chiropodists / podiatrists who are appropriately qualified can administer certain prescription only medicines (POMs) and sell or supply certain other POMs, in the course of their practice. Chiropodists / podiatrists can qualify to administer a range of POMs in their practice, including (but not limited to) a range of local anaesthetics. They may also qualify to sell or supply a range of other POMs in their practice.

Orthoptists are allowed to sell, supply and/or administer certain medicines. E.g.eye drops and ointments, including a limited range of antibiotics.

Paramedics are permitted to administer certain named medicines, by injection, for the immediate, necessary treatment of sick or injured people (i.e. in emergency situations).The legislation is regularly reviewed to extend or amend the list of drugs from which paramedics are allowed to administer.

2.2.6 Clinical specialities in which AHPs work

AHPs work across a wide range of specialities in adult services: diagnostic medicine, surgery, mental health, (figure 1) and paediatric services (figure 2).

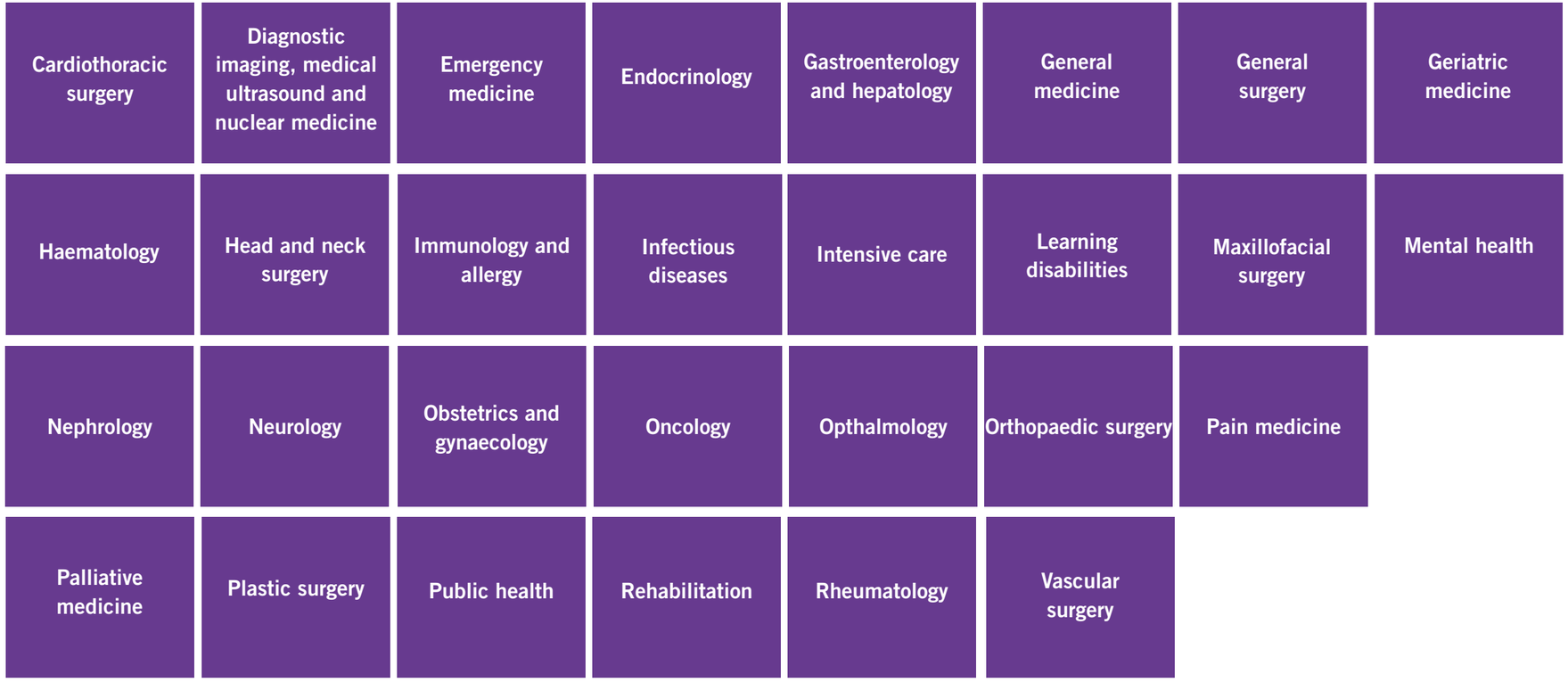

Figure 1 Adult clinical specialities in which AHPs work

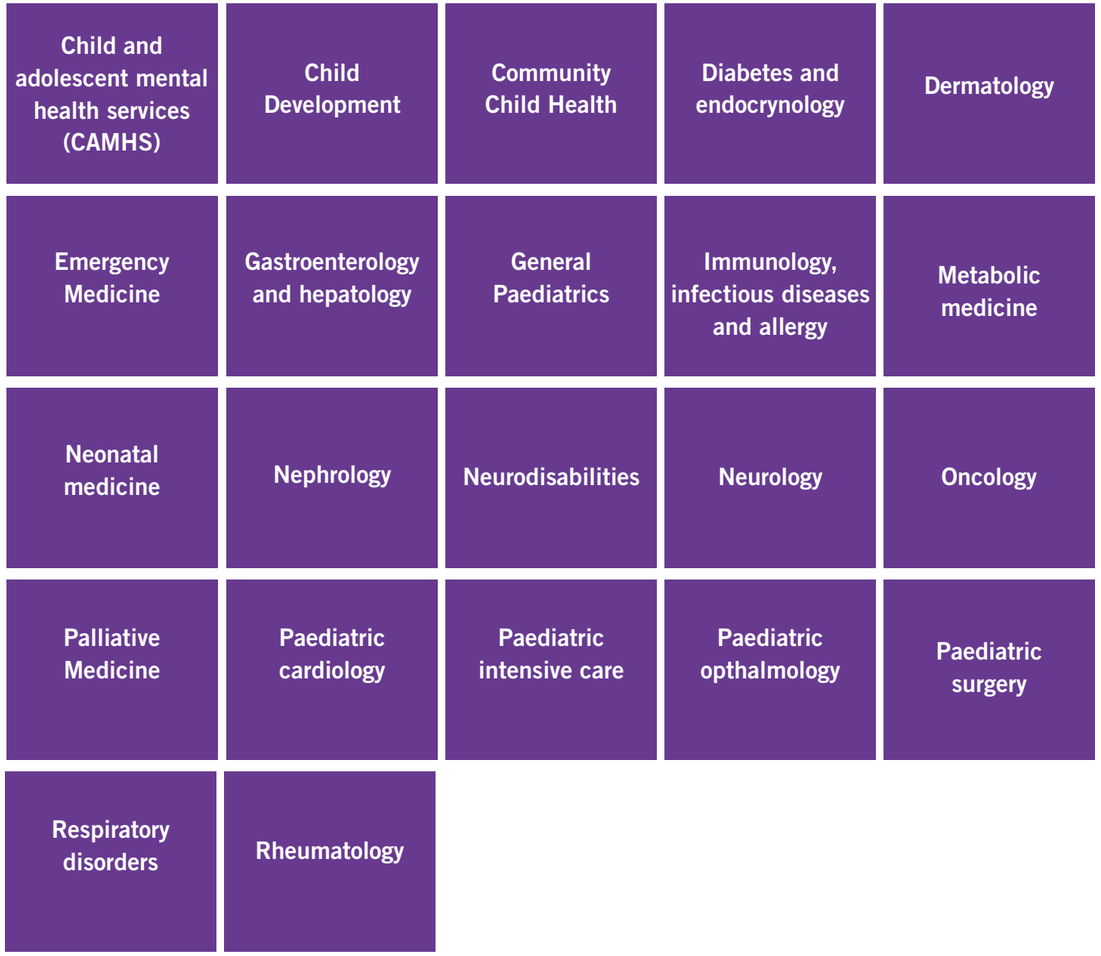

Figure 2 Paediatric clinical specialities in which AHPs work


PC
G
J
Y
2
FUN
B
i

2.2.7. Non-clinically facing services provided by AHPs

a) Education, training and mentoring

AHPs are frequently called upon to educate, train and mentor on a wide range of topics and in different settings. For example: in Higher Education Institutions; Further Education Colleges; teaching sessions to other healthcare professionals or students who work in the same organisation, patients and carers.

b) Strategic planning and policy development for local organisations and services

This includes opportunities to influence and advise on a range of clinical guidelines, healthcare policy, commissioning and contracting at a local and/or regional and/or national level.

c) Undertake research and scholarship

The Council for Allied Health Professions Research (CAHPR) was created by bringing together the Research Forum for Allied Health Professions (RFAHP) and the Allied Health Professions Research Network (AHPRN).

CAHPR's mission is to develop AHP research, strengthen evidence of the professions' value and impact for enhancing service user and community care, and enable the professions to speak with one voice on research issues, thereby raising their profile and increasing their influence (27).

AHPs also apply for the range of available opportunities through the National Institute for Health Research (NIHR) (28). These include Masters in Clinical Research Studentships, Clinical Doctoral Research Fellowships, Clinical Fellowships and Senior Clinical Lectureships.

An example of a clinical lectureship

A renal dietitian at Imperial College Healthcare NHS Trust is leading research investigating and improving signs and symptoms of chronic kidney disease. The Health Education England/National Institute for Health Research Clinical Lectureship has allowed her to stay clinically active whilst having the opportunity to lead on research which significantly impacts on older people nearing end stage renal disease.

An example of a clinical doctoral fellowship

A speech and language therapist at Imperial College Healthcare NHS Trust was awarded a clinical doctoral fellowship to study the evaluation and management of swallowing disorders (121).

2.2.8. Allied Health Support Workers working with AHPs

A review of Allied Health Support Workers undertaken in North West London (35) noted the following recommendations for the support workforce working with AHPs:

- Organisations should seek to standardise the job titles that they use for support workers employed to deliver allied health services.
- Managers should review, with the support workers, their scope of practice and responsibilities.
- Health Education England North West London should consider establishing a Centre of Excellence specifically to offer high quality training and development for this workforce.
- Allied Health Support Workers should have the same access to support and training as the new nursing associates.
- Organisations, managers, team leaders and supervisors should seek ways to demonstrate to the allied health support workforce their value and contribution to the service.

‘Better utilisation of support roles is widely believed to be possible and can improve services for patients. In many respects, there is a broad economic case for making changes that generate savings for the sector as a whole’ (36).

AHSWs work in many different clinical specialities (figure 3) and also across different sectors and settings.

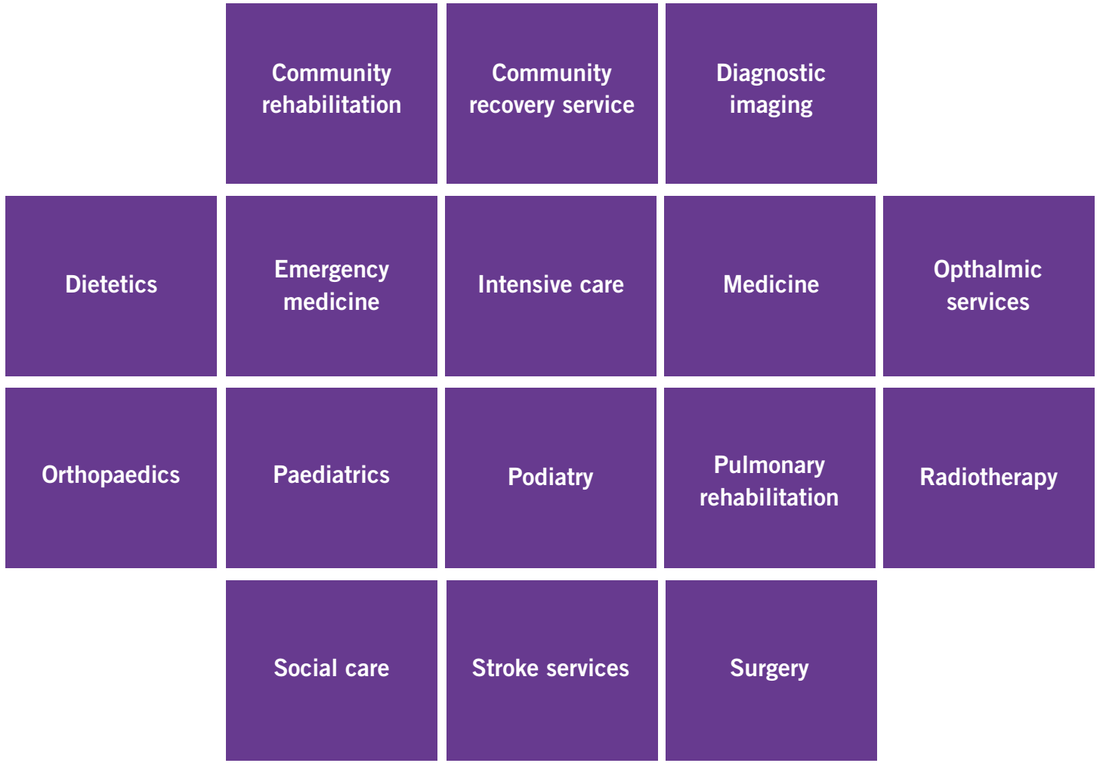

Figure 3 Examples of the clinical areas in which allied health support workers work

2.3. The professional bodies that represent AHPs

The ten AHP regulated groups are supported by twelve different professional bodies as each of the professions that makes up arts therapists has individual professional bodies i.e. British Association of Art Therapists, British Association of Dramatherapists and British Association of Music Therapists. The twelve UK professional bodies (figure 4) are represented by The Allied Health Professions Federation (AHPF). Not all AHPs are members of their professional body however; the membership is high standing at over 170,000 AHPs which equates to 90% of the HCPC registered AHP workforce.

Figure 4 The logos of the 12 AHP professional bodies

2.4. Education and training of AHPs

This section sets out:

- Undergraduate and post graduate education and training of AHPs
- The funding of students on AHP courses in the future
- Approach taken by Health Education England

2.4.1. Undergraduate and post graduate education and training of AHPs

The HCPC sets the Standards for Education and Training (SETS), the Standards of Proficiency (SoPs) and the Standards of Conduct for these professions. HCPC registrants must undertake continuing professional development (CPD) to stay registered. The Council also sets standards for CPD. The AHP professional bodies each have their own code of ethics and conduct as well as professional standards. Most of the AHP professional bodies accredit pre-registration educational qualification for their profession and often provide post-registration training and development for staff.

Some of the professional bodies also provide support to the unregistered support workforce working with the respective professions. This can be in the form of specific membership categories for support workers and delivery of training and development to these staff through provision of short courses.

The minimum entry qualification into the profession varies extensively from the Certificate of Higher Education (academic level 4) for paramedics to the Masters Degree (academic level 7) for the arts therapists (table 3). The education providers that support the AHP workforce in HEE NWL are listed in table 5.

Profession	Minimum threshold	Academic level
Art Therapists	Masters degree	7
Dramatherapists	Masters degree	7
Music therapists	Masters degree	7
Chiropodists/Podiatrists	BSc(Hons) degree	6
Dietitians	BSc(Hons) degree	6
Occupational therapists	BSc(Hons) degree	6
Orthoptists	BSc(Hons) degree	6
Physiotherapists	BSc(Hons) degree	6
Therapeutic radiographers	BSc(Hons) degree	6
Prosthetists/Orthotists	BSc(Hons) degree	6
Radiographers	BSc(Hons) degree	6
Speech and language therapists	BSc(Hons) degree	6
Paramedics	Equivalent to Certificate of Higher Education*	4

* It will be an all graduate profession by 2019 (6)

Table 4 Minimum threshold entry route to the HCPC register, in academic level order, for Allied Health professionals

Profession	HEI provider in NWL	HEI providers that support the AHP workforce for HEE NWL
Art therapists		• Goldsmiths College • Institute of Art in Therapy and Education validated by the University of East London. • University of Hertfordshire
Dramatherapists		• Central School of Speech and Drama, London • Roehampton University
Music therapists		• Guildhall School of Music and Drama, London • Nordoff Robbins, London • Roehampton University
Chiropodists/podiatrists		• University of Brighton • University of East London
Dietitians		• King's College, London • London Metropolitan University • University of Hertfordshire
Occupational therapists	Brunel University	• London South Bank University
Orthoptists		• Glasgow Caledonian University • University of Liverpool • University of Sheffield

Profession	HEI provider in NWL	HEI providers that support the AHP workforce for HEE NWL
Paramedics		• Anglia Ruskin University • St Georges, University of London, in partnership with Kingston University • Greenwich University • London Ambulance Service • University of Hertfordshire
Physiotherapists	Brunel University	• King's College, London • St Georges, University of London in partnership with Kingston University • University of Brighton • Oxford Brookes University • University of East Anglia • University of East London • University of Essex • University of Hertfordshire
Prosthetists and Orthotists		• University of Northamptonshire • University of Salford
Radiographers		• City University • St Georges, University of London in partnership with Kingston University • London South Bank University • University of Hertfordshire
Speech and language therapists		• City University • University of East Anglia • University College London • Reading University

Table 5 Education providers that support the AHP workforce for HEE NWL

2.4.2. The funding of students on AHP courses in the future

As part of the 2015 Comprehensive Spending Review (37) the government announced plans for changes to the NHS England student bursary. This means that from 1 August 2017 new nursing, midwifery and AHP students, in England, will no longer receive an NHS student bursary. Instead, they will have access to the student loans system. AHP student places will no longer be commissioned by HEE.
The pre-registration courses affected include:

- Chiropody/podiatry, dietetics, occupational therapy, physiotherapy, prosthetics and orthotics, radiographers (diagnostic and therapeutic) and speech and language therapy.
- These reforms do not include funding for paramedic courses. Paramedic pre-registration courses are currently on a mixed funding model (some students are already on the loans system, some are funded by Ambulance Trusts and some are supported by Health Education England) (38).

2.4.3. Approach taken by Health Education England

The current version of HEE's Strategic Framework 15 was refreshed in November 2015 (39) and reflects the developments since the introduction of the Five Year Forward View. This framework highlights the changing profile of the different generations of patients and their increased expectation of the use of technology to support their care. Many AHPs are well placed to address this change but many still operate in a more traditional model. The challenges of the STPs and the new models of care place the AHPs at the forefront of supporting this modern healthcare service through to 2029. HEEs strategic framework will help inform the education and training of AHPs.
The clinical skills and abilities of newly qualified AHPs are significantly influenced by the quality of the clinical learning environment, during their pre-registration period of study. HEE's Quality Framework (40) outlines the approach that HEE will take to evaluating, managing and improving the student experience. Traditionally the education quality monitoring has focussed on the academic component with less attention on the work-based component. This national multi-professional Framework has been developed to address any imbalance.

3.0 / THE AHP CONTRIBUTION TO QUALITY, INNOVATION, PRODUCTIVITY AND PREVENTION

3.0 / THE AHP CONTRIBUTION TO QUALITY, INNOVATION, PRODUCTIVITY AND PREVENTION

This section describes the AHP contribution to Quality, Innovation, Productivity and Prevention (QIPP). All of the QIPP initiatives illustrated below apply to services in the NHS.

It is set out as follows:

3.1. The positive impact on QIPP of services provided by AHPs
3.2. Examples of AHPs demonstrating QIPP

3.1. The positive impact on QIPP of services provided by AHPs

AHPs play a key role in driving up productivity in line with the QIPP agenda, reducing hospital admissions and length of stay. Furthermore, AHPs are fundamental to real quality improvements in delivering care closer to home, preventative care and the management of long-term conditions, as well as being critical to leading rehabilitation and reablement for many patient groups.

'AHPs …. are highly skilled, autonomous practitioners and have four common attributes (41):

1) 'They are mainly first-contact practitioners' AHPs very often carry caseloads of patients and frequently may be the only professional in contact with a patient and their family.

2) 'They perform essential diagnostic and therapeutic roles.' For example diagnostic radiographers acquire and report on high quality images using a range of modalities, podiatrists assess, diagnose and treat diabetic foot ulcers.

3) 'They work across a wide range of locations and sectors within acute, primary and community care'. They also work across social care, independent sector, third sector and social enterprises. This is certainly the case across NWL.

4) They perform functions of assessment, diagnosis, treatment and discharge throughout the care pathway – from primary prevention through to specialist disease management and rehabilitation, often without the need for referral.'

The knowledge, skills and experience of AHPs is often acquired through working at the interface between healthcare sectors and settings. AHPs are very familiar and work well across organisational boundaries and settings in order to support patient pathways.

3.2. Examples of AHPs demonstrating QIPP

A key strength of the AHP workforce is the contribution they make to productivity across health and social care in the different sectors and settings in which they work. In addition there are important examples of the AHP workforce contributing to delivering innovative services, supporting and promoting prevention and delivering high quality services.

The examples in this section demonstrate the breadth of impact the AHP workforce has in different settings, sectors and clinical specialities.

3.2.1. Accident and Emergency

- A study undertaken in two A&E departments in South Wales showed that by employing occupational therapists in A&E there was a reduction in patient referrals of between 50% and 60%. A second study in NHS Lothian reported that employing occupational therapists in A&E prevented 100 admissions a month, thereby saving around £864,000 a year (42).

3.2.2. AHP employment models in the acute sector

- A review and change in the way of working for physiotherapists and occupational therapists in a district general hospital lead to the development of the older adult's specialist intervention service (OASIS). The establishment of OASIS resulted in a saving of £2025 per hospital admission. This equated to a saving of £1,764,180 per annum (43).

- In one London trust the urgent care network board agreed that delayed transfers of care were unacceptable. It was agreed that extra bed capacity would be required not only in the acute setting but in the community and in social care in order to improve the flow of patients through the urgent care pathway. Changes were made to the way nurses, physiotherapists and occupational therapists worked over an eight month period which included:
- better coordinated discharge planning for patients;
- comprehensive patient functional/cognitive assessments;
- undertaking complex access/home visits;
- ordering of equipment and recommendations of packages of care;
- daily maintenance rehabilitation especially for non-weight bearing (NWB) patients but for patients waiting for residential care, or discharge home who struggle with mobility.

These changes resulted in a reduction of a total 4206 bed days, over the eight month period, and efficiency savings of £802,518 (44).

3.2.3. Cancer services

- NHS head and neck cancer clinic costs have been reduced by 37% by deploying a therapeutic radiographer and speech and language therapist rather than a consultant radiotherapist and a speech and language therapist (45).
- For every £1 spent on lymphoedema treatments, undertaken by trained physiotherapists and occupational therapists, the service estimates that, by limiting swelling and preventing damage and infection, the NHS saves £100 in reduced hospital admissions (46).
- Therapeutic radiographers are able to act as key workers for men with prostate cancer at certain points in the pathway (47) as an example of innovation in a care pathway.
- In 2015 39% of cancer centres have therapeutic radiographers participating in the decision to treat newly referred patients for radiotherapy. This is in terms of a radiographer contributing their opinion into the joint decision making process at the MDT whether it is appropriate to treat the patient with radiotherapy as part of their management and demonstrating more flexibility in service provision (48). This development has contributed to an imp[roved quality of service for patients and productivity as decisions about patient care are more effectively managed.

3.2.4. Falls management

- For every £1 spent on physiotherapy in falls management the NHS saves£1.50 through reduced hospital admission and readmissions (49).
- A&E falls teams have prevented potential admissions which have saved the NHS £33m nationally (50).
- Paramedics and ambulance services operate falls prevention programmes which refer patients to multi-disciplinary teams. These teams incorporate AHPs and advanced/specialist paramedics. Approximately 30% of calls to ambulance services are falls related. By providing advice and support AHPs can reduce demand on the ambulance services and the NHS as a whole (50).
- Physiotherapists and occupational therapists also have an important falls prevention responsibility. A fall at home that leads to a hip fracture costs the NHS £28,665 on average or £726m per year in total. This is 4.5 times the cost of a major adaptation in the home and over 100 times the cost of fitting a hand and grab rail to prevent falls (51).
- A proactive falls prevention care home pilot in Westminster in North West London resulted in a reduction in falls by 43% and a reduction in call outs to

the London Ambulance Service by 32% (52).

3.2.5. Impact of AHPs supporting adaptations, care packages and long term care provision

- A study that explored the relationship between the provision of equipment, supported by occupational therapists, and reduction in care package costs and residential care found that, over an eight-week period, cost savings to care packages through provision of equipment were over £60,000 (53, 54).
- Housing adaptations, supported by occupational therapists, reduce the need for daily visits and reduce or remove costs for home care. Savings range from £1,200 to £29,000 a year (55).
- Rehabilitation for brain injury has been shown to reduce the need for continuing care and to reduce overall costs (56,57) , particularly in more dependent patients. Improvements in outcomes from inpatient rehabilitation, by physiotherapists and occupational therapists, for patients who are severely disabled offset the average cost of their rehabilitation (£41,488) over a period of 156 days in 16.3 months. While these patients still require long-term care, their dependency is reduced, with an average weekly saving of £243. These savings are calculated for a cohort with an average age of 43.3 years, demonstrating a significant lifetime cost reduction in care.

3.2.6. Musculoskeletal services

- An occupational health physiotherapy service used telephone triage and follow up support as part of work to improve the management of musculoskeletal (MSK) conditions for employees. Over £300,000 was saved in salaries alone by reducing sickness absence and a 74% reduction in recurrence in nine months following the programme (58).
- Advanced radiographic practitioners with an extended scope of practice in bone health can provide advice on healthy lifestyles in order to prevent future osteoporotic fragility fractures when reporting from dual energy x-ray absorptiometry (DEXA) scans or by studying the patient's bone health questionnaire/ clinical details (50).
- Direct management of podiatric surgery within primary care in the NHS (as opposed to the acute setting) significantly reduces costs of each procedure. 50-60% of foot cases which could be suitable for day case surgery are performed with an inpatient stay. This is equivalent to 45,000-60,000 procedures (59).

3.2.7. Nutritional support

- Improved nutritional care supported by dietitians could result in significant financial returns which would. equate to a saving of £13 million across the NHS

in London (60).

- Savings attributed to improving systematic nutrition screening, assessment and treatment are estimated to be £28,472 per 100,000 people (61).

3.2.8. Paediatric services

- Every £1 spent on speech and language therapy for children with autism produces £1.46 in lifetime cost savings and productivity gains – £9.8m (62).
- Every £1 invested in enhanced speech and language therapy for children with speech and language impairment (SLI) generates £6.43 through increased lifetime earnings. In comparison to routine speech and language therapy, enhanced therapy results in an additional 5,500 students achieving five or more GCSEs A* - C (or equivalent). The resulting benefit of providing enhanced therapy for all children aged six to 10 who currently have SLI exceeds the cost of the speech and language therapy by £741.8 million (62).
- Interventions by dietitians resulting in just a 1% reduction in the number of young people aged 16-17 who are obese or overweight can result in significant cost saving in medical care across the population (63).

3.2.9. Primary care

- The Chartered Society of Physiotherapy (CSP) has produced an online calculator which highlights the money and time that can be saved by having physiotherapists employed in GP practices (64). ‘If physiotherapy were the first point of contact in the average practice, GPs would be able to see each of their patients for 5 minutes longer, increasing quality of care (64)’.
- Individual art therapy provided by a trained art therapist in a clinical setting is beneficial to patients undergoing radiotherapy, as it has been shown to improve coping resources (65).

3.2.10. Stroke services

- Every £1 spent on speech and language therapy for adults suffering with aphasia following a stroke delivers £1.30 in NHS savings resulting in annual benefits of nationally of £15.4m (62).
- Adults with dysphagia supported by speech and language therapists after stroke delivers £2.30 in healthcare savings –generating £13.3m annual savings (62) through reductions in chest infections and respiratory problems.

4.0 / AHP STAFFING LEVELS AND SKILL MIX

4.0 / AHP STAFFING LEVELS AND SKILL MIX

This section provides an overview of AHP staffing levels and skill mix.
It is set out as follows:

4.1. Factors used to inform AHP staffing levels
4.2. Guidance and evidence available about staffing levels for AHPs
4.3. Other guidance on staffing levels in allied health services

4.1. Factors used to inform AHP staffing levels

Current methods for determining AHP staffing levels in allied health services include:

- Business case development
- Clinical guidance
- Financial constraints
- NHS benchmarking service
- Patient and non-patient related activity
- Patient complexity, acuity and need
- Patient outcomes
- Staffing models guidance for specialised services
- The use of demand and capacity information

Guidance available on the AHP staffing levels required to optimise services is minimal with no standardised approach across the professions.

Cartmill et al (66) undertook a systematic literature search of business, medical and allied health databases and relevant grey literature for the period 2000-2008. The AHPs they studied included: dietitians, occupational therapists, physiotherapists, podiatrists, and speech and language therapists. Twelve articles were identified which described the use of workforce ratios in allied health services. Figures reported for the ratio of different AHPs to bed or patient numbers are listed in table 6. Only one of the articles identified a staffing ratio linked to clinical outcomes. The most comprehensive measures were identified in rehabilitation medicine. It was concluded from this work that evidence for the use of staffing ratios for allied health professionals is scarce and lags behind the fields of nursing and medicine.

	Dietitian	Occupational therapist	Physiotherapist	Podiatrist	Speech and language therapist
Clinical speciality	**Hospital Setting**				
Amputations*	0.4	0.1	1.5	0.5	0.025
Arthritis	0.1	0.8	2.0	0.1	0.025
Burns*	0.025	2.0	2.0	0.025	0.2
Cardiac	0.1	0.5	0.75	0.1	0.025
General surgery	n/a	0.1	0.3	n/a	n/a
Head injury*	0.5	1.5	1.5	0.025	1.5
Medical	n/a	0.3	0.5	n/a	n/a
Neurology*	0.2	1.5	1.5	0.2	1.5
Orthopaedic	0.3	0.8	1.0	0.3	0.1
Pain	0.025	1.0	1.25	0.025	0.025
Pulmonary	0.1	0.75	0.75	0.1	0.1
Rehabilitation (geriatric)	n/a	0.3	1.0	n/a	n/a

	Dietitian	Occupational therapist	Physiotherapist	Podiatrist	Speech and language therapist
Clinical speciality	**Hospital Setting**				
Rehabilitation (stroke)	n/a	1.0	1.2	0.5	0.025
Spinal*	0.2	2.0	2.0	0.2	0.25
Trauma	0.025	1.2	1.25	0.025	0.2
Community Setting					
Community	1:80-120 patients 1:50-75 patients	n/a	n/a	n/a	n/a
Diabetes	0.6	n/a	n/a	0.8	n/a

Figures are per 10 beds unless otherwise stated n/a = information not available * = denotes specialist unit

Table 6 Summary of the published ratios (66) for dietitians, occupational therapists, physiotherapists, podiatrists and speech and language therapists

4.2. Guidance and evidence available about staffing levels for AHPs

The current UK evidence and information regarding AHP staffing levels by profession is shown below (table 7). The National Quality Board produced an updated staffing document in 2016 (67). This document describes the introduction of care hours per patient day (CHPPD) for nurse and healthcare support staffing in the inpatient/acute setting as a tool that can contribute to a review of staff deployment. Work is underway to consider appropriate application of this metric in other care settings and to include other healthcare professionals including AHPs. There are three updated National Quality Board expectations:

- Right staff which includes: evidence based workforce planning, professional judgement and comparing staffing with peers

- Right skills which includes: mandatory training, development and education, working as a multiprofessional team and recruitment and retention.

- Right place and time which includes: productive working and eliminating waste, efficient deployment and flexibility and efficient employment and minimising the use of agency staff.

AHP profession	Evidence available
Art therapist	British Association of Art Therapists recommends 1.5 WTE art therapists per 250,000 of the population for child and adolescent mental health (CAMHS) services and 2.5 WTE art therapists per 250,000 of the population for adult services (68).
Diagnostic radiographers	The SCoR has published a number of documents that either relate specifically to staffing in radiography led services or include a reference to staffing in a particular imaging service: • Principles of safe staffing for radiography leaders (2015) • Safety in Magnetic Resonance Imaging (2016) (69) 'Generally, the SCoR tends not to be prescriptive about staffing levels as configurations will very much vary to meet local circumstances and service delivery model; rather we would suggest an approach that considers certain principles in order to provide a quality, safe and effective service for patients and staff'. • Guidelines for Professional Ultrasound Practice (2015) (70) The consistent message from SCoR is that there is no single, simple formula but that there are key factors to consider: contractual and legal obligations, skill mix, equipment, number and clinical condition of patients, procedures and number of students or trainees.
Dieticians	In 2012 the British Dietetic Association (BDA) published staffing levels for stroke, ITU, diabetes, cancer rehabilitation, cardiac rehabilitation, cystic fibrosis, general acute medicine and surgery, renal, gastroenterology and mental health services. These all include either the number of WTE required per bed or are based on population size (71). This guidance acknowledges the following as having an impact on the workload of dietitians: population served, settings, manpower, bed occupancy and length of stay, complexity of caseload and intervention, input hours, processing a new referral, health informatics and travel. In 2016 the BDA published Safe Staffing, Safe Workload guidance to enable dietitians to benchmark their workload and clinical contacts (72). This document explores staffing levels and workload activities within the NHS dietetic workforce, provides data and resources that can inform and support decision making for BDA members, management of organisations and commissioners on safe levels of staffing and activity within dietetic services. It includes information about • Average workload activities of the dietetic workforce in the NHS • The average number of patient contacts per whole time equivalent of the NHS dietetic workforce • Vvariations between workload activities and number of patient contacts between different work place settings (acute or community) or pay band • Staffing or workload safety concerns of the dietetic workforce • Guidance as to what may constitute both a safe and an unsafe dietetic workload in the NHS in terms of workload activities and patient contacts.

AHP profession	Evidence available
Art therapist	No specific guidance on staffing levels. (See art therapists above)
Music therapist	No specific guidance on staffing levels. (See art therapists above)
Occupational Therapists	A briefing by the College of Occupational Therapists (73) outlinesthe approach to identifying the occupational therapy workforce required for both current and future needs and that it is necessary to determine: • total staff needed • composition of the workforce in terms of staffing grades • job competencies that are required for specific posts.
Orthoptists	No specific guidance on staffing levels.
Paramedics	No specific guidance on staffing levels. The College of Paramedics has commented previously on the importance of extending specialist paramedics, the role of emergency care support workers and the role of (for example) the fire service as first responders.

AHP profession	Evidence available
Physiotherapists	In 2015 the CSP Workforce Data Modelling (WDM) tool (74) was developed which enables the user to have an overview of the supply of physiotherapists in each country and locality, and to compare this to the demand for the physiotherapy workforce. This tool also enables managers to predict whether there is likely to be a physiotherapy workforce shortage or surplus in the future.
Podiatrists	The College of Podiatry published 'Developing a Sustainable Podiatry Workforce for the UK Towards 2030' (75). This paper includes proposals for future workforce models. Podiatric services should ensure the following key staff competencies in line with the following NICE clinical guidelines: • Diabetes foot problems: prevention and management [NICE Guidance 19] (2), • Peripheral arterial disease: diagnosis and management [Clinical Guideline147] (76), • Type 2 diabetes: prevention in people at high risk [NICE Guidance 38] (77), Diabetes UK 'Putting feet first' (78), TRIEPodD-UK (79) There is a lack of podiatry specific NICE guidelines for biomechanics and the provision of orthosis, lower limb musculoskeletal disorders and connective tissue disorders such as rheumatoid arthritis.

AHP profession	Evidence available
Prosthetists and Orthotists	No specific guidance on staffing levels
Speech and language therapists	Information is available on calculating hours available to a WTE speech and language therapist (80). In a paper by Marie Gascoigne (81) it is identified that the target population, workforce and provision all need to be taken into account when considering provision of communications for children and young people.
Therapeutic radiographers	In 2016 the Society and College of Radiographers (SCoR) published Achieving World Class Outcomes: The vision for therapeutic radiography (82). In this document staffing principles that specifically apply to the therapeutic radiographer workforce include: • Service provider model e.g. single site, multiple site services • Commissioning arrangements e.g. regional, supra-regional or national service providers • Culture to enable implementation of innovation and transformational service changes • Skills mix across care pathways • Links to other centres and the extent of regional-wide protocol

AHP profession	Evidence available
	standardisation, governance arrangements and staff cover arrangements • Case mix • Geographical location • Radiotherapy equipment, e.g. availability of dosimetric planning (on site or remote) • Modality and technical ability of units • Optimal use of available technologies • Use of automated and computer-assisted technologies when appropriate and safe • IT infrastructure within the centre and links with neighbouring centres. The SCoR recommends 1.33 WTE radiography staff required per Linac hour (benchmark figure) for radiotherapy service delivery. The recommendation is that a maximum of 10% are assistant practitioners plus 1 expert practitioner (consultant radiographer / advanced practitioner radiographer) per key speciality is required (can be site and/or technical specialty specific). SCoR recommends that 20% of these expert practitioners should be at consultant practitioner level (69).

Table 7 Current evidence and information available for AHP staffing levels

4.3. Other guidance on staffing levels in allied health services

4.3.1. Acute therapy benchmarking project

The NHS Benchmarking Network undertook an acute therapies project which encompassed physiotherapy (83), occupational therapy (83), dietetics (84) and speech and language therapy (84).

Information from 70 trusts for physiotherapy and occupational therapy services included:

- Mean inpatient WTE in post per 1000 occupied bed days.
- Skill mix in inpatient clinical teams
- Mean number of WTE in post for outpatients per 1000 appointments
- Information from 90 trusts for dietetics and speech and language therapy services was the same as above.

Key headlines from this work are shown in table 8.

Profession	Key headlines	
	Inpatients	Outpatients
Dietetics	Mean number of WTEs in post per 1,000 occupied bed days is 0.04. On average, the inpatient dietetic team comprises; Band 3s (9.7%) Band 5s (25.8%) Band 6s (34.1%) Band 7s (22.5%) and Band 8A (4.3%)	Mean number of WTEs in post is 1.4 per 1000 outpatient appointments. On average, the outpatient dietetic team comprises: Band 3s (4.0%), Band 5s (10.3%), Band 6s (42.0%), Band 7s (36.2%) and Band 8A (4.0%).
Occupational therapy	Mean number of WTEs in post per 1,000 occupied bed days average at 0.15. The skill mix within the inpatient clinical team is made up mainly of Band 5s (26%) , Band 6s (27%), Band 7's (16%).	Outpatient WTE in post per 1,000 outpatient appointments is 1.98. The skill mix for outpatient teams comprises a higher grade of staff than the inpatient teams; Band 5s (15%), Band 6s (30%) and Band 7s (28%).
Physiotherapy	Mean number of WTEs in post per 1,000 occupied bed day is 0.21. The skill mix within the inpatient occupational therapy clinical team is made up of mainly Band 6s (28%), Band 5s (23%), and Band 7's (17%).	Mean number of WTEs in post for outpatients per 1,000 appointments is 0.61 (median 0.59). The skill mix for outpatient teams comprises a higher grade of staff than the inpatient teams; Band 6 (36%), Band 7 (24%), and Band 5 (17%).
Speech and language therapy	Mean number of WTEs in post per 1,000 occupied bed days is 0.03. The team are generally made as: Band 5s (15.2%) Band 6s (30.3%) Band 7s (30.8%) and Band 8A's (11.1%).	Mean number of WTEs in post for outpatients per 1000 appointments is 2.11. Main elements of the team are: Band 5s (9.6%), Band 6s (22.3%), Band 7s (33.7%), and Band 8A's (17.6%).

Table 8 Key findings from the acute therapy benchmarking work

4.3.2. Diagnostic imaging benchmarking project

The NHS benchmarking project for diagnostic imaging provides comparison charts for staffing models against activity/equipment and other variables (85).

Key findings from this benchmarking project were as follows:

- Radiology is an increasingly ambulatory care / outpatient specialty with 81% of activity for non-inpatient examinations.
- Demand is increasing across radiology with CT scan numbers increasing by 29% in the last 3 years.
- Waiting times for direct access referrals are largely achieved with most breaches in CT and MRI. Waiting times for routine inpatient scans average 2 days for CT and MRI.
- MRI is the modality most frequently outsourced.
- Overall outsourcing rates for both examinations and reporting are less than 3% of all workload.
- Reporting averages 45 hours per week across participants with small levels of routine reporting conducted in the out of hours period.
- Participants confirmed that 58% of all reports are performed by Consultant Radiologists, 22% reported by Radiographers, and 9% auto reported.
- Registrars also report less than 15% of examinations where Trusts employ Registrars. Speed of reporting has improved in the last year.
- Productivity levels have improved with the average cost per examination falling from £37 in 2014 to £36 in 2015.

4.3.3. National Cancer Action Team

A cancer workforce modelling tool was developed by the National Cancer Action Team (86) to support identification of workforce requirements across physiotherapy, occupational therapy, dietetics, speech and language therapy and lymphoedema practitioners. This tool utilises incidence and prevalence of different tumour types to identify staffing levels across these professions.

A number of the improving outcomes guidance documents produced for different tumour types recommend certain WTE for different allied health professions. For example Brain and Central Nervous System (CNS) Improving Outcomes Guidance (87) states that three WTE neuro-radiographers are required for a dedicated brain and CNS patient scan.
There are no specific recommendations for the other allied health professions except that there should be access to rapid and expert rehabilitation services.

4.3.4. Stroke

The National Clinical Guidelines for Stroke (89) recommend staffing levels for AHPs, nurses and consultants as detailed below (table 9).

	Physiotherapist (WTE per 5 beds)	Occupational therapist (WTE per 5 beds)	Speech and language therapist (WTE per 10 beds)	Orthoptist	Nurse (WTE per bed)	Medical consultant cover	Dietitian (WTE per 5 beds)
Hyper-acute stroke unit	0.73	0.68	0.68	-	2.9 (80:20 trained:untrained)	24/7, 6 BASP thrombolysis trained physicians on a rota	0.15
Stroke unit	0.84	0.81	0.81	0.1 WTE Orthoptist per 10 bedded acute stroke unit. In addition, a minimum of one session per week for provision of follow up care is recommended (90)	1.35 (65:35 trained:untrained)	Patients should be seen on a daily ward round 5 days a week	0.15

Table 9 Recommended staffing levels for stroke services

4.3.5. Acquired brain injury

The national clinical guidelines for rehabilitation following acquired brain injury (91) state that:
‘Staffing provision within rehabilitation and support services must be adequate, in terms of numbers and experience, to meet the requirements of the caseload.’

4.3.6. Specialist neurology

The NHS England standard contract for specialised adult neurology (92) states the need for a range of AHPs in different neurology services including dietitians, occupational therapists, orthoptists, orthotists, physiotherapists and speech and language therapists.

4.3.7. Critical care staffing guidance

AHPs and Healthcare Scientists critical care staffing guidance (93) provides guidance for staffing levels for six of the AHP disciplines (table 9).

AHP profession	Critical care staffing guidance
Dietetics	0.05 - 0.1 WTE per HDU/ITU bed. This should be at Senior I level or a higher grade.
Diagnostic Radiography	Diagnostic radiography staffing levels are dependent upon the number and case mix of critical care beds (ICU, HDU, CCU, PICU, SCBU – see 'abbreviations' list at the end of the guide), "Step Down" facilities for post-operative patients), Medical Assessment Unit, Surgical Assessment Unit, Rapid Assessment Units (e.g. for Elderly Care), Admission Units, and A&E Resuscitation.
Occupational therapy	No nationally defined OT staffing levels for the critical care client group. Due to the recent evidence the Royal College of Occupational Therapists (RCOT) are collecting on preventing admissions through use of occupational therapists in A&E Departments, the RCOT are recommending at least 1 FTE occupational therapist in every A & E. This has emerged from the RCOT Improving Lives Campaign.
Physiotherapy	3.5 WTE to a 17 bedded critical care unit Estimated on duty hours from 1.0 WTE Contracted hours 1872 100.0% (36hour X 52weeks) Less fixed leave 252 13.4% Less variable sick leave etc. 72 4.0% Less study leave 36 2.0% Maximum available on duty Hours 1512 80%
Podiatry	There are no recognised or recommended chiropody/podiatry staffing levels for the critical care client group.
Speech and language therapy	There are no recognised speech and language therapy staffing levels for the critical care client group.

Table 10 Critical care staffing guidance for AHPs

4.3.8. NICE guidance

There is reference in several NICE guidance documents to having appropriately competent and capable AHP staff including:

- Autism spectrum disorder in under 19s: recognition, referral and diagnosis (Clinical guideline 128)(94)
- Coeliac disease: recognition, assessment and management (Clinical Guideline 20) (95)
- Constipation in children and young people: diagnosis and management (Clinical Guideline 99) (96)
- Chronic obstructive pulmonary disease in over 16s: diagnosis and management (Clinical Guideline 101) (97)
- Crohn's disease: management (Clinical Guideline 152) (98)
- Dementia: supporting people with dementia and their carers in health and social care (Clinical Guideline 42) (99)
- Falls in older people: assessing risk and prevention (Clinical Guideline 161) (100)
- Irritable bowel syndrome in adults: diagnosis and management (Clinical Guideline 61) (101)
- Obesity prevention (Clinical Guideline 43) (102)
- Occupational therapy and physical activity interventions to promote mental wellbeing of older people in nursing and residential homes (NICE evidence update) (103)
- Psychosis and schizophrenia in adults: prevention and management (Clinical Guideline 178) (104)
- Rehabilitation after critical illness in adults (Clinical Guideline 83) (105)
- Stroke and transient ischaemic attack in over 16s: diagnosis and initial management (Clinical Guideline 68) (106)
- Type 1 diabetes in adults: diagnosis and management (Clinical Guideline 17) (107)
- Diabetes (type 1 and type 2) in children and young people: diagnosis and management (Clinical Guideline 18) (108)
- Type 2 diabetes in adults: management (Clinical guideline 28) (109)

4.3.9. Services for older people with urgent and emergency care needs

The Silver book (110) is an intercollegiate document published by a number of organisations including the Association of Ambulance Chief Executives, Directors of Adult Social Services, Emergency Nurse Consultant Association, Royal College of Physicians, Royal College of General Practitioners, Royal College of Psychiatrists, College of Occupational Therapists, Chartered Society of Physiotherapy, the

British Geriatric Society and Age UK. This publication includes models of care, the multidisciplinary team approach and skill mix. However, there are no recommendations on staffing levels. A description is given below for physiotherapy, occupational therapy and paramedics from the Silver book.

a) Physiotherapy

'Within the acute geriatric setting, physiotherapists should have all the general skills required in terms of communication and clinical reasoning together with an understanding of the hospital organisation and community services available. Physiotherapists would be expected to have advanced skills in risk assessment and assessment of mental capacity and common presentations in older people such as falls, delirium, dementia, malnutrition, fragility fractures etc. Due to the nature of the acute assessment, including home visits, physiotherapists will often be working alone and as such they will need to be competent and confident in making safe and effective decisions with the individual. Knowledge of the complexity of health and
social needs and an ability to constructively liaise with other professions and agencies to meet the needs of the individual is essential. Physiotherapists often work alongside occupational therapists, and other healthcare professionals, triaging older people in an urgent care situation or at the emergency department.'

b) Occupational therapy

'Occupational therapists working in A&E have been significantly effective in preventing the number of admissions and re-admissions into hospital. An occupational therapist will prioritise and assess people for safe discharge direct from A&E or acute medicine. In order to do this they:

- **Assess a person's cognitive abilities, mobility, functional transfers and range of movement;**
- **Evaluate past medical history, pre-morbid abilities and existing assets, such as family, home and social support, and**
- **Recommend discharges based on how the person will be able to engage safely in the occupations that they need to do on their return home.'**

c) Paramedics

'The curriculum for the paramedic education programme does not have a specific module on geriatric medicine. However, the competencies needed for assessing and managing frail older people, which covers the psychosocial context and working within a wider healthcare team, are addressed in different modules. There is also a focus on the attitudinal aspects of care, communication barriers and techniques, assessment of capacity, as well as training in ethics and law,

with reference to advanced decisions and advanced care planning. There is scope for delivering a more specialist programme in geriatric medicine for ambulance clinicians, which would both consolidate the knowledge, skills and attitudes needed to deliver best practice in this population group, as well as highlight the importance of this specialty in an ageing population, where frail older people represent a large proportion of acute admissions to hospital.'

5.0 / DATA AND INFORMATION AVAILABLE IN THE SERVICES PROVIDED BY AHPS

5.0 / DATA AND INFORMATION AVAILABLE IN THE SERVICES PROVIDED BY AHPS

This section describes the data and information in the services provided by AHPs. This includes the data collected by AHPs and held in services provided by AHPs as well as a description of how AHPs measure outcomes and effectiveness.
It is set out as follows:

5.1. The types of data and information available to help define the work AHPs do
5.2. How AHPs measure outcomes
5.3. How AHPs measure clinical effectiveness

5.1. The types of data and information available to help define the work AHPs do

In this section there are examples of different data sets collected by AHPs which include patient contacts, information on clinically related work, general administration and other activities such as travel, attending and managing meetings, education and training, supervision and different types of leave (table 11).

Category	Data set	Activity collected in each category (collected in blocks of time ranging from 5 minutes – 15 minutes)
A	Direct patient contacts	
		• Face to face contact with patients, relatives, carers, parents (one to one or in groups) • Telephone/Skype/Email contact with patients, relatives, carers, parents
B	Indirect/proxy contacts	
B1	Clinically related work	• Case conferences • Clinically related emails • Clinically related phone calls • Equipment utilisation • Formal reporting of images • Handover of patients to other services • Inputting doses and treatment given • Liaison with other services/agencies. • Loading images onto system • Multidisciplinary team meetings • Ordering equipment • Patient referral management/prioritisation • Planning and writing a treatment plan/programme • Prescribing (independent prescribers – physiotherapists,

		podiatrists and therapeutic radiographers or supplementary prescribers – dietitians, diagnostic and therapeutic radiographers, podiatry and physiotherapy) • Provision of advice /training for school staff to implement specific therapy programmes with children and young people • Reading and writing clinical notes • Referral on to other services • Reviewing previous imaging examinations, managing • Report writing related to patients' consultations • new images from acquisition to availability for clinician • Transport booking • Transfers, discharges and readmissions • Ward rounds • Writing resources/information for specific patients
	General administration	• Faxing • Inputting data • Phone/email contacts with other professionals • Photocopying • Quality checks on equipment (vary in frequency from daily to monthly) • Scheduling and sending appointments

C	Other activities	
C1	Travel	• Travel time between destinations e.g. car, mike, walk, public transport • Walking between sites
C2	Meetings (not related to clinical caseloads or captured in clinically related work)	• Audit, service development, project meetings • Care Quality Commission inspections • Organisational meetings (internal and external) • Other quality initiatives and accreditation schemes • Professional meetings (internal and external)
C3	Education and training	• Attendance at/completion of training (mandatory and other training • Planning, writing and delivering training (to professionals, students, others)
C4	Supervision/coaching/ practice education	• Continuing Personal and Professional Development (CPPD) • Receiving or giving appraisals • Receiving or providing supervision, coaching and/or mentoring • Structured and unstructured peer support
C5	Leave	• Annual leave • Career break • Compassionate leave • Maternity and paternity leave • Research leave • Sabbatical • Sick leave

C	Other activities	
C6	Breaks	• Lunch
C7	Out of hours and provision of seven day service	• Extended day rotas • Number of staff on duty • On call rota

Table 11 The type of data collected in allied health services

Quality Health reported that the availability of routine, national-level data with which to look at the quality of care and services delivered by AHPs is very limited (4) . The report noted that: **'There is very little systematic information at a national level about the quality of care delivered by AHPs. In fact, there is a shortage of even basic information about activity, waiting times and appointments at a national level to inform comparative analyses. This is especially problematic in areas outside of hospital care'.**

5.2. How AHPs measure outcomes

AHPs use a wide variety of measures to capture the impact of their interventions on a patient's outcomes. This is the case primarily in the following professions: art therapists, dramatherapists, dietitians, music therapists, occupational therapists, orthoptists, paramedics, physiotherapists, podiatrists, prosthetists and orthotists and speech and language therapists.

Outcome measurements used by AHPs include:

- Anxiety scores and measures of psychological wellbeing
- Disability/functional measures
- Empowerment scales
- General health indicators
- Locus of control measures
- Measures of self esteem
- Quality of life measures
- Pain measures
- Self efficacy measures
- Severity of illness classification

All AHP professions can link their local outcomes to the national outcomes frameworks including the NHS Outcomes Framework (7), the Public Health Outcomes Framework (8) , the Adult Social Care Outcomes Framework (9) and the Children and Young People's Outcomes Framework (10).

5.3. How AHPs measure clinical effectiveness

AHPs are professionals who have varied roles and work in a variety of settings, with many different outcomes. Some groups of AHPs are engaged in measuring the clinical effectiveness of their interventions (111) through the use of outcome measures such as those listed in 5.2.

Across AHP groups there is very little consistent nationwide information about the quality of care provided. An example where studies of AHP effectiveness has led to better data collection and a broader understanding of AHP contribution is stroke care (106). The Stroke and transient ischaemic attack in over 16s: diagnosis and initial management recently updated guidance include the following implementation priorities:

- 'All people with suspected stroke should be admitted directly to a specialist acute stroke unit [7] following initial assessment, either from the community

or from the A&E department.' This would include access to dietitians, occupational therapists, physiotherapists and speech and language therapists.

- 'On admission, people with acute stroke should have their swallowing screened by an appropriately trained healthcare professional before being given any oral food, fluid or medication.' Swallowing assessment would be undertaken by a speech and language therapist and nutritional assessment would be undertaken by a dietitian (106).

The national audit of intermediate care (12) looked at care provision and commissioning, focusing on the provision of support for older people in 2013. Throughout the audit report, the contribution of AHPs was noted. In particular physiotherapists and occupational therapists made up:

- 8.6% and 7.5% of the workforce respectively in crisis response services which provide care for up to 48 hours
- 10.3% and 8.3% of the workforce in home based intermediate care services
- 4.6% of bedded intermediate care services away from the home.

Physiotherapists and occupational therapists were two of the staff groups (78%) who were both most likely to be involved in delivering service users care.

6.0 / WORKFORCE PLANNING IN ALLIED HEALTH SERVICES

6.0 / WORKFORCE PLANNING IN ALLIED HEALTH SERVICES

This section describes how workforce planning should be undertaken in allied health services.
In this context workforce planning refers to reviewing existing and future AHP staff resources in line with changing models of care and patient needs.

A six step planning approach (Table 12) should be taken to inform workforce planning in allied health services (112) because such an approach is:

- Systematic and practical and supports the delivery of quality patient care, productivity and efficiency.
- Scalable, from small allied health services and departments to allied health services across large organisations.
- Joined-up with social care and education services where the same approach has been adopted.

This approach also provides assurance that workforce planning decisions are sustainable and realistic. It also highlights the importance of taking some account of those AHPs who are working in education such as nurseries, schools and academies, higher education institutions, the independent sector, voluntary and third sector and the private sector.

Step	Description	Questions to consider
1	Define the plan	**Scope** • What geographical area is covered by the plan? • What services and organisations does it cover? • What groups of staff are covered? • What client groups are covered? • Is this a short term or long term problem and/or solution? **Ownership** • Who owns the allied health workforce plan? • Who needs to be influenced if the plan is to be successful? • Do stakeholders understand their part / contribution to the delivery of the plan? • Is everyone involved signed up to achieving the plan?
2	Agree approach with stakeholders (Map the service change)	**What changes in the future will affect the allied health service?** • What changes will affect the allied health service that we can't control? • What changes are within our control? • What are the drivers behind the service change? (Tools such as PESTLE (113) and SWOT (114) could be used to help here). **Drivers / constraints** • What are the forces that support the allied health service change? • What are the forces that hamper the allied health service change? **Principles of the approach** • Agree the principles of your approach to allied health workforce planning, and the service activity that will be the focus of the plan. What allied health jobs and roles will be involved? **Measurements** • What productivity measures will you select to analyse performance? Is your selection 'balanced'? Do the selected measures reflect relevant performance measures for the selected service?

Step	Description	Questions to consider
3	Model future workforce demand (Define the allied health workforce)	**What allied health services are required to meet the patients' needs and how are they likely to change?** • What are the key allied health tasks within the new service delivery model? • Have the activities been broken down into skills, time, individual or team? • How are allied health roles constructed including duties and responsibilities? • Have new roles been identified? **Which staff will we need to deliver these specific services?** • Have the units through which the service is delivered been identified - ward, department, team? • Have the caseload and case mix been identified for individual service delivery units? • Has an assessment of the size and composition, of the allied health team needed to deliver the service, been identified? **What changes may impact on future workforce needs?** • Are changes in volumes or characteristics of demand of allied health services forecast? • Have productivity implications been considered based on technology, therapeutic advances, work schedules and rotas, service models and redistribution of tasks? • What changes, if any, in policy direction will affect mandatory staffing levels? **What is the likely impact of such developments?** • Policy initiatives that may require additional allied health staff. • Productivity initiatives that may reduce need for allied health staff by removing wasteful practice. • Role substitution initiatives that change skill mix and professional mix of allied health staff needed.

Step	Description	Questions to consider
4	Model future workforce supply (Workforce availability)	**Current workforce** • What are the characteristics of the current allied health workforce? • Has this been described in terms of numbers of certain groups of staff, skills or service unit? **Workforce forecasting** • What turnover / attrition of allied health staff is expected and what numbers are in training? • What is the local labour market? • What is the anticipated competition for skills? **What influences are there on AHP supply with no service change?** • What short term issues emerge? • What longer term issues emerge?
5	Develop actions to implement the new plan	**Gap analysis** • Has a gap analysis of different scenarios been undertaken ? This could include gaps in allied health staff workforce numbers, knowledge, skills, values, behaviours and attitudes. • What changes are needed to the current workforce? **How big is the impact on service of each gap likely to be?** • What are the key hotspots that need the most significant change? • What cold spots need the least change? **What can we do to reduce these gaps by either increasing our staff capacity or reducing future demand and what are the costs/benefits of each of these?** • Build: existing staff who need to build their skills to become more effective in the future. • Buy: where gaps in the workforce are likely to appear new staff will need to be recruited.

Step	Description	Questions to consider
5	Develop actions to implement the new plan	• Borrow: where there are skills gaps that are short term it is worth considering seconding staff or hiring staff on short term contracts. Alternatively, it may be possible to shift the workforce from one part of the health economy to other providers. • Bounce: staff in roles which have an uncertain future can be redeployed to other areas or other organisations. **How well does the plan stand up to different future scenarios?** **Action planning** • What is the plan based on the 'best' option? • How do education and training and other strategies support the preferred plan? **Managing change** • How momentum for change built? • How momentum for change sustained?
6	Implement and monitor	**How to ensure the plan is delivered** • What are the key milestones of the plan? • How are the outcomes going to be measured? • What is the process for revisiting the plan and refreshing any requirements?

Table 12 The six steps of workforce planning for allied health services

7.0 / COMMISSIONING OF AHP SERVICES

7.0 / COMMISSIONING OF AHP SERVICES

This section describes how services provided by AHPs are commissioned.
It is set out as follows:

7.1. Clinical commissioning group (CCG) commissioned services
7.2. Specialised commissioning via NHS England
7.3. Local authority commissioning
7.4. Co-commissioning

7.1. Clinical commissioning group commissioned services

The vast majority of allied health services are commissioned by CCGs as illustrated in table 13. These may be part of the wider services commissioned by CCGs for different healthcare organisations.

AHPs involved in delivering services	CCG commissioned services						
	Urgent and emergency care	Elective hospital care	Community health	Mental health and learning disabilities	Children's healthcare and education	Rehabilitation	Maternity and newborn
Art therapists			X	X	X	X	
Diagnostic radiographers	X	X	X	X	X	X	X
Dietitians		X	X	X	X	X	X
Dramatherapists			X	X	X	X	X
Music therapists			X	X	X	X	
Occupational therapists	X	X	X	X	X	X	X
Orthoptists		X	X	X	X		
Paramedics	X		X				
Physiotherapists	X	X	X	X	X	X	X
Podiatrists	X	X	X	X	X	X	
Prosthetists and Orthotists		X	X		X	X	
Speech and language therapists	X	X	X	X	X	X	
Therapeutic radiographers							

Table 13 CCG commissioned services and AHPs involved in supporting delivery of these services

Some allied health services will be commissioned specifically and have direct contracts with CCGs to deliver these services.. For example:

- Community rehabilitation services
- Mental health services
- Musculoskeletal physiotherapy services
- Non-obstetric ultrasound services
- Paediatric healthcare services involving dietitians, occupational therapists, physiotherapists and speech and language therapists.
- Podiatric services
- Weight management services

7.2. Specialised commissioning

Some AHPs are involved in delivering specialised services that are commissioned nationally by NHS England.
There are six national programmes of care (NPoC) which group together the prescribed and nationally agreed range of specialised services (115).

The NPoCs are:

1. Internal medicine – digestion, renal, hepatobiliary and circulatory system
2. Cancer
3. Mental health
4. Trauma – traumatic injury, orthopaedics, head and neck and rehabilitation
5. Women and children – women and children, congenital and inherited diseases
6. Blood and infection – infection, immunity and haematology

The extent to which AHPs are engaged in delivering these services is illustrated below (table 14).

AHPs involved in delivering services	Specialised commissioned services					
	Internal medicine	Cancer	Mental Health	Trauma	Women and children	Blood and infection
Art therapist		X	X	X	X	
Diagnostic radiographers	X	X	X	X	X	X
Dietitians	X	X	X	X	X	X
Dramatherapists		X	X			X
Music therapists		X	X	X	X	
Occupational therapists	X	X	X	X	X	X
Orthoptists		X	X	X	X	
Paramedics				X		
Physiotherapists	X	X	X	X	X	X
Podiatrists		X	X	X	X	X
Prosthetists and Orthotists		X		X	X	
Speech and language therapists		X	X	X	X	X
Therapeutic radiographers	X	X				

Table 14 Specialised commissioned services and AHPs involved in supporting delivery of these services

7.3. Local authority commissioning

Local authorities need to have a workforce that can deliver the statutory requirements e.g. The Care Act. Occupational therapists are one of two professions named within the Act to be able to undertake assessments for care and support. Occupational therapists are also employed to deliver on preventative services which include reablement. The roles of education authorities, schools and academies are expanding to include the commissioning of paediatric therapies.

7.4. Co-commissioning

Co-commissioning aims to support the development of integrated out-of-hospital services, based around the needs of local people (115), as set out in the Five Year Forward View (3). Some allied health services are commissioned in this way between NHS England and CCG commissioners or between CCG commissioners and local authorities. One example is an allied health service provided in primary care which is jointly commissioned between the CCG and NHS England as part of wider primary care co-commissioning.

8.0 / ACCESSING SERVICES PROVIDED BY AHPS

8.0 / ACCESSING SERVICES PROVIDED BY AHPS

This section describes how patients access services provided by different groups of AHPs.

It is set out as follows:

8.1. Referring patients to services provided by art therapists, dietitians, dramatherapists, music therapists, occupational therapists, orthoptists, physiotherapists, podiatrists, prosthetists and orthotists and speech and language therapists?
8.2. Referring patients to services provided by diagnostic radiographers and therapeutic radiographers
8.3. Referring patients to services provided by paramedics
8.4. Methods used to refer patients to allied health services
8.5. Settings where patients can see the different AHPs
8.6. The length of time, on average, AHPs spend with a patient

8.1. Referring patients to services provided by art therapists, dietitians, dramatherapists, music therapists, occupational therapists, orthoptists, physiotherapists, podiatrists, prosthetists and orthotists and speech and language therapists

- Any healthcare professional including other AHPs
- Teachers, teaching assistants and early years professionals
- Social workers

In some cases self-referral to allied health services is available so the patient/relative/carer/parent can refer to them directly. For example, in some parts of the UK patients can self-refer to physiotherapy clinics.

Some allied health services have specific referral criteria which would need to be requested at a local level.

8.2. Referring patients to diagnostic radiographers and therapeutic radiographers

Diagnostic Radiographers only receive referrals from medical personnel and entitled non-medical referrers who must be registered healthcare professionals. This is governed in European law (IR(ME)R 2000, Ionising Radiation Medical Exposure Regulations).

Therapeutic radiographers – only receive referrals from consultant clinical oncologists.

8.3. Referring patients to paramedics

Any member of the public can self-refer by calling 999 in an emergency situation or 111 in non-emergency situations and may receive advice and/or support from a paramedic or another member of the ambulance service.

Other ambulance staff can also refer to paramedics.

GPs can refer to paramedics working within community settings where these schemes exist.

Paramedics can refer to specialist and advanced paramedics in urgent and emergency care where these schemes exist.

8.4. Methods used to refer patients to allied health services

- Verbal referral
- Written referral via letter, telephone, using a local referral form and/or electronic referral programme

8.5. Settings where patients can see the different AHPs

Patients can see AHPs in different locations and settings as set out in the table below (table 15).

AHPs involved in delivering services	Location where patients can be seen						
	Hospital	Outpatient clinic (hospital)	Outpatient clinic (community setting)	Patients own home	Care home/ residential home	Minor injuries unit and urgent care centres	Schools/ nurseries/ colleges/ academies
Art therapist	X	X	X	X	X		X
Diagnostic radiographers	X	X	X			X	
Dietitians	X	X	X	X	X		X
Dramatherapists	X	X	X	X	X		X
Music therapists	X	X	X	X	X		X
Occupational therapists	X	X	X	X	X		X
Orthoptists	X	X	X		X		X
Paramedics	X		X	X	X	X	
Physiotherapists	X	X	X	X	X	X	X
Podiatrists	X	X	X	X	X		
Prosthetists and Orthotists	X	X	X				
Speech and language therapists	X	X	X	X	X		X
Therapeutic radiographers	X	X	X				

Please note that the table above is a general overview. There may be other alternatives in different areas in the country.

Table 15 Locations where patients interact with different allied health professionals

8.6. The length of time, on average, AHPs spend with a patient.

The length of time that an AHP would see a patient, for example for an intervention as well as the length of the episode of care, varies greatly across the disciplines based on clinical condition, complexity and the needs of individual patients. Some examples are given below (table 16) for each of the Allied Health Professions. This information primarily came from semi-structured interviews with AHPs working across NWL.

AHP	Examples of the average length of time of an appointment	Period of time for an episode of care
Art therapist	50 minutes for a one to one intervention and up to 90 minutes for a group session.	A few weeks to one year.
Diagnostic radiographer	Breast screening routine appointments are 6 minutes. Most general imaging is 5-15 minutes and cross sectional imaging is 20-40 minutes Nuclear medicine procedures may take longer.	The national breast screening programme invites women aged 50-70 years every three years. Patients with a fracture or a clinical disease such as cancer requiring a follow up will have a series of appointments.

AHP	Examples of the average length of time of an appointment	Period of time for an episode of care
Diagnostic radiographer	Any complex, acutely ill or injured patient may require one or more radiographers for several hours e.g. major trauma: initial 20 minutes in resus, up to an hour in CT, several hours in interventional procedures or theatre plus 20 minutes critical care. Interventional procedures may take many hours.	
Dietitian	Inpatients on average 30-45 minutes. Outpatients/community on average 30-45 minutes.	A few weeks depending on length of inpatient episode. Several weeks to several years (i.e. paediatrics).
Dramatherapist	30- 45 minutes for a one to one intervention up to 1.5 hours in a group session.	A few weeks to one year.
Music therapist	15 mins – 1 hr for a one to one intervention and up to 1-1.5 hours in a group session.	For some patients accessing services they may only attend one session (mental health), or it could be over a longer period e.g. over 1 year.

AHP	Examples of the average length of time of an appointment	Period of time for an episode of care
Occupational therapist	Inpatients on average 30-45 minutes. Outpatients/community on average 1.5 hours.	A few weeks depending on length of inpatient episode. Several weeks to several years (i.e. paediatrics).
Orthoptist	Inpatients on average 30-45 minutes. Outpatients/community on average 20 - 45 minutes.	Either a one-off intervention and/or possible follow up, up to several months to several years follow up. Several months to several years (i.e. chronic conditions and paediatrics).
Paramedic	Depends on the patient's condition the time taken could be around 10 minutes and upwards.	One off intervention. Patients may be seen by the same crews frequently.
Physiotherapist	Inpatients on average 30-45 minutes. Outpatients/community on average 1.5 hours.	A few weeks depending on length of inpatient episode. Several weeks to several years (i.e. paediatrics).

AHP	Examples of the average length of time of an appointment	Period of time for an episode of care
Podiatrist (116)	General Clinics: Involves providing essential assessment, evaluation and foot care for a wide range of patients. Appointments 20 – 30 minutes.	Varied from intensive weekly course of treatment to 3 monthly reviews.
	High risk patient groups: These include some patients with diabetes, rheumatoid arthritis, cerebral palsy, peripheral arterial disease and peripheral nerve damage. Appointments vary from 30 – 90 minutes.	Often once or twice weekly during an episode of ulceration and infection which may only resolve over several months.
	For patients suffering from diabetes the length of their appointment with a podiatrist will vary according to their clinical condition and which of the following categories (tiers) the patient is in. These tiers are podiatry led.	
	Tier 1 -low risk patients requiring foot checks.	Annually.
	Tier 2 – Those patients who require podiatry every 6 months (as part of general routine treatment).	6 months – annually.

AHP	Examples of the average length of time of an appointment	Period of time for an episode of care
Podiatrist (116)	Tier 3 – Those patients with foot ulcers and/or ischaemia and previous ulceration/amputation. As part of 'at risk' foot clinic 20 – 40 minutes. Tier 4 – Active disease. Patients should be seen by a podiatry led MDT. Shared care may occur between Tier 3 (community clinic) and Tier 4 (secondary care). Appointments vary from 30 – 90 minutes. Biomechanics/MSK conditions/sport injuries; Podiatrists use biomechanical investigations to help them assess and evaluate the patients they treat. A lot of biomechanical problems are treated with orthotics. Appointments 20 – 40 minutes. Podiatric surgery is usually carried out as a day case procedure (117).	Treatment may be 1-2 times a week. 'One stop shops' in which 'chairside semi-bespoke orthotics' are produced, 1 visit. Biomechanics clinics in which bespoke moulded orthotics are prescribed 2 – 3 visits.

AHP	Examples of the average length of time of an appointment	Period of time for an episode of care
Prosthetist and Orthotist	Initial appointments could be up to 1.5 hours.	Patients with an artificial prosthetic limb prosthesis remain in the service for life. Other patients may be seen only once, whereas some patients may have several reviews.
Speech and language therapist	Inpatients on average 30-45 minutes. Outpatients/community – on average 45 minutes.	A few weeks depending on the length of an inpatient episode. Several weeks to several years (i.e. paediatrics.).
Therapeutic radiographer	All radiotherapy patients attend at least one pre-treatment appointment; these are usually 30-45 minutes duration. But patients are advised that they may need to be in the centre for a half day, as they may need to attend other clinic areas on the same day. More complex patients will need to attend more than once prior to their treatment i.e. head and neck patients. There is a delay between patients attending their planning appointment and starting treatment. This is required to undertake the complex computer planning and calculations needed prior to a patients' radiotherapy being authorised and approved ready for delivery. Typically, this can take from between 1 day and 10 days. Radiotherapy patients attend for between 1 and up to 35 treatments (also called fractions) their attendance is usually required once a day, on a daily basis, Monday to Friday (although some patients will be treated twice or even 3 times in one day – these are very specialised treatment regimens). The time required to deliver radiotherapy will be dependent on the complexity of treatment.	

Table 16 Examples of the length of time patients are seen in an appointment with different AHPs and the lengths of time for episodes of care

ABBREVIATIONS

A & E	Accident and Emergency
AHP(s)	Allied Health Professional(s)
AHPRN	Allied Health Professions Research Network
AHSW	Allied Health Support Worker
BASP	British Association of Stroke Physicians
CAHPR	Council for Allied Health Professions Research
CAMHS	Child and Adolescent Mental Health Services
CCG	Clinical Commissioning Group
CCU	Coronary Care Unit
CNS	Central Nervous System
CPPD	Continuing Personal and Professional Development
CSP	Chartered Society of Physiotherapy
CT	Computed Tomography
BDA	British Dietetic Association
DEXA	Dual Energy X-ray Absorptiometry
FASP	Fetal Anomaly Screening Programme
GP	General Practice
HCPC	Health and Care Professions Council
HEE	Health Education England
HEE NWL	Health Education England North West London
HDU	High Dependency Unit
IR(ME)R	Ionising Radiation Medical Exposure Regulations
ITU	Intensive Therapy Unit
MDT	Multidisciplinary Team
MRI	Magnetic Resonance Imaging
NPOC	National Programmes of Care
NICE	National Institute for Health and Clinical Excellence
NIHR	National Institute for Health Research
NWL	North West London
OASIS	Older Adult's Specialist Intervention Service
OT	Occupational Therapist
PEEP	Paramedic Evidence based Education Project
PESTLE	Political, Economic, Social, Technical, Legal, Environmental
PGD	Patient Group Direction
PICU	Paediatric Intensive Care Unit
POMS	Prescription Only Medicines
QIPP	Quality, Innovation, Productivity, Prevention
RFAHP	Research Forum for Allied Health Professions
RCSLT	Royal College of Speech and Language Therapy
SCBU	Special Care Baby Unit
SLT	Speech and language therapist
SoP	Standards of Proficiency

SoR	Society of Radiographers
STP	Sustainable Transformation Plan
SWOT	Strengths, Weaknesses, Opportunities, Threats
WTE	Whole Time Equivalent

REFERENCES

1. Lord Carter of Coles (2016) Operational productivity and performance in English NHS acute hospitals: Unwarranted variations. An independent report for the Department of Health. [Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/499229/Operational_productivity_A.pdf]

2. National Institute for Health and Clinical Excellence (2015) Diabetic foot problems: prevention and management. Clinical guideline 19. [Available at: https://www.nice.org.uk/guidance/ng19]

3. NHS England (2014) Five Year Forward View. [Available at: https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf]

4. Davis, J, Lovegrove, M.J and Jones, K (2015) Sustainable Health Allied Health Professionals Realising the Potential.[Available at: http://slideplayer.com/slide/5384368/]

5. Nuffield Trust and The Health Foundation (2014) Quality Watch: Focus on Allied Health Professionals.[Available at: http://www.nuffieldtrust.org.uk/sites/files/nuffield/publication/qw_focus_on_ahps.pdf]

6. Lovegrove, M. J and Davis, J (2014) Paramedic Evidence Based Education Project (PEEP) [Available at: https://www.hee.nhs.uk/sites/default/files/documents/PEEP-Report.pdf]

7. NHS England CCG outcomes indicator set 2015/2016. [Available at: https://www.england.nhs.uk/wp-content/uploads/2012/12/ccg-ois-2015-glance.pdf]

8. Department of Health (2014) The Public Health Outcomes Framework 2015/16. [Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216159/dh_132362.pdf]

9. Department of Health (2014) The Adult Social Care Outcomes Framework 2015/16.[Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/375431/ASCOF_15-16.pdf]

10. Children and Young People's Outcome Framework (2015). [Available at: http://fingertips.phe.org.uk/profile/cyphof]

11. National Institute for Health and Clinical Excellence (2016) Stroke quality standards [Available at: https://www.nice.org.uk/guidance/qs2]

12. NHS Benchmarking Network (2013) National Audit of Intermediate Care.

[Available at: http://www.nhsbenchmarking.nhs.uk/CubeCore/.uploads/NAIC/icsurvey/NAIC%202013/NAICNationalReport2013.pdf]

13. NHS England (2016) Sustainable Transformation Plans. [Available at: https://www.england.nhs.uk/ourwork/futurenhs/deliver-forward-view/stp/]

14. Shaping a Healthier Future Programme [Available at: https://www.england.nhs.uk/london/2015/11/09/healthier-future/]
15. http://www.baat.org/About-Art-Therapy

16. http://www.scpod.org/news/podiatry-services-prevent-lower-limb-amputations
17. http://www.scpod.org/news/what-is-podiatry/

18. http://www.sor.org/about-radiography/career-radiography

19. https://www.bda.uk.com/membership/home

20. https://badth.org.uk/

21. https://www.healthcareers.nhs.uk/explore-roles/allied-health-professionals/orthoptist

22. http://www.csp.org.uk/your-health/what-physiotherapy

23. http://www.bapo.com/public/report.aspx?memberqueryid=E57A2BD5-3667-45E5-833D-5ED64B88C171&atc=aag&nodeid=052ECE7D-5983-48DC-A360-C0140472D054

24. http://www.rcslt.org/speech_and_language_therapy/what_is_speech_and_language/what_is_an_slt

25. Royal College of Speech and Language Therapy (2014) Giving Voice. Speech and Language Therapy Transforms Lives [Available at: https://www.rcslt.org/governments/docs/what_is_slt_factsheet]

26. Public Health England and the Allied Health Professions Federation (2015) A strategy to develop the capacity, impact and profile of Allied Health Professionals in Public Health 2015-2018.[Available at: http://www.ahpf.org.uk/files/AHP%20Public%20Health%20Strategy.pdf]

27. http://www.csp.org.uk/tagged/council-allied-health-professions-research-cahpr

28. http://www.nihr.ac.uk/funding/nihr-hee-ica-programme.htm

29. Chartered Society of Physiotherapy (2016) Advanced practice in physiotherapy. [Available at: http://www.csp.org.uk/sites/files/csp/secure/csp_advanced_practice_physiotherapy_2016_2.pdf]

30. NHS England (2016) GP Forward View. [Available at: https://www.england.nhs.uk/wp-content/uploads/2016/04/gpfv.pdf]

31. Primary Care Workforce Commission (2015) The future of primary care. Creating teams for tomorrow. [Available at: http://offlinehbpl.hbpl.co.uk/NewsAttachments/PGH/The-future-of-primary-care.pdf]

32. Roland commission (2015) Future of primary care: Creating teams for tomorrow. Report by the primary care workforce commission. [Available at: https://www.hee.nhs.uk/sites/default/files/documents/The%20Future%20of%20Primary%20Care%20report.pdf]

33. Allied Health Professions Federation. AHP prescribing programme information. [Available at: http://www.ahpf.org.uk/AHP_Prescribing_Programme_Information.htm]

34. Health and Care Professions Council. Supply and administration of medicines without a prescription. [Available at:http://www.hpc-uk.org/aboutregistration/medicinesandprescribing/]

35. Lovegrove, M.J and Davis, J (2015) Allied Health services support worker landscape in North West London. [Available at: http://www.alliedhealthsolutions.co.uk/OurProducts/SupportWorkforce]

36. Skills for Health (2010) A case for ongoing development and investment. Skills for Health – working paper series. The Healthcare Support Workforce. [Available at: http://www.skillsforhealth.org.uk/index.php?option=com_mtree&task=att_download&link_id=173&cf_id=24]

37. https://www.gov.uk/government/news/spending-review-launched-by-chancellor

38. Health Education Funding in England from 2017/18. The system in England. [Available at: http://www.councilofdeans.org.uk/wp-content/uploads/2016/03/The-System-Explained-11042016-final-1.pdf]

39. Health Education England (2013) Strategic Framework 15 [Available at: https://hee.nhs.uk/our-work/planning-commissioning/strategic-framework]

40. Health Education England's Quality Framework (2015) [Available at: https://hee.nhs.uk/sites/default/files/documents/HEE_J000584_QualityFramework_FINAL_WEB.pdf]

41. Centre for Workforce Intelligence (2011). Allied Health professionals: Workforce risks and opportunities. [Available at: http://www.cfwi.org.uk/documents/allied-health-professionals-workforce-risks-and-opportunities]

42. http://www.theguardian.com/social-care-network/2015/jan/27/impact-of-occupational-therapists

43. West Middlesex University Hospitals part of Chelsea and Westminster NHS Foundation Trust (2014. Utilising therapy services differently in an acute setting.

44. London North West Hospitals NHS Trust (2014). Delayed transfers of care.

45. NHS London (2012) AHP cancer pathway. [Available at: https://www.networks.nhs.uk/nhs-networks/ahp-networks/ahp-qipp-toolkits/AHP_Cancer_Pathway_final%20-3.pdf]

46. Macmillan Cancer Support (2011) Specialist lymphoedema services. An evidence review. [Available at: http://www.macmillan.org.uk/documents/aboutus/commissioners/lymphoedemaservicesanevidencereview.pdf]

47. Society and College of Radiographers (2015) Prostate/Urology specialist cancer workforce. Provision of specialist therapeutic radiographers in the treatment and care of men with prostate cancer. [Available at: http://www.sor.org/learning/document-library/prostateurology-specialist-cancer-workforce-provision-specialist-therapeutic-radiographers-treatment]

48. Society and College of Radiographers (2015) Scope of practice survey.

49. http://www.csp.org.uk/professional-union/practice/your-business/evidence-base/cost-falls

50. NHS London (2012) AHP MSK pathway [Available at: https://www.networks.nhs.uk/nhs-networks/cancer-rehabilitation-forum/workstreams/commissioning/commissioning/ahp-qipp-pathways]

51. Allen, K and Glasby, J, (2010) 'The billion dollar question: embedding prevention in older people's services– 10 'high impact' changes. Discussion

Paper. University of Birmingham, Health Services Management Centre, Birmingham. [Available at: http://epapers.bham.ac.uk/759/]

52. Central London Community Healthcare NHS Trust (2016) Proactive falls prevention care home pilot. Presentation at falls conference 7th March 2016.

53. Hill, N (2010) Therapy in an acute front line service. Occupational Therapy News 18(5), 25. [Available at: http://www.cot.co.uk/sites/default/files/commissioning_ot/public/AE-Evidence-Fact-sheet.pdf]

54. Hill, S (2007) Independent Living: Equipment Cost Savings. Research report held at the College of Occupational Therapy. [Available at: http://www.cot.co.uk/sites/default/files/commissioning_ot/public/Long-Term-Conditions-and-the-Potential-of-AHPs-Including-Occupational-Therapists.pdf]

55. Heywood F and Turner L (2007) Better outcomes, lower costs: Implications for health and social care budgets of investment in housing adaptations, improvements and equipment: a review of the evidence. London: Her Majesty's Stationery Office. [Available at: http://wohnenimalter.ch/img/pdf/better_outcomes_report.pdf]

56. Wood, RL; McCrea, JD; Wood, LM and Merriman, RN (1999). Clinical and cost effectiveness of post-acute neurobehavioural rehabilitation. Brain Injury 13(2) 69-88. [Available at: https://www.ncbi.nlm.nih.gov/pubmed/10079953]

57. Aronow, H (1987). Rehabilitation effectiveness with severe brain injury: Translating research into policy. Journal of Head Trauma Rehabilitation, 2(3) 24-36. [Available at: https://www.researchgate.net/publication/232601790_Rehabilitation_effectiveness_with_severe_brain_injury_Translating_research_into_policy]

58. Trueland, J. (2008) Staff scheme an all-round winner. Frontline, 14 (10), Chartered Society of Physiotherapy. [Available at: http://www.connectphysiotherapy.co.uk/wp-content/uploads/2013/12/Physiotherapy-Works-CSP-Paper.pdf]

59. The Society of Chiropodists and Podiatrists (2010) A guide to benefits of podiatry to patient care. [Available at: http://www.scpod.org/EasysiteWeb/getresource.axd?AssetID=26369&type=full&servicetype=Inline]

60. NHS London (2012) AHP stroke pathway. [Available at: https://www.networks.nhs.uk/nhs-networks/cancer-rehabilitation-forum/workstreams/commissioning/

commissioning/ahp-qipp-pathways]

61. National Institute for Health and Clinical Excellence (2011) Nutritional Support in Adults Clinical guideline 32. Cost savings guidance. [Available at: https://pathways.nice.org.uk/pathways/nutrition-support-in-adults]

62. Matrix report (2011) Saving money transforming lives. [Available at: Matrix report (2011) Saving money transforming lives]

63. Wang, LY; Denniston, M; Lee, S; Galuska, D and Lowry, R (2010). Long-term health and economic impact of preventing and reducing overweight and obesity in adolescence. Journal of Adolescent Health, 46(5) 467-73. [Available at: https://www.ncbi.nlm.nih.gov/pubmed/20413083/]

64. Chartered Society of Physiotherapy (2016) Physiotherapy cost calculator [Available at: http://www.csp.org.uk/professional-union/practice/evidence-base/physiotherapy-cost-calculator]

65. inger öster, r.n.t., m.sc.1 ann-christine svensk, r.n., m.sc.2 eva magnusson, ph.d.3 karin egberg thyme, at,4 marie sjödin, m.d.2 sture åström, r.n.t., d.m.sc.1 and jack lindh, m.d., ph.d.2 (2006) Art therapy improves coping resources: A randomized, controlled study among women with breast cancer Palliative and Supportive Care , 4, 57–64. [Available at: https://www.ncbi.nlm.nih.gov/pubmed/20413083/]

66. Cartmill, L, Comans, T, Clark, M. J., Ash, S, & Sheppard, L (2012) Using staffing ratios for workforce planning : evidence on nine allied health professions - a narrative review. Human Resources for Health, 10(2), pp. 2-8. [Available at: http://www.healthpolicyjrnl.com/article/S0168-8510(15)00192-X/abstract?cc=y=]

67. National Quality Board (2016) Supporting NHS providers to deliver the right staff, with the right skills in the right place at the right time: Safe, sustainable and productive staffing. [Available at: https://www.england.nhs.uk/wp-content/uploads/2013/04/nqb-guidance.pdf].

68. Email correspondence 4.8.14 with Chief Executive Officer, British Association of Art Therapists.

69. Society and College of Radiographers (2016) Safety in Magnetic Resonance Imaging, [Available at: http://www.sor.org/learning/document-library/safety-

magnetic-resonance-imaging/15-staffing-mri-units]

70. Society and College of Radiographers and the British Medical Ultrasound Society (2015) Guidelines for Professional Ultrasound Practice [Available at: https://www.sor.org/sites/default/files/document-versions/ultrasound_guidance.pdf]

71. British Dietetic Association (2012) Caseload management. [Available at: https://www.bda.uk.com/professional/workforce/caseload]

72. British Dietetic Association (2015) Safe Caseload, Safe Staffing [Available at: https://www.bda.uk.com/professional/workforce/caseload]

73. College of Occupational Therapists (2010) Workforce planning in Occupational Therapy. [Available at: https://www.cot.co.uk/organisation-and-management-ot-services/workforce-planning-occupational-therapy]

74. Chartered Society of Physiotherapy (2015) Workforce Data Modelling Tool [Available at: http://wdm.csp.org.uk/home.php]

75. College of Podiatry (2013) Developing a Sustainable Podiatry Workforce for the UK Towards 2030. [Available at: http://www.scpod.org/easysiteweb/getresource.axd?assetid=39486&type=0&servicetype=1]

76. National Institute for Health and Clinical Excellence (2012) Peripheral artery disease: Diagnosis and management. Clinical guideline 147. [Available at: https://www.nice.org.uk/guidance/cg147]

77. National Institute for Health and Clinical Excellence (2012) Type 2 diabetes: Prevention in people at high risk. Clinical guideline 38. [Available at: https://www.nice.org.uk/guidance/ph38]

78. Diabetes UK (2015) Putting Feet First: Position on preventing amputations and improving foot care for people with diabetes.[Available at: https://www.diabetes.org.uk/Get_involved/Campaigning/Putting-feet-first/]

79. TRIEPOD-UK (2012) Podiatry Competence Framework for integrated diabetic foot care: A users guide. [Available at: http://www.diabetesinscotland.org.uk/Publications/Tripod_compframe_20120525.pdf]

80. Royal College of Speech and Language Therapists (2012) Calculating hours available to a FTE speech and language therapist. [Available at: https://www.

rcslt.org/members/publications/managers_resources/calculating_available_hours.pdf]

81. Gascoigne, M, (2011) A Sense of the whole Public Service Review, Health and social care 33.

82. Society and College of Radiographers (2016) Achieving world class outcomes. The vision for therapeutic radiography. [Available at: http://www.sor.org/learning/document-library/achieving-world-class-cancer-outcomes-vision-therapeutic-radiography]

83. NHS Benchmarking Network (2014) Acute therapies. Phase 4.[Available at: http://www.nhsbenchmarking.nhs.uk/index.php]

84. NHS Benchmarking network (2014) Dietetics and Speech and Language Therapy. [Available at: http://www.nhsbenchmarking.nhs.uk/index.php]

85. NHS benchmarking Network (2016) Benchmarking radiology services. [Available at: http://www.nhsbenchmarking.nhs.uk/CubeCore/.uploads/Marketing/201617%20project%20cards/Radiology.pdf]

86. Mouchel and National Cancer Action Team (2012) National cancer rehabilitation workforce comparative report. [Available at: http://www.eastmidlandscancernetwork.nhs.uk/Library/NationalRehabWorkforceReport20122.pdf]

87. Improving Outcomes Guidance (2006) Brain and Central Nervous system tumours.[Available at: https://www.nice.org.uk/guidance/CSG10/documents/2006032-nice-guidance-set-to-improve-services-for-patients-with-brain-other-cns-tumours]

88. National Institute for Health and Clinical Excellence (2004) Improving outcomes in head and neck cancers. [Available at: https://www.nice.org.uk/guidance/csg6]

89. Royal College of Physicians (2016) National Clinical Guideline for Stroke. [Available at: https://www.rcplondon.ac.uk/guidelines-policy/stroke-guidelines]

90. British and Irish Orthoptist Society (2012) Position Statement for vision services in stroke. [Available at: https://orthoptics.org.uk/resources/Documents/SIGs/Stroke/STROKE%20BIOS%20consensus%20statement%202014.pdf]

91. Royal College of Physicians (2003) National Clinical Guidelines, Rehabilitation following acquired brain injury. [Available at: https://www.rcplondon.ac.uk/guidelines-policy/antidepressant-medication-use-adults-undergoing-recovery-and-rehabilitation-following-acquired-brain]

92. http://www.england.nhs.uk/wp-content/uploads/2013/06/d04-neurosci-spec-neuro.pdf

93. Department of Health. National AHP and HCS Critical Care advisory Group (2003) Allied Health Professionals and Healthcare Scientists Critical Care staffing Guidance.

94. National Institute for Health and Care Excellence (2011) Autism spectrum disorder in under 19s: recognition, referral and diagnosis. Clinical guideline 128 [Available at: https://www.nice.org.uk/Guidance/CG128]

95. National Institute for Health and Care Excellence (2015) Coeliac disease: recognition, assessment and management. Clinical guideline 20 [Available at: https://www.nice.org.uk/guidance/ng20]

96. National Institute for Health and Care Excellence (2010) Constipation in children and young people: diagnosis and management: Clinical guideline 99 [Available at: https://www.nice.org.uk/guidance/cg99?unlid=75646269620163830 18]

97. National Institute for Health and Care Excellence (2010) Chronic obstructive pulmonary disease in over 16s: diagnosis and management. Clinical guideline 101 [Available at: https://www.nice.org.uk/guidance/cg101?unlid=7291200722016125214152]

98. National Institute for Health and Care Excellence (2016) Crohn's disease: management. Clinical guideline 152 [Available at: https://www.nice.org.uk/guidance/cg152?unlid=9767257220161026173243]

99. National Institute for Health and Care Excellence (2016) Dementia: supporting people with dementia and their carers in health and social care. Clinical guideline 42. [Available at: https://www.nice.org.uk/guidance/cg42?unlid=306895506201611371037]

100. National Institute for Health and Care Excellence (2013) Falls in older people: assessing risk and prevention. Clinical guideline 161. [Available at: https://www.

nice.org.uk/Guidance/CG161]

101. National Institute for Health and Care Excellence (2015) Irritable bowel syndrome in adults: diagnosis and management , Clinical guideline 61. [Available at: https://www.nice.org.uk/Guidance/CG61]

102. National Institute for Health and Care Excellence (2015) Obesity prevention. Clinical guideline 43. [Available at: https://www.nice.org.uk/guidance/cg43?unlid=79997071201691417727]

103. National Institute for Health and Care Excellence (2015) Evidence update. Occupational therapy and physical activity interventions to promote the mental health wellbeing of older people in primary care and residential care [Available at: http://www.scie-socialcareonline.org.uk/occupational-therapy-and-physical-activity-interventions-to-promote-the-mental-health-wellbeing-of-older-people-in-primary-care-and-residential-care-evidence-update-march-2015/r/a11G000000AeHDkIAN]

104. National Institute for Health and Care Excellence (2014) Psychosis and schizophrenia in adults: prevention and management. Clinical Guideline 178. [Available at: https://www.nice.org.uk/guidance/cg178?unlid=948399500201611619231 6]

105. National Institute for Health and Care Excellence (2009) Rehabilitation after critical illness in adults. Clinical Guideline 83. [Available at: https://www.nice.org.uk/Guidance/CG83]

106. National Institute for Health and Care Excellence (2008) Stroke and transient ischaemic attack in over 16s: diagnosis and initial management. Clinical Guideline 68. [Available at: https://www.nice.org.uk/guidance/CG68]

107. National Institute for Health and Care Excellence (2016) Type 1 diabetes in adults: diagnosis and management. Clinical Guideline 17. [Available at: https://www.nice.org.uk/guidance/ng17?unlid=942939539201612620425 8]

108. National Institute for Health and Care Excellence (2016) Diabetes (type 1 and type 2) in children and young people: diagnosis and management. [Available at: https://www.nice.org.uk/guidance/ng18]

109. National Institute for Health and Care Excellence (2016) Type 2 diabetes in adults: management. Clinical Guideline 28. [Available at: https://www.nice.org.uk/guidance/ng28]

110. British Geriatrics Society (2012) Silver book; quality care for older people with urgent and emergency care needs. [Available at: http://www.bgs.org.uk/campaigns/silverb/silver_book_complete.pdf]

111. Department of Health (2011) Allied Health Professions (AHP) Service Improvement Project. [Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/215579/dh_126838.pdf]

112. Knapton, Strategic Modelling Analysis and Planning Ltd. The six step planning approach to workforce planning www.smap-ltd.com with acknowledgements to Skills for Health http://www.skillsforhealth.org.uk/images/images/blog/six-steps.jpg

113. PESTLE tool http://www.cipd.co.uk/hr-resources/factsheets/pestle-analysis.aspx#

114. SWOT tool https://www.mindtools.com/pages/article/newTMC_05.htm

115. https://www.england.nhs.uk/commissioning/pc-co-comms/

116. http://www.scpod.org/college-aims/careers/scope-of-podiatry/

118. NHS England (2017) Allied Health Professionals into Action [Available at: https://www.england.nhs.uk/ourwork/qual-clin-lead/ahp/]

119. Health Education England (2016) [Available at: https://hee.nhs.uk/sites/default/files/documents/ACP%20event%2029.01.16%20-%20FINAL.pdf]

120. Nainis, N, Paice, J.A, Ratner, J, Wirth, J.H., Shott, S (2006) Relieving symptoms in cancer: innovative use of art therapy. Journal of pain symptom management. 31 (2): 162-169.

121. Coffey, M, Tolley, N (2015) Speech therapy and rehabilitation. Current opinion in otolaryngology and head and neck surgery. Vol.23 Issue 3. P202-208.