Clinical Academic (Research) Careers Scheme for Nurses, Midwives and Allied Health Professionals in NHS Lothian

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Summary

Nursing, Midwifery and Allied Health Professional (NMAHP) practice is vital to the delivery of health care in Scotland with NMAHPs making up the largest component of the NHS workforce.

In recent years the Scottish Government in partnership with NHS Education for Scotland (NES), the Scottish Funding Council and the Health Foundation has invested in a number of initiatives to support the embedding of NMAHP research and development within clinical practice. This has included the establishment of the national Chief Scientist Office (CSO) NMAHP Research Unit, the NMAHP Research Training Scheme and the NMAHP Research Consortia. The benefits of this investment are being realised, and it is imperative that these are built upon. There is a need to plan for the future research workforce and to do this in such a way that reflects the NHS Career Framework and responds to the recommendations of the UK Clinical Research Collaboration (UKCRC, 2007) to establish NMAHP clinical academic career pathways. Nationally, NHS Education for Scotland is working with NHS Board and academic partners to create a set of principles alongside a career framework to support the development of a national approach to NMAHP clinical academic (research) careers.

This paper presents NHS Lothian's partnership model for developing such a career pathway which is firmly embedded within clinical practice whilst involving full collaboration with academic partners and placing an emphasis on supervision and training. Key features of the Scheme are:

- 6 clinical academic (research) appointments at senior and advanced practitioner levels across 3 clinical demonstration areas.
- Clinical demonstration areas selected in relation to strategic research priorities, local service plans and supportive infrastructure especially the existence of well-established, active and successful research groups (of whatever professional mix)
- Defined allocation of clinical and research time embedded within clinical service setting
- Team organisation of the post holders with clear operational management, supervision and support arrangements
- Funded clinical research training relevant to each career stage (i.e. PhD and Clinical Research Fellow)
- Principle of separation of funding stream for research from clinical budgets (clinical parts of posts are already establishment and funded from current general budgets therefore incurring no additional cost to NHS Lothian).

The benefits of the Scheme include defined research outputs in terms of research training, career development and succession planning, completion of relevant clinical research studies, publications and positive evidence-based impact on clinical service delivery. It will also serve to further establish a culture of enquiry and research-mindedness within the NMAHP professions.

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1. Aims

This paper outlines a strategic model for developing clinical* academic (research) career pathways for nurses, midwives and allied health professionals (NMAHPs) in NHS Lothian. Its overarching principles are "to ensure that healthcare delivery is informed by quality research" (CSO, 2003) and to promote a "collaborative and integrated approach to service improvement" as set out in *Better Health, Better Care* (Scottish Government, 2007). The innovative nature of the Scheme will also contribute to NHS Lothian's ambition to become one of the 25 leading healthcare providers globally (Lothian NHS Board, 2009)

The primary aims of the Scheme are:

i. To build on the gains already achieved by establishing an NHS-embedded focus for the further development of NMAHP clinical research capacity and capability in NHS Lothian.
ii. To improve the quantity and quality of service-relevant NMAHP research outputs in NHS Lothian.
iii. To articulate a set of ideas which can contribute to the emerging discussions in NHS Scotland as a whole regarding the development of an NMAHP clinical academic (research) career framework which addresses the issue of succession planning.

2. Introduction

This initiative is timely given the current position of NMAHP research in Scotland. Substantial investment in capacity building has been made since the publication of *Choices and Challenges* (SEHD, 2002) including funding by NES, SGHD, and Scottish Funding Council of the NMAHP research consortia and the NMAHP Research Training Scheme. In Lothian there are a number of NMAHP professionals who have benefited from this investment and have completed (or are near to completing) their research training to doctoral level whilst retaining a clear clinical focus and strong links with practice (see Boxes 1-3 for anonymised vignettes of NMAHPs at various points in their research training). It is vital to consider the future potential of this investment by ensuring that the research skills and academic links that have been developed lead to research studies that are congruent with NHS Lothian's priorities, inform service delivery directly and benefit the health of the local population.

The Scheme is an attempt to elucidate a career pathway for NMAHPs in NHS Lothian which utilises and develops *both* clinical and academic research competencies simultaneously. This is consistent with recent NHS workforce development policy such as *Modernising Nursing Careers* (Dept. of Health, 2006) and the development of new flexible NMAHP career frameworks (Dept. of Health and Skills for Health, 2008; Scottish Govt., 2009). Further, the Scheme seeks to reflect recent work such as the piloting of a systematic national approach to succession planning and meeting the learning needs of those carrying out Advanced Practitioner roles (NHS Education for Scotland, 2008; Nursing and Midwifery Council, 2005).

Box 1: NHS Lothian NMAHP Clinical Research Career Vignettes (Masters level)

Michael qualified as a learning disability nurse in 2002 and after being a staff nurse for a year he took up a secondment as research assistant (RA) at the University of Edinburgh to undertake a joint academic/NHS study in the use of DISDAT – a distress assessment tool for people with a profound learning disability - in the acute general hospital setting. He combined this post with retaining his staff nurse role. He now has a second RA post on a multi-centre evaluation of the Learning Disability Liaison Service. Michael would like to become a researcher in his own right and is keen to undertake a Masters in Research with a focus on outreach respite care for people with profound learning disability.

The Scheme has been developed partly in response to the UKCRC report (UKCRC, 2007) which made UK-wide recommendations amounting to a framework for the development of clinical academic

* The term 'clinical' in this context is intended to be broad and encompasses roles such as prevention, health promotion, community-based social intervention and so on in addition to more traditional clinical roles.

career pathways for nurses across the UK. The principles in the report were endorsed by the Chief Nursing Officers of the 4 UK countries. In developing this local partnership model we hope to be able to make a positive contribution to clinical academic (research) careers in NHS Scotland. Further, it will of course be necessary for initiatives such as ours at NHS Board level to be shaped to ensure consistency with the national determination in this area and to align with the clinical academic (research) career principles and framework.

The Scheme actively draws upon, embodies, and gives expression to, a broad range of national and local strategic priorities in the domains of healthcare provision, clinical research, professional role development, and higher education (see Appendix).

Box 2: NHS Lothian NMAHP Clinical Research Career Vignettes (Doctoral level)

Mhairi is a physiotherapist with 15 years experience working in stroke rehabilitation. After having been a clinical supervisor for a PhD physiotherapy student in 2000 and then engaged in discussion with academic colleagues she recognised the need to further develop her skills in service development, clinical evaluation, audit and research. She commenced a part time Masters in Physiotherapy in 2004, whilst continuing to work full time. She was able to submit some of her clinical work as course work and this was successfully accredited with Masters level credits. Mhairi recently completed her dissertation thesis exploring goal setting in stroke rehabilitation and has since gained a Masters in physiotherapy with distinction from Queen Margaret University. She is currently involved in a number of research projects and aims to continue to use the knowledge gained from her Masters to undertake local research projects, audits and service evaluations.

Andrew is an experienced learning disability nurse who has worked in a liaison role for 9 years, which he currently combines with a secondment to the Scottish Government as Learning Disability Advisor. He has developed a strong interest in research with a particular focus on pain management and cancer. He is currently completing an MSc in Nursing where his dissertation is focusing on cancer policy in relation to people with a learning disability. He would like to move on to PhD whilst retaining his clinical role.

Karen is a dietitian with 14 years experience working in intensive care and has always had an interest in research. This awareness and interest in research has led to her involvement with the Critical Care Research team at RIE and her research interests include the nutritional issues experienced by post ICU patients. She was awarded a fees-only fellowship from NHS Lothian and the Centre for Integrated Healthcare Research which allowed her to undertake a part-time MSc by Research. On completion she has been keen to work towards a PhD whilst continuing to work clinically and has recently secured a CSO doctoral fellowship to pursue this.

3. The Work of NMAHPs

NMAHPs constitute the majority of the clinical workforce in the NHS. They practise in a broad variety of healthcare settings, across the range of health, social care and educational needs, with patients at all points across the lifespan. As a consequence, NMAHPs have a huge influence on the effectiveness of health care delivery and patients' experiences of that care.

Whilst the diversity of contexts in which NMAHPs practise is a feature, a very significant proportion work as members of multi-disciplinary, community and primary care-based services, often with patients suffering from long-term medical conditions, of whom many are either children or elderly. Much of their work involves preventative interventions, health promotion, maintenance of health, rehabilitation and helping patients to achieve a better quality of life through improved social, educational and occupational functioning. Often this work involves the provision of advice, education, and aids which encourage and empower patients and carers to self-manage their conditions as far as possible, which mirrors the recent national strategic direction (LTCAS, 2008). It may also include close partnership working in, for instance, schools and nurseries.

In recent years the NHS in Scotland has instigated a process of service redesign to ensure that care is provided as close to the patient's home and community as possible (Scottish Executive, 2005a; Scottish Government, 2007; http://www.shiftingthebalance.scot.nhs.uk/). To improve waiting times, accessibility, length of hospital stay, efficiency, and inter-agency communication new configurations of service provision are being introduced. In some cases this has meant the development of extended roles for NMAHPs e.g. triage, case management, team leadership, prescription of medications, diagnosis, advanced clinical decision-making.

Box 3: NHS Lothian NMAHP Clinical Research Career Vignettes (Post-doctoral level)

Amanda is a speech and language therapist whose clinical work has been mostly in paediatric settings since qualifying in 1997. Having carried out a psychology degree prior to this she has always had an interest in the link between communication disorders and mental health, and became interested in developing her research skills in this area. In 2006 she carried out a small project alongside her clinical work with funding from the Centre for Integrated Healthcare Research (CIHR). This led to her successfully applying to carry out a PhD in the same area, "Risk factors in the link between Language Impairment and Emotional Behavioural Difficulties" again with funding from CIHR. Now in her final year she has an article under review and has co-written a book chapter due to be published this summer. In the future she would like to combine her research and clinical skills.

Jane qualified as a nurse in 1979 and always had a career aim to combine clinical work and research. She has worked in intensive care since 1981 and after completing an MSc in Social Research in 1986 held various research posts and conducted research on staffing levels and nurse education. Having returned to clinical practice in 2001, she was struck by a research question on brain heat loss which would not go away and was encouraged and supported to investigate it by clinical staff. Currently she is finishing writing up her PhD on brain cooling after brain injury for which she undertook two randomised crossover trials and a volunteer study, having obtained funding from, respectively, CSO, CHSS and industry. The studies and literature review for her PhD have been published. Her post-doctoral plans include continuing with research on temperature and temperature management, beginning with a systematic review for which she has been awarded a grant.

4. NMAHPs and Evidence-Based Practice

The clinical practices of NMAHPs have to an extent been based on historical precedent rather than sound scientific evidence. NMAHPs are sometimes unfamiliar with research pertinent to their field and it is a minority who engage in research themselves. The traditional NMAHP focus on the "hands on" provision of clinical care has meant that only in relatively recent times have some under-graduate training programmes included evidence-based practice and research modules as standard elements in curricula. Despite this welcome development it is true to say that the academic content of the basic training experienced by the various NMAHP professions varies considerably leading to disparities in the 'starting points' from which newly qualified staff can engage with the evidence base. Further, only a small proportion of NMAHP clinicians access research training at postgraduate degree level. Typically this can only be achieved by study outwith working hours and in only a minority of cases is it supported by research fellowships. However, the level of financial support provided by fellowships can sometimes fall short of NMAHP salaries. Consequently, pursuing postgraduate study usually involves a degree of sacrifice and in some cases NMAHPs are *de facto* excluded from this opportunity by their financial and other life circumstances.

Further, NMAHP postgraduate degree study is typically driven by the individual's intrinsic motivation and interest rather than by the needs of the NHS. Hence, there is no guarantee of a beneficial relationship between the content of research emanating from this activity and clinical service priorities. What is more, the NHS has seldom developed and utilised the research skills acquired by such staff in a strategic manner, thereby missing opportunities to benefit clinical services and patients directly through targeted research activity. In particular, within the NHS there have been limited opportunities for NMAHPs to develop research skills and experience whilst remaining clinical practitioners. At present, almost without exception, NMAHPs are faced with career opportunities which are *either* wholly clinical/managerial *or* wholly academic.

Despite these challenges, in recent years significant ground has been made in developing a culture of evidence-based practice and the involvement of NMAHPs in clinical research. In Scotland the introduction of clinical governance arrangements into the NHS has required all services and professions to be accountable in the sense of providing evidence of the extent to which their local practices conform to best practice standards. Further, funding by NES, SGHD, and Scottish Funding Council of the NMAHP Research Unit and the three NMAHP Research Consortia plus the development of the Clinical Research Facility model have led to the greater involvement of NMAHP clinicians in research and research collaborations with clinical and academic colleagues. The model presented here aims to build on these important foundations in a sustainable manner. It is informed by the argument that high quality NMAHP clinical research is most likely to emerge in volume when a significant proportion of NMAHPs employed by the NHS possess both clinical *and* research knowledge, skills, and experience and occupy posts requiring fulfilment of duties in both spheres. Such individuals will be best placed to generate research questions of clinical importance and apply appropriate, robust research methods to their solution.

5. National NMAHP Career Frameworks

Recommendations from *Modernising Nursing Careers* (Dept. of Health, 2006) advocated the need for greater flexibility in the balance of clinical and academic training for nurses, midwives and AHPs with the aim of developing new career structures underpinned by robust academic foundations. Through the creation of benchmarked roles at clearly defined levels of competence for professional practice the *Career Framework for Health* (Dept. of Health and Skills for Health, 2008; Scottish Govt., 2009) lays down a national template to support practitioners to work towards advanced practice attributes. Nine levels of roles have been established which specify the degrees of complexity, responsibility, experience and knowledge associated with each level. Clearly defined national career pathways are starting to be developed which specify the attributes and attainments required to make transitions through these levels in specific areas of practice and which emphasise sustainability through succession planning. Pathways are emerging which include specifications for NMAHP careers in non-clinical domains such as education, management and research. Further, the pathways are being articulated with reference to the generic *NHS Knowledge and Skills Framework* (Dept. of Health, 2004) and educational attainments and credits as set out in the *Scottish Credit and Qualifications Framework* (SCQFP, 2007).

Whilst *Modernising Nursing Careers* is, by definition, focused on nursing, the initiative plans to develop frameworks and processes that can be applied across the NMAHP professions where possible and these are beginning to emerge (Dept. of Health and Skills for Health, 2008). For the NMAHP developing a clinical academic (research) career it will be necessary to meet criteria that are matched to different levels on the career framework. Further, the *Career Framework for Health* emphasises the importance of service sustainability through succession planning.

All of the above considerations relating to national initiatives on benchmarked roles, career pathways, and succession planning are addressed explicitly in the model described here.

6. The Scheme

The key features of the Scheme are:

6.1 *Embeddedness* – all proposed posts will be wholly NHS Lothian establishment (see sections 6.2 – 6.4). The clinical service locations and focus of posts will be distributed in a manner which reflects a *pragmatic balance* of NHS clinical service and clinical research strategic priorities and the location of already well-established research teams. The research activity carried out will be of direct relevance and potential benefit to the clinical service (and its service users) in which posts are embedded and if possible will build on the broad programmes of research adopted by our local NMAHP research consortium, the Centre for Integrated Healthcare Research (CIHR) (see Fig. 1).

These posts will be a feature of the proposed Edinburgh Academic Health Sciences Centre which will facilitate linkage and collaboration with established research teams and research infrastructure (such as the Edinburgh Clinical Trials Unit, the NHS Lothian/ Wellcome Trust Clinical Research Facility), opportunities for multi-disciplinary research ventures, "on the job" learning from more experienced researchers, and scope for mutual support arrangements (see Fig. 1). In particular, it is anticipated that these posts would be an important element in the new NHS Lothian Health Services Research Unit which will also involve the appointment of academic staff with expertise in the areas of qualitative research, statistics and health economics over the coming months. Further integration will be established as appropriate, for example some posts could be linked in research partnership arrangements with colleagues within the Scottish Primary Care Research Network.

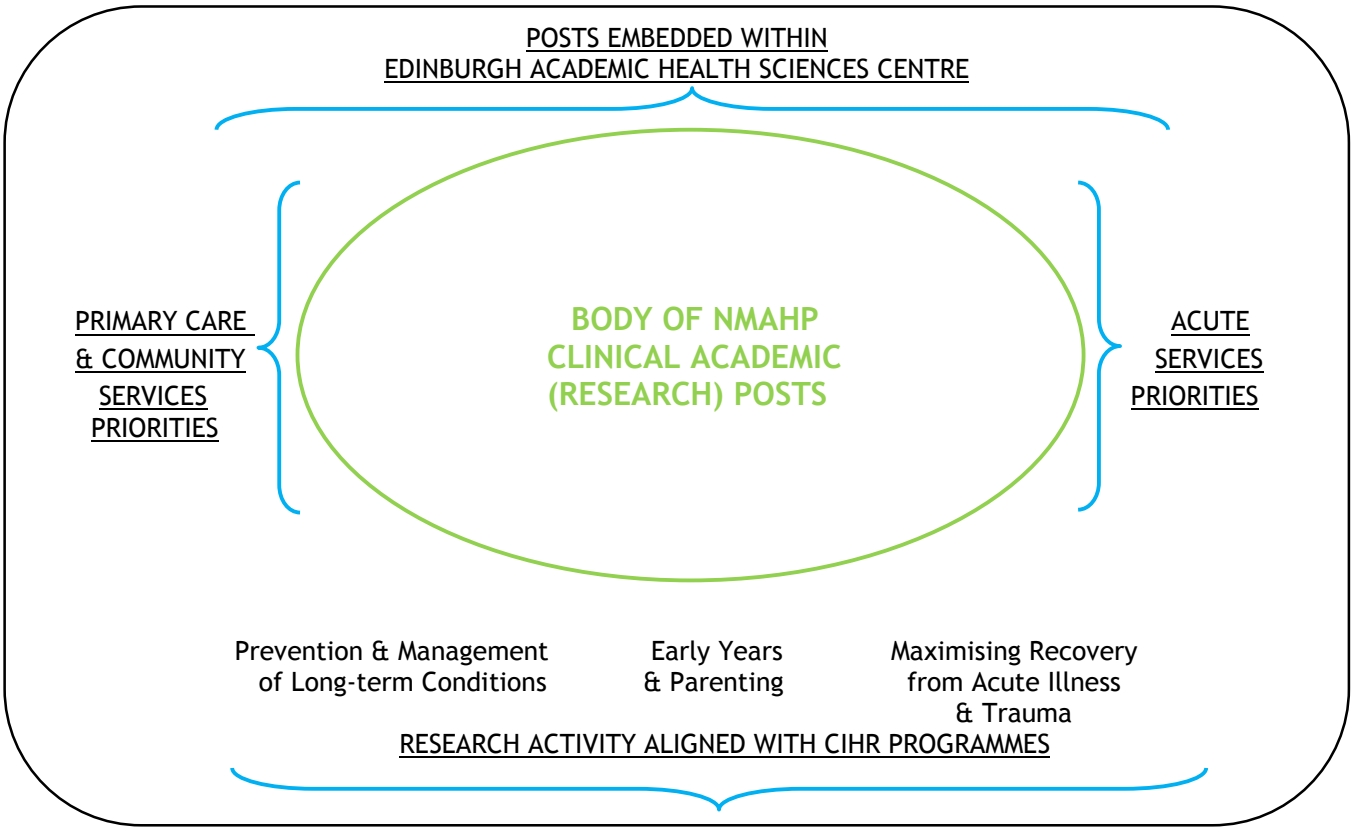

Figure 1: Embedded View

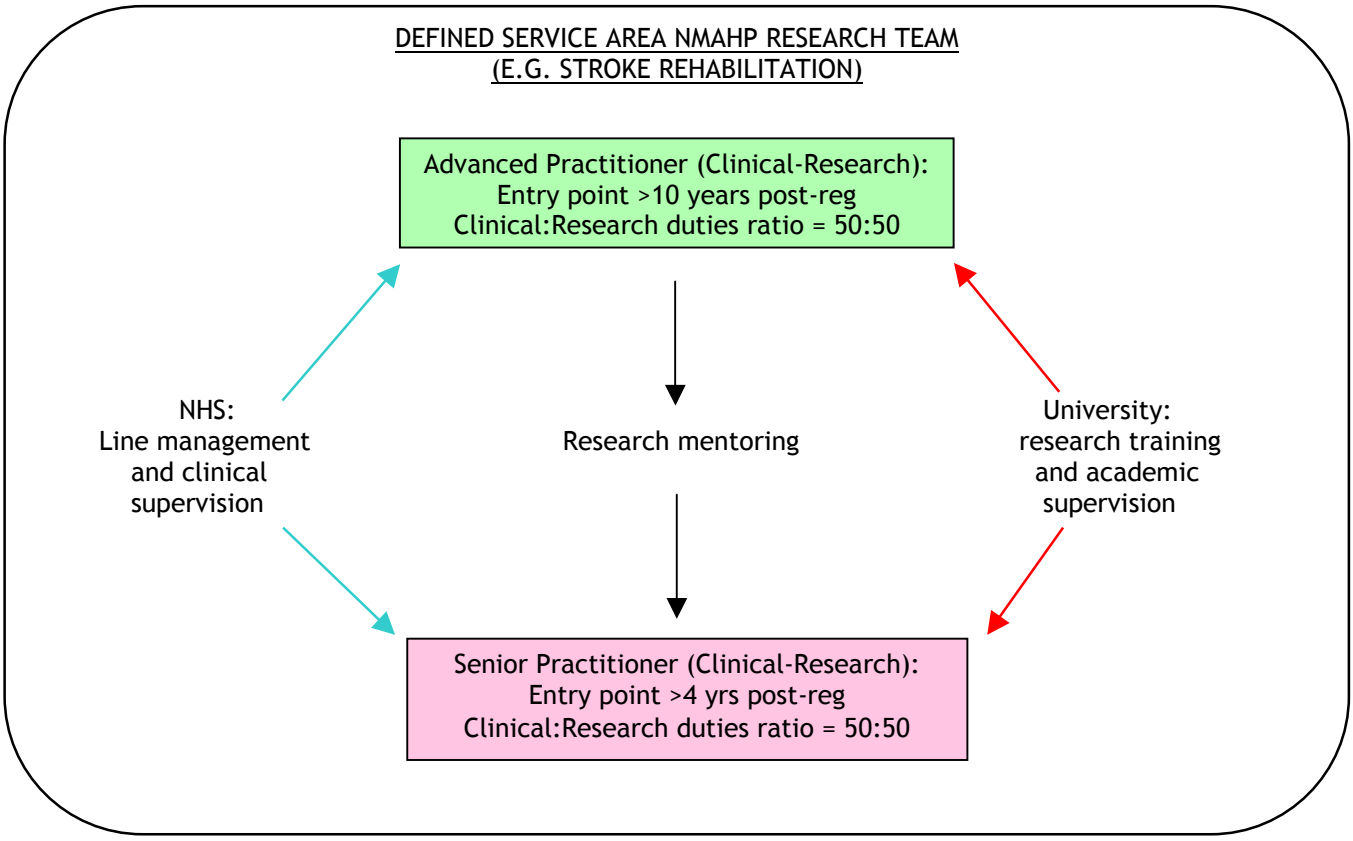

Figure 2: Cross-sectional View

6.2 *Partnership working* – although the posts will be embedded wholly within NHS Lothian the Scheme is based on a partnership arrangement between NHS Lothian, the University of Edinburgh, Edinburgh Napier University, Queen Margaret University Edinburgh and NHS Education for Scotland. This partnership working extends across the planning, investment and operational aspects of the Scheme.

6.3 *Team Organisation* – to prevent isolation and promote thematic programmes of research the posts will be organised on a team basis. Pairs of NMAHP clinical researcher posts will be created within defined service areas. Each team will contain a post in each of two discrete career training stages (indicative rather than rigid eligibility criteria):

- Senior Practitioner (Clinical-Research) (>4 years post-registration, already educated to Masters level and will register for a PhD),
- Advanced Practitioner (Clinical-Research)(>10 years post-registration, already educated to PhD level who will act as the research team leader and receive post-doctoral Clinical Research Fellow training).

6.4 *Clinical Demonstration Areas* - The model is innovative yet untested. Hence, this Scheme should be viewed as a pilot project. Three clinical demonstration areas will be selected to develop small teams of NMAHP clinical academic researchers. Team members will share not only a similar focus in their clinical activity but their research programme activity also. For example, two posts might be created in the area of stroke rehabilitation, with a clinician-researcher in each of the two career training stages (see Figure 2). All efforts will be made to ensure that the research carried out will be congruent with the relevant Directorate's/ Division's service priorities.

Ideally the demonstration areas will correspond to NHS strategic priorities and the broad programmes of research activity adopted by CIHR (see Table 1). However, alignment to areas where strong, active research teams are already well-established with evidence of previous collaborative ventures with one of the three HEI's would be an important practical consideration to optimise outputs such as publications and ultimately the generation of research grant income. Operational constraints such as the scope for backfill will also need to be considered.

Table 1: Number, Distribution and Skill Mix of Posts

Service locus	Primary Care/Community Services		Acute Services	
Potential research focus	Prevention & management of long term conditions (adults)	Early years and parenting	Maximising recovery from acute illness & trauma	
Potential clinical demonstration area examples	Self-management. Rehabilitation. Mental Health. Learning Disabilities. Health promotion.	Developmental Disorders. Joint working arrangements in health &education. ADHD. Health inequalities.	Critical care. Acute cardiovascular. Discharge to community.	**Totals**
Number of posts	2	2	2	**6**
Skill mix (Senior: Advanced)	1:1	1:1	1:1	**3:3**
Indicative selection criteria	Senior Practitioner (Clinical-Research) = >4 years post-registration and holding a Masters degree. Advanced Practitioner (Clinical-Research) = >10 years post reg. and holding relevant doctoral degree.			

6.5 *Parallel Progression* – a key principle underlying the Scheme is that as a clinical career progresses this is matched by progression in the level of research training received and expertise acquired. The increasing level of responsibility in clinical activities is paralleled in the research arena where an individual progresses from the level of junior investigator to ultimately being able to act as Chief Investigator of research collaborations. Importantly, as the career progresses the proportion of time in job plans assigned to research activity would increase. A representation of the full career pathway including a Practitioner grade involving Masters level study of research methods is shown in Figure 3. The pilot Scheme described here will involve only a section of this pathway, namely the establishment of posts at Senior and Advanced Practitioner (Clinical-Research) grades.

Over the limited timescale of the pilot Scheme (see section 6.11) it will not be possible for postholders to progress through the career grades but nonetheless the concept of parallel progression will remain central during the pilot. Of course, promoting progression for some NMAHPs through the full pathway over a whole career to fulfill sustainable succession planning is the primary long-term goal of the Scheme. Further, the model can accommodate a degree of flexibility allowing, for instance, the fast tracking of individuals who develop high levels of clinical competency relatively quickly or who have obtained research training such as a PhD by a different avenue.

6.6 *Research Training* - Part of the research element of job plans will be assigned to formal research training activities, the nature of which will be dependent on the career stage (see Fig. 3).

For the purposes of the pilot research training will be provided at two levels:

6.6.1. Three part-time PhD opportunities will be made available at the three contributing universities for those clinician-researchers in Senior Practitioner (Clinical-Research) posts. Each university will register one of the three PhD students to ensure equity across the HEI's.

6.6.2. Three NHS Lothian appointments will be made with honorary contract/visiting fellow/zero hours contract status at Clinical Research Fellow level across the three participating universities (one at each HEI) to provide advanced research training for those at the Advanced Practitioner (Clinical-Research) grade.

All formal research training and academic supervision will be organised in a co-ordinated manner by a Project Management Group (see Section 6.7) and provided as appropriate by the local universities. Crucially, academic supervision will be set up to ensure that postholders have access to established academic expertise in both the clinical area *and* methodologies pertinent to their clinical research activity.

All post holders will also benefit from the research training opportunities that are available through the NHS Lothian/Wellcome Trust Clinical Research Facility (CRF) Education Programme. These include seminars, workshops and courses on all aspects of clinical research including, for instance, research methods, ethics submission, research regulations, obtaining research funding, searching literature and writing for publication.

6.7 *Operational Management, Supervision and Support* - the career pathway project will be overseen by a Project Management Group accountable to a broader Project Steering Group comprising representatives of NMAHP management, local HEI's, NMAHP Consultants, Staff-side, NHS Lothian R & D Office, NES, Continuing Professional and Practice Development Department, and HR Dept.

Posts will be wholly NHS Lothian establishment functioning under NHS Lothian operational management arrangements. Managerial responsibility for authorisation of annual leave, sick leave, study leave, travel expenses and so on would be carried out by the clinical line manager (to facilitate the management of clinical service staffing, rosters and so on). More senior clinical colleagues within the relevant specialty will undertake supervision of the clinical practice element of posts in the standard way.

Each postholder will also have one main academic supervisor/director who will be an appropriately qualified and experienced researcher in one of the partner HEIs (see Fig. 2). The academic supervisor/director will supervise the research activities of the postholder and provide research training appropriate to the postholder's status as PhD student or Clinical Research Fellow. The NHS line manager and academic supervisor/director will meet on a regular basis to review progress.

The Advanced Practitioners (Clinical-Research) will also provide a research mentoring role for the Senior Practitioner (Clinical-Research) in their team (see Fig 2). Where the generation of research income leads to the employment of other research staff within the team these will be accountable to, and supervised by, the Advanced Practitioner (Clinical-Research).

Support for all postholders (in terms of both specific research activities and general issues regarding the practicalities of these pilot posts) will also be provided jointly by the Lead Practitioner Research and the AHP Research and Development Facilitator which are established posts within NHS Lothian. Where appropriate the NMAHP Consultants in NHS Lothian will be asked to contribute to this support function. This will be dependent on a degree of match between the nature of the research being carried out by postholders within the Scheme and an individual Consultant's research experience and particular job remit.

The professional mix of clinician-researchers within teams will to an extent be determined by the funding arrangements for the pilot. Specifically, it is likely that the two PhD studentships at the University of Edinburgh and Edinburgh Napier University will be primarily available to nurses/midwives and the PhD studentship at Queen Margaret University Edinburgh primarily to Allied Health Professionals. Similarly, it is likely that of the three Clinical Research Fellow roles the two established at the University of Edinburgh and Edinburgh Napier University will be primarily available to two nurses/midwives and the third at Queen Margaret University Edinburgh primarily to an Allied Health Professional (although there may be a degree of flexibility to these guidelines). However, regardless of profession, it will be essential that clinician-researchers have appropriate clinical experience within the defined service area in question. The Advanced Practitioners (Clinical-Research) will be expected to be developing or have developed expertise in both the relevant clinical area and clinical research generally.

Post holders will also have access to additional support through the NHS Lothian/Wellcome Trust Clinical Research Facility. The CRF has bases at the Western General Hospital, Royal Infirmary of Edinburgh and Royal Hospital for Sick Children and provides a broad range of resources including dedicated clinical space, research nurses, education and statistical support. Orientation to CRF facilities, services and staff and other resources such as Edinburgh Clinical Trials Unit, the imminent Edinburgh Health Services Research Unit, and the NHS Lothian/University of Edinburgh Academic and Clinical Central Office for Research and Development (ACCORD) office will form part of an induction programme to introduce postholders to the clinical research infrastructure that is available in Lothian.

6.8 *Job Terms and Conditions* - The clinical element of job descriptions will be unchanged barring the agreed reduction in hours. The research elements will be appropriately banded in line with established Agenda for Change National Job Profiles for Clinical Researchers.
For the purposes of the pilot it is anticipated that the Senior Practitioner (Clinical-Research) posts will be banded at Agenda for Change Band 6 and the Advanced Practitioner (Clinical-Research) posts at Band 7. The aim is for an appropriate degree of match between the banding of the research elements of these new posts and successful candidates' current banding. Postholders will be expected to be capable of carrying out their duties at the assigned banding level in *both* the research and clinical areas.

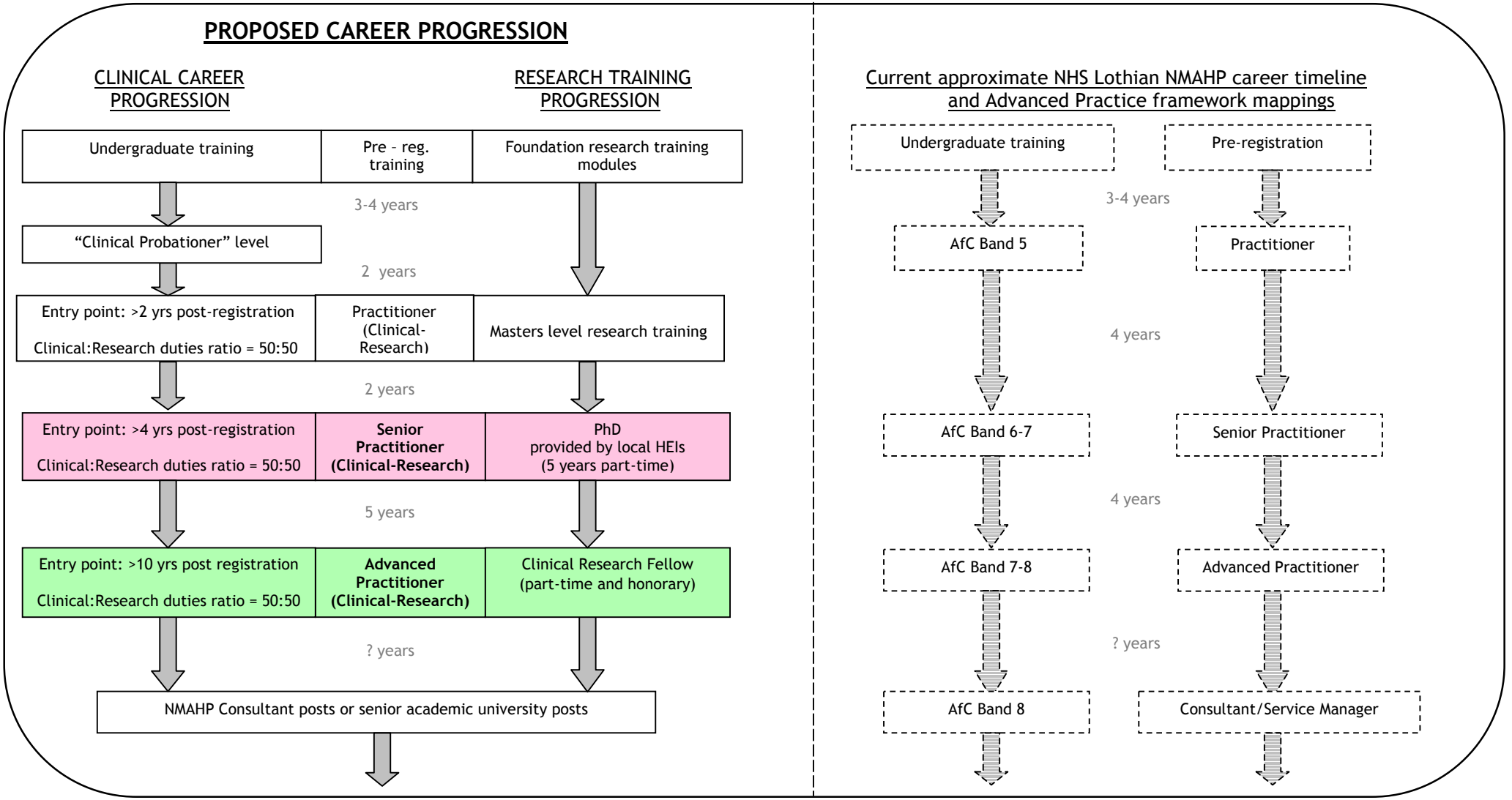

Figure 3: Proposed Full NMAHP Clinical Academic (Research) Career Pathway

It is anticipated that contractual obligations will be established which minimise the financial risk to NHS Lothian and its funding partners from postholders commencing but subsequently electing to terminate their postgraduate training. For instance, terms specifying circumstances under which postholders would be obligated to reimburse NHS Lothian for tuition fees paid will be included.

6.9 *Outputs and Evaluation* – An outcome and process evaluation is proposed. The interim evaluation findings may also feed iteratively into the support and development of the group of postholders who are funded through the Scheme. This would serve to strengthen the group and their potential successors as a focus for the establishment of a culture of enquiry and research-mindedness within the NMAHP professions in NHS Lothian.

Measurable outcomes will include:

- Numbers of NMAHP staff achieving research training in the form of higher degrees
- Numbers of NMAHP staff who develop advanced level clinical and research skills and experience to become eligible to take up NMAHP Consultant or senior academic posts
- Proportion of staff entering the clinical academic (research) career pathway who choose subsequently to continue on this career route
- Number of discrete research studies completed
- Number of publications in peer reviewed scientific journals
- Number of studies resulting in demonstrable change in practice/service delivery in NHS Lothian
- Amount of income generated by successful research grant applications
- Patient views on changes in service delivery emanating directly from these studies
- Job experience and satisfaction perceptions of those entering the pathway
- Views of multi-disciplinary teams in specific clinical areas (including service managers) where NMAHP clinical researchers have been practising.

It is proposed that these outcomes will be captured broadly as follows:

- Defined research outputs
    - Regular logs by the NMAHP clinician-researchers, recording training, research proposals submitted, achieved and completed, conferences and publications
- Evidence-based impact on service delivery
    - Log of clinical involvement in research activities and dissemination.
- Culture of enquiry
    - This is a very broad and complex question to define in terms of outcome. The funds for the evaluation are modest and it is suggested that this area is captured under the process evaluation.

The important aspects of process include:

- The relationships between NHS Lothian and the HEIs, and the impact on the development of the postholders over time.
- Support mechanisms, formal and informal over time
- Ways in which the postholders and stakeholders conceptualise clinical academic roles and potential future career trajectories, over time
- Networking and contacts made, and how this is done, over time.

It is proposed that these processes over time will be captured by:

- Interviews with the postholders at regular intervals. This could be done as learning set group interviews, and would itself have a culture-building function
- Interviews at regular intervals with NHS Lothian and academic stakeholders.
- Logging meetings and events relating to the clinical academic (research) career pathway development

Overall it is anticipated that findings from the evaluation will be fed back at intervals to the Project Steering and Management Groups, and the group of postholders themselves, in order to inform measures to support and strengthen the initiative.

6.10 *Patient Involvement* – It is envisaged that patient/service user representatives will play a key role in the selection process regarding specific research study proposals in their area of experience and the associated appointments to posts. Patient participation in the Project Steering Group overseeing the pilot will also be pursued.

6.11 *Duration of pilot* - The pilot will run for 5 years in total to accommodate the duration of the part-time PhDs but key evaluation points will occur with reporting against the above outputs at Years 1, 3 and 5 (see Table 2).

6.12 *Clarity of Funding Streams* – the clinical and research elements in job descriptions will be funded by separate identifiable funding streams; the clinical element, as now, from NHS Lothian's general budget whilst funding for the research element has been secured through investment by NHS Lothian R&D Office, Edinburgh Napier University, University of Edinburgh, Queen Margaret University Edinburgh and NES. Nevertheless, some of the research activities might be eligible for support by CSO doctoral and post-doctoral fellowships.

Table 2: Longitudinal View of Pilot Scheme in Each Clinical Demonstration Area

	Number of posts	Year of Pilot				
		Year 1	Year 2	Year 3	Year 4	Year 5
Senior Practitioner (Clinical-Research)	1	5 yr part-time PhD				Evaluation
Advanced Practitioner (Clinical-Research)	1	3 yr part-time Clinical Research Fellow			Possibility of extension	Evaluation

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Appendix: Strategic Priorities Addressed by the Scheme

- Evidence-based practice underpinning health service delivery (CSO, 2003; Scottish Executive, 2004; SEHD, 2002)
- Management of long term conditions and self-management of health and illness (LTCAS, 2008; Scottish Executive, 2005b)
- Shifting the balance of care towards community-based healthcare provision (Scottish Executive, 2005a; Scottish Govt, 2007; http://www.shiftingthebalance.scot.nhs.uk/).
- Multi-disciplinary, multi-agency, partnership working (SEHD, 2002; Scottish Government, 2007)
- Patient experience, involvement and ownership (SEHD, 2002; Scottish Government, 2007)
- Extended roles for NMAHPs beyond traditional boundaries (Scottish Executive, 2005c; Scottish Executive, 2005d)
- Flexible national NMAHP career frameworks and workforce development (Dept. of Health, 2006; Dept. of Health and Skills for Health, 2008; Scottish Govt., 2009)
- Continuing Professional Development, Life Long Learning, Knowledge and Skills Framework, and Agenda for Change (Agenda for Change Project Team, 2004)
- Widening the research skills base and building capacity and capability in under-developed fields (CIHR, 2008; CSO, 2003; Lothian NHS Board, 2008; Scottish Executive, 2004; SEHD, 2002)
- Strengthening the UK's applied clinical research portfolio and expertise (UKCRC, 2006)
- Greater emphasis on holistic, quality of life models (CSO, 2003)
- Protected research time in NHS job descriptions and support via ring-fenced funding (Lothian NHS Board, 2008; SEHD, 2002)
- Co-ordinated range of research training, mentoring and peer support arrangements (Scottish Executive, 2004; SEHD, 2002 & 2006)
- Thematic programmes of clinical research (CIHR, 2008; CSO, 2003; Lothian NHS Board, 2008)
- Strategic approach to research collaboration between NHS and HEIs (Lothian NHS Board, 2008; SEHD, 2002 & 2006)