

Clinical Academic Posts for Nursing: Final Report

prepared by

Dr Annie Weir
Centre for Educational Sociology
University of Edinburgh

with

Professor Jenny Ozga
University of Oxford
(formerly Centre for Educational Sociology)

November 2011

Deliverable 3 of the Research Study:
Building Knowledge Exchange:
Clinical Academic Posts for Nursing and
Recognition of Knowledge between Health and
Higher Education

report for

Chief Nursing Officer for Scotland
and NHS Education Scotland

November 2011

Contents

Executive Overview		i
1	Background and objectives	i
2	Methodology	ii
3	Executive summary	iv
4	Key findings	v
Section A	Introduction	1
Section B	Building on past Nursing Research Initiatives	3
Section C	Current developments in implementing clinical academic research careers for nursing	6
C1	Strategic overviews and priorities	6
C2	Establishing partnership synergy between NHS and partner universities	7
C3	Overview of current developments in implementing and sustaining clinical academic posts in NHS Greater Glasgow and Clyde	8
C4	Overview of current developments in implementing and sustaining clinical academic posts in NHS Lothian	10
C5	Overview of current developments in implementing and sustaining clinical academic posts in NHS Tayside	12
Section D	Key challenges to establishing and maintaining clinical academic posts for nursing	14
D1	The challenge of Implementing CARC policy	14
D2	Funding clinical academic posts and nursing research	15
D3	Challenges in managing HR systems	18
D4	Leadership for clinical academic posts	20
D5	Strengthening nursing research: the challenge	22
D6	Getting evidence into practice	25
Section E	Finding common ground: understanding differences in the NHS and their partner universities	28
E1	Acknowledging differences	28
E2	What counts as evidence?	28
E3	Developing a shared research agenda	28
E4	Valuing different kinds of knowledge	29
Section F	Benefits of establishing clinical academic posts for nursing	30
F1	Benefits for clinical academic post holders	30
F2	Benefits for NHS in establishing clinical academic posts	30
F3	Benefits for universities in establishing clinical academic posts	31
Section G	Quality/healthcare improvement potential	32
Section H	Knowledge exchange potential of clinical academic posts	33
H1	Demonstrate to the NHS the value of doing nursing research	33
H2	Educate the public	33

Section I	Making the most of nurses with doctorates: A brief case study	34
I1	NMAHP Research Unit research capacity building project	34
I2	Report on findings from interviews with three Nurses who hold doctorates and who would like to pursue a clinical academic career	35
I3	Summary – tap into a willing pool of holders of doctorates	37
Section J	Reflecting on nursing knowledge and theory and current Scottish CARC developments	38
J1	Towards a wider concept of knowledge production	38
J2	Training knowledge producers	39
J3	Building the evidence base	40
J4	Knowledge exchange	41
J5	What is happening in Scotland?	41
Section K	Perspectives from organisational sociology and the sociology of knowledge	43
K1	Perspectives on knowledge	44
Section L	Summary and conclusions	46
L1	Conclusion	46
References		49

Executive Overview

1. Background and objectives

This research aims to identify and understand the barriers to and facilitators of the development of senior clinical academic posts in nursing in Scotland in the context of implementation of the National Guidance for Clinical Academic Research Careers for Nursing, Midwifery and Allied Health Professions in Scotland (NHS Education for Scotland, 2010). The National Guidance for Clinical Academic Research Careers (CARC) for Nursing Midwifery and Allied Health Professions (NMAHPs) was led by NHS Education for Scotland (NES), with the guidance content developed by a national working group which included representation from universities and NHS stakeholders across Scotland.

For the purpose of this research, clinical academic posts are defined as those that involve clinical practice as well as university based research and teaching.

Clinical academic (education) careers in Scotland are the focus of a separate policy development. There are numerous clinical teaching arrangements in place in higher education and these are not the focus of this research.

The key research questions:

1. In what ways have health and higher education policies and management structures influenced the development of clinical academic career structures for nurses in Scotland, compared to Australia, England, Northern Ireland, the United States of America, and Canada? Do the latter draw on key ideas that would align with the Scottish approaches in healthcare and higher education? (Literature review, policy analysis).
2. What are the key policy barriers to and facilitators of providing clinical academic career structures in the nursing profession? (Literature review, policy analysis, case studies).
3. What are the key operational barriers to and facilitators of providing clinical academic career structures in the nursing profession? (Literature review, case studies).

The investigation involved a review of international and Scottish literature as well as case studies of partnerships in three selected health boards in Scotland NHS Lothian, NHS Greater Glasgow and Clyde, and NHS Tayside and their partner universities.

In conducting this comparative study over 18 months (1 March 2010 – 31 August 2011) equal weight was placed on investigating and reporting findings from both the clinical and academic contexts.

Reporting findings

Each of the three phases of the enquiry resulted in the production of a tailored report.

Phase 1: Clinical Academic Posts for Nursing: A literature Review (November 2010).

Phase 2: Case Study Reports (July 2011).

- I. Clinical Academic Posts for Nursing: NHS Greater Glasgow and Clyde Case Study.

II. Clinical Academic Posts for Nursing: NHS Lothian Case Study.

III. Clinical Academic Posts for Nursing: NHS Tayside Case Study.

Phase 3: Clinical Academic Posts for Nursing: Final Report (October 2011).

2. Methodology

Phase 1: In accordance with the research brief, the literature review:

- Identified key features of clinical academic partnerships in selected international contexts;
- Provided a comprehensive overview of the evidence base in the academic and policy literature relating to clinical academic careers in nursing, identifying common or recurring themes;
- Identified those features that are working well and what could be improved in current models;
- Placed these developments in the contexts of wider occupational change;
- Identified productive conceptualisations of knowledge and research translation;
- Refined the evidence base to be tested in the empirical investigation phase of the research.

The review followed academic conventions in the identification of core literature, including policy literature, in that a wide-ranging search was undertaken, focusing on the development of clinical academic careers as well as the broader policy context. It was established that there is no current comprehensive review of international literature in the development of clinical academic careers in nursing. Key texts were identified in each main focus area in the review relating to comparative models and perspectives on organisational sociology and sociology of knowledge, and the sample was then developed by following references from within those starter texts.

Each document was reviewed and analysed with respect to the objectives listed above, and cross-cutting issues and conclusions were provisionally identified. We then drew on knowledge of the field from earlier work (Weir 2009), from extended conversations with Professor Niven (former Director of the NMAHP Research Unit, University of Stirling), and from our current research on the European Commission Framework 7 research project on knowledge and policy in the health and education sectors in Europe (domain no longer valid)

Phase 2: Case Studies

The three case studies used the following methods: (i) documentary analysis of relevant background materials, (ii) interviews with key actors involved in clinical partnerships at a strategic level in universities and health boards, and (iii) three focus groups representing key players and nominated by each NHS Board (iv) informal observations and conversations with key actors.

The total number of participants for the three case studies is 41 - this includes the three NHS Directors of Nursing, senior NHS staff, senior academics from the Schools of Nursing and nursing clinical academics. The total number of participants in each case study is: 12 from NHS Greater Glasgow and Clyde and partner universities, 14 from NHS Lothian and partner universities 15 from NHS Tayside and partner universities. In addition informal conversations were held on the recommendation of some participants with a couple of NHS staff and university staff in each of the three NHS Boards – these included a mix of telephone conversations and face-to-face meetings. Their views echoed those of the invited participants.

The case studies drew on the key concepts identified in the literature review as contributing to barriers to recognition and development of clinical academic careers. These include issues of power and gender, as well as differences in knowledge practices and processes. These concepts have been tested in the case studies, including through the interview questions and observations. The case studies focus on the *National Guidance for Clinical Academic Research Careers for Nursing, Midwifery and Allied Health Professions in Scotland* (NHS Education for Scotland, 2010) and build the enquiry around responses to it and investigation of its implementation.

The following key issues are explored:

- strategies for career development/enhancement; support for/barriers to career development;
- strategic priorities for patient care/knowledge building;
- alignment/synergy between health boards and universities in relation to evidence-based practice, and to quality improvement in health and knowledge exchange.
- how widespread are different kinds of knowledge and what status do they have?
- the need for ‘translation’ of different knowledge-based processes and practices;
- power relations and status in the environments of practice and in higher education.

Phase 3: The final report

The final phase of the research involved further contact with the case study sites following a period of approximately 6 months to explore how progress on the implementation of the framework was proceeding, and to assess whether obstacles to development identified earlier had been adequately challenged by enablers of change as identified in the research to date. This phase of the research contributes to:

- (a) assessment of the extent to which the direction of change is maintained over time;
- (b) understanding of those factors that are most effective in challenging barriers to change.

During the final phase it was noted that ‘the voices’ missing from the previous reports were from those nurses who hold doctorates and would like to pursue a clinical academic career but have either only partially succeeded or have not yet succeeded for a variety of reasons. A small group of nurses with PhDs took part in interviews about their experiences.

This final report provides an evaluation of progress on developments in the case study areas, and draws overall conclusions about the extent to which explicit and complex definitions of knowledge may enable shared understanding across the academic/practice areas, and thus contribute to support for clinical academic careers at an advanced level.

Acknowledgements

This project is supported by the Chief Nursing Officer and NHS Education Scotland.

We would like to acknowledge the advice from Professor Brian Williams, NMAHP Research Unit, University of Stirling and Glasgow Caledonian University.

We would like to thank the senior managers and clinical academics who took part in this study for their valuable contribution to developing knowledge and understanding of the barriers to and facilitators of enhancing clinical academic careers.

3. Executive summary

Investigation of current developments in Clinical Academic Research Careers (CARCs) in the three case study NHS Boards suggests that the following key factors are significant in enabling the development of CARC:

- (i) Congruence in the strategies of all the key actors: Developments for CARC in the three case study Boards (NHS Greater Glasgow and Clyde, NHS Lothian, and NHS Tayside) are congruent with the NHS Agenda for Change (AfC) and with the Chief Scientist Office (CSO) strategic research direction of translational research. These recent strategies and initiatives are also aligned with NHS Education for Scotland's National Guidance for Clinical Academic Research Careers for Nursing Midwifery and Allied Health Professions (NMAHP) in Scotland.
- (ii) High level strategic commitment: The NHS Boards' Nursing Directors and senior management and their partner universities' senior management groups have demonstrated their support for CARC through reviewing current practice, developing supportive policies and funding initiatives.
- (iii) Publicly demonstrated convergence between key actors: the Executive Nurse Directors provide leadership and oversight for CARC. The Research & Development strategies for NMAHPs developed by the three case study Boards in conjunction with their partner universities are increasingly aligned with wider Board health priorities.

In addition, the following organisational arrangements are important:

- a. Formal agreements covering key aspects of the partnerships in order to ensure effective management of strategic priorities and operational processes between the NHS Boards and their partner universities (variable);
- b. Increasing familiarity with clinical and research priorities across all actors/sectors to enable better utilise limited resources (more work to do);

- c. Alignment with the three NHS Boards' workforce strategies and focus on integrating policies, resource allocation and practices aimed at supporting and embedding research careers.
- d. A longer term aim is to create a professorial clinical chair post to provide clinical leadership focused on achieving an evidenced-based practice culture. The incumbent would be expected to act as Principal Investigator (PI) on research grants.

4. Key findings

4.1 Building on past initiatives

There has been progress over time in enhancing the status of nursing knowledge and in supporting the development of clinical academic careers.

NHS and HEI participants from the three case studies noted that the contribution of past collaborative initiatives (including the Scotland-wide consortia established through partnership lead by the Scottish Funding Council consortia, CSO NMAHP research unit at the University of Stirling and Glasgow Caledonian University, schemes and individual appointments) have helped to lay a foundation for further developing nursing research capability and capacity as well as clinical academic careers in Scotland. These early initiatives helped to establish links between funders, NHS and HEIs.

4.2 Current developments include:

- Specific fixed term investment (eg the Lothian CARC pilot) and ongoing investments (eg CSO NMAHP Research Unit);
- Ad hoc investment in nursing research at PhD and Post doctoral levels;
- Building sound relationships between NHS and partner universities across different levels from senior managers through to operational levels and in a variety ways such as membership of each other's committees and joint publications.
- Developing a more shared research agenda with an emphasis on better resource utilisation and meeting the research needs of NHS.
- Recent 2011 initiatives:
 - a) NHS Lothian identified their NMAHP research community of 90 clinical and academic staff active in research up to PhD level and is establishing networking events for them, a website, newsletter and contacts database, to form a pool of budding clinical academics.
 - b) The CSO NMAHP research unit has developed a re-engagement initiative supported by the Scottish Government Health Directorates' Chief Nursing Office aimed at providing the opportunity for trained NMAHP researchers currently not in research posts to re-engage with research which will be of direct benefit to the health and wellbeing of the people of Scotland. Secondly, this initiative aims to develop and pilot a model for re-engagement, identifying barriers and facilitators which can be

addressed more widely and for the longer term. It is hoped that this will provide a template for a future strategy for sustained research capacity building of NMAHPs.

4.3 Where is there scope for improvement?

There are still a number of challenges to overcome in order to support clinical academics currently in post; and aspiring clinical academics (two distinct groups – those who hold PhDs and those who are currently undertaking research training) who sit outside current established initiatives and schemes; and future clinical academics. Some overarching themes emerged relating to areas for improvement. These are:

- the need to build on the developing partnerships between NHS and HEIs with attention to strategic and operational constraints (in all three case study NHS Boards there are small but growing numbers of clinical academic posts and no clear picture emerging as to what a critical mass of clinical academics might look like across individual NHS Boards or Scotland as a whole or how to create a sustainable future);
- the need to identify more long term and sustainable funding mechanisms to support nursing research and clinical academic careers beyond current initiatives;
- the need to mainstream CARC by embedding a clear career path from undergraduate to leadership status, with more developed infrastructures of support in NHS and HEIs to sustain greater numbers of clinical academics beyond the current small initiatives and to ensure that this potentially supportive career framework does allow for seamless movement between NHS and HEIs;
- the need to attract and retain clinical academic leaders with professorial status (some nursing professors have retired and have not been replaced; there are no clinical academic chair posts);
- closer and more visible alignment of research priorities in nursing with health policy priorities while also allowing 'blue skies' research to flourish;
- The need to continue to support and profile nursing research (eg through utilisation by NHS and for the 2014 REF) in order for nursing to compete in a very challenging research funding environment;
- enabling clinical academics at all levels to have sufficient authority to implement research based findings to support practice and make quality improvements;
- the need to build on ideas of knowledge exchange and translation to support clinical academic careers in nursing, for example by integrating a knowledge exchange plan at the research proposal stage and monitoring the outcomes.

4.4 Recommendations

Key implications for the development of Clinical Academic Research Careers for nursing in are identified as follows:

- to increase investment in leadership roles such as clinical chairs and clinical academic professorships;
- to build on the synergy between health policy priorities, the quality improvement agenda and the development of clinical academic careers;
- to fill gaps in the evidence base, especially in relation to the impact of clinical academic posts in nursing on the translation of research knowledge into improved patient outcomes;
- to develop a stronger focus on the potential of the 'translation' role in clinical academic posts.

Section A: Introduction

As a key player in the national drive in Scotland for quality healthcare improvement, the nursing profession has recognised that its practice needs to be based more strongly on evidence. The Scottish Government, NHS and the nursing sector have developed policies and strategies that focus on enabling nursing expertise and higher education to better inform and influence the national health agenda through strengthening capacity to undertake nursing research and to use evidence to inform practice, in order to improve outcomes for patients. Current Scottish nursing initiatives put emphasis on clinical academic research careers with clinical teaching arrangements already well established and the subject of a separate report (NHS Education Scotland, 2011). There is a small but growing literature that now links developments in nursing education, research and scholarship with improved outcomes for patients (Rafferty et al., 2007; Tourangeau et al., 2006). To realise its potential as a significant contributor to quality improvement in health, new nursing knowledge must be translated into practice (Weir and Ozga, 2010).

This research study has suggested that clinical academic posts for nursing have the potential to enhance evidence-based practice and quality improvement through the co-production of knowledge in direct patient care research. The concept of evidence-based medicine/health rests on an implicit assumption of a partnership between universities as knowledge-generators (evidence) and health systems as utilisers of that knowledge (Weir, 2009). However, there are reasons why such partnerships may be difficult. For example, the NHS requirement for knowledge about practical solutions to healthcare problems may not align with a university agenda to create and disseminate new knowledge (ibid). A full understanding of these tensions requires an analysis of structural, organizational and contextual issues on both sides - these are explored in this study.

This third and final report draws on findings from the literature review and provides a synthesis of the three case studies (1. NHS Greater Glasgow and Clyde, 2. NHS Lothian, 3. NHS Tayside and their partner universities) which are based on the experiences and insights of NHS senior nursing managers, their counterparts in partner universities and nursing clinical academics with regard to enhancing nursing research and exploring different approaches to establishing, implementing and maintaining clinical academic careers for nursing. The previous reports (literature review and three NHS Board case study reports) focused in particular on identifying barriers and facilitators to establishing, implementing and maintaining clinical academic careers for nursing within the context of the implementation of National Guidance for Clinical Academic Research Careers for Nursing, Midwifery and Allied Health Professions in Scotland (NHS Education for Scotland, 2010).

In this final report we discuss the main themes to emerge from our previous work. In addition we focus on current challenges to implementing and maintaining clinical academic research careers for nursing and examine attempts by the NHS Boards and their partner universities to overcome those challenges.

NHS Glasgow and Greater Clyde, NHS Lothian and NHS Tayside and their partner universities (listed in Section C) have provided examples of where nursing research is successfully being

undertaken by nursing academics and increasingly by a small numbers of clinical academics. The common issue they face is how to implement clinical academic posts and encourage nursing research more widely beyond current ad hoc appointments and targeted initiatives that usually involve relatively small numbers of participants with short term funding (that is for the life of a research project and is often for less than five years). A significant common concern is for NHS and partner universities to secure ongoing funding to build a sustainable infrastructure in their area to support nursing research and clinical academic posts for nurses.

The key themes to emerge from the case studies are:

- Building on past initiatives;
- Current developments in implementing clinical academic research careers for nursing;
- Challenges to establishing and maintaining clinical academic posts for nursing;
- Different knowledge priorities in NHS and their partner universities;
- Benefits of establishing clinical academic posts for nursing;
- Quality/healthcare improvement potential;
- Knowledge exchange potential.

Other areas discussed here include:

Moving forward – the PhD/professional clinical doctorate debate.

Throughout the report the following terms are used:

‘Interviewees’ – refers to the views of the majority of interviewees holding that view from both NHS and HEIs.

‘Some interviewees’ refers to views of a small group (fewer than several people) from both NHS and HEIs.

‘HEI views’ refers to case study participants from universities.

‘NHS views’ refers to case study participants from the three case study NHS Boards.

Section B: Building on past Nursing Research Initiatives

NHS and HEI participants from the three case studies acknowledged the contribution that past collaborative initiatives (including consortia, CSO NMAHP research unit, schemes and individual ad hoc appointments) have made to helping to lay a foundation for further developing nursing research capability and capacity as well as clinical academic careers in Scotland. These early initiatives helped to establish links between funders, NHS and HEIs, some of which still exist today.

Since the early 1990s, there have been three key phases of nursing policy development influencing initiatives to support the development of nursing research and to support clinical academic careers for nursing. The first arose from a concern that nursing practice and education were not sufficiently underpinned by evidence and that nursing research should supply this evidence.

Case study participants identified one of the successful early collaborative initiatives designed to build research capacity and supporting infrastructure as the Chief Scientist Office NMAHP Research Unit which was established in 1994 and hosted across two universities, the University of Stirling and Glasgow Caledonian University. The unit was originally established as a nursing research initiative and was later extended to include AHPs continues today to make a significant contribution to nursing research.

Scotland's under-performance in nursing Units of Assessment (UoA) in the 2001 Research Assessment (RAE) raised concerns about the quality and quantity of nursing research (Scottish Executive Health Department, 2002). Insufficient investment was identified as a barrier to future development. Case study participants noted that the "Choices and Challenges" (Scottish Executive Health Department, 2002) strategy, designed to be a key policy facilitator for development of capacity and capability, had led to the implementation of a number of NMAHP initiatives and marks the beginning of the second phase. Previously nursing initiatives had included midwifery but not AHPs. In 2003 existing research capacity and infrastructure came under close scrutiny when the strengths and weaknesses of all NMAHP disciplines in HEIs in Scotland were reviewed (Dowding Report 2003). The Scottish Executive Health Department (SEHD) and the Scottish Higher Education Funding Council (SHEFC) used this report to inform their funding decisions to support NMAHP research schemes.

A few case study participants referred to the Research Training Scheme 2003 (RTS) (now completed) which was designed to increase research capacity and capability within NHS Scotland by supporting six PhDs and six post-doctoral fellows (early career posts) for NMAHP clinicians who spent one day a week working for the NHS. The RTS initiative was jointly funded by the Scottish Executive Health Department (the Chief Scientist Office and Chief Nursing Office), NHS Education (NES) and The Health Foundation. The NMAHP Research Training (Scotland) consortium comprised a range of departments in the Universities of Dundee, St. Andrews, Stirling, Chief Scientist Office NMAHP Research Unit, Institute of Applied Health Sciences Research (Aberdeen) and Robert Gordon University.

Clinical partners included NHS Trusts in Tayside, Fife, Stirling, Highland, Grampian, Shetland, Orkney and the Western Isles (Jones, 2010).

The 2003 £12.45m Strategic Research Development Grant initiative which was designed to support Scottish NMAHP research was considered by the case study participants to be a highly significant development in moving the research agenda forward and forging sound partnerships upon which new research initiatives could build. The collaboration supported three research consortia of universities in partnership with NHS Boards to undertake research on nursing, midwifery and allied health professions practice, patient-centred research and build research capacity and capability. The three research consortia in Scotland, which became operational in 2004, were:

- the Alliance for Self Care covering the north, and north east of Scotland;
- the Centre for Integrated Health Care Research covering the south and south east of Scotland;
- Health Q-West covering the west of Scotland.

As the funding for the initiative was for a limited period of time the consortia partners were challenged with making new arrangements to maintain and strengthen nursing research and clinical academic careers. Both the NMAHP Research Training Scheme (2003) and the Strategic Research Development Initiative (2004) significantly boosted the number of researchers and the quality and quantity of research outputs (Tierney, 2007).

The Chief Scientist Office also supports academic capacity building through Health Services and Health of the Public Research scheme, which is open to NMAHP professionals, although these awards are not designed for clinical academics as they are full time research awards. A couple of case study participants who had been successful in gaining CSO fellowships for doctoral and post-doctoral study believed this helped to build their careers.

The Early Clinical Career Fellowships (ECCF) initiative is aimed at developing nursing and midwifery clinical leaders of the future. The first pilot cohort of ECCF who commenced in late 2007, recently completed their fellowships. The subsequent cohort of the ECCF pilot participants are working on completing masters study. A third cohort of around 20 fellows will commence in September 2011 and this will be called ECCF 2011 as it differs from the pilot (NES, 2011). Some case study participants had held fellowships. They noted that Fellows who complete their Masters programmes should be encouraged to go on to do a PhD and possibly pursue a clinical academic career.

Tierney identified a number of barriers to capacity building that had yet to be overcome including sustainable funding, heavy workloads and competing demands on staff from teaching and other responsibilities reducing the time for research and a lack of research leadership at professorial level and senior researcher level (Tierney, 2007:27).

During the second phase, although initiatives were jointly set up for NMAHPs, nursing and midwifery research achievements were often reported separately from those of AHPs, for example, in the separate Tierney reports and separate units of assessments in the 2008 RAE.

The third and current phase focuses on the new CARC NMAHP schemes which are based on policies seeking to boost nursing research by aligning nursing research closely to NHS priorities and trying to support clinical academic careers so that individuals who pursue research careers are not lost to the clinical professions (UKCRC, 2007, 2009). Although strategic collaborations have been established it was also noted that they were not consistent in their approach to clinical academic posts and consequently there are limited pathways available to promising clinical academics.

Developments in this phase include the 'National Guidance for Clinical Academic Research Careers for Nursing, Midwifery and Allied Health Professions in Scotland' which provides guidance for NHS Boards and partner universities to support the implementation of CARC (NHS Education for Scotland, 2010). The following sections of this report provide a synthesis of the three participating NHS Boards' and their partner universities responses to implementing CARC and in particular the challenges they face and how they attempt to address those challenges.

Table 1: Summary of key events/reports influenced or contributed to the development of clinical academic careers for nursing in Scotland

1994	The Chief Scientist Office Nursing Research Initiative launched (now NMAHP research unit based at the University of Stirling and Glasgow Caledonian University)
2002	Choices and Challenges Strategy
2003	NMAHP research training scheme launched extended to 2010
2003	In 2003 existing NMAHP research capacity and infrastructure came under close scrutiny (Dowding Report 2003). SEHD and SHEFC used this report to inform their funding decisions to support NMAHP research schemes.
2004	Allied Health Professionals (AHP) Research and Development Action Plan was launched.
2004	Strategic Development Initiative – three NMAHP consortia established across Scotland
2005	UKCRC Walport Report – research career paths for doctors and dentists in training
2007	Capacity and capability for nursing & midwifery research in Scotland report (Tierney, 2007)
2007	UKCRC – the Finch Report recommends nursing research pathways
2007	Early clinical career fellowships (Fellows who complete their Masters programme form a pool of potential PhD candidates who may go onto pursue a clinical academic career
2008	Scottish Government Health Directorate (SGHD) – The Advanced Practice Toolkit
2008	Universities Research Assessment Exercise (RAE) results
2009	NMAHP Leaders Day focusing on NMAHP research and development
2009	NMAHP Clinical Academic Career Pathway Consultation Development
2009	Curam, professional magazine for NMAHPs covers policies, practices and research
2010	NES National Guidance for Clinical Academic Research Careers for NMAHP in Scotland
2010	Consultant Nurses: Guidance for NHS Boards 2010
2010	Advanced Practice Nursing Research Roles: Guidance for NHS Boards

For more details see:

Weir, A. and Ozga, J. (2010) *Clinical Academic Posts for Nursing: A Literature Review*. Edinburgh: Centre for Educational Sociology, the University of Edinburgh.

Section C: Current developments in implementing clinical academic research careers for nursing

This section presents the key findings of the interviews and focus groups with NHS senior managers, senior academics and clinical academic post holders from the three case studies.

Current developments in the three NHS Boards are in keeping with NHS workforce development policies such as *Modernising Nursing Careers* (Department of Health, 2006) and take cognizance of the '*National Guidance for Clinical Academic Research Careers for Nursing, Midwifery and Allied Health Professions in Scotland*' which describes a CARC framework and accompanying set of principles. The 10 principles are viewed as being broadly in line with developments in England with a strong focus on NHS-academic partnerships while capitalising on multi-disciplinary collaborations. The principles also cover protected time for clinical practice and research to be conducted concurrently, the importance of research mentoring and addressing HR issues along with local adherence to the National Framework to ensure consistency and parity to enable career mobility (NHS Education, 2010:14).

Section C is divided into five parts:

Part 1: Strategic overview and priorities

Part 2: Establishing partnership synergy between NHS and partner universities

Part 3: Overview of current CARC developments in NHS Glasgow and Greater Clyde

Part 4: Overview of current CARC developments in NHS Lothian

Part 5: Overview of current CARC developments in NHS Tayside

Section C1: Strategic overview and priorities

1.1 Key features of strategic approach and priority setting by NHS Boards and their partner universities

There is high level strategic commitment from the case study NHS Boards and the senior management groups of their partner universities to further development and implementation of CARC and support nursing research. The Executive Nurse Directors provide high level leadership and oversight in their respective NHS Boards for current CARC initiatives. They have made a focused effort in times of fiscal constraints to keep the creation and implementation of clinical academic posts high on the wider NHS agendas.

The university managers stated that the establishment of clinical academic posts fits well with their university's strategic plans to enhance nursing research and education. The establishment of clinical academic posts is seen as a useful bridge for building a closer relationship between the universities and the NHS. They also noted the importance of working together to address issues of governance, funding and building a better infrastructure to support CARC's future sustainability.

There is a strong joint commitment at senior levels of the organisations to promoting nursing research to improving patient outcomes and the quality of service. Each NHS Board's Research & Development strategy for nursing has been developed in consultation with partner universities with increasing emphasis being placed on aligning to NHS Board priorities.

Case study participants considered high level clinical and academic leadership to be important to the future of CARC and they intend to work on how to create Clinical Academic Chair posts. The Clinical Chair is a professorial post providing clinical leadership focused on achieving an evidenced-based practice culture. The Clinical Chair is expected to identify strategically important clinical priorities for research and is expected to hold Principal Investigator (PI) researcher status thus bringing in funds to academic partners for research, contributing the Research Excellence Framework exercise and raising the status of nursing research.

Section C2: Establishing partnership synergy between NHS and partner universities

Over many years the three NHS Boards and their partner universities have worked to establish effective working relationships at a strategic level. NHS Boards and their partner universities are characterised by different organisational priorities, funding mechanisms, reporting structures, and research agendas. In order to work effectively together on establishing and maintaining clinical academic posts and promoting nursing research they needed to become familiar with each others' current organisational priorities, the clinical priorities of NHS and the research strengths of partner universities. At an operational level these relationships have been promoted through various joint clinical, education and research committees, professional networks as well as with individual post holders working across both organisations.

Over recent years there has been a move to create greater synergy between the research needs of the NHS and the research agendas of their partner universities by establishing a shared research framework. For example, NHS Lothian has collaborated with partner universities to create the NMAHP Research Framework (2010-2015). NHS Greater Glasgow and Clyde has collaborated with partner universities to create a draft Research and Development Strategy for NMAHPs (2010). In NHS Tayside work has been undertaken on a joint research framework by NHS Tayside and NHS Fife in collaboration with partner universities.

Developing new clinical academic post initiatives required investment by NHS and partner universities in providing a significant lead-in time in which to explore and agree on the following: the strategic direction and shared research agenda; to consider the impact of any new initiative on the universities' expected Research Excellence Framework (REF) outcomes, decide on project leadership, establish a steering group and an operational management group, address issues such as funding for the infrastructure, management and operational processes required for implementation.

For individual clinical academic appointments (that sit outside current initiatives and the CSO NMAHP research unit) the funding, legal and HR responsibilities are agreed to by NHS and the partner university at the time of establishing a post and reviewing the ongoing viability of established posts. HR responsibilities either sit with the NHS or with a university depending on where the substantive position is held and that organisation looks after the contract, grading, sick leave, benefits, and pension contributions. Where an appointee has a substantive post with NHS they may hold an honorary post with a university or vice versa. For joint appointments setting performance objectives and performance reviews are conducted in joint meetings between post holder and line managers in both NHS and the university.

2.1 Networks between NHS and HEIs

The networks at different organisational levels between NHS and HEI have been built over the years and these have enabled opportunities to work towards greater understanding of research service priorities by HEIs and better understanding of academic strengths by NHS of partner HEIs.

Senior nurses within NHS have the opportunity to sit on relevant committees and influence agendas that support the development of nursing research and implementation of clinical academic posts. Exposure of Executive Nurses at Board level helps the Board members to understand the benefits of nursing research and clinical academic posts.

Section C3: Overview of current developments in implementing and sustaining clinical academic posts in NHS Greater Glasgow and Clyde

This part provides a brief overview of how NHS Greater Glasgow and Clyde and their partner universities have implemented and sustained clinical academic posts, and is derived from the case study report. At the time of writing this final report NHS Greater Glasgow and Clyde was given the opportunity to provide an update on recent progress.

There are approximately 17000 nurses in NHS Greater Glasgow Clyde and only a very small number (0.07%) are in clinical academic posts.

At the time of writing there are 13 clinical academic posts, four of which are fixed term contracts with three due to expire over the next two years. Between 2000 and 2010 18 clinical academics posts relating to specialist areas were created on an ad hoc basis in NHS Greater Glasgow and Clyde. Post holders' titles vary: they include Consultant Nurse (7); Consultant Midwife (3); Lecturer Practitioner (3); Reader, Lead Nurse Clinical Nursing Research (1); Senior Nurse/Senior Lecturer Research Development post (a three year secondment from an HEI concluded in 2005) (1); Senior Nurse Practice Development (1); Project Nurse (1); Head of Practice Development (1).

Employment arrangements vary. For example Nurse Consultant posts and the Head of Practice Development post are fully funded by NHS Greater Glasgow and Clyde. In addition these post holders have honorary contracts with the HEI sector as lecturers. HR

responsibilities for these posts lie with the NHS. Two post holders are employed by HEIs but 50% funded by GGC (Reader / Lead Nurse and Lecturer / Practitioner (Elderly Care)) and hold honorary NHS contracts as Registered Nurses. One post holder is employed by HEI but has an honorary contract with NHS as Project Nurse.

Of the clinical academic post holders, one holds a PhD, one holds a professional doctorate and one is currently undertaking a professional doctorate. Four are involved in teaching only, four are engaged in teaching and research and two are in research only posts. Of those currently engaged in research three hold Principal Investigator status and three are Co-Investigators. Research is currently being undertaken in the following areas: learning disabilities, decision making, palliative care, and cardiac services rehabilitation. Cardiac rehabilitation and learning disabilities outcomes from research have been put into practice.

The Nursing Midwifery and Allied Health Professions Research Unit (NMAHP RU) is a national research unit that is core funded by the Scottish Government's Chief Scientist Office, with bases at University of Stirling and Glasgow Caledonian University. Its remit is to develop high quality research which has a direct impact on the wellbeing of the people of Scotland. The Unit aims to develop capacity and leadership in research through clinical academic research engagement. The NMAHP Research Unit conducts research interventions for fundamental care and therapy, and research in how to improve the quality and delivery of NMAHP practice and decision making. These interventions involve conducting different types of studies ranging from systematic reviews to multi-centre randomised or cluster randomised control trials.

The current draft research and development strategy for NMAHPs (2010) was developed by NHS Greater Glasgow and Clyde in collaboration with three partner universities: the University of Glasgow, Glasgow Caledonian University and the University of the West of Scotland. This strategy aims *'to contribute to the evidence-base to inform practice to ensure the delivery of effective patient care'*. This draft strategy focuses on enhancing capability and capacity to undertake high quality research. It places more emphasis than previous strategies on developing a career pathway for NMAHPs that utilises their research skills and promotes the recognition of the value of research to the NMAHP community. An important focus of the strategy is the dissemination of research findings including translation and integration into practice.

NHS Greater Glasgow and Clyde are working with their partner universities on developing clinical academic careers and aligning nursing research to better meet the needs of the NHS. Clinical academics in NHS Greater Glasgow and Clyde in particular consider the following as their greatest challenges: heavy workloads; difficulty in obtaining research funding and being able to obtain support and authority to implement their research findings.

For further details on this case study see:

Weir, A. and Ozga, J. (2011) *Clinical Academic Posts for Nursing: NHS Greater Glasgow and Clyde Case Study*. Edinburgh: Centre for Educational Sociology, the University of Edinburgh.

Section C4: Overview of current developments in implementing and sustaining clinical academic posts in NHS Lothian

This part provides a brief overview of how NHS Lothian and their partner universities have gone about implementing and sustaining clinical academic posts, and is derived from the case study report. At the time of writing this final report NHS Lothian was given the opportunity to provide an update on recent progress.

There are approximately 14,000 nurses in NHS Lothian and only a small number of clinical academics.

Currently there are 22 clinical academic posts. Between 1998 and 2011 24 clinical academic posts relating to specialist areas were created mostly on an ad hoc basis in NHS Lothian. The most recent appointments are part of the NHS Lothian NMAHP CARC pilot discussed below. Post holders' titles vary: they include Nurse Consultants/Consultant Nurse and Honorary Nurse Consultant (13); Research Lead/Facilitator (1); Senior Nurse-Research/Lead Practitioner Research (1); One post holder held the following posts from 2002 -2011: part time Staff Nurse/part time Nurse Researcher, part-time Research Fellow & part-time Clinical Research Specialist, full-time Clinical Research Specialist and Honorary Fellow; Band 7 Nurse (1); Joint Appointment Senior CNS/Lecturer (1); Lead Nurse/Clinical Researcher (1); Joint Appointment Nurse Specialist/ Lecturer (1); There is one Advanced Practitioner Clinical Research post currently with three more posts to be appointed to by the end of 2011. There is one Senior Practitioner Clinical research post currently with three more posts to be appointed to by the end of 2011; and the highest status post currently is Clinical Reader of which there is one post holder.

Since 2008 two specific initiatives have been implemented:

1. 'Clinical Academic (Research) Careers Scheme for Nurses, Midwives and Allied Health Professionals in NHS Lothian' (NHS Lothian, 2010a)
2. 'Lothian NMAHP Research Framework 2010-2015' (NHS Lothian, 2010b).

4.1 Employment arrangements

Employment arrangements are varied; for example most post holders have their substantive post and HR matters are covered by the NHS. In addition they hold honorary appointments with HEIs with the time spent at each location varying depending on individual contracts. Other post holders have joint appointments that are partly funded by NHS and partly by HEIs with HR matters being shared depending on the weighting of time allocated to each location. Other post holders have a full time post with the HEI being the employer and covering HR matters and an honorary post with NHS.

4.2 Engaging in teaching and research

Of the current pool of clinical academics seven hold doctorates. In addition a nurse and a midwife hold doctorates but are not working as clinical academics. Of the current pool of clinical academics, six are involved in teaching only, 10 are involved in both teaching and

research and five are engaged in research only. One Nurse Consultant is currently not involved in teaching or research. Of those engaged in research eight hold Principal Investigator status and four hold Co-Investigator status. Research is currently being undertaken by clinical academics in the following areas: Community Nursing, Facilitator Cancer Nursing, Substance Misuse, Learning Disability, Cardiology, PSI Psychosis, Sexual Health Compassionate, Care Long term conditions, Neonatology, Critical Care Palliative Care. Cancer, substance misuse, learning disabilities and critical care are example of areas where outcomes from research have been put into practice

The 'Clinical Academic (Research) Careers Scheme for Nurses, Midwives and Allied Health Professionals in NHS Lothian' was launched in May 2010. NHS Lothian and NHS Education (NES) in partnership with three universities (University of Edinburgh, Edinburgh Napier University and Queen Margaret University) have developed a five year pilot scheme aimed at establishing research career pathways for a small number of NMAHPs. This NHS Lothian partnership model is embedded in clinical practice and involves collaborating academic partners in providing research training and supervision. The NHS Lothian collaborative pilot was designed to help overcome some of the perceived barriers to the successful implementation of clinical academic research careers and to further developing a culture of evidence-based practice. The 'Lothian Nursing, Midwifery and Allied Health Professional (NMAHP) Research Framework 2010-2015' articulates a vision and guiding principles that underpin their collaborative approach to research and presents a five year plan (NHS Lothian, 2010b). Both the pilot and the research framework are aligned with the NHS Education for Scotland national approach to NMAHP Clinical Academic Research Careers in Scotland discussed above. For those clinical academics who sit outside the pilot there are still many challenges in working across the NHS and universities such heavy workloads, obtaining research funding and concerns about the NHS banding for clinical academic posts.

4.3 NHS Lothian update on developments in establishing and maintaining clinical academic posts for nurses

Since the earlier period of data collection for the case study in late 2010 and January 2011 two of the CARC demonstration sites have been funded. The first collaboration is between the University of Edinburgh and NHS Critical Care and two nurses commenced employment in January 2011. Their focus is on recovery from critical illness and has an integrated research and practice approach. The second collaboration is between the Edinburgh Napier University and the Substance Misuse Directorate and at the time of writing this report they were in the process of recruiting.

Queen Margaret University is the host of the third demonstration. This has taken some time to get under way due to the lack of availability of suitable post doctoral candidates. Changes have been negotiated to the original proposed structure and it is now likely to be based around two PhD clinical/academic posts.

The CARC Scheme initiative is likely to be extended to other sites with interest shown by those who were not in a position to become demonstration sites in the original call (because they did not have established research capacity at post doctoral level). Early discussions are

underway about the potential to create additional CARC Schemes in reproductive health (in collaboration with Edinburgh Napier University and Department of Reproductive Medicine, University of Edinburgh) and dementia (with the University of Edinburgh in the first instance). Both will be dependent on securing funding.

There are ongoing discussions within NHS and partner universities exploring innovative approaches to develop capacity, particularly at the early career stage (Masters level) which had not been possible to include in the original CARC Scheme. Discussions between Cancer and Palliative Care and Edinburgh Napier University resulted in June 2011 in establishing a partnership giving 5 nurses the opportunity to undertake a Masters research module leading to a research proposal. Two nurses will be selected to undertake funded MRES studentships part-time over 2 years starting in Autumn 2011, with funding provided by their respective universities. There are further plans to extend this model to other areas such as mental health, where there has also been a desire to develop research capacity.

NHS Lothian and their partner universities have formed the 'Lothian NMAHP Research Community' which comprises approximately 90 clinical and academic staff active in research up to PhD level. A networking event for 50 was held in April 2011 and this has led to the development of a website (hosted by Lothian's Health Services Research Unit), a newsletter and the establishment of a contacts database. A second Research Bootcamp has commenced with 12 early career researchers across the four institutions focusing on grant applications and publications. It will run May 2010 – Feb 2012.

For further details on this case study see:

Weir, A. and Ozga, J. (2011) *Clinical Academic Posts for Nursing: NHS Lothian Case Study*. Edinburgh: Centre for Educational Sociology, the University of Edinburgh.

Section C5: Overview of current developments in implementing and sustaining clinical academic posts in NHS Tayside

This part provides a brief overview of how NHS Tayside and their partner universities have gone about implementing and sustaining clinical academic posts, and is derived from the case study report. At the time of writing this final report NHS Lothian was given the opportunity to provide an update on recent progress.

There are approximately 4000 nurses in NHS Tayside and only a small number of clinical academics.

In the past, appointments have been mostly ad hoc and centred on perceived need at the time, whereas, currently NHS Tayside is seeking a more systematic and strategic approach to developing clinical academic careers. NHS Tayside has recently worked with partner universities to establish clinical academic post initiatives at different levels of seniority and purpose. These posts include joint appointments and associate lectureships.

During 2010 work was commissioned by the Dean of School of Nursing & Midwifery to explore clinical academic collaborations. This work has led to one new joint appointment and a Readership position holding an HEI contract with 10% commitment to NHS as well as

the Associate Director of Nursing who holds an NHS contract and an honorary HEI contract for 10% of her time.

The number of Nurse Consultants has increased from one appointed approximately 10 years ago to seven posts currently with one current vacancy. Employment arrangements are varied. The amount of time seven Nurse Consultants spend in the NHS and HEIs varies from 10% with the HEI and 90% NHS to 40% HEI and 60% NHS. All posts have contracts with NHS and honorary HEI contracts. One Clinical Educator/Lecturer who is employed by NHS and has an honorary contract with an HEI, spending 50% of their time with NHS and 50% with the HEI.

Of the current pool of nine clinical academics five are involved in teaching only and three are involved in teaching and research and one in research only. Two are Principal Investigators and three are Co-investigators of funded research projects. Four clinical academics hold doctorates. Areas of current research are in critical care, adult acute care, cardiology, public health, person centred care. Research carried out by those clinical academics has influenced practice.

NHS Tayside participated in the NMAHP Research Training (Scotland) consortium with several other NHS Trusts including Fife, Stirling, Highland, Grampian, Shetland, Orkney and the Western Isles and their partner universities of Dundee, St Andrews, Stirling and the CSO NMAHP Research Unit. The consortium was launched in 2003 and coordinated by the University of Dundee. NMAHP Research Training (Scotland) scheme (recently completed) was originally developed in partnership with NES, the Scottish Executive Health Department and the Health Foundation. The main aims of the scheme were: 1. To develop an efficient and effective research training network in Scotland for NMAHP clinical researchers; 2. a) to develop a new generation of clinical academic researchers that meets the needs of health and social care and improves the needs of care provision; b) to develop new clinical academic leaders who are embedded in the NHS and c) to increase the ability of NMAHPs to lead high quality externally funded multi-disciplinary funded research. In 2010 NHS Education Scotland agreed that the remaining funds from the NMAHP Training Scheme could be used on three additional initiatives to raise capability and capacity in NMAHPs, one of which was grant writing (jointly funded with Tayside NHS (Jones, 2010).

For further details of the case study see:

Weir, A. and Ozga, J. (2011) *Clinical Academic Posts for Nursing: NHS Tayside*. Edinburgh: Centre for Educational Sociology, the University of Edinburgh.

Section D: Key challenges to establishing and maintaining clinical academic posts for nursing

This section is divided into six parts:

- Section D1: The challenge of implementing CARC policy
- Section D2: Funding clinical academic posts and nursing research
- Section D3: Challenges in managing HR systems
- Section D4: Leadership for clinical academic posts
- Section D5: Strengthening nursing research: the challenge
- Section D6: Getting evidence into practice

Section D1: The challenge of implementing CARC policy

Interviewees identified the following key challenges to address in establishing and maintaining clinical academic posts:

1.1 Towards a sustainable infrastructure to support clinical academic careers

As stated earlier the 'National Guidance for Clinical Academic Research Careers for Nursing, Midwifery and Health Professions in Scotland' (NHS Education for Scotland, 2010) was published after a period of consultation with the constituencies (nursing and academic) through a series of engagement events over 2009/10. The newness of the policy guidance for clinical academic research careers for NMAHPs as well as the complexity of how nursing and research is organised across the 14 NHS Boards in Scotland means that it is likely to be some time before CARC is fully understood within NHS and widely implemented.

The newness of the National Guidance for CARC meant that it was not yet fully understood by all interviewees and their comments below reflect their experiences at the time (2010-2011) that the interviews were conducted. Indeed the National Guidance for CARC in many respects has addressed a number of policy issues raised by interviewees and reported below.

1.2 Medical staff have a well established career pathway

Typically those interviewed made comparisons between NMAHP's experiences and those of the medical profession. They noted that doctors have a well established career pathway where research is integral and that it is centrally funded. Doctors have flexibility in that they have specific time allocated to teaching, research and clinical practice. Interviewees regretted that the model is not the same for nursing.

1.3 The need for clear definition of clinical academic posts

Interviewees noted that clinical academic posts were not clearly defined and that there were a number of versions of the role and there is ongoing debate about whether all three components (clinical, teaching and research) of the role needed to be carried out in order for the post holder to be considered a clinical academic.

1.4 Reinforcing the need for a Clinical Academic Career Framework

Interviewees believe that there is a need to develop and implement a well-articulated and well supported clinical academic career framework for nursing beyond the rhetoric and that it must value research and make it easier to move between worlds. Nurses face demands to improve their qualifications, that is, to complete an undergraduate degree or to go on to do a masters and for some to do a PhD. Once nurses have achieved the qualification they were originally aiming for they may make no further progress because they have worked so hard at juggling clinical and academic study with limited or no recognition within NHS (eg no salary increase). Interviewees believe that if nursing research is to grow then it is vital that “time for research is ring fenced” and sufficient resources are allocated so as to avoid the current “martyr complex” where clinical academic nurses are overworked. Interviewees noted that it is hard for clinical staff to pursue a clinical academic career because of the heavy clinical demands of the NHS which is always their priority over academic work.

Section D2: Funding clinical academic posts and nursing research

Clinical academic posts have been developed and funded in two main ways either i) established for individuals on an ad hoc basis with a variety of funding arrangements put in place (for example: jointly funded posts between NHS and partner university, fully funded posts by NHS and honorary posts with a university, or a fully funded post by a university with an honorary post with NHS or ii) systematically implemented as part of a wider research initiatives jointly funded by NHS, funding bodies and universities for an agreed limited funding period such as NMAHP CSO research unit and the three research consortia in 2004 discussed above. Some nursing research activities have been eligible for CSO doctoral and post doctoral funding.

The section below provides examples of funding arrangements in each of the case studies.

2.1 Organisational challenges to establishing and maintaining CARC

Both NHS and the universities acknowledge the importance of maintaining their working relationships at all organisational levels, particularly during the current time of economic constraint when their priorities may become increasingly divergent with multiple demands on existing NHS budgets and with any future investment in clinical academic posts likely to come from within existing budgets.

Interviewees noted that the university and NHS have different funding structures and priorities with NHS being service orientated and HEI priorities being education and research.

At NHS operational meetings service needs are given priority for research and NHS is usually looking for a quick cost-effective solution, whereas universities tend to run research projects over a longer period rather than the short-term outcomes needed by Service.

2.2 NHS Glasgow Greater Clyde

NHS Glasgow Greater Clyde has over many years worked with their partner universities to ensure that service level agreements are in place that cover funding and legal arrangements for joint appointments. Despite incorporating clinical academic posts into NHS and universities' strategic plans, to date responses to establishing posts have been ad hoc and often driven by determined individuals or created as a result of securing temporary non-recurrent funding from targeted initiatives such as Health Q West.

CSO funding for an NMAHP research unit has meant that progress has been made in developing clinical academic careers for a growing number of nurses (although non-nursing academics make up the majority of the NMAHP Unit staff). Post-doctoral fellows are supported to pursue successful early research careers, they are mentored by senior researchers and encouraged to become PIs on major research projects thus generating income for the unit.

It was noted that some third sector organisations are interested in funding research involving collaboration between NHS and partner universities. For example, MacMillan Cancer Foundation approached a university for an honorary contract for a researcher to carry out research relevant to the needs of the Foundation. The post was split 50% at the university and 50% at NHS although it was expected that time spent in each place would be flexible.

2.3 NHS Lothian

The funding model adopted for the Lothian CARC pilot (2010) identified two separate funding streams; the clinical component came from NHS Lothian's general budget (it was essential for the success of the pilot to ring fence funding) and the research component was secured through investment by NHS Lothian R & D Office, the university partners and NHS Education for Scotland. An equal contribution of funding was secured from all partners to support the infrastructure, management and operational processes required for implementation. It is anticipated that some the research activities may be eligible for CSO doctoral and post doctoral fellowships. NHS Lothian manages the overall funding arrangements.

There are currently a number of clinical academic posts for nursing that sit outside the new Lothian pilot which have been ad hoc appointments with a variety of funding mechanisms adopted as described above.

2.4 NHS Tayside

The implementation of clinical academic posts in the past by NHS Tayside has been ad hoc, centred on perceived needs at the time and funding arrangements have been varied. Senior managers at NHS Tayside and partner universities have now adopted a systematic approach. As posts become available they jointly review the funding and reporting arrangements for their future viability and greater emphasis is placed on ring fenced time for research and on post holders achieving expected research outcomes. Endowment funds are available to fund research.

2.5 Sustainable funding and long term commitment

The three case study NHS Boards and their partner universities share a common concern in how to secure sustainable funding and long term commitment needed to mainstream CARC and grow a critical mass of NMAHP clinical academics in Scotland, although they are unsure of what that might look like.

Case study participants believe that obtaining sufficient ongoing funding is a key barrier to establishing and maintaining clinical academic posts for nursing. It was noted that these posts are unlikely to be a budget priority given all of the competing priorities to be met within “a shrinking budget”. It was also noted that nursing clinical academic model is “far behind the medical model” in terms of funding a supportive career structure and that “nursing needs to catch up”.

Some NHS case study participants suggested there needs to be much greater investment in infrastructure in supporting the development and implementation of CARC and nursing research and that the universities need to increase their investment. The universities receive Full Economic Costs (FEC) and Research Excellence Framework (REF) money – the next re-distribution will be after the REF in 2014 with funding allocated in 2015 and some participants believe that some of this funding could be invested in clinical academic posts and nursing research.

2.6 Shared Financial risk

In some circumstances although universities appear to be keen to partner with NHS in establishing clinical academic posts and promoting nursing research, they seem unwilling to take the financial risk beyond funding short-term posts. This may be because research grants are often short term. One Director of Nursing suggested that in order for the partnership between NHS and universities to work more effectively there needs to be an agreed financial strategy where the risk is shared between them to fund substantive posts on an understanding that returns may not come for several years when researchers would then be expected to be generating significant research income.

An example of where this strategy has been successfully adopted is in NHS Lothian with their CARC pilot. Partner universities in NHS Lothian noted that in principle they would like to keep the pilot going beyond five years, however, there is no commitment and continued

funding is dependent on the evaluation of the pilot. It is hoped that the positions will have developed so that the post holders will have attracted their own research funding from other sources.

Section D3: Challenges in managing HR systems

Some interviewees who hold clinical academic positions believe that the NHS HR systems can be a barrier to the successful implementation of clinical academic careers because in their experience, people working in the NHS do not understand these posts. Difficulties were reported in working with HR in such areas as: banding, holding a research grant, pay agreements and general HR issues.

3.1 Banding

Some interviewees were concerned that their current NHS banding did not recognise the complexity of their roles, in particular their research role, and they considered this to have a significant negative impact on their career development. Interviewees noted the personal satisfaction gained from achieving a doctorate: however they were concerned that this achievement is not recognised in the NHS beyond “a tick in a box”. Interviewees believe that how they are banded and their seniority affects how much flexibility they have in their position and in turn this affects their ability to carry out their research, achieve the transfer of evidence into practice and work effectively as clinical academics.

3.2 Grant holders

Historically universities have been the grant holders which meant that they had control over contracts and researchers were given relative freedom to get on with their research. The interviewees expressed concern that the NHS does not have in place robust systems that work for clinical academics when it comes to managing research contracts.

3.3 Working part time can be an issue

Some interviewees noted there was a risk to their ongoing employment opportunities with NHS when they undertook part time work in order to pursue an academic qualification such as a Masters or PhD. Usually they had to give up a full time NHS post and take a significant reduction in their income with no guarantee of future full time employment and with consequential effects on their service record for their pension. In addition there is a risk to being seconded part time because of the difficulty of achieving a balance between clinical work and academic work. The interviewees stated that they would like clinical academic posts to be more like the medical model, that is more integrated into a well established career structure with appropriate funding.

3.4 Heavy workloads

Interviewees who held clinical academic posts reported that they had negotiated contracts for their substantive posts and most also held contracts for their honorary posts that included limited protected time for research. For several interviewees, rarely did they actually get the opportunity to use their research time during work hours because of pressing clinical and/or teaching priorities and most did their research in their own time.

Interviewees reported experiencing high clinical workloads along with significant academic pressure to be research active and to publish for the upcoming REF in 2014. A couple of interviewees believed that some of their clinical academic colleagues had been streamed into teaching only, rather than have the opportunity to be involved in research because the university was concerned to do well in the upcoming REF and they wanted to put their resources into 'established successful nursing researchers'. Some interviewees also experienced additional administration pressures associated with teaching. They are expected to participate fully in the life of both the NHS and the university. They are keen to keep the clinical element of their post and consider patient contact very important. In order to cope with the pressures of different parts of their work (clinical, research and teaching) they have developed key contacts in each area who can help provide them with essential information and help them to identify priorities. They constantly juggle work commitments within and across their different responsibilities and they need maximum flexibility to make the post work.

3.5 Work plan changes needed

Most interviewees believe that clinical academic roles need to be better defined and supported and that the expectations of both the NHS and HEIs need to be more realistic. Interviewees expressed concern that, while clinical practice is a priority in their work plans, more time needs to be allocated to research and that one session is not enough for them. Some believe that it is too risky for them to become involved in research because they do not have enough time to do justice to their research obligations.

3.6 Succession planning

Interviewees would like to see greater emphasis placed on succession planning for clinical academic posts and more clinical academic mentors identified in NHS and in universities to encourage new better qualified nurses to pursue a CARC. Part of the future focus could be on identifying staff with a talent for research early in their careers and allocating funding to help them to build a career from undergraduate degree to PhD through to a supported early research career. Within the NHS case study Boards much of the professional development budget is spent on funding nurses to do degree modules and masters degrees. Concerns were raised about whether the current leaders are "tapping into the right people" to encourage them into clinical academic careers.

Interviewees believe that more could be done to identify the nurses who hold a doctorate and who are not currently research active – this group could be part of a pool of potential

clinical academics. They could be encouraged and mentored initially by taking part in proposal writing with supportive research colleagues, and so become part of an established team. Building a critical mass of nursing doctorate holders would help the NHS to realise its aim to grow clinical academic posts for nursing.

Some interviewees would like “national NHS” to take a lead in developing policies that promote opportunities for clinical academics to move seamlessly from one NHS Board to another and to one HEI to another. As noted previously NHS Education for Scotland has taken the lead by producing the National Guidance for CARC for NMAHP (2010).

Some interviewees believe more nurses would be attracted to a clinical academic career if there was greater recognition of their clinical academic roles (clinical, teaching and research) through higher grading, better remuneration and protected time for research.

3.7 Teaching arrangements

A few interviewees (working on their Masters or PhD) stated that they regularly volunteered to teach at a university, however, there appeared to be no overall structure to support them and they received no payment. It should be noted that interviewees are not always aware of arrangements made at more senior levels of an NHS Board where service level agreements are made with the universities for clinical staff to teach and that no money is exchanged – this is a common arrangement across NHS and indeed also across the wider academic world where a quid pro quo system is commonplace. Interviewees also noted that those who held posts as clinical consultants saw teaching as their priority and that their research usually suffered as a consequence.

Section D4: Leadership for clinical academic posts

4.1 Getting policy into practice issue

The Chief Nursing Office is the professional lead on nursing policy and has adopted a consultation and consensus approach to policy development for nursing research and the development and implementation of clinical academic careers. NHS Education for Scotland led the development of the National Guidance for CARC for NMAHPs, with the guidance content being developed by a national working group which included representation from universities and NHS key stakeholders across Scotland.

Schools of Nursing are involved in ongoing policy development through participating in various nursing forums, presenting papers at conferences and writing papers for publication in peer reviewed nursing journals and for nursing professional magazines.

4.2 Nursing academics have opportunities to influence policy

Senior nursing academics in particular are able to influence nursing policy through regularly attending meetings with their counterparts in the Scottish Government CNO and NHS Education for Scotland and their local NHS Boards. Some interviewees noted that although establishing and implementing of clinical academic posts has been discussed at meetings between the Council of Deans and NHS, the agenda was usually dominated by service issues and more could be done to raise the profile of CARC.

Some interviewees expressed concern that nursing research and the creation of clinical academic posts is not a high enough priority on Scottish Government's agenda to receive adequate resources to promote sustainable growth in CARC across Scotland. They stated that strong leadership at the highest levels is needed to promote nursing research and clinical academic posts at strategic levels. They believe more needs to be done to articulate the CARC vision and that it should be appropriately resourced beyond ad hoc appointments and small pilots.

4.3 Key senior management support and buy in is crucial – can make or break CARC initiatives

Interviewees strongly believe that top down support is essential for the establishment and maintenance of clinical academic careers. They stated that a commitment to nursing research and CARC needs to be part of NHS and universities' strategic objectives with appropriate resourcing committed on an ongoing basis. In the three case studies the NHS Boards and their partner universities senior management expressed support for CARC initiatives but noted the challenge of ongoing funding. As current initiatives and existing posts become vacant, they are reviewed and they may or may not continue in their present form.

4.4 Create more senior leadership posts/clinical chairs/mentors

The establishment of clinical academic chairs, as one interviewee stated, could "give clout from the top and they could act as change agents". It is important to attract potential nursing leaders with the right mix of skills who are highly regarded researchers with high clinical esteem. Interviewees agreed that more senior clinical academics are needed at professorial and senior research fellow level to provide clinical leadership focused on achieving an evidence-based practice culture, also to act as Principal Investigators (PIs) on research projects, and to help mentor newer researchers to write research proposals as well as publish their work in peer reviewed journals thus contributing to the REF and subsequent future funding. They would be able to identify strategically important clinical priorities, and to inform and improve the quality of service.

4.5 Nursing consultants

The nursing consultants are considered to be strong clinical leaders, however interviewees noted that more could be done to encourage them to further develop their research capabilities at post doctoral level and to become PIs and thus contribute to leading nursing research.

4.6 Increase the number of role models

While some clinicians see benefit in upgrading their nursing knowledge through gaining qualifications and by utilising evidence to support their practice to improve the quality of outcomes for their patients, many do not. Interviewees suggested that to increase the number of clinical academics who can act as role models to encourage greater uptake of research into practice there is a need to identify those in post working on a Masters or PhDs and profile their research involvement within their clinical departments, thus providing opportunities for positive engagement between researchers and their clinical colleagues.

4.7 Line manager support

Interviewees stated that line manager support is crucial to the success of the post and that managers should let researchers get on with their research. Interviewees would like to see more managers working more closely with the clinical academics to prioritise their workloads and to support those priorities.

4.8 Authority to implement their research findings

Interviewees noted that it is preferable that post holders be given the appropriate power and authority to implement their research findings and opportunities to champion evidence into practice, for without this they struggle for clinical peer recognition and their research does not get the exposure that it deserves.

Section D5: Strengthening nursing research: the challenge

Nursing research is concerned with the underpinning knowledge and evidence to support direct patient care. Some interviewees stated that it is important to develop nursing knowledge and its theory base and they stated that in their experience “this is not funded, what is funded is clinically relevant research”. They also noted that the randomised controlled trial (RCT) is often seen as the gold standard for evidence in health, and that some NMAHP researchers strongly support projects that build the conventional science base behind nursing interventions and that they consider these projects are more likely to significantly attract funding and produce robust evidence. Several interviewees have in the past been part of interdisciplinary research teams that have had a social science focus and they have tended to use qualitative methods or mixed methods; they would like to see a wide range of forms of evidence be valued for the potential to inform practice

Senior nursing academics noted that it is important to the future of their school's research portfolio to grow a robust clinical research programme and that participation in unfunded research is no longer viable in the present economic climate.

Interviewees reported that it is not very common for nurses to work towards a PhD and that those who do tend to do it mid career. Many nurses do not want to leave the security of the NHS employment so consequently there is not a big pool of willing candidates to develop as clinical academics and conduct research. One interviewee identified three different types of nursing research: *"Those doing their own thing, and a cadre of nurses doing data collection for doctors as well as a group of non nurses involved in nurse research as part of multi disciplinary teams."*

Interviewees are also in no doubt that nursing research is helping to create an evidence base for nursing that should be utilised (this is discussed in the next section). They noted that nursing research has tended to grow up around individual interests and expertise and in the past it was not necessarily linked to any institutional research strategic plan.

5.1 Challenges in managing the research process

Some of the challenges facing nursing clinical academics' research are shared by the wider academic research community, such as obtaining funding and finding time to do research while fulfilling their commitments to other parts of their academic role such as teaching. This section outlines the key concerns expressed by nursing clinical academics in fulfilling the research role of their posts.

Some of the key barriers to establishing and maintaining clinical academic posts for nursing identified by interviewees include: resources to conduct research, time for research, obtaining the requisite skills needed to write proposals and the overall lack of support (both financial and moral) by both NHS and HEIs. Interviewees expressed concern that research tends to be pushed into the background behind clinical work and teaching.

5.2 Funding research

Interviewees noted that nursing research is funded in a variety of ways, for example, traditionally nursing academics can apply for funding through their departments for proposed research projects to be funded by bodies such as the Economic and Social Research Council (ESRC), the Chief Scientist Office (CSO), charities and NHS endowment funds. Individuals who wish to pursue a clinical academic career can apply for competitive grants to complete a PhD or apply for a post doctoral fellowship. Interviewees noted that ring fenced funding for nursing research through, for example, research consortia and the CSO NMAHP unit, has helped to facilitate the growth of nursing research in Scotland. Although a few of these more established research units have been successful in wider competitive research bids, nursing research more generally continues to struggle to gain substantial funding in today's highly competitive research funding environment.

A few interviewees noted that there appears to be significantly less investment by universities in supporting nursing research infrastructure, than in nurse related

undergraduate teaching which has a different funding stream. They would like to see in the future universities investing more resources in building nursing research infrastructure and that this be matched by NHS.

5.3 Time to form a research group and do proposal writing

Finding time to complete the preparatory work required to establish a research project such as finding collaborators and writing a funding proposal is challenging and often deters potential researchers. Interviewees also identified the need for investment in skill development for newer researcher in writing research proposals. Interviewees stated that sufficient protected time needs to be allocated to enable clinical academics to complete all aspects of the research process including knowledge exchange activities such as writing journal articles and presenting at conferences. Some interviewees noted that initiatives had developed to address these issues. For example NHS Lothian provides a positive example where researchers are offered practical support from NMAHP Research Facilitators who help bring researchers together to form a research group for proposal writing and to conduct a research project.

Clinical academics spend a significant amount of their time writing grant proposals. Often they secure only small amounts of research funding and this obviously affects what they can achieve and the impact of the research. Small-scale studies with small sample sizes may mean that the findings are not reliable and will not be accepted for publication.

5.4 Feeling of isolation

Several interviewees had experienced feeling invisible and isolated in the research part of their role because they were often the only research active person in the field. Those clinical academics who were part of an established research unit felt more supported and collaborators for research projects were more readily accessible. When it came to knowledge exchange activities such as writing for peer reviewed journals there were colleagues to call on for support.

5.5 Lack of continuity of established research groups

Some interviewees stated that a major barrier to research is the lack of continuity of established research groups: the maintenance and development of a line of enquiry is often dependent on individual and local circumstance. For example, there are circumstances when a researcher in the NHS is interested in pursuing a research project, but there is no matching expertise or interest at the university and vice versa.

5.6 Access to support completing a Masters and PhD

Several interviewees noted that it is difficult for nurses wishing to pursue their research interests to access financial support and to have access to supportive research structures, unless one was doing a Masters or PhD. When nurses have completed their qualification

there is little or no support for them to pursue their research interests and a research career within the present career structure.

5.7 Research divergence – align with NHS research needs

Interviewees noted that the NHS and the individual universities each have different knowledge priorities and different research foci and capacities. The NHS has service priorities and looks for ‘quick fixes’ for health issues; however research that is done by university academics is often not timely enough to make a difference to practice to the timescales of NHS. In some cases the lack of a shared research agenda with the universities is a key concern for the NHS. It was noted that nursing schools have their own research agendas built around their expertise and interests that do not necessarily relate to the needs of NHS. The lack of a shared agenda means that the research funding achieved is unlikely to be targeted at NHS priorities.

Some interviewees from NHS senior management would like to see in the future nursing research more closely aligned with the needs of NHS. They believe that partner universities need to work more closely with the NHS to reach a more collaborative research agenda thus avoiding fragmentation and duplication and enabling more efficient use of the limited research funding available to meet NHS needs.

Several interviewees noted that some HEIs have a long history of aligning with the research needs of NHS. There are examples in each of the three case studies of this happening, however interviewees observed that this needs to be more widespread in some areas. The current economic climate of fiscal restraint and highly competitive funding rounds has placed greater pressure on universities to collaborate more with NHS to meet their research needs. Increasingly those individuals undertaking research projects as part of gaining a post graduate qualification are being encouraged to align their research with the strengths and research themes of the academic institution and/or NHS. The Lothian pilot is an example of where the participants are aligned to established research units which have a shared research agenda with NHS. Some clinical academics thought that the topics for a shared research agenda with NHS should be decided considerably in advance of a secondment to an HEI to allow them to develop aligned research proposals and that the topics should link to their work in the NHS. Not all interviewees believe that nursing research should be aligned with the research needs of NHS. They would like to see the opportunity for ‘blue sky’ research and the development of nursing theory funded.

Section D6: Getting evidence into practice

Some interviewees believe that many of the nursing fraternity is “not acting like a graduate profession”. They noted that many of their nursing colleagues appear not to value nursing research and gaining higher academic qualifications to the same extent as they value their own nursing training and experiences. Some interviewees noted that those nurses doing their Masters or a PhDs and more generally those nurses who are engaged in improving their qualifications may experience negative attitudes from other staff in the NHS. Many of

their colleagues perceive nursing as a practice profession and not an academic one and they also believe that is how most of the public see their profession. This perception impacts on how nurses view clinical academic posts.

Several interviewees stated that in their experience some senior members of staff in their NHS do not value research evidence into practice. They believe that the “nursing hierarchy creates barriers to conducting research and to implementing findings”. In their experience there can be operational level difficulties especially with securing the release of staff from NHS to do academic tasks of teaching and research.

Clinical Academics need “an understanding boss” on the wards who sees research as an investment in the future. Some interviewees would like Ward Sisters to be more understanding of their academic commitments and their passion for research and their desire to use research findings to inform practice. They are concerned that some senior members of staff in NHS do not place importance on research evidence or on them pursuing a research career. These interviewees would like to see clearer role expectations from the NHS and HEIs and not rely only on the clinical academic “to carve out their role”.

6.1 The need to develop a research culture

Interviewees believe that key to encouraging evidence into practice is to create a research culture within the NHS. To build a research culture it is important to have leadership at strategic level such as clinical academic chairs. Middle management should be encouraged to engage in evidence based practice and to act as role models for others.

Interviewees identified as a key issue the lack of understanding in the general nursing population of research or its uses in informing everyday practice. Many clinicians do not see the relevance of research to their role. This underlines the need for research facilitator roles in the NHS so that a supportive infra-structure and leadership with dedicated time to facilitate research is provided.

How the research is presented is important – it needs to be accessible and meaningful to practitioners. Some clinical academics have been innovative in encouraging their colleagues to engage with research findings and have set up journal clubs to encourage them to read and discuss research and how it might impact on their practice. Typically clinical academics are involved in presenting their research findings to colleagues at nursing seminars and conferences in addition to writing for publication.

It was noted that the medical model of research, teaching and practice consultant is one that works well and that a similar model and level of funding should be available for nursing. There is an inbuilt expectation that medical staff will use research to inform their practice and some interviewees believe that nursing would benefit from emulating this.

6.2 Help NHS managers to understand nursing research

Some interviewees observed that many managers appear not to be aware of what nursing research is. They believe that many NHS managers appear to be keen to have numbers of

academic service evaluators to evaluate schemes such as LEAN rather than support nursing research. They were concerned that not all NHS managers appear to understand the difference between a service evaluation and research and this impacts on their support for nursing research. Interviewees would like more to be done to promote nursing research more widely in NHS. They believe that the NHS needs to see research as important in the quality improvement culture and invest in its future.

In summary the key challenges currently facing NHS and partner universities in implementing and sustaining clinical academic careers and support nursing research are:

- The need to identify more long term and sustainable funding mechanisms to support nursing research and clinical academic careers beyond current initiatives;
- The need to develop a more sustainable infrastructure for Scotland to support nursing research and clinical academic careers beyond current initiatives;
- The need to increase the number of clinical academics in senior leadership roles and create clinical academic chairs;
- Although some progress has been made through targeted initiatives there is still much work to be done to encourage the adoption of CARC more widely and to ensure that this potentially supportive career framework does allow for seamless movement between NHS and HEIs;
- The need to continue to support and profile nursing research (eg through utilisation by NHS and for the 2014 REF) in order for nursing to compete in a very challenging research funding environment;
- The need to empower clinical academic nurses at all levels to have sufficient authority to implement their research findings to support practice and make quality improvements.
- The need to further develop knowledge exchange initiatives for getting evidence into practice (eg protocols and guidelines) and to publicise research outputs (eg through peer reviewed journals, Curam – the NMAHP professional magazine – and events) and monitor their impact on policy, protocols and practice.

Section E: Finding common ground: understanding differences in the NHS and their partner universities

Section E1. Acknowledging differences

Interviewees from the three NHS Boards noted that each of their partner universities has different remits, funding arrangements, research foci and knowledge priorities. NHS is more focused on the application of knowledge. The Schools of Nursing are concerned with underpinning in-depth knowledge of a clinical or service area. The universities' research portfolios have often grown up around senior researchers who have attracted significant funding and through significant collaborations with other universities.

Charities that fund nursing research have also influenced the direction of research in some of the universities. The universities share similar priorities with NHS for improving patient care through evidence based practice; however, considering a possible shared research agenda requires careful negotiation between parties.

There are different pressures on the Deans of Nursing (eg 2014 REF) compared with the NHS Directors of Nursing (clinical priorities) as they have different budget constraints that influence their ability to implement clinical academic posts.

Section E2. What counts as evidence?

Universities have a different view of what counts as evidence and a different philosophical position from the NHS. Some HEI interviewees noted that universities usually have a bigger picture of the research environment than their NHS counterparts. Some HEI interviewees also noted that in their experience NHS has a "positivistic approach to what counts as evidence": NHS appears more interested in systematic reviews than other forms of evidence. NHS appears to be looking for quick fixes to service issues and appears to be financially driven. NHS has pressures for cuts and efficiencies that can be at odds with research agenda.

Section E3. Developing a shared research agenda

Some NHS interviewees believe that the differences between health and higher education are diminishing as a result of working on joint initiatives and gaining a better understanding of each others' priorities. They also stated that they would be surprised if universities worked in isolation and developed research areas without first approaching the NHS. Some HEIs are calling their health research 'applied research' to demonstrate their connection with NHS.

Section E4. Valuing different kinds of knowledge

Some NHS interviewees noted that the nursing workforce is changing as a result of the increasing numbers of graduate nurses whose knowledge may reflect their university experiences and who are more knowledgeable than some of their counterparts in clinical practice about the importance of drawing on the evidence base to support clinical practice. In university hospitals in particular there is an expectation that nurses will use evidence to inform their practice. They express the view that graduate nurses need to work in clinical practice before going on to a clinical academic career so they get a good grounding in the NHS and develop their “emotional IQ” which is regarded as essential to nursing. They argue that it is important that in developing clinical academic careers that tacit knowledge is not devalued and the role of the ‘Expert Nurse’ is valued.

Interviewees made the following points:

When valuing new knowledge in nursing we have a leadership issue. Many older nurses do not have an undergraduate degree and do not see the value of research evidence to inform their practice.

There is a hierarchy in nursing that affects how knowledge is shared.

It is important to managers to have knowledge and use it within their sphere of influence and new knowledge from research can be threatening to their practice.

There is a need for research awareness training for the whole nursing population.

Nurses can be territorial and they are not necessarily lateral thinkers or embrace new ideas about practice.

Knowledge is power so the idea is to share very little, for example a leaflet from university on research only goes to certain people.

Section F: Benefits of establishing clinical academic posts for nursing

Section F1. Benefits for clinical academic post holders

The main benefit to post holders is that they are able to maintain a clinical footing and combine this with research training (eg PhD) or as a Research Fellow and develop expertise in a research area relevant to their clinical practice.

Interviewees noted other benefits for post holders including: opportunities for clinical and academic professional development; joint appointment holders who are on a seconded basis from NHS to an HEI can come back to the NHS if they want to, having had 'a taster of academic life', or go on to pursue a rewarding academic research career and gain job satisfaction.

In identifying the benefits some interviewees also noted that it may be difficult for post holders to reflect on and use research findings in practice or to have a very significant impact on clinical practice, however the experience may help with their teaching.

Some interviewees noted that the potential of the clinical academic posts has yet to be fully realized as it is difficult for the post holder if they are not in a senior post with authority to implement research-based knowledge.

Section F2. Benefits for NHS in establishing clinical academic posts

Interviewees from NHS noted the main benefits for the NHS include: the best people are chosen to contribute to university teaching and research; post holders can use research to inform their practice and improve patient outcomes and also influence others to do so; post holders help to build an evidence base aligned to NHS priorities; and they are able to establish a close working partnership with universities that may help to facilitate future collaborations.

HEI interviewees stated that the main benefit to the NHS is first hand access to the latest healthcare improvement research, and evidence to inform practice resulting in better outcomes for patients and improvements in nursing standards.

2.1 NHS may become a more attractive place to work

By implementing clinical academic posts for nurses, the NHS may become a more attractive place to work. Nurses will know that they are able to pursue a clinical academic career and know that the posts are essentially geared towards clinical work and research. The CARC scheme's ultimate goal is that nurses are able to pursue a clinical academic career by undertaking a PhD and moving on to become Research Fellows who lead research and gain sustainable funding and that some move on to become Clinical Chairs. Whatever future models are developed for CARC the interviewees note that flexibility is the key for the post holder in order to balance their clinical and academic commitments. Current post holders have struggled to maintain their flexibility and a clinical academic career.

Indeed one person in post since the 1970s created her own clinical academic career through taking the decision to work part time in both jobs but was forced by lack of flexibility with clinical shifts to abandon this strategy.

2.2 Bridging the theory-practice gap

There is a widely held belief among those interviewed (both NHS and HEIs) that clinical academic posts can contribute to bridging the theory-practice gap. The posts provide evidence that clinical academics are competent and credible in both the academic environment and in clinical work. They are able to utilise and translate evidence to inform practice. They are able to identify areas where there is a lack of evidence and understand that some areas such as emergency medicine are well-researched. Those interviewed who hold clinical academic posts noted that when setting up a research project it is essential to get the right mix of academics and clinical staff in order to access knowledge of processes and of people. It is important to note that clinical academics are engaged with the literature research base. They have knowledge of who is researching in their area and are able to establish national and international links to research in their specialist areas.

Clinical academics know their field of research: they can help point clinicians in the right direction to gather evidence and they can also offer an assessment of research quality, avoiding the transfer of weak research into practice. Clinical academics are active in sharing research findings face-to-face on the wards. Some interviewees reported that their own research is not directly applicable to practice or that transfer into practice may take some time.

In line with the Cooksey (2006) review of health research recommendations, current clinical academics believe it is their role to act as knowledge exchange champions, using and disseminating evidence to influence its uptake and adoption to improve the quality and safety of patient care. Clinical academics can influence practice through their research findings and are well placed to note areas where service improvements are needed and also note outdated and inappropriate practices.

Section F3. Benefits for universities in establishing clinical academic posts

Historically universities have different goals than NHS and the clinical academic is in a good position to keep up to date with latest NHS health priorities and to share this information with their HEI colleagues. Clinical academics who operate at both strategic and operational levels in NHS gain considerable clinical insight and expertise that they can share with their HEI colleagues at regular staff meetings and when developing research projects.

There is political pressure from the Scottish Government and the Scottish Funding Council (SFC) for collaboration in research and clinical academic posts are ideally placed to help facilitate opportunities to collaborate with other universities and the NHS.

Section G: Quality/healthcare improvement potential

There is a widely held belief among those interviewed (both NHS and HEI) that there is significant quality and healthcare improvement potential in establishing and maintaining clinical academic posts for nursing. It is felt that clinical academics can make an important contribution to research and quality practice in patient safety, care and treatment. Clinical academics are ideally placed to influence clinical practice, in both organisational policy development and evidence into practice.

Interviewees consider clinical academic posts to be essential for the ongoing care for patients and research is an essential part of that. Clinical academics can help to change views on how clinical service is delivered. There is also a widely held view that frontline nurses do not always realise that there is a need to use evidence to support their practice and to improve the quality of patient outcomes. There is also an ongoing issue with how to measure the impact of research-based interventions in the NHS and this has been partially achieved by implementing patient experience surveys.

Section H: Knowledge exchange potential of clinical academic posts

The HEI interviewees consider that knowledge exchange (KE) is a key area of development in their university, in higher education and internationally. While there is no agreed definition most commented on the two-way flow of people and research ideas between universities and NHS. They stated that KE fits with government priorities and with research funding and that maximizing the benefits of health research is a key area for knowledge exchange.

Universities consider that having an evidence base for clinicians is important and that it should ultimately lead to improved patient care. A culture of evidence based practice is developing, research is becoming more embedded in practice but this is still variable. Research undertaken has resulted in positive impact on practice eg NICE guidelines being developed.

Clinical academic posts aim to develop new knowledge and seek to contribute to the evidence base for nursing through conducting research that is directly applicable to patients. Clinical academic post holders are able to facilitate the translation of research evidence into practice, though this is dependent on their seniority and status.

Section H1. Demonstrate to the NHS the value of doing nursing research

There is a need to demonstrate the value of doing nursing research to the NHS. There is a need to achieve the agreed outputs from the pilot. Interviewees believe the key to this is getting the right candidates and the right demonstration sites to show the benefits of research and demonstrate the translation of evidence into practice thus illustrating an impact on health as well as publications and an impact on the REF.

Section H2. Educate the public

Other recommendations focused on educating the public about the benefits of nursing research. It was felt that nursing research should be profiled more in the media. There is a need to show how nursing is developing and that it is absolutely right to educate nurses at university to become a graduate profession.

Section I: Making the most of nurses with doctorates: A brief case study

This section is divided into two parts: Part A examines a scheme developed by the CSO funded NMAHP Research Unit designed to encourage trained NMAHP researchers to re-engage with research. The information for Part 1 is based on information provided by Professor Brian Williams, Director of the Unit. Part 2 reports the findings of interviews with four NMAHPs who hold doctorates and who would like to pursue a clinical academic career and find that they are hampered by lack of a career framework.

Section I1. NMAHP Research Unit research capacity building project

Senior managers of the NMAHP unit noted that, in recent years, Scottish funding bodies have invested several million pounds in initiatives to develop NMAHP research capacity and capability. In addition numerous NHS partners and HEIs and other stakeholders such as charities have also invested in research capacity building projects. Their concern is that while these schemes identified and developed a range of highly educated, skilled and motivated individuals, many of them have not achieved their full potential as NMAHP researchers because of organisational and fiscal constraints. Instead of pursuing a research career, they suggest that NMAHP researchers have returned to clinical practice or to posts in education/teaching, and they have not maintained a research profile. The senior managers are concerned that currently Scotland has a pool of skilled NMAHP researchers who are not being utilised fully.

The CSO NMAHP Research Unit launched a project to re-engage a number of these individuals in research, supported by the Scottish Government Health Directorates Chief Nursing Office. The project had two main aims: firstly, to provide the opportunity for trained NMAHP researchers to re-engage with research which will be of direct benefit to the health and wellbeing of the people of Scotland. Secondly, to develop and pilot a model for re-engagement, identifying barriers and facilitators which can be addressed more widely and for the longer term. It is hoped that this will provide a template for a future strategy for sustained research capacity building of NMAHPs.

The scheme offers two clinical fellow research posts 0.5 FTE for a fixed term of two years. The prerequisite for the posts is that NMAHPs have significant research experience and are educated to doctoral level (or have equivalent research experience) to progress their clinical academic career by joining an experienced team of researchers working within the Unit. Successful candidates are offered the support of highly experienced senior academics within the Unit's senior research team to further develop their future research career as well as providing a chance for them to develop their research skills, leadership ability, and increasing their productivity in relation to grant acquisition and paper writing. At the time of writing this report interviews were under way with appointments pending. It is hoped that the initiative will spread to other sites.

Section 12. Report on findings from interviews with three Nurses who hold doctorates and who would like to pursue a clinical academic career

Interviews were conducted in September/October 2011. The three interviewees hold a doctorate and they would like to pursue a clinical academic career. One female nurse and two male nurses aged between 42 and 50 agreed to share their experiences in attempting to pursue a clinical academic career.

2.1 Interviewee A

Interviewee A is a 44 year old male nurse who was funded through a scholarship from the university where he completed his doctorate. He studied part time and did clinical work part time. During the time he was doing his doctoral studies he did not consider that a clinical academic career was a viable option. Gaining the PhD was seen as end in itself. Although his current clinical role has a partial research component and involves some opportunity to jointly publish, he would prefer to have a research fellow role where his time would be divided 50% as a clinician and 50% as a researcher. He sees the barriers to pursuing a clinical academic career as a lack of funding for research, lack of post doctoral clinical academic posts to apply for and a lack of a career structure. He noted that nurses involved in research often worked in isolated teams.

He believes that nurses are generally seen as clinicians and as not usually interested in research and there is a struggle to acknowledge and value nurses who undertake research. *“My colleagues have never done research, they are not interested in research, it is alien to them, other people do it (academics) and if they wanted to get involved in research they would not know where to go”.*

He has looked on the NES website at the NES Guidelines for CARC and he finds it hard to see where he fits in. The NES Guidelines pathway seems structured and steeped in management – he believes he does not fit into any of the categories.

2.2 Interviewee B

Interviewee B is a 50 year old male nurse who self-funded his PhD working on it part time over eight years. He did at one stage during his study receive an award that was used to help fund travel and consumables. He was also at one stage given one day a week paid leave to work on his PhD. Early in his career he had the opportunity to take part in ad hoc teaching at the university where he did his PhD. He has a passion for life-long learning. He would like to continue in practice which he finds inspiring and he would like to work as a clinical academic as he has research areas he would like to explore but the only posts at the university appear to be teaching contracts with no research component. He approached the local university having secured funding for his research idea and asked them if they were interested in a collaboration. This did not work out because the university wanted to take overall charge of funding and the university research portfolio did not match. Ideally he would like a 50% clinical role and 50% research role.

He had never heard of the NES guidelines for CARC and intended to go to the NES website to have a look at them. He has not been invited to any NMAHP career development conferences and assumes this is because of budget constraints and time. He has funded himself to attend conferences where he has presented papers that he prepared in his own time.

He is concerned that the gap between theory and practice is widening. He believes that there needs to be greater connection between the university and NHS. Evidenced based practice sits uncomfortably with him and he is concerned that RCTs are seen as the gold standard to the detriment of “better small scale qualitative studies embedded in practice”. He stated that it is important to articulate what is “locked in practice” and that this should be made more visible.

2.3 Interviewee C

Interviewee C is a 42 year old female nurse who self-funded her masters degree. She was successful in gaining funding for her PhD for approximately two thirds of the time it took her to complete her degree. For the remaining time during her thesis writing up phase she increased her hours of clinical work to cover her expenses. Currently she works 30 hours a week in clinical practice as a health visitor and one day a week as an Associate Lecturer. Interviewee C would like to publish as she would like to gain credibility as a researcher and is considering reducing her hours of work and joining ‘a nursing bank of part time nurses’ to allow her more time to write for publication. She feels “*snowed under*” with her current clinical work load and finds the post emotionally draining and along with her part time academic teaching role this means that although she could work at night on publications she finds this too difficult. Ideally she would like to have a clinical academic post that enabled her to combine research and clinical work.

Among the barriers she sees to her achieving her goal of a clinical academic research career is the fact that most research posts she has seen advertised are below PhD level and so would not fully utilise her skills or interest in data analysis and publication. The clinical academic posts that have a research component that she applied for have been highly competitive and she has not been successful. Another strategy that she is thinking about it is applying for a post doctoral fellowship and possibly pursuing an academic career although this is not her preferred option.

Interviewee C is concerned that in nursing research far too much emphasis is placed on RCTs. She considers herself to be a qualitative researcher and believes that qualitative studies should have greater recognition for their contribution to nursing research. She is concerned that she has many ideas gained from her clinical practice that she would like to research but there is no where to go with them, she would like to see a more open attitude adopted to funding research beyond the RCT.

She also believes that there is not a culture of research in nursing, that most of her colleagues have not had good university experiences during their training and that this has discouraged them from engaging in research. She believes that her colleagues consider that

research is something others do (academics) and that there is no recognition for a practitioner of research like herself.

Interviewee C noted that:

“in these straitened financial times non-essential activities will not be funded and that includes future nursing research and creating clinical academic posts”.

Interviewee C was not aware of the National Guidance for CARC until very recently when she applied for a clinical academic research post. She has never been involved in any information sessions on the development of a clinical academic career or CARC and they are not talked about among her colleagues. She does not visit the NHS Education for Scotland website where the National Guidance for CARC can be found, however she does visit the job website.

Section I3. Summary - tap into a willing pool of holders of doctorates

It may make sound fiscal sense to identify the nurses with doctorates from earlier NMAHP research development schemes and also to identify those nurses who self-funded their doctorates and encourage this group of highly educated, skilled and motivated individuals to re-engage as clinical academic researchers thus contributing to the creation of nursing knowledge and theory. As the three vignettes demonstrate there are nurses who hold PhDs with a strong interest in research who want to become clinical academics. NHS Boards may like to consider re-engaging with this pool of talented nurses who could contribute to the development of nursing knowledge and theory and potentially go on to become nursing research leaders.

Section J: Reflecting on nursing knowledge and theory and current Scottish CARC developments

We now turn our attention to the question: How well do developments for CARC in NHS Boards and their partner universities sit with current thinking on developing nursing knowledge and theory? This section highlights fundamental issues that may affect the development of CARC in the future. The issues are concerned with how new nursing knowledge is produced, the training of researchers (knowledge producers), building the evidence base and knowledge exchange.

Section J1. Towards a wider concept of knowledge production

Petroski (2010) argues that *"Pure science and pure truth are things of the past ... [no longer] unfettered by practical concerns"* (p114), and that more emphasis is now being placed on *"real world directed world research"*. The relationship between the practice of science and the practice of nursing is complex and requires the development of new knowledge and theoretical constructs.

Traditionally nursing has distinguished between those who produce knowledge and those who use it. Knowledge producers have typically participated in doctoral research programmes (PhD) and continue on as nursing academics whereas knowledge users are typically described as clinicians who are encouraged to use and evaluate research to support their clinical practice. Reed and Lawrence (2011) argue that *"This knowledge distinction within a discipline perpetuates ambiguity in professional standing and vulnerability to decreased jurisdiction over practice"* (p134). They go on to argue that *"practitioners remain an untapped dimension of knowledge development in our (Nursing) discipline"* (ibid). They are concerned that an approach to nursing knowledge that promotes a strong distinction between a limited number of knowledge producers and the many users in nursing is detrimental to the majority of nurses as it undervalues their tacit knowledge and experiences.

Abbott (1988), in his sociological study of systems of professions, noted that abstract knowledge is a key element in a profession's power and control over practice. According to Abbott nurses have limited power over their practice and are mostly subordinate. He goes on to state that a profession's power over practice depends to a large extent on the educational level of the profession and the level of control over practice is related to presence of abstract thinking or theories used in practice. The move towards nursing as a graduate profession as well as national policies that support the use of research evidence into practice will enable more nurses to acquire the requisite knowledge and skills to gain greater autonomy over nursing knowledge and theory and in turn over their practice.

Reed and Lawrence (2011) argue more can be done to encourage nurses beyond merely the use of research evidence: *"evidence based practice seeks to access knowledge, not to develop knowledge"* (p137) and that nurses should have power and control over their practice and participate in knowledge production. A brief discussion on Mode 2 knowledge

production (see Delanty 2001, Gibbons et al. 1994) is helpful to illuminate how clinical practice can be valued in knowledge production. In Mode 2 knowledge production is *'characterised by its heterogeneity (bringing together diverse skills and experiences to address a problem); reflexivity (involving reflection on values and perspectives of all actors involved) and transdisciplinarity (where knowledge is context sensitive and problem orientated and may transcend traditional disciplinary boundaries, such as those between universities and health care centre)* (Reed and Lawrence, 2011:138). This view of knowledge production embraces the role of clinical practice and its potential to be a generative source to developing nursing knowledge and theory (Reed, 1995). For further reading on how theory is linked to practice see Bug, 2000; Purkis & Bjornsdottir, 2006. Reed and Lawrence (2011) note a variety of methods for encouraging clinicians to build nursing knowledge and theory, such as nursing forums, seminars, journal clubs and online forums, by providing opportunities for reflection in practice (for reflective practitionership see Schon, 1983).

Section J2. Training knowledge producers

Historically small numbers of nurses in the UK registered for Doctor of Philosophy (Ph.D.) degrees in university departments of education, sociology or psychology and increasingly over the past two decades in schools of nursing as more nursing academics have taken on the role of supervising PhDs. Those nurses who obtained their research training through completing a PhD pursued a scientific empirical approach to creating new knowledge and often their research was undertaken far from the clinical setting. Increasingly the clinical setting has been seen as relevant (Holloway & Wheeler, 2002) and it is increasingly understood that expert practice/decision making involves both contextual, idiosyncratic evidence and external evidence (Avis and Freshwater, 2006:223).

Over the past decade increasing numbers of nurses have undertaken research of direct relevance to nursing, many of them through studying for a practice doctorate in nursing also referred to as a clinical or professional doctorate. This type of doctorate has a number of names such as Health and Social Sciences Doctorate, Doctorate of Nursing Science, Nursing Doctorate and often includes taught modules, core modules (eg called 'Doctorate research in health and social science module', 'Thesis module'). Course work can be web based and there is an examination of a dissertation or 'mini thesis', in contrast to the traditional U.K. Ph.D. earned by a thesis or, exceptionally, by published work. The professional doctorate has been designed for experienced professionals who usually hold a Masters degree or post graduate certificate. The main aim of the professional doctorate is to contribute to the advancement of professional practice in an individual's discipline and it can be undertaken either part time or full time.

There is a considerable literature base which affirms that the PhD nursing degree is considered the research-oriented degree (Marion et al., 2003; McKenna, 2005). However, according to Patzek (2010) in the USA there appears to be not much difference between early established clinical and practice-based doctoral degrees and the current PhD research intensive programmes.

There is an ongoing debate over the significance of the contribution that the PhD as opposed to the clinical/professional doctorate may make to creating new knowledge and theory. This debate is unresolved: for further discussion see '*Nursing Knowledge and Theory Innovation, Advancing the Science of Practice*' Reed and Crawford Shearer, 2011.

Section J3. Building the evidence base

Evidence-based or evidence-informed practice is the process of systematically finding and using contemporary research as the basis for clinical decision making (Long and Harrison, 1996). The issues surrounding evidence-based or evidence-informed practice were first discussed in the Literature Review for this study (see Weir and Ozga 2010). Further to that discussion we move forward from the 'gold standard' randomised control trials (RCT) which is the foundation of evidence-based practice to widen the discussion to include new conceptualisations of evidence-based nursing. This is not to say any one research method is more suited to nursing than another. Morton and Morton (2003) state:

"Evidence comes in many forms and varies in quality. Within research there is a recognised hierarchy of reliability that can be used as a guide when considering evidence."
(<http://www.ebnp.co.uk/The%20Hierarchy%20of%20Evidence.htm>).

While their hierarchy clearly places RCTs at the apex of evidence and small descriptive studies from experience at the bottom, others challenge this view and highlight the importance of small localised research to solve problems (Polit and Beck, 2008). Some commentators argue that knowledge production should be measured according to its contribution to improved outcomes in health care rather than its contribution to traditional positivistic generalisable knowledge (Rolfe & Davies, 2009). Nursing research is linked to quality improvement science and improving practice and orientated to improving the quality of outcomes for patients. Velasquez et al. (2011) provide an example from the USA where Doctor of Nursing Practice (DNP) graduates have led quality improvement initiatives based on building knowledge about local care and used methods that required knowledge of nursing clinical practice, local culture, quality improvement methods, and how to manage change. Cronenwett (2010) and Cronenwett et al. (2009) argue that the majority of nurses holding doctorates are more familiar with basic research rather than with quality improvement science methods that are more suited to complex and ever changing clinical practice environments. Rolfe (2011) contends that *"academic nursing has not kept pace with fundamental changes in the focus of practice"* (p64). He notes that while generalisable social science research methods may be appropriate for informing high level nursing policy however, these methods do not fit well with individualised and contextualised practice environments and suggests adopting methods that support *"a science of the unique"* (Rolfe, 2006; Rolfe & Gardner, 2005).

Rolfe (2011) argues that in the United Kingdom nursing research is becoming further removed from the clinical practice environment because funders have emphasised large scale multi disciplinary collaboration with each researcher responsible for only a small part of the project and with limited access to the overview of the project. The rise of large multi

disciplinary projects has resulted in the demise of the importance and impact of small, individualised projects and in particular unfunded projects.

Section J4. Knowledge exchange

In Scotland the Chief Scientist Office's research strategy "Investing in Research/Improving Health" has as a key objective the fostering of evidence-based healthcare through translation of knowledge into practice. (The Scottish Government, 2009a: 6)

Graham et al., (2006) note that within health various terms have been used interchangeably to describe the translation of evidence into practice, such terms as knowledge translation, knowledge transfer, research utilisation, implementation, diffusion and dissemination are used, with knowledge translation (KT) most common in the literature. Graham & Tetroe (2007) noted that numerous KT models have been developed, including organisational models. They research utilisation models in nursing and health promotional models. They contend that much more work is needed to develop and refine theory-based models of KT.

In higher education the term currently favoured is knowledge exchange. There is no single agreed definition of knowledge exchange: it is about the two-way flow of people and ideas between the research environment and the wider community. Knowledge exchange is a key area of concern in higher education globally (ESRC, 2011; Nedeva, 2007; Ozga and Jones, 2006; Ozga, 2007; SFC, 2011).

Section J5. What is happening in Scotland?

In all three NHS case studies, small numbers of nurses have traditionally undertaken a PhD which is considered an appropriate qualification for those embarking on a nursing academic career. While some nurses from this group have undertaken small scale qualitative interventions as part of their doctoral studies, most of them have argued strongly for the conventional science base behind nursing and have engaged in systematic reviews and RCTs and large multi-disciplinary collaborative projects which are more likely to attract funding.

Since universities have offered professional/clinical doctorates increasing numbers of nurses have undertaken a doctorate that has been designed to contribute to the advancement of professional nursing practice. Nurses from this group have focused on small scale contextualised studies most of which have been undertaken as part of their doctoral studies and subsequent projects have either been unfunded or have attracted small amounts of funding.

Typically NHS Boards have not kept comprehensive records of who holds a doctorate nor do they distinguish between those who achieved a PhD or professional/clinical doctorate. There is potential for those who have undertaken professional/clinical doctorates to champion the use of research among their colleagues and for those who have developed strong interest in linking research and practice to undertake post graduate research in their specialism thus contributing to nursing knowledge and theory.

We have argued that clinical academic posts for nursing have the potential to enhance evidence-based practice and quality improvement for patients through the co-production of knowledge in direct patient care research. Regardless of the type of doctorate achieved graduates have the potential to pursue a clinical academic career that can contribute to the generation of new knowledge and theory and evidence-based practice.

Section K: Perspectives from organisational sociology and the sociology of knowledge

This section of the report further develops issues first raised in the literature review for this study through a discussion of the development of clinical academic posts for nursing against the backdrop of the wider debate on professional occupations, mobility and careers in the context of significant change in public sector work and occupations. The section also seeks to make connections between developments in professional occupations and developments in approaches to knowledge, its construction and its use. The main purpose of this discussion is offer for consideration some key concepts and developments in the sociology of occupations that might make a contribution to increasing awareness and understanding of potential strategies for overcoming perceived challenges to establishing and maintaining clinical academic careers.

Of course contemporary sociological approaches to professionalism are far from uniform, and there are many wide ranging debates about the nature of professionalism and professionalisation, not least in nursing. However it may be that a particularly relevant set of ideas relates to the argument that professionalism and professionalisation need to be placed within the wider framework of processes of occupational change and restructuring of work (Alvesson, 2001; Beck, 2000; Becker, 2002). At the same time, these occupational changes are themselves highly dependent on change in the ways in which knowledge, and its relationship to practice, are understood. This perspective underlines the need to understand occupational change as a process of continuous struggle over occupational status among different groups, where progress in professionalisation is closely related to the capacity of groups to mobilise resources and achieve political and public support.

Such a perspective also draws attention to the need for negotiation and strategic thinking in order to achieve and to maintain position that is found in research across many sectors and occupations (Sennet, 2006; Williams, 2007; Green, 2006) in the context of very substantial change in public sector professions in the UK and beyond since the 1980s. The re-design and re-regulation of public sector occupations is an ongoing process (see, for example Reed, 1997; Clarke and Newman, 1997; Mooney and Law, 2007) and has considerable implications for occupations seeking to consolidate their positions through mobilisation of research-based knowledge. In such a context, there may well be some tension between the need for the professionalising group to secure acceptance of its right to an autonomous role in producing knowledge, and the simultaneous need to demonstrate its capacity to use evidence to improve outcomes. The use of evidence to improve performance has, in some contexts and among some occupations, tended to constrain professional autonomy through the focus on technical expertise in 'delivery' of established good practice. The operationalisation of research-based knowledge in practice is thus framed by a context of enhanced regulation, greater responsiveness to client/patient needs, and stronger management, all of which may weaken a key element of scientific knowledge production – i.e the inherent self-doubt and complexity connected to reflexivity about the construction of knowledge and research agendas (Nassehi, 2007; Stehr, 1994). Nassehi and his colleagues draw attention to the ways in which standardised procedures and evidence-based practice

may reduce the scope for researchers and clinicians to question their own procedures and open those procedures and results to interrogation by others outside the occupation (Nassehi et al., 2007: 164).

This tension in the uses of knowledge by the occupational group is further developed in research that suggests that in some areas of applied research, while there is improvement in capacity through a move towards evidence-based practice, this may be achieved without appropriate and authentic engagement with developing research cultures and practices (McNay, 2006; Robertson and Bond, 2005).

Furthermore, in universities the increased emphasis on 'scientised' and highly coded practices of research, and on achieving targets and benchmarks that evidence high performance, driven by the REF, may lead to pressures for increased distance between research leaders and members of a professionalising group (Yates, 2004; Roberts, 2006). In this context, it may be appropriate to consider the role that the Clinical Academic is well positioned to deliver, not only in relation to the promotion of evidence-based practice but also in terms of ensuring that there is authentic transfer of knowledge and knowledge-production processes in a situation where performativity and competition over status may well be endemic. While these issues are appropriately registered as problems in the literature and in this section, it is also possible to interpret the current context as offering both very real opportunities and a heightened need for the development of Clinical Academic Careers in nursing, prompted by a desire to improve service delivery, combat performativity and close the gap between the academy and the profession.

Moreover in the fields of health and medicine the new professionalism is closely linked to accountability achieved through quality regimes that reference standards based on evidence and consensus among experts. There is a policy shift towards research on prevention, to more active information-giving and to longer term, community-based management of health problems (Nassehi et al 2007)

These features of the new professionalism all underline the centrality of knowledge, and highlight possibilities of alignment of 'new' forms of professionalism with new knowledge formations and practices, particularly practices of brokering and translation of knowledge. The discussion therefore moves to consider perspectives on knowledge.

Section K1. Perspectives on knowledge

Current approaches to knowledge seek to close the theory-practice 'gap' by understanding knowledge as the result of an interaction between forms and practices of knowledge accumulation and the performance of individuals and groups in practice (Nonaka and Takeuchi, 1995; Polanyi, 1967) A well known formulation of these ideas is contained in 'Science's New Contract with Society' (Gibbons, 1999), which is further developed in the equally well-known concepts of Mode 1 and Mode 2 knowledge, where Mode 1 is defined as discipline-based, rule-bound and located in traditional research cultures and Mode 2 is more widely dispersed, problem-focused and developed in the context of application. These ideas challenge conceptions of a linear process of research informing policy and practice:

rather the research-practice relationship is characterised as iterative, problem-focused, and trans-disciplinary (Delanty, 2001; Gibbons et al., 1994; Nowotny et al., 2001). In these new knowledge production forms and processes, creative thinking, innovation and problem-solving are valued over and above the consolidation of static knowledge stocks and their linear transfer into 'outputs' (Stehr, 2002). Such shifts are opening a whole new space for repositioning occupations.

Opportunities exist, then, for developing a form of translation of abstracted formal knowledge into practical knowledge in order to create a system of expert knowledge; as Evetts (2006) suggests-to be effective professional knowledge must find a balance between extreme abstraction and extreme concreteness. Too much concreteness diminishes capacity to adapt, while too much abstraction diminishes the public approval and legitimacy of the professional group.

Research offers a translation point between theory and practice through which researchers come to understand new situations, recognize which (broader) areas of knowledge are relevant to a particular situation, focus precisely on knowledge that is needed for a particular decision or action and develop the capacity to transform previously acquired explicit knowledge into the new situation prior to or during the performance (Eraut, 2006: 49).

These ideas draw attention to the central importance of processes of 'translation', in making research central to academic careers in nursing. Clinical Academics careers may well be dependent on the capacity to actively engage with new knowledge forms and on fluency in translating research knowledge into practice through supporting communication between heterogeneous environments, including the research environments of HEIs and the practice contexts of the NHS. Wenger (1998) draws attention to the positioning of such 'translators' and the demands on them that require them to manage belonging and not belonging and combine distance and legitimacy:

'The job of brokering is complex. It involves processes of translation, coordination and alignment between perspectives. It requires enough legitimacy to influence the development of a practice, mobilise attention and address conflicting interests. It also requires the ability to link practices by facilitating transactions between them, and to cause learning by introducing into a practice elements of another. To this end, brokering provides a participative connection – not because reification is not involved, but because what brokers press into service to connect practices is their experience of multi-membership and the possibilities for negotiation inherent in participation.' (Wenger, 1998, p. 109, quoted in Delvaux 2007, p 273).

Here translation is understood as a complex and powerful task that involves the definition of a problem, its investigation and its mobilisation in the wider world. To summarise: there are a number of developments in approaches to knowledge and in occupational change that are congruent with the development of Clinical Academic Careers in Nursing, and work with the grain of policy and organisational priorities to change work cultures and make knowledge more productive.

Section L: Summary and conclusions

The first part of this research project reviewed literature on the barriers to and facilitators of clinical academic careers in Scotland and five international comparators: England, Northern Ireland, Australia, United States and Canada (see Weir and Ozga, 2010).

Internationally governments, health authorities and nursing sector professional bodies have commissioned reports and developed policies that support the enhancement of quality, capacity and capability in nursing research, teaching and scholarship. Establishing and maintaining clinical academic posts is an essential part of this wider nursing policy agenda as these posts involve clinical practice, teaching and research and offer an effective route to bridging the gap between the academy and clinical services. Putting these policies into operation has presented a number of significant challenges to countries including identifying barriers to, and facilitators of establishing these posts. Common barriers to emerge in the literature are clustered around the recognition of the differences in clinical and academic strategic priorities, policy drivers, funding bases and reporting structures. Those responsible for implementing policies acknowledge the need to work through these organisational barriers as well as the challenges faced by individual post holders moving between two worlds. Common facilitators identified in the literature are clustered around securing targeted funding to support research training initiatives and fund joint appointments up to the level of clinical chair and securing formal agreement across the academy and health services (Weir and Ozga, 2010).

The empirical element of this research focused on three case studies of NHS Boards and their partner universities in different parts of Scotland. The aim of the case studies was to build on the findings of the literature review by testing out whether the barriers and facilitators identified were similar to or different from those involved in establishing and maintaining clinical academic posts for nurses within the Scottish context of the 'National Guidance for Clinical Academic Research Careers for Nursing, Midwifery and Allied Health Professions in Scotland' (NHS Education for Scotland, 2010). Common barriers to emerge from the case studies and similar to those in the literature review are clustered around the recognition of the different organisational drivers, approaches and accountability structures between health and higher education. Common facilitators identified in the case studies and similar to those in the literature are clustered around securing targeted funding to support nursing research, research training and clinical academic posts.

Section L1. Conclusion

This study has reviewed selected literature on establishing and sustaining clinical academic careers. The empirical evidence from this study confirms that the organisational, systematic and human resource issues identified in both the literature review and the case studies have, in Scotland, begun to be addressed through the introduction of NHS National Guidance. Each of the NHS Boards has approached the issues of establishing and maintaining clinical academic posts in a positive way, by reviewing their current practice and with NHS and universities working more closely together than before. The Lothian pilot is a

comprehensive approach with attempts to address issues raised in the 2007 Finch Report and to align with the National CARC Guidelines by implementing a collaborative approach that includes a career framework and an agreed research plan. The challenge for NHS Lothian and partner universities is to widen the pilot, look for sustainable funding and embrace those academics who sit outside the pilot. The other two NHS Boards, NHS Greater Glasgow and Clyde and NHS Tayside and their partner universities are working on joint research plans and reviewing clinical academic posts to identify the best approach going forward. With strong leadership, in particular the establishment of clinical academic chairs and with good planning and a clear strategic and operational focus by NHS Boards and universities, success in establishing and implementing clinical, academic positions can be achieved.

It is important, from the perspective of both the NHS and the university, that nursing is successful in creating new knowledge and theory to sustain and develop nursing science so as to achieve quality improvement and better outcomes for patients. For nursing research to flourish in the NHS, managers need to make even greater efforts to encourage understanding of research by clinicians and to learn to value those researchers who are dedicated to producing new knowledge and who are interested in creating nursing theory that will potentially positively influence nursing practices and quality outcomes. For nursing research to continue to grow in Scotland beyond targeted funding initiatives it must achieve good results in the forthcoming REF in 2014. Future university sector funding for nursing research will be based on the REF results.

There is opportunity for nursing to embrace not only the holders of PhDs as generators of new nursing knowledge and theory but also to encourage nurses who hold professional clinical doctorates and who may also take an interest in contributing to new nursing knowledge and theory. It seems timely to identify a NMAHP research community of nurses who have a research component to their post and encourage them to potentially pursue clinical academic research careers, and indeed NHS Lothian has done this. Widening the contested concept of acceptable evidence to include not only systematic reviews and RCTs but also focus on more local and more qualitative research aimed at local solutions may lead to more nurses generating new knowledge and theory in clinical settings.

We have argued that clinical academic posts for nursing have the potential to enhance evidence-based practice and quality improvement for patients through the co-production of knowledge in direct patient care research. As the interviewees noted, the clinical academic has prestige in medicine and is successful in gaining significant funding from the health and higher education budgets. Clinical medical academics in the UK have positioned themselves as crucial to research translation (Cooksey, 2006) and can demonstrate world leading research. The nursing profession in Scotland faces a very considerable challenge in times of financial uncertainty to demonstrate that nursing research is directed at improving the outcomes for patients, and that it has a contribution to make to quality improvement through the production of nursing knowledge that it is more widely valued by the nursing profession itself, as well as by the public and research funders. Maximizing the benefits of health research through knowledge translation is a key theme in both government health

and university policies and strategy. In Scotland both the NHS Boards and their partner universities are moving in an appropriate direction, so the time is right to invest in the future before the good work is undone and to exploit the value of establishing clinical academic research posts for nursing as pivotal in developing partnership between health (knowledge users increasingly contributing to knowledge production) and higher education (knowledge producers).

References

- Abbott, A. (1988) *The Systems of professions*. Chicago: University of Chicago Press.
- Alvesson, M. (2001) Knowledge Work: ambiguity, image, identity, *Human Relations*, 54(7): 863-886.
- Avis, M., and Freshwater, D. (2006) Evidence for practice, epistemology, and critical reflection. *Nursing Philosophy*, 7, 216-224.
- Bug, J. (2000) Feminist theories of knowledge. In J Bart (Ed.), *Women succeeding in sciences: Theories and practices across disciplines* (pp.205-220). West Lafayette, IN: Purdue University Press.
- Clarke, J. and Newman, J. (1997) *The Managerial State*, London: Sage.
- Cooksey, D. (2006) *A review of UK Health research funding*. London: HM Treasury.
- Cronenwett, L. (2010) *Quality and safety implications for doctoral programs in nursing*. Paper presented at the AACN Doctoral Education Conference, Captiva Island, FL.
- Cronenwett, L., Sherwood, G., Pohl, J., Barnsteiner, J., Moore, S., Sullivan, D., et al. (2009) Quality and safety education for advanced nursing practice. *Nursing Outlook*, 57, 338-348.
- Department of Health. (2006) *Modernising nursing careers – setting the direction*. Department of Health.
- Delanty, G. (2001) *Challenging Knowledge: The University in the Knowledge Society*, Buckingham: Open University Press.
- Delvaux, B. (2007) Knowledge and Learning in the Literature on Organisations, *Knowledge and Policy Literature Review*, 12.
- Dowding, D. (2003) *Building research capacity and capability in nursing, midwifery and allied health professions in Scotland*, Report to SHEFC and SFC.
- Economic & Social Research Council (ESRC) (2011) *Knowledge Exchange*. Accessed on September 7 from:
<http://www.esrc.ac.uk/funding-and-guidance/tools-and-resources/impact-toolkit/what-how-and-why/knowledge-exchange/index.aspx>
- Eraut, M. (2006) 'Professional Knowledge and Learning at Work', *Knowledge, Work and Society/Savoir, Travail et Société* 4(3): 23–42.
- Evetts, J. (2006) 'Organizational and Occupational Professionalism: The Challenge of New Public Management', paper presented at the XVI ISA World Congress of Sociology, 'The Quality of Social Existence in a Globalising World', Durban, South Africa, 23–29 July.
- Finch, J. (2009) The importance of clinical academic careers in nursing. *Journal of Research in Nursing*, 114(2) 103-105.
- Gibbons, M. (1999) Science's new Relationship with Society, *Nature*, 402 (C81).

- Gibbons, M., Limoges, C., Nowonty, H. and Schwartzman, S. (1994) *The new production of knowledge: the dynamics of science and research in contemporary societies*, London: Thousand Oaks, Calif.: SAGE Publications.
- Graham, I.D., Logan, J., Harrison, M. B., Straus, Sie, Tetroe, J., Caswell, W., et al. (2006) Lost in Translation: Time for a map? *Journal of Continuing Education in the Health Professions*, 26, 13-24.
- Graham, I. D., and Tetroe, J. (2007) Whither knowledge translation. *Nursing Research*, 56(4S) S86-S88.
- Holloway, I., and Wheeler, S. (2002) *Qualitative research in nursing*. Oxford: Blackwell Science.
- Jones, M. (2010) Nursing, Midwifery and Allied Health Professions Research Training Scheme, Final Report update, 4 November 2010. Dundee: University of Dundee.
- Marion, L., Viens, D., O' Sullivan, A.L., Crabtree, K., Fontana, S., and Price, M.M (2003). The practice doctorate in nursing: Future or fringe. *Topics in Advanced in Advanced Practice Nursing eJournal*. Retrieved from <http://www.medscape.com/viewarticle/453247>
- McKenna, H. (2005). *The mission and substance of doctoral education in nursing*. Accessed from www.umich.edu/~inden/papers/dnsc.html
- McNay, I. (ed) (2006) *Beyond Mass Higher Education*, Maidenhead SRHE/The Open University Press.
- Morton and Morton (2003) *Evidenced-based nursing practice*. Accessed from <http://www.ebnp.co.uk/The%20Hierarchy%20of%20Evidence.htm>
- Nassehi, A., von der Hagen-Demsky and Mayr, K. (2007) The Structures of Knowledge and Knowledge Production, *Knowledge and Policy Literature Review*, 8.
- Nedeva, M. (2007) 'New tricks and old dogs? The third mission and the reproduction of the university', in D.Epstein, R.Deem, F.Rizvi and S.Wright (eds) *Europe Geographies of Knowledge, Geometries of Power: Higher Education in the 21st Century*, *World Year Book of Education 2007*, London: Routledge Falmer.
- NHS Education for Scotland (NES) (2010) *National Guidance for Clinical Academic Research Careers for Nursing, Midwifery and Allied Health Professions in Scotland*, Edinburgh: NHS Education for Scotland.
- NHS Education for Scotland (NES) (2011) *Early Clinical Career Fellowship Information*. http://www.nes.scot.nhs.uk/media/296008/eccf_2011_information_for_applicants.pdf
- NMAHP Acute Division NHS Greater Glasgow and Clyde (2010) Unpublished draft *Research and Development Strategy for NMAHP Acute Division NHS Greater Glasgow and Clyde* May 2010.
- NHS Lothian (2010a) *Clinical Academic (Research) careers Scheme for Nurses, Midwives and Allied Health Professionals in NHS Lothian*, Edinburgh: NHS Lothian.
- NHS Lothian (2010b) *Lothian Nursing, Midwifery & Allied Health Professional (NMAHP) Research Framework 2010-2015*, Edinburgh: NHS Lothian.

- NHSScotland (2010) *The Healthcare Quality Strategy for NHSScotland*, Edinburgh: The Scottish Government.
- Ozga, J. and Jones, J. (2006) Travelling and embedded policy: the case for knowledge transfer, *Journal of Education Policy*, 21(1): pp1-17.
- Ozga, J. (2007) Knowledge and policy: research and knowledge transfer, *Critical Studies in Education*, 48(1): pp 63-78.
- Patzek, M.J. (2010) Understanding the DNP degree. *American Nurse Today*, 5(5), 49-50.
- Petroski, H. (2010) *The essential engineer: Why science alone will not solve global problems*. New York: Alfred A Knopf.
- Polit, D. E., and Beck, B.P. (2006) *Essentials of nursing research; Methods, appraisal, and utilization* (6th ed.). Philadelphia: Lippincott Williams & Wilkins.
- Purkis, M. E. and Bjornsdottir, K. (2006) Intelligent nursing: Accounting for knowledge as action in practice. *Nursing Philosophy*, 7, 247-256.
- Reed, S. (1997) 'Restoring Discretion', Paper to the Annual Conference of Police Officers in England and Wales Blackpool, 15th May.
- Reed, P.G. (1995) A treatise on nursing knowledge development in the for the 21st century: Beyond postmodernism. *Advances in Nursing Science*, 17(3), 70-84.
- Reed, P.G. and Lawrence, L.A. (2011) A Paradigm for the Production of Practice-based Knowledge: Philosophical and Practical Considerations in P Reed and N.B. Crawford Shearer (Eds.) *Nursing Knowledge and Theory: Advancing the Science of Practice*. (37-50). New York: Springer Publishing Company.
- Reed P.G and Crawford Shearer N B. (2011) (Eds.) *Nursing Knowledge and Theory: Advancing the Science of Practice*. (37-50). New York: Springer Publishing Company.
- Rafferty, A.M., Clarke, S.P., Coles, J., Ball, J., James, P., McKee, M., et al. (2007) Outcomes of variation in hospital nurse staffing in English hospitals: Cross-sectional analysis of survey data and discharge records, *International Journal of Nursing Studies*, 44(2): 175-182.
- Rolfe, G. (2006a) Nursing praxis and the science of the unique. *Nursing Science Quarterly*, 19(1), 39-43.
- Rolfe, G. (2011) Practitioner-Centred Research: Nursing Praxis and the Science of the Unique in P Reed and N.B. Crawford Shearer (Eds.) *Nursing Knowledge and Theory: Advancing the Science of Practice*. (37-50). New York: Springer Publishing Company.
- Rolfe, G., and Davies, R. (2009) Second generation professional doctorates in nursing. *International Journal of Nursing Studies*, 46, 1265-1273.
- Rolfe, G., and Gardner, L. (2005) Towards a nursing science of the unique: Evidence, reflexivity and the study of persons. *Journal of Research in Nursing*, 10 297-310.
- Schon, D. A. (1983) *The reflective practitioner: How professionals think in action*. New York: Basic Books.

- Scottish Executive Health Department (SEHD) (2002) *Choices and Challenges: the strategy for research and development in nursing and midwifery in Scotland*, Edinburgh: SEHD.
- Scottish Funding Council (2011) *Knowledge Exchange*. Accessed on September 2 2011 from: http://www.sfc.ac.uk/knowledge_exchange/Universities/KnowledgeExchangeUniversities.aspx
- Stehr, N. (1994) *Knowledge Societies*, London: Sage.
- Tierney, A.J. (2007a) *Capacity and capability for nursing & midwifery research in Scotland: Report of a scoping exercise conducted towards the end of 2006*. Report prepared for the Deputy Chief Nursing Officer (Interim), Scottish Executive Health Department, Commissioner of the scoping exercise on behalf of the stakeholders of the NMAHP.
- Tourangeau, Aie, Doran, D. M., McGillis, Hall, L., O'Brien Pallas, L. Pringle, D., Tu, J. V. et al. (2006) Impact of hospital nursing care on 30 day mortality for acute medical patients. *Journal of Advanced Nursing*, 57(1): 32-44.
- The Scottish Government (2009) Chief Scientist Office *Investing in Research/Improving Health*, Edinburgh: The Scottish Government.
- UK Clinical Research Collaboration (UKCRC). (2005) *Medically and dentally qualified academic staff: recommendations for training the researchers and educators of the future*. Report of the Academic Affairs Subcommittee of UKCRC and the Department of Health's Modernising Medical Careers initiative, [Walport Report] London: UKCRC.
- UK Clinical Research Collaboration (UKCRC) (2006) *Developing the best research professionals*. Qualified graduate nurses: recommendations for preparing and supporting researchers and educators of the future. Report of the UKCRC Workforce Careers (Nursing) Group in Collaboration with Modernising Nursing Careers. September 2006.
- UK Clinical Research Collaboration (UKCRC) (2007) *Developing the best research professionals*. Report of the UKCRC Subcommittee for nurses in clinical research (workforce), [Finch Report] London: UKCRC.
- UK Clinical Research Collaboration (UKCRC) (2009) *Clinical Academic Careers for Nurses, Midwives and Allied health Professionals*, <http://ukcrc.org/workforce/training/nursesmidwivesahp.aspx> [Accessed on 18 August 2009]
- UK Clinical Research Collaboration (UKCRC). (2010) *Clinical Academic Careers for Nurses, Midwives and Allied Health Professionals*, <http://www.ukcrc.org/workforcetraining/nursesmidwivesahp/> [Accessed on 2 July 2010]
- Velasquez, D. M., Behler McArthur, D., & Johnson, C. (2011) Doctoral Nursing Roles in Knowledge Generation in P Reed and N.B. Crawford Shearer (Eds.) *Nursing Knowledge and Theory: Advancing the Science of Practice*. (37-50). New York: Springer Publishing Company.

- Viens, D., O'Sullivan, A., Crabtree, K., Fontana, S., & Price, M. (2003). The practice doctorate in nursing: Future or fringe? *Topics in Advanced Practice Nursing eJournal*. Retrieved September 14, 2005, from www.medscape.com/viewarticle/453247
- Weir, A. (2009) *Clinical Academic Posts for Nursing: Knowledge Exchange in Health and Higher Education*, <http://www.nes.scot.nhs.uk/documents/events/Towards2020> [Accessed on 20 March 2010]
- Weir, A. and Ozga, J. (2010) *Clinical Academic Posts for Nursing: A Literature Review*. Edinburgh: Centre for Educational Sociology, the University of Edinburgh.
- Weir, A. and Ozga, J. (2011) *Clinical Academic Posts for Nursing: NHS Greater Glasgow and Clyde Case Study*. Edinburgh: Centre for Educational Sociology, the University of Edinburgh.
- Weir, A. and Ozga, J. (2011) *Clinical Academic Posts for Nursing: NHS Lothian Case Study*. Edinburgh: Centre for Educational Sociology, the University of Edinburgh.
- Weir, A. and Ozga, J. (2011) *Clinical Academic Posts for Nursing: NHS Tayside*. Edinburgh: Centre for Educational Sociology, the University of Edinburgh.
- Wenger, E. (1999) 'Communities of Practice the Key to a Knowledge Strategy', *Knowledge Directions* 1(2): 48–63.