

Final Evaluation of Lothian's Nursing, Midwifery and Allied Health Professions (NMAHP) Clinical Academic Research Careers (CARC) Scheme

for NHS Lothian

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Report completed / submitted by: Pamela Reid and Jeremy Hanks

Proof check completed: Richard Weaver

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Executive Summary

Introduction

In February 2016, ekosgen was appointed by NHS Lothian to evaluate the Lothian Nursing, Midwifery and Allied Health Professionals (NMAHP) Clinical Academic Research Careers (CARC) Scheme.

The evaluation involved extensive desk based research and analysis of key documents and reports. ekosgen also undertook in-depth consultations with the eight CARC post holders and 20 other stakeholders drawn from the Steering Group, Management Group, supervisors, Universities and strategic organisations.

The evaluation assessed the impact of the CARC Scheme on post-holders, service delivery and partners including the extent to which it has helped embed a research culture in the demonstration sites. It is too early to gather robust evidence on the impact on patients but the evaluation is able to point to some likely impacts on patient care arising from the CARC Scheme research.

The NMAHP CARC Scheme

The importance of evidence-based practice and developing a culture of lifelong learning in the NHS is recognised and research is now a core tool for improving care in NHS Scotland. Having clinical academics means that service development needs identified in the clinical setting can be transferred into academic research and that there is a clear route for the outputs of academic research to be applied into practice.

Established in 2011, the Lothian CARC Scheme is a pilot delivered by NHS Lothian in collaboration with NHS Education for Scotland (NES), the University of Edinburgh, Queen Margaret University Edinburgh and Edinburgh Napier University. It provides opportunities for NMAHPs to combine their clinical role with academic research, to date at PhD or post-doctoral level. The new Midwifery demonstration site will include a Masters of Research (MRes) post.

The aim is for the post holders to be clinically active researchers who work within a health role whilst simultaneously conducting research into relevant areas of practice. Specifically, the Scheme is intended to produce outputs such as post holders participating in research courses, conference presentations, generating grant funding, completing relevant studies and publishing journal articles, as shown at Table 4.1 in the main report.



To date, the Scheme has provided eight posts over the following four demonstration sites: Critical Care, Substance Misuse, Telehealth/Weight Management, and Dementia. The sites have come on stream at different times over the pilot period. In response to particular circumstances in the sites and with the post holder, the specific model and arrangements vary but they all adhere to the overarching CARC Scheme model. This flexibility has been a strength of the Scheme. The Midwifery site is due to begin by the end of 2016.

All current demonstration sites comprise two post holders: one Advanced Practitioner (a part-time post-doctoral clinical research fellow) and one Senior Practitioner (a part-time PhD clinical researcher), with the exception of the Telehealth/Weight Management site which comprises two

Senior Practitioners as it was not possible to recruit a suitably qualified Advanced Practitioner. To date, two post holders have completed the CARC Scheme.

The Scheme is monitored and governed by an Operational Management Group which comprises representatives of NHS Lothian and the three partner universities. The Management Group reports annually to the Lothian CARC Scheme Steering Group, which comprises senior managers from the funding partners.

A number of significant outputs have been achieved to date by the post holders, including presenting at 45 conferences, completing 106 training courses, achieving 17 journal publications, establishing ten research groups, and generating over £1.2m¹ worth of grant funding.

£1.21m
GRANT
FUNDING
GENERATED



Process and Delivery

Application and Recruitment

The application process for demonstration sites and post holders is competitive. Clinical sites that have already carried out research with a practical application and can demonstrate quality projects and added value from involvement in the Scheme are encouraged to apply. The evaluation found no challenges with the demonstration site application process, and the four existing sites are deemed to be appropriate by stakeholders. There is an appetite and enthusiasm amongst stakeholder for more demonstration sites. Potential sites and areas of focus suggested during the research were falls, primary care, obesity, teenage pregnancy and the ageing population.

Potential post holders apply through an online application form followed by a panel interview to present and discuss the proposed research topic. They report that they have good information in advance about the Scheme, what it involves and the commitment required. Recruiting post holders has been challenging at times, largely due to the limited pool of suitably qualified NMAHPs in NHS Lothian. In response, the Scheme has adopted a more flexible approach to recruiting candidates and posts have been advertised more widely. To ensure the suitability of post holders, the selection process has become more rigorous and candidates are asked to provide examples of their written work. Recruiting post-doctoral level applicants has been particularly challenging and in some sites it has been necessary to identify and approach suitably qualified and experienced individuals rather than using competitive recruitment.

Post holders are often encouraged to apply for the Scheme by line managers, and tend to be motivated by the opportunity to continue clinical links while undertaking academic research rather than having to opt for one or the other. Maintaining their salary level during their PhD or post-doctoral research is also an important motivator. Post holders receive sufficient information about the Scheme at the application process and have few initial concerns.

Defining the Research Topic

Post holder's research topics must align with NHS Lothian priorities, addressing an identified service need. The process for developing the research topics has evolved over time. In early sites, a broad topic was provided by site leads, which the post holder could refine and then seek approval. In demonstration sites that came on stream later, the topics and methodologies were fully defined for the

¹ Please note, c£300,000 of this funding had provisionally been granted by an eligible funder at the time of writing.

post holder by the site leads. In sites with less of a history of research culture, defining and agreeing the specific research topic proved more challenging and took longer.

The new Midwifery site has made provision for an MRes, and there is a strong feeling that the introduction of a post at this level will benefit the Scheme. It will act as a natural feeder to PhD posts and recruitment should be easier as there a larger pool of potential post holders.

Partnership and Governance

There are a number of strengths to the delivery and governance of the Scheme, in particular the collaboration between NHS Lothian and the Higher Education Institutions (HEIs), who work together to develop and manage the demonstration sites. This collaboration allows clinical staff to have an academic pathway, and gives HEI research a 'clinical home'. A strength of the Scheme is that it has the right degree of flexibility to support sites and recruit the right post holders. There is also a good balance between supporting post holders and enabling them to be independent researchers and the research topics addressing core NHS Lothian priorities and service needs.

However, there is some lack of clarity between the roles and remits of the CARC Management Group and the NMAHP Research Framework Working Group, and there could be a clearer understanding about the division of responsibilities.

Support, Supervision and Progress Monitoring

Post holders are provided with significant support throughout their time on the CARC Scheme. There are varying views on whether CARC post holders receive more support than non-CARC Scheme researchers, but there is consensus that CARC post holders are exposed to more opportunities than others, for example access to HEI research teams, participating in strategic level working groups and attendance at national and international conferences. There is also agreement that overall, they have access to a wider network of experts.

Support is primarily provided through regular meetings with the post holder's supervisory team comprising NHS Lothian and the partner university. At these meetings, progress is discussed and milestones set for the next period. This support and supervision is highly valued by post holders as it helps to drive the research, keep them on track and allows discussions on any issues. It is important that the academic and clinical supervisors provide consistent feedback to post holders and whilst this has not been a major issue, there are a small number of examples where this has not happened.

The competing pressures of undertaking a PhD or post-doctoral research on a part-time basis combined with the competing priorities of a clinical role can be hard for post holders. The split between the two roles can be challenging as it can make the research seem quite stop-start. The balance of the dual roles has to be managed carefully so that the research progresses smoothly and post holders are able to immerse themselves into it. On the whole, the post holders have successfully managed the transition from a full time clinical role and have very much valued the support provided at this stage.

Post holders are also supported by their NHS line managers but there is clear evidence that support from middle managers and colleagues in the clinical setting is not consistent, often due to a lack of understanding of the Scheme and its potential benefits to clinical practice.

Post holders have participated in peer support groups which they find very helpful as it is an opportunity to discuss issues, share experiences and consider potential solutions.

Post holders complete annual progress reports to capture activities undertaken and outputs in the period, and these reports are a useful tool and act as a motivator.

At the end of their CARC Scheme research, post holders are offered a closure meeting but there is scope to make the close-down process more formal and structured which would benefit the post holder and also provide useful feedback and intelligence to the Scheme management.

Overall, post holders have very few unmet support needs and believe that they are well supported to make the transition from a clinical role in to a combined post.

Scheme Profile and Dissemination

There remains a limited awareness of the CARC Scheme in NHS Lothian and partner organisations, outwith those directly involved. Where people do know about the Scheme, it has a very positive reputation and has influenced developments and work in other parts of Scotland. However, a higher and more widely spread profile within NHS Lothian would promote the benefits of clinical-academic research careers, as well as potentially engaging other funding partners. It would also help deliver more sites and attract potential post holders, along with ensuring a greater understanding of, and buy-in to, the scheme amongst managers in clinical settings.

Having a wider and stronger dissemination of CARC Scheme achievements and lessons learnt was a key finding in the 2013 evaluation and whilst some progress has been made towards this, there is significant scope for improvement.

Sustainability

Ensuring the sustainability of CARC Schemes and combined clinical and academic careers can be difficult and it is the single biggest challenge facing the Lothian CARC Scheme. In response, a Sustainability Action Plan for the Lothian CARC Scheme was developed in December 2015 and is currently being considered. It addresses the need for a coherent strategy for the clinical research career pathway options for post holders and considers the sustainability of the Scheme itself.

As there is not yet a definitive solution in place, post holders feel that their expectations have not been met and that their planned career progression may not be achievable.

Since completing CARC, the two post-doctoral post holders are currently working in full-time academic roles due to a lack of opportunity to continue their combined career. Returning to a solely clinical post at the end of the CARC Scheme is not an attractive option for most post holders with the risk that, without a clear long-term solution the research skills developed in the NMAHPs will have less of a direct benefit to NHS Lothian service delivery. The lack of sustainability of a combined career pathway could also negatively impact on attracting applicants to CARC.

Impacts on Post Holders

The CARC Scheme has successfully provided impacts to post holders, such as an increase in confidence in both their clinical and academic roles; enhanced job satisfaction as CARC is a challenge to complement their clinical role; increased sustained networks, within NHS Lothian, academia and more widely, including nationally and internationally; the development of a range of skills, including primary and secondary research, writing, data analysis, preparing funding bids, and wider skills such as time and project management and presentation skills;



being recognised as a specialist in their subject area; confirming their career aspirations for a clinical-academic career; and an increased motivation in their clinical role.

Despite wide recognition that the Scheme allows post holders to access more opportunities, there is no particular sense of prestige attached to being a CARC Scheme post holder.



On the whole, PhD post holders tend to report a greater degree of impacts and benefits than post-doctoral post holders, who had perhaps already accrued these impacts through previous research activities and were less likely to attribute them to the CARC Scheme.

The most important factor contributing to achieving the impacts is the combined support and supervision provided by NHS Lothian and the HEIs, linked with the access to highly experienced academics who are experts in their fields. In addition, the Scheme is flexible enough so that post holders can draw on support and simultaneously develop skills to work independently.

Taking part in groups that bring researchers together is also an important contributing factor, as is access to patients for primary research.

Impacts on Partners and the Service

Understandably, there is a long lead in time between starting research and seeing results-led changes in NHS service and so on patients. CARC Scheme research can change the service delivery for patients, and is expected to enhance the quality of care across the sites and impact on patients, although it is not yet fully clear what these impacts will be or their extent.

The **Telehealth/Weight Management** site is researching effective telehealth interventions for weight management using Florence, a text messaging service to patients. This research is impacting on how the service is delivered to patients, as it enhances the accessibility of the service to patients who find it difficult to get to clinics, or who feel anxious about participating in a group setting, and achieves efficiencies in staff time and the number of patients who can be supported.



The post-doctoral **Critical Care** post holder researched approaches to enhancing rehabilitation for Intensive Care Unit (ICU) survivors and identifying their support needs on discharge. The post holder has integrated her research into the development of a new website, which provides a support programme for post-discharge ICU patients and their families. This is currently being evaluated with a view to being rolled-out beyond NHS Lothian and in other clinical areas. The PhD research in this site has been an exploratory study into the use of diaries for ICU patients, which can help families communicate with patients and express their emotions. This intervention also has the potential to be adopted by other clinical areas.

There have already been changes to service as a result of the **Dementia** site. While shadowing patients in single-bed rooms, the post holder noticed certain patient needs that were not spotted by staff, and, after feeding this back to the staff, small adjustments were subsequently made to how they observe and assess patients' needs in single-bed rooms.

The **Substance Misuse** post-doctoral post holder focussed on family-based interventions to tackle addictions and substance misuse, which, building on previous work into substance misuse during pregnancy, resulted in a guidance and resource pack. After CARC the post holder continued with the

research and was awarded a grant to test the efficacy of USA intervention “Behavioural Couples Therapy” which is due to be trialled in NHS Lothian with training for nurses and psychologists.

There is evidence that the Scheme has impacted on its partners, although realising the benefits of some of these impacts will be longer-term. The CARC Scheme has enhanced the research capacity within NHS Lothian by supporting eight post holders, and this contributes to a growing NMAHP research culture.



Overwhelmingly, consultees report that the Scheme has led to new, valuable partnership working and strong alliances between the three HEIs and NHS Lothian. The collaborative nature of the Scheme benefits the HEI research teams by embedding the research in a clinical setting and facilitating easy access to patients to participate in the research and so enhance its quality and range.

The research undertaken by some post holders, due to the structure of the funding (they are employed by NHS Lothian), is “not REF returnable” so does not count as research generated by the HEI. This diminishes the return on investment of CARC reported by the University in the evaluation.

To maximise the impacts, there must be a clear route for translating research outcomes into practice and rolling-out that practice beyond the individual demonstration sites. Clinical priorities can mean that new approaches are not effectively embedded in practice as the priority is to focus on delivering care now rather than taking the time to review research findings and revise or implement new practice.

Having inadequate buy-in and understanding of the Scheme by middle managers in clinical settings can act as a challenge to achieving impacts, and can make partnership working more difficult.

Recommendations

Based on the evaluation finding, ekosgen has made a number of recommendations for the future.

Recommendation 1: Sustainability. A Sustainability Action Plan was ratified in December 2015 for the Scheme and its implementation is currently being considered. It is important that there are clear career pathway opportunities for successful CARC post holders to follow on completion of the Scheme that enable them to combine their clinical and academic careers. There are many challenges to achieving this and also, to achieving sustainability of the CARC model itself, not least, budget constraints. It is very positive that the options are now being discussed and appraised at strategic level within NHS Lothian and the HEIs.

More widely, continuing discussions between the NHS and the Scottish Government are required around developing a strategic approach to the sustainability of combined clinical and academic career pathways for NMAHPs.

Recommendation 2: Flexibility. The flexibility of the Scheme should be retained as a feature of any future demonstration sites. If the pipeline of potential applicants within NHS Lothian builds, then there will be less of a requirement to adapt individual posts however, there is likely to always be a need to be responsive to specific circumstances to some extent.

Recommendation 3: Posts in Demonstration Sites. It is very positive that the Midwifery demonstration site comprises three posts, a Masters, a PhD and a post-doctoral. This is the ideal structure and should be replicated in any future demonstration sites where funding allows.

Recommendation 4: Securing Buy-In. There is clear evidence of there being buy-in to CARC at senior levels in NHS Lothian but this is less consistent at middle management. Without this buy-in, post holders can find it difficult to manage their dual roles and they feel demotivated by the lack of encouragement and support in their clinical settings. There should be greater, more systematic awareness raising and information sharing with teams and managers in the clinical settings in the sites. This includes a clear articulation at an early stage of the research and how it could benefit service along with anticipated timescales. Attendance at supervision meetings at key stages would help make this knowledge and understanding more consistent across all clinical line managers.

Recommendation 5: Dissemination. Linked to securing buy-in is the need to effectively disseminate information about the Scheme, its progress and achievements to the range of audiences who should know about it or have an interest in it. This will include dissemination within NHS Lothian, the HEIs, other NHS Boards (territorial and special), the Scottish Government and other external stakeholders. A short, regular newsletter may be an effective way of keeping NHS Lothian staff informed.

Recommendation 6: Streamlining the Process. The support that is provided through supervisory meetings and in the preparation of and feedback on progress reports is highly valued and critical to the success of the Scheme. These meetings should continue as they currently are. However, there can sometimes be additional, regular meetings that the post holder must attend, depending on the particular demonstration site. Some of these meetings can feel unproductive to the post holders, for example, meetings in the site or in the HEI that do not relate to their clinical role or their academic research. They feel they can detract from the time they can spend on their research, particularly as both their roles (clinical and academic) are part time. More flexibility should be built in around their attendance at some meetings that are not specifically about their research or their clinical role.

There is now a sustainability meeting with the post holder at the half-way stage to discuss post-CARC options, manage any expectations, and work to retain the researcher within NHS Lothian clinical practice, combined with academic research. This has been a very useful addition.

The evaluation illustrated the need for a close-down process at the end of each post holder's CARC research and whilst a close down meeting is currently offered, it should be more formal to give an opportunity for the post holder and the supervisors to reflect on and feedback on the research, the process, their experience, lessons learnt and so forth. They can also discuss the next steps.

Recommendation 7: Funding. As new demonstration sites are established, consideration should continue to be given to leveraging in funding from external organisations. A good example is the Alzheimer's Scotland funding in the Dementia demonstration site. If external funding is secured, it is however important that the external funder's objectives are fully aligned with the Scheme's objectives and the research.

Levering in funding will likely have the added benefit of raising awareness about CARC and, in working with funding partners, disseminating information and research outcomes. It could also, depending on the partners, widen the impact of the research into other health and social care providers.

1 Introduction

Introduction

1.1 In January 2016, ekosgen was appointed by NHS Lothian to carry out the final evaluation of Lothian's Nursing, Midwifery and Allied Health Professionals (NMAHP) Clinical Academic Research Careers (CARC) Scheme. The fieldwork for the evaluation took place between February and May 2016. The ekosgen team consulted with individuals involved with the CARC Scheme including post holders, supervisors, line managers, stakeholders and members of the Management and Steering Groups. This report presents the findings of the evaluation.

Evaluation aims and objectives

1.2 The overall aim of the evaluation is to assess the impact of the CARC Scheme since its inception in 2011 from multiple perspectives. More specifically, this is to evaluate:

- Progress made against the completion of doctoral research training, the completion of research studies, journal publications and conference presentations, and grant income generation;
- The impact on post holders, service delivery and partners including developing a research culture; and
- The perceptions of multiple stakeholders (e.g. post holders, CARC Scheme Management and Steering Group, clinical-academic research collaborative teams and host clinical services).

Methodology and evaluation framework

1.3 The evaluation team used a comprehensive mixed qualitative research method in order to gain an in-depth understanding of the outcomes and impacts of the NHS Lothian CARC Scheme. The approach ensured that detailed information was gathered and analysed and that everyone involved in the scheme had the opportunity to provide feedback on their experiences. Evaluation activities have included:

- **Extensive desk based research:** the team reviewed key background information to the scheme including:
 - Literature on the development of career pathway initiatives combining research and clinical practice;
 - Monitoring data and training reports, including Progress Reports, Annual Reports, Meeting Minutes, Action Plans and CARC Scheme administrative documents; and
 - Financial data, including financial summaries and scheme funding documents.
- **In-depth consultations:** The team conducted in-depth consultations with eight post holders and 20 members of the Steering Group, Management Group, supervisors and other key stakeholders.

Structure of the report

1.4 The report is structured as follows:

- Chapter 2 gives a background to the NHS Lothian CARC Scheme, including a career in clinical-academic research, the structure and governance of the Scheme, and the application process for demonstration sites and post holders.
- Chapter 3 provides an assessment of the process and delivery of the CARC Scheme to date, including assessments of site application and post holder recruitment, delivery and governance, support provided, and the sustainability of the Scheme.
- Chapter 4 explores the impacts on post holders.
- Chapter 5 covers the impact on the Scheme partners and the wider service.
- Chapter 6 draws out the conclusions of the evaluation and provides a set of recommendations for the future delivery of the Scheme.

1.5 The appendices include a logic model for the Scheme (Appendix 1) and a list of the consultees who participated in the evaluation (Appendix 2).

1.6 Where there is a risk that quotes may be attributable to individuals who could be identified, we have not indicated a source.

2 The Nursing, Midwifery and Allied Health Professions (NMAHP) Clinical Academic Research Careers (CARC) Scheme

Introduction

2.1 This chapter provides an overview of the Nursing, Midwifery and Allied Health Professions (NMAHP) Clinical Academic Research Careers (CARC) Scheme in Lothian. It includes an overview of a career in clinical academic research and specific details about the Lothian CARC Scheme covering the aims and objectives of the Scheme and the benefits that the Scheme is intended to generate. It also presents a summary of the structure and delivery of the Scheme, details on Scheme governance and a breakdown of financial information.

A career in clinical academic research: The Lothian CARC Scheme

2.2 The Health Plan (2006) published by NHS Scotland set out the importance of evidence-based practice and developing a culture of lifelong learning:

“One of the keys to improving health is to find good evidence about what works. Research and evaluation are vital elements of a responsive, effective learning health services” (SEHD, 2000)²

2.3 This importance has materialised and research is now a core tool within NHS Scotland to improve the care provided by the service.³ It has been recognised by the Scottish Government in the Health and Social Care Research Strategy as an important feature in contributing to the improvement of Scotland's delivery of healthcare.⁴ The NHS Lothian CARC Scheme contributes to the Scottish Government's aim that initiatives are created that develop career pathways to improve the delivery of care in Scotland, by supporting the embedment of NMAHP research and development within clinical practice.

2.4 Clinical academics allow for the transfer of clinical needs and practice into academia and developments within academia to be applied into practice. A successful clinical academic should be able to demonstrate excellent research and presentation skills as well as being able to lead and inspire within the practical clinical field.⁵ Research conducted by clinical academics can improve the delivery of clinical care as it can have immediate impacts due to the ability to trial, test and implement research within practice. Clinical academics assist research progression as emerging findings can be applied in their practice and service provision can adopt research findings at a faster rate.

2.5 It can also benefit clinical teams as knowledge can be transferred from the clinical academics into the practice team, including innovative methods, new skills, including soft skills (for example,

² NHS Scotland, Our National Health: A plan for Action, A plan for Change (2006), pp.14, Available at: <http://www.gov.scot/Publications/2000/12/7770/File-1>

³ Handbook to the NHS Constitution, January 2009

⁴ Delivering Innovation Through Research - Scottish Government Health and Social Care Research Strategy, Chief Scientist Office, 2015, pp. 34

⁵ NHS National Institute for Health Research. Building a Research Career: A guide for aspiring clinical academics (excluding doctors and dentists) and their managers (2016)

reflective practice and self-awareness) which can improve the team's service delivery. An overarching benefit includes creating a wider research culture within the organisation as a whole.⁶

2.6 It is recognised that challenges can arise when establishing clinical academic careers including finding the clinicians with the right skills and aspiration to take up the posts and combine academic research with their clinical roles. There can also be issues in securing parallel clinical and academic roles and a key issue is how to maintain a clinical academic position on the conclusion of external research funding.⁷

The NHS Lothian CARC Scheme

2.7 The Lothian CARC Scheme is a pilot established in 2011. It operates by 'funding backfill for NMAHPs who wish to conduct research'.⁸ The Scheme provides opportunities for NMAHPs (usually employed by NHS Lothian already) to spend half their time undertaking academic research either at PhD or post-doctoral level. The aim is that all post holders are clinically active researchers who work within a health role whilst simultaneously conducting research into relevant areas of practice, for example, new ways of delivering care for their patients or new methods within their service area. In reality, it has not always been possible for CARC post holders to run both their clinical and academic roles in parallel and this is discussed later in the report.

2.8 The Scheme was created and is delivered by NHS Lothian in collaboration with NHS Education for Scotland (NES) and three Higher Education Institutions (HEIs): the University of Edinburgh, Queen Margaret University Edinburgh and Edinburgh Napier University. The objective of clinical academic research careers is to facilitate the production of 'high standards of excellence and professionalism' within practice which can improve the provision of care in Scotland.⁹ This is expected to be achieved through the dual exposure to clinical practice and research allowing a CARC post holder to:

- In consultation with the HEI and NHS Lothian, identify research questions which matter to the patient or service user, health and social care sector and their profession;
- Ensure that research is applicable in day-to-day practice and within the service area;
- Practically interpret and apply research findings; and
- Develop skills and knowledge through practice which can be transferred to the wider practice teams.¹⁰

2.9 Specifically, the Lothian CARC Scheme is intended to produce outputs such as research training, careers development, succession planning, grant income generation, the completion of relevant clinical research studies and the production of publications.¹¹ The principal aims of CARC are

⁶ *ibid.*

⁷ NHS National Institute for Health Research. Building a Research Career: A guide for aspiring clinical academics (excluding doctors and dentists) and their managers, 2015, p.16

⁸ CARC Scheme website. Available at: <http://www.ed.ac.uk/molecular-clinical-medicine/health-services-research-unit/research-community/clinical-academic-research-careers>

⁹ NHS National Institute for Health Research. Building a Research Career: A guide for aspiring clinical academics (excluding doctors and dentists) and their managers (2016) p.7

¹⁰ *Ibid.*, pp.11-13

¹¹ Lothian Clinical Academic Research Careers (CARC) Scheme Website, 2016

to generate high quality, service-led clinical research which will benefit patients and their families¹² and to pilot a clinical academic research career pathway for NMAHPs.¹³

The structure of CARC

2.10 The eligible professions for the Scheme include nursing, midwifery, physiotherapy, speech and language therapy, occupational therapy, dietetics, podiatry, radiography, prosthetics, orthotics, arts therapies and orthoptics.¹⁴

2.11 To date, the Lothian CARC Scheme has provided eight posts over four demonstration sites. These have come on stream at different times and the specific model and arrangements vary across the sites. By the end of 2016, a fifth demonstration site will be operational (Midwifery). A description of each site is provided below and the timelines are illustrated in Figure 2.1.¹⁵



- The first site to be established was **Critical Care** within the Critical Care Directorate of NHS Lothian and the University of Edinburgh in January 2011.
- The second demonstration site was created in December 2011 within **Substance Misuse** through the Substance Misuse Directorate, and consisted of a collaboration between NHS Lothian, Edinburgh Napier University and University of Edinburgh.
- The **Weight Management and Telehealth Interventions** site was established in November 2013, through a collaboration between NHS Lothian, Queen Margaret University, Edinburgh Napier University and the Edinburgh Tommy's Centre, (a research centre at the Royal Infirmary of Edinburgh forming part of Tommy's maternal and foetal research network).
- The **Dementia** site commenced in February 2014 under a different funding model as it is partly funded by Alzheimer's Scotland. The delivery partners are NHS Lothian (Research and Development Office and NMAHP Directorate) and the University of Edinburgh (Alzheimer Scotland Dementia Research Centre).
- The fifth demonstration site in **Midwifery** is in the process of recruiting post holders at the time of writing. It also has a different funding structure. It aims to be fully established by the beginning of the academic year in September 2016.¹⁶ The partners include NHS Lothian Women's Services, NHS Lothian Research and Development Office, Edinburgh Napier University and the Edinburgh Tommy's Centre (University of Edinburgh).

¹² CARC Scheme, Invitation to Submit an Application for Demonstration Sites

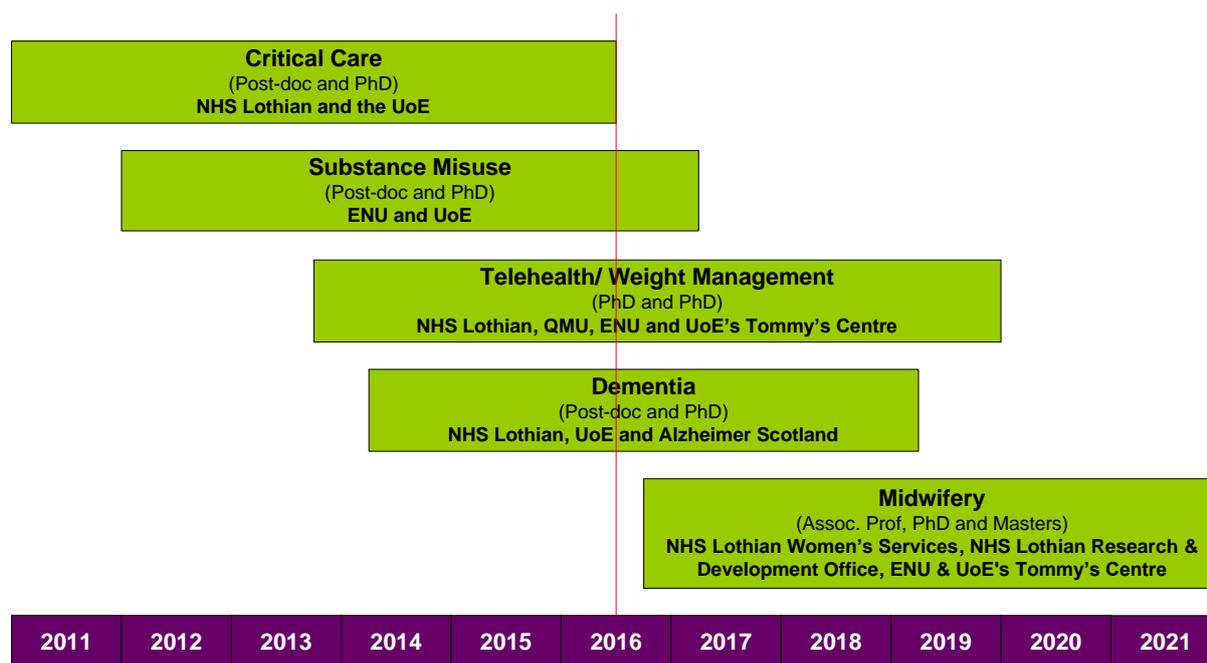
¹³ *Ibid.*

¹⁴ CARC Scheme, Invitation to Submit an Application for Demonstration Sites

¹⁵ CARC Summary Update, 2016

¹⁶ Consultation with Site Service Lead

Figure 2.1 CARC Scheme Timeline and Clinical



2.12 Each demonstration site receives funding to support salaries, employment on-costs, tuition fees, conference attendance, travel and support costs (reasonable costs of office furniture/supplies including computer hardware and software necessary) for the following two research posts:

- 0.5 Whole Time Equivalent (WTE)¹⁷ Advanced Practitioner: a post-doctoral Clinical Research Fellow for three years fixed term in first instance with possibility of extension to five years (Band 7).
- 0.5 WTE Senior Practitioner: registering for five year part-time PhD (Band 6).

2.13 Each demonstration site, with the exception of the Telehealth/Weight Management site, is based on the model of having an Advanced Practitioner (Post Doctorate clinical academic researcher) and a Senior Practitioner (PhD clinical academic researcher). The Telehealth/Weight Management site which has two Senior Practitioners as it was not possible to recruit a Post Doctorate researcher. The upcoming Midwifery site will have an Associate Professor (Band 8b) position along with two Senior Practitioners: a PhD post (five years) and Master of Research (MRes) post (two years).

2.14 Each site has a Site Academic Lead (from the partner Higher Education Institution) and a Site Service Lead (from NHS Lothian). A breakdown of the clinical academic posts and research focus for each demonstration site is provided in Table 2.1.

¹⁷ A degree of flexibility to a minimum of 0.4 WTE for the research element of this post is considered to accommodate part-time workers

Table 2.1: Demonstration Sites and Posts

Demonstration Site	Research Focus	Academic Practitioners
Critical Care	The Critical Care site focuses on improving recovery from critical care.	This site has: <ul style="list-style-type: none"> one Senior Practitioner one Advanced Practitioner
Substance Misuse	Research into models of recovery and quality of life, particularly on the impacts on substance misuse and family relationships of working with spouses and partners in addition to index patients.	This site has: <ul style="list-style-type: none"> one Senior Practitioner; one Advanced Practitioner
Weight Management	Research which aims to evaluate telehealth-mediated approaches to support self-management in weight management.	Due to recruitment issues this site has: <ul style="list-style-type: none"> two 0.5 WTE Senior Practitioners completing part-time PhDs at Queen Margaret University Edinburgh.
Dementia	Research on planning and support of discharge of people with dementia from general hospital.	This site has: <ul style="list-style-type: none"> one Senior Practitioner; one Advanced Practitioner
Midwifery	The planned Midwifery site will focus on 'building knowledge to reduce health inequalities in maternity care provision in the East of Scotland'.	It is anticipated that the site will have three posts: <ul style="list-style-type: none"> one Associate Professor/Consultant Midwife; one Senior Practitioner (PhD); one Senior Practitioner (Master of Research).

2.15 To date, two post-doctoral CARC post holders have completed their time on the Scheme (Critical Care and Substance Misuse).

2.16 The CARC objectives for the remainder of 2016 include establishing new Academic Leads for the Weight Management/Telehealth and Substance Misuse sites, recruiting for and formally establishing the Midwifery site, and roll-out of the Sustainability Action Plan which was ratified in December 2015. Sustainability is a critical issue for CARC and is discussed in detail later in the report.

Application and selection process

2.17 The application processes for demonstration sites and post holders are designed to be competitive and are described in this section. How they have worked in practice is discussed in Chapter 3.

Demonstration site application process

2.18 Each demonstration site ideally should meet certain requirements to be considered for CARC funding. Partners should have already carried out clinical or applied health research which has produced practical application for the benefits of patients or where there has been a potential gain for patients within a 3-5 year time scale. Partners should also demonstrate a number of quality related projects and associated infrastructure, leading to a coherent research programme proposal in an area of priority or need for NHS Lothian. They must illustrate the added value from the combination of the

strands of research and the contribution of NMAHP research practitioners. The Scheme also encourages the involvement of other academic departments where appropriate.

2.19 The research which CARC can support includes clinical and/or applied health research, including health services research, public health research, economic evaluations and modelling (e.g. decision analytic studies). The funding cannot support basic research or experimental medicine, research consisting solely of service evaluations of existing NHS provision or proposals for work that cannot be applied beyond the environment of the demonstration site.

2.20 Potential demonstration sites must submit the following information in their CARC application:

- A background to the proposed research, including the importance of the research, past and current research which justifies the proposed research, and details of previous work undertaken by the research team;
- A description of how the nature of the work fits with the strategies of NHS Scotland, NMAHP academic partners and other academic partners;
- A fully descriptive, signed declaration as evidence that the partnership is likely to be able to appoint two appropriately qualified individuals address the specifications and eligibility criteria of the CARC Scheme;
- The outcomes and impacts the research will have on patients, the public and the NHS; and
- The sustainability of the programme, including plans for expanding the research, acquiring new sources of income and supporting the development of NMAHP researchers beyond the initial funding award.¹⁸

Post holder recruitment and application process

2.21 The knowledge, training, qualifications and experience required for the senior and advanced practitioner posts are described in Table 2.2.

Table 2.2: Post holder requirements¹⁹

Advanced Practitioner (Clinical Research) AfC Band 7	Senior Practitioner (Clinical Research) AfC Band 6
<ul style="list-style-type: none"> • PhD either completed or almost completed • First level graduate registered nurse of AHP with significant experience at band 6 • Relevant clinical, research and management experience demonstrating the appropriate competencies and skills for the research programme and clinical speciality • Experience of written and verbal communication of complex research findings • Evidence of continuing professional development • Excellent team working skills with ability to work using own initiative • Well-developed listening and interpersonal skills • Time management skills/ability to prioritise workload 	<ul style="list-style-type: none"> • Professional registration with Nursing and Midwifery Council or Health Professions Council • Significant experience of clinical practice at Band 5 or 6 (directly engaged with patient/client care) • First class or Upper second Class bachelor's degree or equivalent • Research experience and/or research training that prepare them to undertake a PhD (for example, Masters Degrees, Masters level Research Methods modules, experience as Co-investigator/Research Assistant/Fellow/Research Nurse) • Evidence of continuing professional development • Excellent team working skills with ability to work using own initiative • Effective listening and interpersonal skills

¹⁸ CARC Demonstration Site Application Form

¹⁹ Lothian NMAHP Clinical Academic Research Careers (CARC) Scheme, Invitation to Submit an Application for Demonstration Sites, Appendix B

Advanced Practitioner (Clinical Research) AfC Band 7	Senior Practitioner (Clinical Research) AfC Band 6
<ul style="list-style-type: none"> Well-developed IT skills 	<ul style="list-style-type: none"> Time management skills/ability to prioritise workload IT skills

2.22 Candidates apply by submitting an online application form, in the standard format for any NHS role. If they get through this stage, they have a panel interview, where the candidate presents their proposed research topic and answers questions. The interview panel is the responsibility of each funded demonstration site` Service and Academic Leads and usually includes representation from the CARC Management Group.

2.23 The CARC Scheme has encountered some post holder recruitment issues, highlighted by the interim evaluation undertaken in 2013²⁰, which assessed the CARC processes, progress and achievements to date.²¹ It found that selecting post holders had been challenging due to a limited pool of suitably qualified NMAHPs in NHS Lothian. It recognised that a more flexible approach to recruitment coupled with a rigorous selection process would be more effective in attracting and recruiting candidates that met the CARC criteria. This included advertising CARC posts more widely in NHS Lothian and elsewhere and taking a more flexible approach to the structure of the posts e.g. consider full time PhDs.

Partnership and governance

2.24 As clinical academic posts are funded on a partnership basis by NHS Lothian and the HEIs, with both supporting the post holder, the Lothian CARC Scheme is monitored and governed by an Operational Management Group which comprises representatives of NHS Lothian and the three partner universities.

2.25 The role of the CARC Management Group is to oversee the day-to-day running of the Scheme, monitor progress of the demonstration sites by being active within each site management structure, and produce annual site progress reports. The Management Group reports annually to the Lothian CARC Scheme Steering Group, which comprises senior managers from the funding partners. The administrative support for the Scheme is provided by the Edinburgh Clinical Trials Unit.

Financial structure

2.26 The Scheme remains within budget, is forecast to remain so over its lifetime and may underspend. All scheduled income specified under the original CARC agreement has now been credited to the Scheme by the partners (NHS Lothian, the University of Edinburgh, Edinburgh Napier University, Queen Margaret University, NHS Education for Scotland and Alzheimer Scotland)²². The Scheme's funds are managed by NHS Lothian's Research and Development Office Accountant.

2.27 The partners have together committed approximately £1.3 million to the Scheme over a five year period to establish the five sites to date. Each CARC site has a budget of between £200,000 and £300,000 over five years, depending on the specific configurations of available posts.²³ Table 2.3 sets out the original Scheme funding breakdown for the initial three demonstration sites to 2014/15.

²⁰ University of Worcester, October 2013, "Phase 1 evaluation of Lothian's Nursing, Midwifery and Allied Health Professions (NMAHP) Clinical Academic Research Careers (CARC) Scheme", Report for NHS Lothian

²¹ *Ibid.*, p. 8

²² CARC Scheme for Nurses, Midwives and Allied Health Professionals in NHS Lothian, Annual Report, 2015

²³ CARC Scheme Summary Update, 2016

Table 2.3: Original CARC Scheme Funding Breakdown (for first three demonstration sites)

Partner	Year					
	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
NHS Lothian Research and Development Office		£60,000	£60,000	£60,000	£60,000	£60,000
Edinburgh Napier University		£20,000	£20,000	£20,000	£20,000	£20,000
University of Edinburgh		£20,000	£20,000	£20,000	£20,000	£20,000
Queen Margaret University Edinburgh		£20,000	£20,000	£20,000	£20,000	£20,000
NHS Education for Scotland	£40,000	£30,000	£30,000	£30,000	£30,000	£30,000
Annual Totals	£40,000	£150,000	£150,000	£150,000	£150,000	£150,000
Total Funding	£790,000					

2.28 Table 2.4 shows the spend to date by demonstration site. The Critical Care site has one completed post holder and the second is due to complete in July 2016. There is currently an underspend of £16,000 to date but this may be spent in the final stages.

2.29 The Substance Misuse site currently has £6,000 left in the budget with one post holder having completed and the other is due to finish in March 2017. The other two sites, Weight Management/Telehealth and Dementia have a number of years to run and the table shows the spend to date.

Table 2.4: CARC Scheme Expenditure to June 2016 against Budget

Demonstration Site	Budget	Expenditure to June 2016	Balance
Critical Care	£214,520	£198,351	£16,168
Advanced Practitioner	£82,025	£81,235	£789
Senior Practitioner	£112,441	£105,968	£6,473
Tuition fees	£9,531	£9,262	£269
Conference and travel	£2,850	£1,828	£1,022
Other non-staff costs	£7,673	£59	£7,614
Substance Misuse	£223,800	£217,712	£6,088
Advanced Practitioner	£77,468	£77,701	-£233
Senior Practitioner	£79,717	£86,186	-£6,470
Senior Practitioner (incomplete)	£39,469	£32,725	£6,744
Tuition fees	£16,620	£16,555	£65
Conference and travel	£2,850	£2,028	£822
Other non-staff costs	£7,677	£2,517	£5,160
Weight Management	£254,475	£82,330	£172,145
Senior Practitioner	£112,442	£48,224	£64,218
Senior Practitioner	£112,443	£23,541	£88,902
Tuition fees	£19,063	£9,425	£9,638
Conference and travel	£2,852	£1,139	£1,713
Other non-staff costs	£7,675	£0	£7,675
Dementia	£210,000	£93,135	£116,865
Advanced Practitioner	£102,000	£40,976	£61,024
Senior Practitioner	£90,000	£45,332	£44,668
Tuition fees	£12,000	£5,902	£6,098
Conference and travel	£5,000	£925.00	£4,075

Demonstration Site	Budget	Expenditure to June 2016	Balance
<i>Other non-staff costs</i>	£1,000	£0	£1,000
Other General Costs	£40,000	£11,545	£28,455
Grand Total	£942,795	£603,073	£339,722

Sustainability

2.30 The sustainability aspects of the Lothian CARC Scheme are very important issues but are by no means unique to the Lothian CARC Scheme. Sustainability is a national issue for similar initiatives and fellowships. In December 2015, a Sustainability Action Plan was developed following a CARC Scheme Management Group Extraordinary Meeting earlier that year. It addresses the issue of a lack of a coherent strategy for the clinical research career pathway options for post holders following the end of their time on the CARC Scheme and also addressed the issue of sustainability of the Lothian CARC Scheme model itself.

2.31 In addition to recommendations for developing future individual CARC sites on a case-by-case basis, in line with 'shared priorities and research interests/expertise of NHS Lothian and its partner universities'²⁴, the following actions were agreed by the Scheme Steering Group:

Action 1: A targeted approach is utilised to develop future CARC sites and that respective organisations contribute to the "Lothian NMAHP Research Priorities Mappings".

Action 2: The CARC Management Group will advise that future CARC site proposals should take a pragmatic and flexible approach to the career framework levels at which posts are established i.e. proposals need not be restricted to any particular permutation of apprenticeship, masters, doctoral and post-doctoral level posts.

Action 3: Future CARC site proposals should take a pragmatic and flexible approach to the recruitment to posts i.e. consideration of applicants from the diverse range of professions (whilst remaining mindful that NMAHPs still may not have the level of opportunity for research training support enjoyed by some other professions), from academia and from other health boards (ensuring that measures are in place to minimise the longer term risk to the partners' investment).

Action 4: CARC site proposals could comprise broader partnerships (e.g. other universities, local authorities, other health boards and third sector organisations) if they fall within the targeted approach described above.

Action 5: The CARC Management Group will continue to contribute to discussions at Scotland level to share their local experiences of running the Scheme and advocate the development of a workable, national approach to supporting clinical academic research career pathways for NMAHPs.

Action 6: The CARC Management Group will support potential new sites by providing a CARC Implementation Toolkit which is being developed nationally by the Association of UK University Hospitals in partnership with the Department of Health and to which the Management Group is currently contributing its learning.

Action 7: The CARC Management Group will advise that future CARC site proposals endeavour to

²⁴ CARC Scheme Sustainability Action Plan, December 2015

include design features which promote the sustainability of clinical academic research career pathways for individual practitioners.

Action 8: CARC Management Group representatives within sites will initiate discussions with the post holder and the site partners regarding the career sustainability options at least 18 months prior to the expected expiry of the post holder's CARC secondment/fixed term contract.

Action 9: The CARC Management Group will seek to initiate discussions with NHS Lothian's Executive Nurse Director and AHP Director to explore the scope for NMAHP workforce planning to establish career opportunities at middle to senior levels (e.g. Advanced Nurse Practitioner, Clinical Specialist Physiotherapist, NMAHP Consultant) where:

- the Person Specification states that research knowledge, training and experience is an essential criterion, and
- the Job Description emphasises research and development outputs in the Key Results Areas and includes a job plan element specifying the amount of protected time to be allocated to research and development activity.

3 Process and delivery

Introduction

3.1 This chapter explores the experiences of the processes and delivery of the NHS Lothian CARC Scheme, from the initial site application, recruitment of post holders, Scheme governance, support given to post holders, progress monitoring, and the external profile of the Scheme. The chapter also looks at the issue of sustainability of clinical and academic career pathways for CARC post holders. It is based on consultations with the Management Group, Steering Group, line managers, supervisors and stakeholders, as well as interviews with post holders and a review of programme documentation.

Site application

3.2 The process of demonstration site application is described in Chapter 2. To date, there have been no real challenges with the site application process. There were some early delays with launching sites, although this was more due to early start up issues with the Scheme as a whole rather than the site application process.

3.3 The four existing sites (and the soon-to-be launched Midwifery site) are deemed by stakeholders to be appropriate in terms of clinical area. There was originally an aspiration for a site in 'falls prevention' but an application did not come to fruition due to a perceived lack of local HEI expertise in this field.

"The sites are wholly appropriate. They are priority areas. For example, with an ageing population, self-care is becoming more important" (Management Group member)

3.4 There is an appetite from existing site leads to continue to be involved in future CARC research. Potential future demonstration sites were suggested including research to examine falls, primary care (GP surgeries and health centres), obesity, teenage pregnancy, learning disability and the ageing population. An Edinburgh Napier University consultee stated that the university has expertise in a wide range of health and social care subjects, and would like to see CARC include social care, and target:

"The big issues, for example ageing"

3.5 There is an enthusiasm amongst the current leads for the creation of more demonstration sites. NHS Lothian may wish to consider how it encourages sites to apply in fields in which the Health Board wishes research to be undertaken and specific issues addressed.

3.6 There is a body of opinion that the existing CARC model has tapped into existing strong research areas (such as Critical Care), whereas moving forward it should focus on areas with less of an existing research culture, such as care of the elderly, falls, primary care and person-centred care. This would expand the model from symptoms-based research to include quality of care.

Research topic

3.7 The process of developing the post holder's research topic has evolved over time. In some of the early demonstration sites, for example Substance Misuse, a broad topic was given which was refined by the post holder, who had flexibility within the overall parameters set for the research. For other sites, such as Critical Care, identifying research topics was straightforward as they had to link to

high profile critical care priorities. Evidence suggests that, in areas where there was less of a research culture, for example Weight Management/Telehealth, it was more difficult to define the research as it was not so clear cut as to where need lay.

3.8 The selection of the research topic is now strategically aligned with NHS Lothian priorities, and is well defined. In the Midwifery site, for example, all three topics and methodologies have been fully defined at the recruitment stage. Provided the topics align with NHS Lothian priorities, the sites should be free to adopt the degree of flexibility they see fit.

*“Having flexibility in the topic is good, as long as it prescribes impacts for the service”
(post holder)*

3.9 The research topic has to be one that all three parties are interested in and can buy in to (i.e. the HEI, NHS Lothian and the post holder). The research topic should also be aligned to the post holder's clinical role, wherever possible. However the flexibility required to get the right post holder has made this difficult in some instances and two post holders came from a clinical area not aligned to the research topic which caused challenges and a lack of buy-in from clinical colleagues and managers.

“They [post holders] should do research that parallels what they do in the clinic” (Steering Group member)

Recruitment

Awareness and motivations

3.10 Opportunities to apply for CARC posts were often highlighted to post holders by clinical line managers who encouraged them to apply. Post holders tend to be motivated to apply for a CARC post because they wanted to continue previous studies (e.g. Masters), and were interested in the opportunity to continue clinical links while studying academia, rather than being wholly 'research-only'. One post holder had previously completed a clinical-academic Masters, had really enjoyed the experience, and felt that CARC was the natural progression. Another was attracted to the Scheme because of the broadness and flexibility of the study topic. A third had always felt that they had not realised their academic potential and saw CARC as the ideal way to stretch themselves whilst retaining their clinical role.

3.11 On the whole, post holders believe that they had sufficient information about the Scheme at the application stage. Consultees feel that very little discourages potential post holders from engaging with the Scheme, and that it 'makes sense' to take part due to the benefits of being under the CARC umbrella, in particular the financial advantages.

“It makes sense to do CARC. You get the best of both worlds. You get more opportunities than the average PhD” (Site Director of Studies)

3.12 Where applicants had initial concerns these tended to be around committing to a five year post, or with juggling the two roles simultaneously. These are not Lothian CARC-specific concerns; rather, they are normal concerns expressed by people combining clinical-academic posts and people committing to a long programme of research. For others, having a 'five year plan' was reassuring and gave direction. However, one post holder felt pressurised by the expectation that the research should achieve impacts on service by the end of the contract, and felt that because it was funded through the public purse, there was pressure to achieve, what is in their view, quick results.

3.13 There was a feeling amongst some supervisors and line managers that they would receive more information and guidance when they first became involved in CARC than they did. Some supervisors, particularly from HEIs, were unsure of what CARC actually was when they were appointed, and felt that they, and so the post holders, would have benefitted if they had had a more comprehensive induction to the Scheme and what was expected of them.

The application process

3.14 The application process for CARC posts typically consists of a standard NHS online application followed by a panel interview with NHS and HEI input. Post holders find the panel interview daunting. However, they recognise that it is necessary to have a rigorous process because recruiting the right post holder is essential to the success of the particular research and the Scheme overall.

3.15 However, the recruitment process has not been consistent throughout the duration of CARC. It was less rigorous in the early stages but has become more rigorous for example applicants are now asked to submit examples of written work.

3.16 There have been instances when there is not a wide pool of potential people to recruit from, indeed there may only be one applicant who meets the criteria. This is particularly prevalent at the post-doctoral level.

“When we started we didn't understand the playing field, we didn't know how many NMAHPs had Masters or PhDs in the Board” (Steering Group member)

3.17 There is recognition that the recruitment process is much more rigorous now than in the early stage of the CARC Scheme, although a number of challenges still exist. As discussed in Chapter 2, recruitment was a key theme in the 2013 evaluation which made a number of recommendations, some of which were taken on board by CARC management. Initially, applicants had to be NHS Lothian employees, although this criterion has since been softened to allow the sites to recruit from outside NHS Lothian if necessary. There are challenges with sourcing post-doctoral level applicants in niche areas. For the first site (Critical Care), the post-doctoral post was a competitive process as there were several strong candidates. In other sites, however, and for post-doctoral posts in particular, candidates have tended to be hand-picked as there are only a very small number of people who are eligible. One post holder is solely employed by the HEI, with no clinical role, arguably meaning less added value for NHS Lothian because the post is academic focussed albeit in applied research.

3.18 The CARC Management Group did not initially specify or give guidance on how demonstration sites should recruit post holders although this gap has now been addressed. It has been suggested that the less rigorous approach to recruitment may heighten the risk of a post holder drop out.

3.19 A strength of the recruitment process, and critical success factor, is that it is flexible and can be adapted depending on the pool of available applicants. For example, there were difficulties sourcing a post-doctoral applicant for the Weight Management/Telehealth site, and so this site was adjusted to comprise two PhD posts. This was the appropriate response, rather than recruiting someone who may have struggled at the post-doctoral level or not recruiting at all.

Masters Post

3.20 As mentioned in Chapter 2, the initial proposal for the demonstration sites made provision for a Masters-level post. The total funding available precluded this in reality and the partner HEIs had a preference for doctoral and post-doctoral posts and so the agreement was signed on this basis. The Midwifery site, to be launched later in 2016, has made provision for three posts, one of which is

Masters of Research (MRes). Although it is accepted that the scope of Masters research is more limited and PhD and post-doctoral posts yield the highest impacts, there is a strong feeling that the introduction of a Masters post will benefit the CARC Scheme, including developing the pipeline of potential PhD-ready researchers. Consultees felt that a CARC PhD post would be the natural progression for a CARC Masters post holder. In some clinical areas, for example Dietetics, there is a particular lack of staff with Masters qualifications.

3.21 Another benefit of Masters posts is that Masters research can be completed more quickly (the Midwifery part-time MRes post is for one year) and so may impact on the post holder and service sooner. Masters are an effective way of developing research skills and experience amongst NMAHPs. In addition, including them in demonstration sites will help to raise awareness about the CARC Scheme which may, in turn, encourage the development of new sites and make it easier to recruit of post holders.

“Masters could work. It would be easier and quicker, not as difficult for ring-fencing money or recruitment” (Management Group member)

3.22 Masters posts could also be used as a ‘tester’ for practitioners. They can test the clinical-academic career pathway over the course of one to two years without having to commit to a five year PhD. However, there is agreement that the success of Masters CARC posts, as with all other CARC posts, is very much dependent on the individual recruited as balancing the competing pressures of a combined clinical and academic career can be difficult.

3.23 Expanding the number of Masters CARC posts is a positive step but these must be aligned with PhD and post-doctorate posts in the demonstration sites rather than simply having one or more Masters researchers in a site.

Delivery and governance

3.24 Consultees in the evaluation highlighted a number of strengths and weaknesses with the delivery and governance of the Lothian CARC Scheme, summarised in this section.

Strengths

3.25 One of the key delivery strengths of CARC is the promotion of **collaboration** between NHS Lothian and HEIs. The partners work together to develop and manage the demonstration sites and to supervise post holders. Many of the links that have been created would not have happened without the Scheme.

3.26 CARC allows clinical staff to have an academic pathway, and it is reciprocal as it gives the HEI research a ‘clinical home’, including easy access to patients to participate in the research. A HEI representative on the Steering Group stated that the delivery of the Scheme helped to contribute to effective collaboration because:

“It is not over-onerous on HEI staff” (Steering Group member)

3.27 Reflecting the success of CARC and how highly it is valued, a number of consultees indicated that collaborations could be extended by delivering more sites and posts more quickly but they recognise that it takes time and funding to develop sites.

3.28 The **flexibility** of the Scheme is a strength, specifically around site and post holder recruitment. The recruitment process has evolved from being more rigidly concerned with eligibility

criteria to considering the demonstration sites and researchers that are most likely to succeed and that fit well together.

3.29 Post holders overwhelmingly reported that a strength of the Scheme is the **balance** between providing support and encouraging and enabling researchers to be independent, self-motivated and to take ownership of the research. This combination is a key factor in helping the post holders develop their research skills and their understanding of the research process. This support is discussed in more detail later in the chapter.

3.30 The **applicability** of the research was also cited as a key strength. At its core, CARC is designed to fund research that has the potential to inform service practice and ultimately impact on patients. Aligning research to core NHS Lothian priorities and activities motivates post holders and other stakeholders who are committed to improving service and making a difference within the sector.

"You are doing something that clinically matters in your field. That is not always the case with non-CARC PhDs" (Steering Group member)

3.31 Overall, the delivery of the Scheme is considered to be an important strength, it is appropriate and effective, as illustrated by the following comments:

"The delivery process is very smooth" (Site Service Lead)

"CARC is well run, well managed and well integrated into the sites" (Site Academic Lead)

Weaknesses

3.32 A weakness reported in the evaluation is that there is some confusion about the Scheme's governance, specifically a lack of clarity between the roles and remits of the CARC Management Group and the NMAHP Research Framework Group. Some members of these groups are unclear about the split in responsibilities and consider that the management is over-complicated. They believe it could be more efficient by having a clearer division of responsibilities between these two groups and potentially merging them. This is illustrated by the following comment:

"It [governance] is a bit cumbersome and significant overlap exists between the work of the [NMAHP Research Framework] Group²⁵ and the Management Group... it could be streamlined and less admin or meeting-intensive" (Steering Group member)

3.33 Examples of the efficiencies that could be achieved by merging them is that there would be one set of minutes, papers and other documents produced and reviewed and there would be one rather than two sets of meetings. The fact that the meetings of these two groups have now been brought together to run adjacently in terms of timing and venue is seen as a positive step towards streamline the process and cut down on the time commitment required of members who sit on both.

3.34 If these groups are to be merged, careful consideration will have to be given to governance for example, currently there is no formal agreement between the members of the NMAHP Research Framework Group and the Group is not accountable for managing any investment whilst the CARC Management Group is accountable for investment.

3.35 In terms of Scheme delivery, there was a two year delay in launching one of the early demonstration sites. This delay resulted in a lot of uncertainty and had a negative impact on the

²⁵ NB the individual mistakenly referred to this as the Steering Group.

motivation and engagement of those involved. This delay was partly due to difficulties in agreeing the definition of the topic due to some differences in understanding of what the research could cover.

3.36 A delivery challenge reported by a number of consultees including post holders and stakeholders from NHS Lothian and HEIs is the pressure on post holders to complete a part-time PhD in five years. At Edinburgh University, for example, a part-time PhD is usually six years long. They recognised however that extending the period would have funding implications as well as possible impacts on the post holder's clinical role.

Support and progress monitoring

3.37 Post holders are provided with significant support throughout their CARC contract, and, on the whole, they feel very well supported by the CARC team and the HEIs. There are mixed views on whether CARC post holders receive *more* support than a 'regular' PhD/post-doctoral research. Some consultees believe this is the case whilst others disagreed. What seemed to make the difference is the combination of support from HEIs and NHS Lothian and the added value that this brings. The overwhelming majority of post holders were very positive about the support they received and valued it highly.

3.38 It is clear, however, that CARC post holders are exposed to more opportunities than others, as illustrated by the following comments:

"CARC PhDs get the same amount of support as regular PhDs, but they do receive more opportunities for training and development, for example the Wellcome Trust, etc." (Site Director of Studies)

"CARC has a big national profile, so post holders get more access to groups, conferences, senior decision makers, policy makers" (Management Group member)

"The CARC label opens doors of HEIs and other organisations for post holders that would be harder to access without CARC" (Steering Group member)

"I would never have had access to the groups and to the Scottish Government if I wasn't part of CARC" (CARC post holder)

Supervision

3.39 The majority of post holder support is through supervision, and post holders will usually have a supervisory team with inputs from both the HEI and NHS Lothian. Post holders tend to meet with their supervisors every month to six weeks and also on an ad hoc basis as required. At the supervisory meetings, they discuss progress and any issues. Sometimes post holders will submit written outputs in advance to be reviewed at the meeting and milestones and deadlines for the next period are agreed. Post holders highly value these supervisory team meetings and one commented that:

"It keeps me focused and on track, the meetings are really helpful and reassure me that I am progressing in the right way" (CARC post holder)

3.40 The only supervisory issue flagged up during the consultations is that the objectives and expectation of clinical and academic supervisors are not always in line. One post holder reported that their two supervisors often held conflicting views that was challenging for them. One example is where

the HEI supervisor gave positive feedback on a piece of work but the NHS Lothian supervisor was much less positive about it, feeding back that it was not relevant to the research topic.

3.41 These different expectations between supervisors can lead to confusion for the post holder and can make it difficult for them to know how to proceed. An HEI stakeholder reported that:

“There can be a disconnect in terms of priorities and expectation” (HEI stakeholder)

3.42 The view is that these differences arise because HEI staff are largely concentrated on the achieving publications and research grants, in order to count towards the HEIs' REF submissions. In contrast, NHS Lothian supervisors are focussed on achieving an impact on service and benefiting patients. Whilst the two are not mutually exclusive, the different drivers can impact on how the supervisors work and communicate with the post holder.

3.43 Whilst this can be an issue for some post holders, on occasion, it is not universal and on the whole, the HEI and NHS supervisors provide consistent support to post holders. The result is that the majority of post holders feel comfortable and embedded in both their academic and clinical settings, where they retain a dual role.

3.44 Despite this, one senior academic consultee commented that:

“I have been very impressed by the NHS CARC management and their understanding about the issues around timescales. They understand that the turnaround time is not quick” (HEI stakeholder)

3.45 Whilst the support and supervision is highly valued, half of the PhD post holders believe that it could be lighter touch, depending on the needs of the post holder and the stage of the research. Post holders, for example, have regular supervision meetings, demonstration site meetings, monthly team meetings (e.g. in Weight Management or Substance Misuse) and also attend research and peer support groups as well as training. This can be onerous and detract from the time they can spend on their research, especially once travel and preparation time is taken in to account. Post holders who expressed this view suggested that the meetings can duplicate each other and the written progress reports, and that combining some of these meetings, or giving email updates, could work just as effectively.

Other support

3.46 There is a peer support group, set up by NHS Lothian, for clinical staff undertaking a doctorate. This is not confined to CARC post holders, but any NMAHPs studying for a doctoral degree. CARC post holders find this group extremely valuable, as it allows researchers to talk through challenges, discuss what has worked well and not so well, and they find that their peers can help to support them through any issues.

“Peer support is very valuable, very good, we talk and share issues like the REC process and we share ideas. It's part of the NMAHP doctoral network” (CARC post holder)

“These [peer support groups] very helpful, particularly for part-time PhDs where networking and support groups are not easily accessible” (Management Group member)

3.47 Similarly, peer support from other CARC post holders, in particular those working on the same demonstration site, is highly valued. The original proposal for the Scheme states the expectation that the advanced practitioner will provide support and mentoring to the senior practitioner and there is

considerable evidence of peer support within each site, mainly through advice-giving, problem solving and progress reporting.

“Peer support is invaluable in doing your PhD. I meet with other CARC post holders to discuss progress issues and share experiences” (CARC post holder)

3.48 Line managers in the clinical setting can also be a source of support for post holders, however, there is recognition that they are not always fully aware of what participation in the CARC Scheme entails. The duties of line managers (with respect to CARC) are usually to assist with expenses (e.g. travel expenses to attend a conference), and to encourage the post holders through the process, rather than actual supervision of studies.

3.49 However, there is a strong view that support from middle managers and colleagues in the clinical setting is not consistent and could be significantly enhanced. The perception is that any lack of support in the clinical setting stems from a lack of awareness by clinical line managers and colleagues about the benefits to the site of the research. Post holders and other stakeholders recognise that in the clinical setting, teams are under a lot of pressure to deliver service and look after patients and supporting CARC research is not a priority. However, to be most effective and maximise the benefits of the CARC Scheme in NHS Lothian, this buy-in is critical, particularly from staff in middle management roles in the NHS. It was suggested that clinical line managers could attend some supervisory meetings (e.g. twice a year) to increase their understanding of CARC, what the post holder is working on and achieving, and to better understand its potential impacts.

“I thought I would have more support from the NHS, as I'm doing a lot more on my own than expected” (CARC post holder)

3.50 One post holder struggled to get their clinical work covered when they had to do CARC-related activities, for example attending a conference, despite their being a commitment to releasing them as required when they started as a CARC post holder. However, pressures on service can sometimes make it difficult for post holders to take additional or unplanned time out of their clinical role to accommodate CARC activities. However ability and arguably willingness to accommodate these sorts of activities varies between clinical departments (perhaps linked to different types of care, service and pressures). One post holder was very positive about the support they received from their NHS colleagues, describing them as:

“Flexible in covering if I need to attend a conference etc, and vice versa I will be flexible for them with my CARC days” (CARC post holder)

Progress monitoring

3.51 In order to track progress, the CARC Scheme requires sites to complete progress reports at six months, one year, and then annual intervals. The progress reports capture information such as the activities undertaken by the post holders in that period, outputs in the period, how (if at all) activities have influenced NHS practice, and the work plan for the next period. The reports are reviewed and signed-off by the Site Leads.

3.52 There is consensus that the written progress reports are a very useful tool and that their timing and frequency is appropriate. As well as helping supervisors and CARC managers to monitor and advise on progress, they allow the post holders to take stock of what they have achieved and what the next steps should be, as well as setting milestones for outputs. They also motivate post holders as,

when they report on progress, they are often surprised at what they have achieved in the period and the activities they have been involved in. This gives them a sense of achievement and reassurance.

"They [the progress reports] felt a chore at first but are now a very useful tool to take stock. When you are in the middle of something, you have the blinkers on and can't always see the big picture" (CARC post holder)

3.53 The progress reports can also stimulate post holders to keep driving their research forward which is particularly useful in periods where they are less active for example when they are waiting for ethical approval. The following comments illustrate this point:

"Whilst waiting for the research approval process there was not much activity, but the monitoring kept me on track where I could have drifted" (CARC post holder)

"[Post holders are] under more pressure, more scrutiny and there is more reporting, but this is also a benefit as it keeps them on track and drives their progress" (Management Group member)

Gaps in support

3.54 CARC post holders reported very few unmet support needs in the evaluation. The transition from a clinical role into a clinical-academic post is not an easy one, however, for the most part, post holders believe they are given the time and support to make a successful transition and develop their research skills.

3.55 There is a perception amongst CARC managers and supervisors that post-doctoral researchers have greater support needs than their PhD counterparts but it was reported during the study that they may be less willing to seek and accept support. It may be that the support has to be provided in a different way to PhD and post-doctoral researchers.

3.56 On completing CARC, post holders are offered the opportunity of a closure meeting with the Chair of the Management Group. This close-down process could potentially be more structured and formalised as stakeholders and post holders (those who have already completed and those still to complete) reported it as a gap.

"There was no closure interview, no close down process" (CARC post holder)

3.57 Post holders who commented on this believe that a more formal close down process would be an opportunity to reflect on the process and achievements, consolidate how the research has and will impact on service and discuss the potential next steps both for the individual and the research (including how the findings will be implemented and the research continued, if relevant). It would also be a valuable source of feedback for the Management Group on lessons learnt.

Scheme profile and reputation

3.58 Overall, there remains a limited awareness of the CARC Scheme in NHS Lothian, HEIs and other organisations, out with those individuals and teams directly involved. This is illustrated by the following comment

"It is more aligned to the people within CARC than the actual scheme. For example, people will know that [X post holder] is studying [X topic], but not that it's through CARC" (Site Service Lead)

*"Within the sites awareness is good, but outside the sites awareness is low"
(Management Group member)*

3.59 Where people and organisations know about the Lothian CARC Scheme, it has a very positive reputation and has influenced developments and work in other parts of Scotland for example the NMAHP Research Unit based at the University of Stirling and Glasgow Caledonian University. Having said that, nationally and locally, stakeholders are, to some extent, waiting to see the evidence of the outcomes and impacts.

"[CARC] has been a pioneering approach in Scotland, and has a good reputation outside NHS Lothian" (Steering Group member)

*"It is definitely viewed as a prestigious scheme and one which inspires others"
(Management Group member)*

3.60 In 2015, members of the NHS Lothian CARC Management Group participated in a national Clinical and Academic Research Career pathways summit meeting at Stirling University. This helped to raise awareness about the Lothian CARC Scheme and generated a great deal of interest in the Scheme along with the lessons that can be learnt for other areas and also, at the Scotland-wide level.

3.61 A higher and more widely spread profile within NHS Lothian would help to deliver more CARC demonstration sites and attract potential post holders. As an example, the Midwifery demonstration site came about because individuals within the clinical area knew about the Scheme and were very keen to benefit. The site was pro-active in developing the proposal to establish a demonstration site.

Dissemination

3.62 One of the key findings from the 2013 review was that the dissemination of CARC Scheme achievements and the lessons learnt could be wider and stronger and there have been opportunities to publicise research results as post holders have completed CARC.

3.63 Whilst some progress has been made in disseminating the findings and the lessons, there is significant scope for improvement. Even though only two post holders have completed to date, others have produced outputs and made positive contributions for example to journals, conferences, networks and working groups. These achievements should be more widely publicised both within NHS Lothian (at all levels), in the HEIs and more widely. Dissemination and promoting the benefits of clinical-academic research can help to showcase the difference that it can make to practice, enhance buy-in and encourage potential demonstration sites and candidates to engage. It also has the potential to engage other partners and lever in funding.

Sustainability

3.64 The key challenge for the CARC Scheme has been, and going forward will continue to be, sustainability of the Scheme itself and critically, how post holders can sustain a combined clinical and academic career pathway within NHS Lothian. This was raised as a key issue in the 2013 review which recommended a number of measures to promote the sustainability of clinical academic career pathways, in particular that:

- Immediate clinical and academic career pathways for current post holders (as at 2013) are explored; and

- Measures to promote the sustainability of clinical academic career pathways should be considered at the design stage of new CARC sites.

3.65 Even before the 2013 review, CARC management recognised that the sustainability question requires a solution and that it has been an issue since the Scheme's inception. However, there is not yet a definitive solution in place although a Sustainability Action Plan was drawn up in 2015. It is recognised that the environment of financial challenges has made it difficult to implement a clear, sustainable career pathway for post holders completing CARC. However, it is undoubtedly the single biggest issue facing the Scheme and has left post holders (current and completed) feeling that their expectations have not been met and their planned career progression and aspirations curtailed.

*"[There is a] lack of foresight about what happened next, I had invested so much in it"
(CARC post holder)*

3.66 Since completing CARC, two post-doctoral post holders are no longer working in the NHS and are in full-time roles within HEIs. Both expressed their desire to continue to work in the NHS and to combine their academic research with a clinical role. However, that option didn't exist and so they opted to pursue their research career. In one case their work in the HEI is a secondment from NHS Lothian to Edinburgh Napier University, though it remains to be seen what happens at the end of the secondment period. One of these post holders said:

"I would have been devastated to have to just step back in to my clinical role with no academic or research element" (CARC post holder)

3.67 They, along with many other consultees consider this to be a lost opportunity for NHS Lothian and that it diminished the value for money to the NHS of the Scheme. However, there is general acknowledgement that it could be argued that as they are continuing to do applied research, it still brings value to NHS Lothian. The collaboration between the HEIs and NHS Lothian might also continue although priorities might shift and the links fragment without shared research activities.

3.68 All but one post holder aspires to continue their clinical academic career post-CARC and returning to a solely clinical post once their research is complete is not an attractive option. The risk is that without a clear, long-term solution that enables post holders to continue on a combined career pathway, more CARC post holders will leave clinical practice.

3.69 This lack of sustainability could negatively impact on the future of CARC as potential applicants for future demonstration sites may be reluctant to apply if they know there is a lack of follow through. When asked what changes would attract future participants to the Lothian CARC Scheme, one post holder commented:

"Actually having a career pathway would encourage potential post holders" (CARC post holder)

3.70 A principal action in the Sustainability Action Plan is to explore the potential for an NMAHP research workforce planning exercise within NHS Lothian. A proposal for this has been tabled and discussed with the Executive Nurse Director and the AHP Director. At the time of writing, no commitment has emerged from this proposal but we understand that both Directors are very interested in how NHS Lothian can use the resource of research-trained staff to underpin the organisation's priority questions going forward. Until a decision on this has been made, post holders believe that the lack of a clear sustainability strategy for a combined clinical and academic career pathway should be

made clearer at the recruitment stage, however this is likely to have a negative impact on recruitment, reflecting in the following comment.

"There is no natural progression or follow-on from CARC, so why do it?" (CARC post holder)

3.71 Both the academic and NHS partners on the CARC Management and Steering Groups are very aware of this as an issue and understand the need to address it.

"The NHS and HEI make a significant investment in them [post holders], develop them as individuals and as researchers and then dump them back on the ward" (Management Group member)

"They get all this great stuff – support, access... and then it ends" (Steering Group member)

3.72 HEI consultees were very clear that they do not want to lose the links with and expertise of the researchers at the end of CARC. They believe they add value to the work of the universities and don't want them:

"To finish and go back to clinical 100%" (HEI representative).

3.73 There is recognition of the impact of a lack of a sustainable pathway amongst national level stakeholders who are monitoring the NHS Lothian CARC Scheme to draw out lessons learned and inform future developments. It is considered the one key weakness of the Scheme.

"To overcome the issue of sustainability, post holders need funding and support. There are limited jobs in NHS Lothian. They need to look at nurse consultant level jobs and research posts" (national stakeholder)

3.74 If we accept that continuous research leads to continuous improvements, then by successfully building the research expertise of NHS Lothian's workforce, embedding research in clinical areas and developing evidence bases for change, CARC can lead to improvements and efficiencies. However, if NHS Lothian loses the research expertise built through CARC then the potential for on-going service improvements through this route will diminish.

4 Impacts on post holders

Introduction

4.1 This chapter examines the outputs to date achieved by CARC post holders along with the impacts on post holders attributed to participating in CARC. It draws on the findings from the desk research, specifically an analysis of the progress reports prepared by each post holder, combined with the findings of the consultations with post holders, line managers, supervisors, members of the CARC Management and Steering Groups and other stakeholders.

4.2 In reading the chapter, it is important to bear in mind that only two of the eight post holders have completed their CARC research (Dr Pam Ramsay and Dr Anne Whittaker) and so outputs and impacts are based on what has been achieved and realised to date and as the remaining six progress through their research, additional outputs and impacts will accrue.

4.3 It is clear that CARC has achieved a lot in terms of outputs and impacts and the chapter examines the factors contributing to and also inhibiting these successes.

Outputs

4.4 Table 4.1 overleaf shows the outputs achieved to date by the eight CARC Scheme post holders. It sets these out by post holder and demonstration site. The outputs reflect the stages that post holders and sites have reached, having started at different times. Milestone targets on a fairly flexible basis are set for individual post holders and Advanced Practitioners are expected to attract grant funding along with the other outputs specified.

Table 4.1 CARC Scheme Outputs (March 2016)

Post Holder	Site	Level		Start Date	Conferences attended	Conferences presented at	Training courses completed	Journal submissions	Journal publications	Proposal written	Grant funding generated	Research groups attended/ membership	Research groups established	Courses/ tutorials taught or contributed to	Students supervised or mentored	Other teaching or support activities
Dr Pam Ramsay	Critical Care	Post Doc	Advanced	Jan-11	28	28	4	11	9	9	£707,071	3	1	1	7	1
Corrienne McCulloch	Critical Care	PhD	Senior	Jan-11	22	9	37	2	2			7		11	3	1
<i>Total for Critical Care Site</i>					50	37	41	13	11	9	£707,071	10	1	12	10	2
Dr Anne Whittaker	Substance Misuse	Post Doc	Advanced	Dec-11	6	3	7	9	5	2	£503,986 *	1	9	5	5	2
David Whiteley	Substance Misuse	PhD	Senior	Mar-14	6	1	24	1	1							
<i>Total for Substance Misuse Site</i>					12	4	31	10	6	2	£503,986	1	9	5	5	2
Elizabeth McAnally	Telehealth/ WM	PhD	Senior	Nov-13	1		14									
Ashleigh Stevens	Telehealth/ WM	PhD	Senior	Jan-15	3		4									
<i>Total for Telehealth/ Weight Management Site</i>					4	0	18	0	0	0	0	0	0	0	0	0
Dr Sarah Rhynas	Dementia	Post Doc	Advanced	May-14	7	3	3	1		3		4		1	6	
Kenneth Davidson	Dementia	PhD	Senior	Feb-14	4	1	13					5		1		
<i>Total for Dementia Site</i>					11	4	16	1	0	3	0	9	0	2	6	0
Overall Total					77	45	106	24	17	14	£1,211,057	20	10	19	21	4

Source: Post holder progress reports and primary research

Please note, 'Research groups attended/ membership' includes both collaborations for specific studies and gatherings of colleagues with research interests in broad research areas, either where the post holder was an attendee or a formal member; 'Other teaching or support activities' include support with marking and acting as an independent reviewer and internal convenor for a PhD student.

* Please note, c£300,000 of this funding had provisionally been granted by an eligible funder at the time of writing.

4.5 The table shows that by March 2016, the Critical Care demonstration site had achieved the highest number of outcomes overall as well as in each category. This reflects the fact that it was the first site to come on stream.

4.6 Post holders reported that going to conferences and attending research groups broadens their networks and helps to increase their confidence and so is an important activity in the CARC Scheme. A notable gap in outcomes (excluding participation in training courses) is in the Weight Management/Telehealth site. It may be worth exploring this further to understand the reasons and explore what support can be offered, if required. We know that some discussions have already taken place around this issue and it is also important to remember that one of the post holders only came into place in January 2015.

4.7 Post-doctoral researchers are more likely to have presented at conferences which is to be expected given that they are more experienced than their PhD counterparts, their networks will be wider and, where they have built on their previous research, the research will be more advanced. Added to this, one of the post-doctorate post holders started in January 2011 and has completed their CARC research so has research findings and outcomes to present and write about in papers and journal articles.



£1.21m
GRANT
FUNDING
GENERATED



4.8 Grant funding has only been generated by two post holders to date, and as might be expected, these are two of the most experienced researchers in the Scheme.

4.9 Outputs are closely monitored by supervisors and in the progress reports submitted by post holders. This is very effective in helping to gauge progress and identify where more

input may be required to achieve the range of anticipated outputs.

Being a CARC post holder

4.10 To put the impacts in context, consultations with post holders explored whether there was any particular prestige or kudos in being a CARC post holder as opposed to being an NHS Lothian employee undertaking a PhD or post-doctoral research. The majority of post holders reported that there was no particular prestige attached to being a CARC post holder although, as stated in Chapter 3, it was widely acknowledged that it:

“Opens more doors and gives you a lot more opportunities” (post holder)

4.11 An example of this is being invited to participate in strategic working groups and having their views sought on issues relating to their research topic to inform policy and practice.

4.12 A post holder who was recruited early in the Scheme and through a competitive process reported that CARC brings:

“Pressure and prestige” and initially “I felt like a minor celebrity – everyone wanted a piece of me” (post holder)

4.13 This respondent reported feeling:

“Proud to be a CARC post holder” (post holder)

4.14 Across the post holders, the sense of prestige, or not, seems to be influenced by whether they went through a competitive recruitment process (in which case they feel more positive about the CARC ‘label’) or if they were the only applicant and so feel less kudos is attached to the role.

4.15 There is also the sense that within day-to-day clinical settings, the CARC Scheme is often regarded with some scepticism (as discussed in Chapter 3) which undermines any sense of prestige felt by post holders.

Impacts

4.16 The evaluation explored the impacts of the CARC Scheme on post holders through consultations with the post holders, supervisors and line managers. A range of impacts have been realised by post holders and for those who are still in the relatively early stages, impacts have already accrued and are expected to increase.

4.17 Before discussing the positive impacts, it is important to note that during the evaluation, one post holder reported that they have found the transition in to academic research difficult. This has undermined their confidence and sense of job satisfaction. It had also made them question whether they want to pursue a combined clinical and academic research career. This does not reflect the general experience of CARC. Perhaps unsurprisingly, PhD post holders tended to report a greater degree of impacts and benefits than post-doctoral post holders who had perhaps already accrued these impacts through previous research activities.

4.18 The main impacts cited in the study are set out below.

- **Increase in confidence:** Seven of the eight post holders reported that participating in CARC had increased their confidence and two specifically mentioned that it had increased their confidence in their clinical role e.g. by giving them time to read research papers and apply that in their work with patients. The boost in confidence was less significant amongst post-doctoral researchers.

One post holder felt that their confidence in their academic role had increased steeply but at the same time, their confidence in their clinical role had declined, largely due to a lack of support.

- **Enhanced job satisfaction:** Overall, participants report an increase in job satisfaction as a result of CARC. The post holders tend to be ambitious and were looking for a challenge to complement their clinical role and to enter or continue with academic research. However, job satisfaction tended to decline for post holders reaching the end of CARC as it became clear that there is no specific structure to sustain their combined career at the end of the programme.



- **Building networks:** Post-doctoral post holders had an established network prior to CARC that they could draw on and enhance through CARC. PhD post holders reported that CARC had enabled them to build their networks within NHS Lothian, academia and more widely, including with national and international organisations. They believe that these networks



are very valuable and will be sustained beyond the period of CARC which will positively impact on their career development.

- **Developing skills:** CARC has enabled post holders to develop a wide range of skills, primarily, though not exclusively, academic and research related. The research skills cited are: primary and secondary research; writing; data analysis; ethics; preparing funding bids. Other skills that post holders have developed include time and project management, presentation skills, critical thinking and new approaches to working with patients. The general feeling is that these skills will be very valuable to them as their career progresses and CARC has provided very valuable opportunities to obtain skills that they would not otherwise have developed.



IMPROVED
RESEARCH SKILLS

- **Recognition as a specialist:** Three of the post holders specifically mentioned that an impact of their research is that they now believe they are recognised as a specialist in their field. This has meant that they have presented at conferences on the subject, are consulted by clinicians on approaches and ways of working, can influence service and one said that:

“I am actually influencing policy which is not something I could ever have imagined” (post holder)

This recognition has added to their increase in confidence and their sense of job satisfaction. It had also reinforced their motivation to pursue a combined clinical and academic career.

- **Career aspirations:** Participating in academic research through CARC has confirmed for seven of the eight that they aspire to a career that includes academic research, including the post-doctorate researchers. There is a strong commitment to combine this with a clinical role but where this is not possible, there is a strong sense, and some evidence, that the post holders will pursue (at least for a period) an academic career post-CARC rather than a clinical one.
- **Increased motivation:** Linked to job satisfaction, the majority of post holders report that participating in CARC has increased their motivation at work. It has given them a boost to focus on a particular area of research and has motivated them to gain new skills, read widely around the subject, increase their knowledge and generally feel motivated and ambitious to develop their career. It has also made them more aware of NHS policy and how that informs practice which has added to their motivation.

Factors contributing to achieving impacts

4.19 ekosgen explored the specific factors that post holders and other stakeholders believe contribute to achieving the positive impacts of CARC highlighted in the study. The single most important factor cited is the combined support and supervision provided by NHS Lothian and the HEIs. It was acknowledged that post holders require support to make the transition into an academic role and the support provided through CARC is very effective at doing this. Linked to the support is that post holders have access to, and close working with, highly experienced academics who are experts in research and in their fields.

4.20 Whilst the support is critical to CARC's success, the Scheme is considered to be flexible enough so that each post holder can draw on support to the extent that they need it and at the same time, develop the skills and confidence to work independently.



4.21 The post holders have benefited from access to training opportunities to develop their research and analysis skills, for example Reflexivity in Qualitative Research (University of Edinburgh) and Involving Children and Young People in Research (University of Edinburgh), Writing An Effective Literature Review (Wellcome Trust Clinical Research Facility) and Lothian Health Research Bootcamp. As one commented, this

has been critical in:

“Bridging the gap between academic and clinical knowledge” (post holder)

4.22 And another noted that:

“Without the courses I would really have struggled to get started and get through it” (post holder)

4.23 Post holders also reported that an important factor contributing to the positive impacts is taking part in groups that bring researchers in the NHS together, for example other CARC and non-CARC PhD students. They find it helpful to talk through challenges, solutions and experiences with other students. It helps them to find solutions to issues and also gives them confidence and reassurance to be part of a wider group of individuals in similar circumstances. The NHS Lothian NMAHP Doctoral Network was mentioned as a particularly helpful group that brings PhD students together.



4.24 Access to patients for primary research is a key aspect of the research undertaken by CARC post holders. In the evaluation, a key benefit of being part of CARC that is central to achieving the impacts is that access to patients is relatively straightforward due to the dual clinical and academic roles and the close collaboration between NHS Lothian and the HEIs. Without this, post holders believe that it would have been much harder to set up and conduct the research as they would have had to negotiate access to patients in sites where they are perhaps not known and where there is no specific buy-in.

Challenges to achieving the impacts

4.25 There are some challenges that were specifically mentioned that have negatively affected the achievement of impacts for post holders. The key challenge is that it can be difficult to drive forward a PhD or post-doctoral research when it is part-time, and the clinical role provides competing priorities. Post holders in this position can find that having a 50:50 split between their roles can be:

“Very stop-start and it can be difficult to get in to each mind frame at the right time” (post holder)

4.26 There is a sense that for some PhD students, the pressures of clinical practice and the part-time nature of the research can make it difficult for them to get fully immersed in the research. They recognise however that the combined role brings more benefits than difficulties. A number of post holders put forward the view that a part-time PhD combined with a clinical role is more onerous than doing a PhD full time.

“I cannot fully immerse myself into the PhD like regular PhD students can” (post holder)

4.27 Post holders and other stakeholders reported that clinical and academic supervisors can often have competing expectations of what and when the research can deliver in terms of outputs and benefits to service. NHS Lothian staff tend to expect the benefits to service to be accrued more quickly as they don't always appreciate how long high quality, academic based research can take.

4.28 PhD post holders tended to be over-ambitious when they first start as a researcher on CARC. They don't appreciate how long the set up phase can take before any primary research work can begin. This includes building the relationships with academic and clinical teams, the Research Ethics Process and recruiting patients to participate. Whilst this does not stop them from achieving the impacts, it means that it can take longer for impacts, and indeed outputs, to be realised. The time required to complete the Research Ethics Process was reported as a particular challenge to progress and achievement of early impacts.

5 Impacts on partners and the service

Introduction

5.1 A key driver of CARC is to tackle identified service development needs in NHS Lothian, and the intention is that all of the research is aimed at making a difference in clinical practice. This chapter looks at the impacts of CARC on partner organisations and on service delivery in NHS Lothian. It is drawn from the desk based research and the consultations with supervisors, post holders, line managers and members of the CARC Steering and Management Groups.

Impacts on service

5.2 As with post holders, perhaps even more so, there is a long lead in time between commencing CARC research and the results leading to changes in NHS service and then, impacts on patients. The scope of this evaluation did not include primary research with patients to gather evidence on impacts for their experiences, or research to assess any impact on patient outcomes. It did, however, examine where CARC has led to any changes in service delivery including where the research is testing new approaches to service provision and, through that, gathering evidence on impact on patient experience and outcomes.

5.3 The Weight Management/Telehealth demonstration site is researching effective telehealth interventions for weight management using a system called *Florence*. *Florence* is a text messaging service through which dieticians can text patients a motivational message and instructions (e.g. 'take your weight'). The aim is to enhance the accessibility of the service to patients, achieve efficiencies in staff time and increase the number of patients who can be supported effectively and improve patient outcomes. This research is therefore impacting on how the service is delivered to participating patients. According to a strategic level stakeholder, it will:

“Remodel how services are delivered” (Management Group member)

5.4 The case study in this chapter describes the research and outputs of the longest established demonstration site in Critical Care in detail. Through CARC, the Critical Care post-doctoral post holder built on their earlier pre-CARC research, and, since coming to the end of CARC, has continued to develop it. Overall, the research focuses on approaches to enhancing rehabilitation for Intensive Care Unit (ICU) survivors. Prior to CARC the post holder developed and tested a generic rehabilitation support package including Occupational Therapy, Speech and Language and Physiotherapy. The evidence showed that the package made no difference to patients in terms of hard outcomes measures e.g. mobility and quality of life, but it made patients feel more secure and valued.

5.5 Following on from that, the CARC research sought to identify ICU patients' support needs on discharge, exploring what they valued and required. On completion of CARC, the data informed the development of a website support programme for post-discharge ICU patients that was part of the continuing research activities of the post holder. The website is now available to discharged patients and is being evaluated with a view to embedding it in routine practice and rolling it out beyond NHS Lothian. There are plans to continue to develop it, for example to build in tele-consultations. One stakeholder commented that as a result:

“Critical care has seen service improvements” (Steering Group member)

5.6 There is some evidence that even the preparatory stages of the research can influence approaches in the clinical setting. As an example, in the Dementia demonstration site, one of the post

holders tested their research methods on a small number of patients. It involved 'shadowing' patients in single-bed rooms over time. The post holder noticed certain needs that the patient had that were not noticed by staff who spent only a short time in the room, for example signs of pain. The post holder fed this back to staff who subsequently made small adjustments to how they observe and assess patients' needs in single-bed rooms. One of the study consultees put forward the view that:

"The dementia research will have a huge impact on how we do things" (Steering Group member)

5.7 The post-doctoral researcher in the CARC Substance Misuse demonstration site focused on family-based interventions to tackle addictions and substance misuse. It built on their previous research into substance misuse during pregnancy, which resulted in a guidance and resource pack. Since completing CARC the post holder has continued with the research and has been awarded a grant to test the efficacy of the USA intervention, "Behavioural Couples Therapy". This is due to be trialled in NHS Lothian and includes training for nurses and psychologists to deliver the programme.

5.8 Overall, the CARC research is expected to enhance the quality of care across the sites and so impact on patients. However it is not yet fully clear what these impacts will be and the extent to which they will enhance patient outcomes and experience.

Impact on partners

5.9 There is strong evidence that the Scheme has had impact on CARC operational partners, namely NHS Lothian, Queen Margaret University, the University of Edinburgh and Edinburgh Napier University. However, consultees commented that realising the benefits of some of these impacts will be longer term.

5.10 There is clear evidence that CARC has enhanced the research capacity within NHS Lothian by supporting eight post holders to develop their research experience and skills. In NHS Lothian, at 25, there are currently more NMAHPs undertaking PhDs than ever before and this number is expected to increase to 30 by the end of 2016²⁶. It indicates that there is a growing NMAHP research culture in NHS Lothian and going forward, there are likely to be more potential candidates in NHS Lothian for post-doctorate research posts. Although this is not entirely due to the CARC Scheme, it has certainly contributed.

5.11 In the demonstration sites, CARC has helped raise awareness about applied research and embedded it in the clinical areas. However, the extent of this varies between sites as they all had different starting points in terms of experience of research, and some appear to have bought in to research more than others.

5.12 One of the primary drivers of the Lothian CARC Scheme is that the research should address specific needs identified in NHS Lothian. At its core, it is an evidence-based improvement methodology aimed at improving service, achieving efficiencies and benefiting staff and patients. At this stage, there is very limited evidence of these longer term impacts and many consultees felt it was too early to say the extent of these although there is consensus that these impacts will be delivered in the longer term and critically, that the research would not have happened without the CARC Scheme. This is illustrated by the following comments:

²⁶ Source: CARC Management Group

“The research is vital and will change how we do things. It would not have happened without CARC as research was not previously well-embedded in this site” (CARC post holder)

“I hope that the telehealth technology that the research is working on will be used to shape and improve services from a patient’s perspective” (Steering Group member)

5.13 A Senior Stakeholder in NHS Lothian summed it up as follows:

“Critical Care has seen service improvements, Dementia will have a huge impact, weight management will remodel how we do things and substance misuse will add to our knowledge”



5.14 For service impact to be maximised, the clinical leads and line managers must be bought in to the research and open to taking and applying the learning. The academic partners must be committed to ensuring that the research has a direct link to the needs of NHS Lothian and the specific clinical demonstration site. Where these are not present or strong, there is less likelihood that the research will have an impact on service.

5.15 The research process itself can have an impact on ways of working and on patients. Discussing the research with clinical staff, asking questions and raising awareness can have a catalysing effect and encourage staff to reflect on their practice.

5.16 Through CARC, the HEI research has a ‘clinical home’ which benefits the HEI research team overall. It contributes to the development of applied research within the University and gives access to patients, service providers and clinical settings that enhance both the quality and range of research that the HEIs are involved in. Some of the CARC researchers are involved in teaching undergraduate students and can, where relevant, bring their research experience and topics in to that role.



5.17 Overwhelmingly, consultees from all organisations report that the CARC Scheme has led to new, valuable and very effective partnership working. Through CARC, strong alliances have formed between the three HEIs and NHS Lothian and these alliances are expanding beyond Lothian as individuals who have been involved in CARC e.g. academic supervisors, move to other HEIs but retain an involvement and sustain the links. As one consultee said:

“[The CARC Scheme] encourages partnerships between the NHS and universities that leads to greater mutual insight of the difficulties and challenges we face” (Academic supervisor)

5.18 Universities are looking for the research to generate journal articles and research grants and CARC has delivered against this to some extent with a total of 17 journal publications and over £1.2m generated in grant funding. There is an expectation that as the post holders progress with their research, the number of journal articles published will increase. It is less clear whether significant additional grant funding will be generated as this is most likely to be through post-doctoral researchers. If CARC post holders continue with academic research in the same field beyond the CARC period,



then arguably a proportion of any short-term subsequent grant funding could be attributable to CARC as an outcome of the CARC research.

5.19 The Research Excellence Framework (REF) is the system for assessing the quality of HEI research in the UK. The evaluation sought to explore whether the CARC Scheme has impacted on the number and quality (rated 1*-4* and unclassified) of partner HEI's REF returns. Despite investigating this in the consultations and through desk research, the findings were not conclusive. One University reported that it may have an impact in the future but as the demonstration site came on stream in 2014 and was linked to existing research in the HEI, they believe it is not possible to assess the impact on REF returns at this stage.

5.20 It was also reported that the research undertaken by some post holders, due to the structure of the funding (they are employed by NHS Lothian), is "not REF returnable". It does not count as research generated by the HEI and so is not included in their progress towards targets. This diminishes the return on investment of CARC reported by the University in the evaluation.

Challenges to achieving the impacts

5.21 If the CARC Scheme research is to influence practice, then dissemination is vital but telling people about the research is not enough. There must be clear route (including responsibility) for translating research outcomes in to practice and rolling that practice out beyond the individual demonstration site. The evaluation highlighted a lack of an explicit process and responsibility for doing this meaning that it relies on the willingness and ability of service managers to take the research outcomes and put it in to practice. There is a concern that without a coherent strategy, research will:

"sit on the shelf and not be put into practice" (Management Group member).

5.22 Clinical priorities can mean that new approaches or ideas are not given in-depth consideration as the focus is on delivering care now, to current patients, as opposed to taking the time to review and revise practice.

5.23 As discussed above, if the outputs of CARC post holders are not REF-returnable, it is a barrier to CARC achieving the expected impacts on partner HEIs. This issue may require closer consideration and a solution agreed between NHS Lothian and the Universities.

5.24 As with achieving the impact for post holders, a challenge to achieving impacts for NHS Lothian and partners is where there is inadequate buy-in to, and understanding of, CARC by middle managers in clinical settings. There is a sense amongst HEI stakeholders that some staff within NHS Lothian are not clear about what they want out of the research and the potential application on service. This can be an obstacle to the research progressing and make effective partnership working at an operational level more difficult.

5.25 Difficulties in recruiting for specific posts was highlighted as a challenge for partners and impacted on the Scheme's ability to deliver the intended mix of PhD and post-doctorate researchers.

5.26 The evaluation identified that there must be a common, agreed understanding of the roles and responsibilities of each individual and partner involved in the demonstration sites if impacts are to be maximised. It was reported that in some demonstration sites, this has been a challenge and that roles and responsibilities should be more clearly defined in future demonstration sites.

Case study: Critical Care demonstration site

Background

The Critical Care demonstration site was the first of four current sites to go live in January 2011, and involved NHS Lothian staff members and the University of Edinburgh (UoE). It was led by the needs of the NHS, with support from senior managers at the UoE.

Through an open application process an experienced researcher who had been working as a research co-ordinator in the Intensive Care Unit (ICU) at Edinburgh Royal Infirmary (ERI) was appointed to the Advanced Practitioner (post-doctoral) post. The candidate had previously completed a Masters and PhD, had worked as a research nurse, and was a Fellow at the Centre for Integrated Healthcare Research. She did not have any initial concerns with CARC as she was already deeply involved in research.

The Advanced Practitioner started her four year post in January 2011, with a 50:50 split of time between clinical (ERI) and academic (UoE) duties.

A Critical Care Research Nurse from ERI was chosen from three applicants for the Senior Practitioner (PhD) post. She was originally interested in the Masters level post, however, when this did not materialise, she was encouraged to pursue the PhD post by her clinical nurse manager because of her critical care and research experience and enthusiasm. Despite the time commitment of a five year contract, she did not have any initial concerns, and actually felt that having a five year plan was 'reassuring'.

The Senior Practitioner completed an online application and then had an interview in front of a panel of four, including representation from NHS Lothian and the UoE, where she presented two potential research topic ideas. She also began her five year part-time post in January 2011, also with a 50:50 split of time between clinical and academic.

Research topics and studies

The specific study content had to fit within the broad critical research programme outlined in the collaboration's application for CARC demonstration site funding. Within these parameters, the two post holders had a degree of flexibility to refine their research topic which they both valued.

For her research topic, the Advanced Practitioner conducted or collaborated on a number of studies exploring the support needs of patients following ICU discharge. ICU survivors are known to suffer a range of physical, psychosocial and emotional problems after Intensive Care, and to have complex needs. A longitudinal qualitative study explored what was important to them at key stages in the recovery process. This work is continuing through subsequent research that the post holder is involved in, including the development of a questionnaire to capture patients' healthcare and support needs.

The Senior Practitioner is researching critical care diaries, used to keep a record of the time spent in ICU for patients to read and refer to during recovery. Critical Care diaries were introduced in Scandinavia in the 1980s to help patients come to terms with their experience of critical illness, and have been used in the UK as part of follow up services after ICU since the 2000s. The diary can help nurses and families to support patients, who often cannot remember and have gaps in their memory, throughout their recovery from a critical illness. She first heard the idea at a conference and became interested in it.

As the study developed, it moved away from introducing and evaluating an intervention to more of an exploratory study in nature. The post holder conducted her research in an ICU out with NHS Lothian that had recently started using diaries and follow-up. Being an exploratory study, her thesis will examine diaries from the multiple perspectives and experiences of patients, family members and nurses to develop understanding in this area. As this practice is still relatively new in NHS Scotland, it will offer insight into some of the pros and cons of using patient diaries, and how they could be implemented, rather than giving explicit recommendations to the service.

Support received

Both post holders have received intensive support throughout their CARC journey. Both met with a supervisory team every month or two, with representation from both the UoE and NHS Lothian (mainly UoE supervisors for the Senior Practitioner post). This support is valued very highly by the post holders, as they will talk over progress and issues, agree upon research milestones and gain expert advice on methodologies.

CARC post holders are more firmly embedded in a support system than others who may self-fund or have to find their own funding. This can involve bringing together people from different areas, including the post holder, clinical line manager and research teams at the HEI. This embedding in the academic community has been particularly valuable for the Advanced Practitioner, who felt she would not have been able to be included in this way without the CARC banner.

In addition, CARC's national profile means that post holders gain access to groups, conferences and senior decision/ policy-makers. In particular, paid attendance at international conferences have helped to enrich the experience for post holders and built their reputation internationally.

The Senior Practitioner has also tapped into Lothian PhD researchers groups, UoE PhD peer groups and NMAHP Doctoral Research groups, which have proved valuable for advice and networking. She found the required CARC progress reports to be a useful tool to take stock of progress. They allowed the post holder to view the bigger picture of the study, and this was motivating.

There has also been informal peer support within the site, with both practitioners being in regular contact throughout their research, and the Senior Practitioner receiving valuable advice from the Advanced Practitioner.

Outputs

At the time of interview, the Advanced Practitioner had delivered a considerable amount of outputs under the CARC Scheme banner, including presenting at 28 conferences, generating £707,000 worth of grant funding, publishing nine journal papers, establishing a research group and teaching and supervising MSc students.

The Senior Practitioner has also engaged in a lot of CARC activities since 2011, including presenting at nine conferences, of particular note the British Association of Critical Care Nurses and the Royal College of Nursing (RCN) 100 year anniversary in 2016, completing a large number of training courses (37) and publishing two journal papers, amongst others.

Impact for the post holders

The post-doctoral post holder has developed hugely as a result of her research experience, and this has been partly down to the CARC Scheme. She has gained an increase in confidence and ambition through the research, and reported that it has made her more passionate about supporting ICU

survivors who often face immense challenges. In addition, the post holder has gained the confidence to apply for larger research grants which benefit her and the partner institutions involved.

Similarly, the Senior Practitioner has seen a big increase in her confidence since starting on CARC. She felt prestige, pride, and some pressure with being one of the first researchers appointed to the Scheme, stating that she felt like a 'minor celebrity' at the time. She has also developed her research skills, and increased her networks, particularly internationally through links to Sweden, Finland and Australia, with the possibility for future collaboration. The post holder has improved her project and time management skills. Most importantly, perhaps, is that the experience has confirmed the post holder's aspirations for a clinical academic research career.

Impact for the service

The Advanced Practitioner has integrated her research into a new website, providing post discharge support to ICU survivors and their family members. This is now receiving a lot of attention from other clinical areas, and other areas within the UK, and has the potential to be adopted elsewhere.

With regards to the critical care diaries, the research has the potential to be more than just an adopted intervention. One of the by-products of the critical care diaries is that they can help families during the time in ICU, for example to communicate with patients when there is no other way, and as a way to 'off-load' emotions. It is an intervention which has the potential to be adapted and rolled-out to other NHS departments, not just critical care.

Patient diaries are becoming more high profile in the health sector, and the research has also helped to raise the profile for Scotland and for NMAHP researchers.

Furthermore, both posts have created impact for the HEI involved, with the post holders teaching and supervising at the UoE, and being able to connect students with clinical practice where needed.

Next steps

The Advanced Practitioner completed her secondment in late 2014, after four years on the CARC Scheme. She was subsequently awarded a three year clinical academic research fellowship, funded by the Chief Nursing Office. She recently left NHS Lothian to take up a permanent post at Edinburgh Napier University. Around 20% of her time will be spent in the NHS Lothian critical care setting, so some links will be retained with the NHS.

The Senior Practitioner is nearing the completion of her research, having reached the end of her initial contract in early 2016, and subsequently given a six month extension to July 2016, after which she will return to her substantive post full-time. She would like to continue her combined clinical academic research career, but is currently unsure how to do this.

While impacts have been achieved for both post holders and the service, there are challenges relating to sustaining the strengths, skills and expertise of the post holders when their CARC position is complete. The Advanced Practitioner herself cited a lack of development and career opportunities as the main reason for leaving NHS Lothian. There is no clear route of where post holders should go when their CARC-funded role is completed, meaning that the return on investment for the NHS and HEI may not be optimised if their research expertise is not harnessed.

6 Conclusions and recommendations

Introduction

6.1 This chapter draws out the main conclusions arising from the evaluation and highlights key learning points for NHS Lothian, partners and for the future. It then goes on to set out recommendations for the future of the Lothian CARC Scheme to provide opportunities for NMAHPs to combine a clinical and academic career along with applied research that addresses identified service needs.

Conclusions

6.2 The Lothian CARC Scheme was introduced as a pilot in 2011 to trial approaches to supporting NMAHPs to undertake PhD and post-doctoral research. Initially, it was proposed that each demonstration site would also include a Masters post but to date, due to financial limitations, only the new Midwifery site will have an MRes post holder.

6.3 The Scheme has only been possible through the close working of NHS Lothian, NHS Education for Scotland and the three partner universities, a relationship that is critical to the success of the Scheme overall as well as for demonstration sites and post holders. Demonstration sites have come on stream at different times and to date, two post holders have completed their CARC secondments.

6.4 The CARC Scheme has successfully provided eight CARC posts over four demonstration sites and the fifth demonstration site will provide three more posts by the end of 2016.

6.5 Through the Scheme, post holders have undertaken training, published journal articles, attended and presented at national and international conferences, participated in research groups and generated research grant funding. These outputs will build as post holders progress their research and the new Midwifery demonstration site is up and running.

6.6 Whilst it is still quite early for there to be evidence of the influence that the Lothian CARC Scheme has had on practice within the NHS, the research itself and some of the outputs are definitely changing how services are provided in some demonstration sites although the impact on patients has not yet been measured as the impacts are only likely to be realised and evidenced in the longer term. The expectations are that the CARC research will benefit service and patients and the key to this will be ensuring that the research findings are applied and rolled out in clinical settings.

6.7 Partners have also benefitted in other ways. It has enhanced the research capacity in NHS Lothian and the HEIs and in some parts of NHS Lothian has increased awareness of the benefits of research to address issues.

6.8 New partnerships have been established and there are new ways of working together towards common objectives, although it is important to recognise that partners may have different drivers for being involved and different expectations in terms of timescales and priorities.

6.9 HEIs have benefited from the research having a `clinical home` and being able to access clinical settings for primary research.

6.10 It is very well respected and has generated a lot of interest both locally and nationally. However, its reach within organisations is more limited and it is important that, particularly within NHS Lothian, there is broader awareness and understanding of the Scheme, how it works, why it is important and the benefits.

6.11 Post holders have benefited in a number of ways. Their confidence has increased both in terms of their confidence to undertake research and for some, their confidence in their clinical role has also increased as a result of CARC. Overall, the post holders are more satisfied with their job than they were before participating in CARC although this tends to diminish the closer they get to the end of the Scheme, largely because of the uncertainty about their future role.

6.12 Through CARC, post holders build on existing networks (particularly the post-doctorate researchers) and develop new ones. These networks are within NHS Lothian and tend to include individuals at more senior levels than they might otherwise have networked with, as well as with peers. They also build networks within the HEI and academic communities along with other organisations and individual at national and sometimes international levels. Post holders along with other stakeholders consulted are confident that these networks will be sustained beyond their time in the Lothian CARC Scheme and will benefit their career going forward.

6.13 Undoubtedly, post holders have developed new skills in research, analysis and writing as well as presentation skills, project management, critical thinking and new ways of providing care to patients. These skills not only benefit the post holder but also have the potential to benefit NHS Lothian if they are retained within the workforce and the HEIs as it adds to their research capacity.

6.14 For the majority, their experience of CARC has confirmed their desire to follow a combined career pathway and there is a general reluctance to simply step back in to a purely clinical role. It has increased their motivation and ambition both in their current role but also for the future.

6.15 By developing their knowledge of particular topic areas through the research, post holders now feel recognised as specialists in their field. There are examples of where they have already influenced practice and in at least one case, policy which has added to their motivation, job satisfaction and career aspirations.

6.16 The review in 2013 identified a series of recommendations for the CARC Scheme. Some progress has been made against these, for example, there has been a more flexible approach to recruiting post holders and there has been an increase in dissemination and awareness raising. A key issue highlighted in that review and in this is the question of sustainability both of the CARC Scheme model and for the clinical research career pathway options for post holders. A Sustainability Action Plan has been developed and is currently being considered.

Lessons Learnt

6.17 Flexibility has been key to the achievements delivered by the Lothian CARC Scheme to date. The Scheme has faced a range of challenges including recruitment and it has become clear that the demonstration sites have to be able to adapt to the particular circumstances of the site and the post holder for example the balance between the clinical and academic roles are not the same in every site or for every post holder. CARC management has been very responsive to these challenges and adapted the approach as required.

6.18 The support that is provided to post holders has been extremely valuable and the model of combined clinical and academic support is a critical success factor. However, where there is a lack of

support and understanding from clinical line managers and teams, post holders can become dissatisfied, lose motivation and their confidence in their clinical skills can fall. This lack of understanding amongst clinical teams may result in the research not being used to develop and improve practice and so it must be addressed if the benefits to post holders, service and patients are to be maximised.

6.19 As part of the support, progress monitoring helps to keep post holders on track and they also value peer support to share ideas and help with problem solving. There does not seem to be a sufficiently formal close down process once a post holder has completed CARC and there is a strong sense that this would be very useful.

6.20 Sustainability is the single biggest challenge facing the Lothian CARC Scheme and one that must be resolved soon or there is a danger that it will detract from the successes. Without a clear strategy for providing sustainable clinical and academic career pathways, NHS Lothian stands to lose CARC post holders once they complete their research and if word spreads that there is no adequate exit strategy for individuals, then potential candidates for future CARC posts may not apply.

Recommendations

6.21 Some points are raised in the report that the CARC Management Group may want to consider. We have focused on specific recommendations that the evaluation has identified as priorities.

Recommendation 1: Sustainability. A Sustainability Action Plan was ratified in December 2015 for the NHS Lothian CARC Scheme and its implementation is currently being considered. It is important that there are clear career pathway opportunities for successful CARC post holders to follow on completion of the Scheme that enable them to combine their clinical and academic careers. There are many challenges to achieving this and also, to achieving sustainability of the CARC model itself, not least, budget constraints. It is very positive that the options are now being discussed and appraised at strategic level within NHS Lothian and the HEIs.

More widely, continuing discussions between the NHS and the Scottish Government are required around developing a strategic approach to the sustainability of combined clinical and academic career pathways for NMAHPs.

Recommendation 2: Flexibility. The flexibility that the Lothian CARC Scheme has applied should be retained as a feature of any future demonstration sites as it is an important strength of the Scheme. If the pipeline of potential applicants within NHS Lothian builds, then there be less of a requirement to adapt individual posts however, there is likely to always be a need to be responsive to specific circumstances to some extent.

Recommendation 3: Posts in Demonstration Sites. It is very positive that that the Midwifery demonstration site comprise three posts, a Masters, a PhD and a post-doctorate. This is the ideal structure and should be replicated in any future demonstration sites where funding allows.

Recommendation 4: Securing Buy-In. There is clear evidence of there being buy-in to CARC at senior levels in NHS Lothian but this is less consistent at middle management level. Without this buy-in, post holders can find it difficult to manage their dual roles and they feel demotivated by the lack of encouragement and support in their clinical settings. There should be greater, more systematic awareness raising and information sharing with teams and managers in the clinical settings in the demonstration sites. This includes a clear articulation at an early stage of the research and how it could benefit service along with anticipated timescales.

Clinical line managers are not always fully aware of the progress of the research and their knowledge of the post holder's academic work can be fragmentary. To make this knowledge and understanding more consistent across all clinical line managers, they should attend some supervision meetings, particularly at key stages. On completion, they should be briefed on the research outputs and outcomes and be involved in discussions on how the research will be used to inform practice.

Recommendation 5: Dissemination. Linked to securing buy-in is the need to effectively disseminate information about the Lothian CARC Scheme, its progress and achievements to the range of audiences who should know about it or have an interest in it. This will include dissemination within NHS Lothian, the HEIs, other NHS Boards (territorial and special), the Scottish Government and other external stakeholders.

To keep staff in NHS Lothian informed and potentially for other stakeholders, a short, regular newsletter may be an effective way of communicating. It could be in hard copy or electronic and should be easy to read, using infographics and highlighting key achievements including actual or anticipated impacts and benefits.

Recommendation 6: Streamlining the Process. The support that is provided through supervisory meetings and in the preparation of and feedback on Progress Reports is highly valued and critical to the success of the Scheme. These meetings should continue as they currently are. However, there can sometimes be additional, regular meetings that the post holder must attend, depending on the particular demonstration site. Some of these meetings can feel unproductive to the post holders, for example, meetings in the site or in the HEI that do not relate to their clinical role or their academic research. They feel they can detract from the time they can spend on their research, particularly as both their roles (clinical and academic) are part time. More flexibility should be built in around the frequency of some meetings that are not specifically about their research or their clinical role.

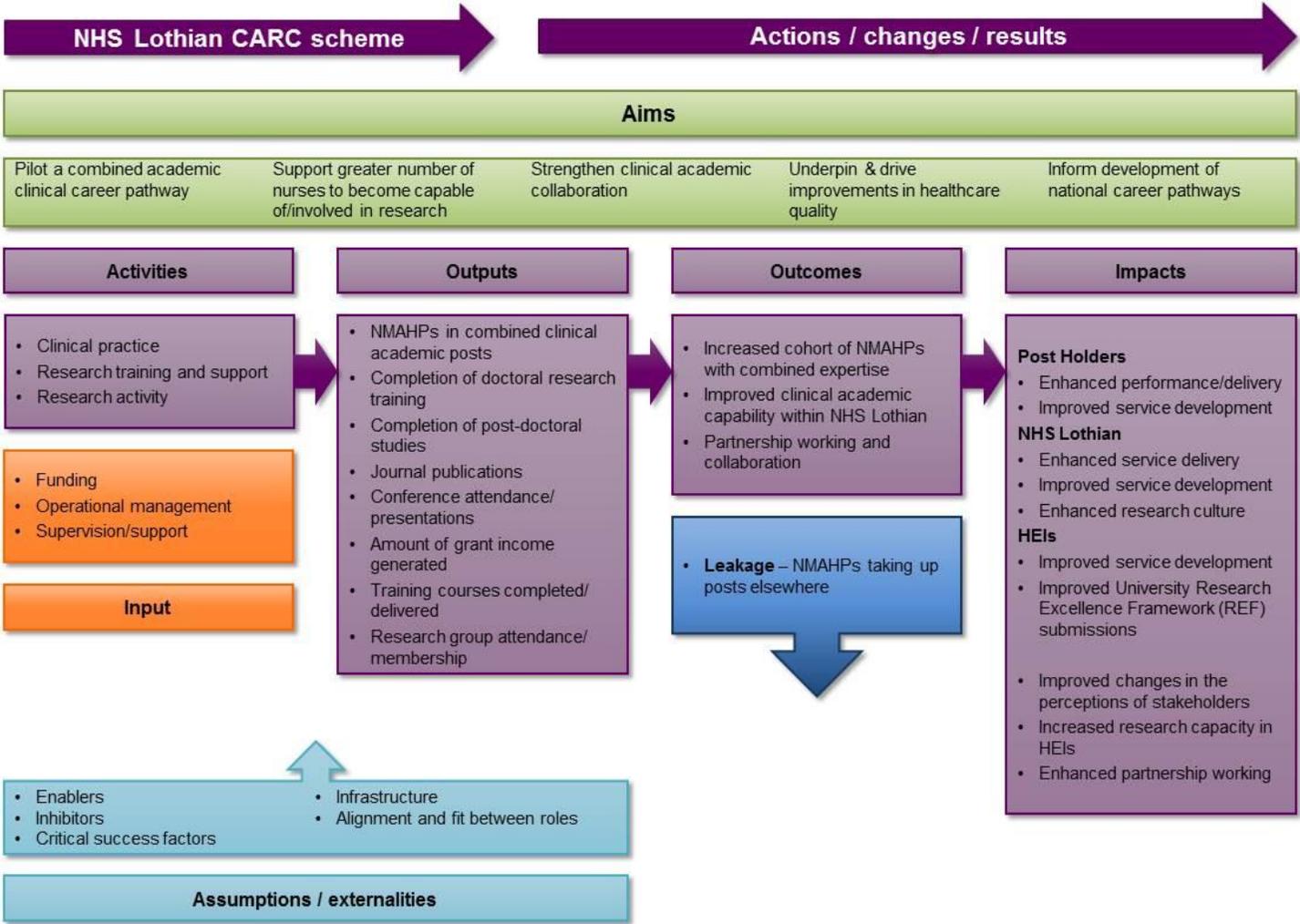
There is now a sustainability meeting with the post holder at the half-way stage to discuss post-CARC options, manage any expectations, and work to retain the researcher within NHS Lothian clinical practice, combined with academic research. This has been a very useful addition.

The evaluation illustrated the need for a close-down process at the end of each post holder's CARC research and whilst a close down meeting is currently offered, it should be more formal to give an opportunity for the post holder and the supervisors to reflect on and feedback on the research, the process, their experience, lessons learnt and so forth. They can also discuss the next steps.

Recommendation 7: Funding. As new demonstration sites are established, consideration should continue to be given to leveraging in funding from external organisations. A good example is the Alzheimer's Scotland funding in the Dementia demonstration site. If external funding is secured, it is however important that the external funder's objectives are fully aligned with the Scheme's objectives and the research.

Levering in funding will likely have the added benefit of raising awareness about CARC and, in working with funding partners, disseminating information and research outcomes. It could also, depending on the partners, widen the impact of the research into other health and social care providers.

Appendix 1: CARC Logic Model



Appendix 2: Consulted Stakeholders

Consultee	Role	Organisation
Dr Pam Ramsay	Post Holder	NHS Lothian/University of Edinburgh
Corrienne McCulloch	Post Holder	NHS Lothian/University of Edinburgh
Dr Anne Whittaker	Post Holder	NHS Lothian/Edinburgh Napier University
David Whiteley	Post Holder	NHS Lothian/Edinburgh Napier University
Elizabeth McNally	Post Holder	NHS Lothian/Queen Margaret University Edinburgh
Ashleigh Stevens	Post Holder	NHS Lothian/Queen Margaret University
Dr Sarah Rhynas	Post Holder	NHS Lothian/University of Edinburgh
Kenny Davidson	Post Holder	NHS Lothian/University of Edinburgh
Prof David Newby	CARC Steering Group	NHS Lothian
Lynne Douglas	CARC Steering Group	NHS Lothian
Dr Fiona Coutts	CARC Steering Group	Queen Margaret University Edinburgh
Prof Charlotte Clarke	CARC Steering Group	University of Edinburgh
Prof Tracy Humphrey	CARC Steering Group	Edinburgh Napier University
Dr Lesley Whyte	CARC Steering Group	NHS Education for Scotland
Andy Peters	CARC Management Group	NHS Lothian
Dr Juliet MacArthur	CARC Management Group	NHS Lothian
Dr Sara Smith	CARC Management Group	Queen Margaret University Edinburgh
Dr Sheila Rodgers	CARC Management Group	University of Edinburgh
Dr Janet Hanley	CARC Management Group	Edinburgh Napier University
Dr Susan Dawkes	CARC Management Group	University of Edinburgh
Jane McDonald	Site Academic Lead	NHS Lothian
Prof Lawrie Elliott	Former Site Academic Lead	Glasgow Caledonian University
Dr Pete Littlewood	Site Service Lead	NHS Lothian
Debbie Eccles	Clinical Line Manager	NHS Lothian
Dr Sandra Drummond	Site Academic Lead	Queen Margaret University Edinburgh
Prof Caroline Hollins-Martin	Site Academic Lead	Edinburgh Napier University
Prof Alex McMahon	Strategic Stakeholder	NHS Lothian
Dr Collette Ferguson	Strategic Stakeholder	NHS Education for Scotland