Authors:
Professor Richard Lilford
Joanna Foster

November 2013
Lead author and contact for correspondence: r.j.lilford@bham.ac.uk
Acknowledgements

The West Midlands Central Health Innovation & Education Cluster (WMC HIEC) was established in 2010 with a budget of £1.19 million administered by NHS West Midlands and hosted by the University of Birmingham. It comprised an initial partnership of the following NHS, third sector, university and private sector organisations:

University of Wolverhampton, Birmingham City University, Aston University, University of Worcester

University Hospitals Birmingham NHS Foundation Trust, Birmingham Women’s NHS Foundation Trust, Birmingham Children’s Hospital NHS Foundation Trust, Heart of England NHS Foundation Trust, Royal Orthopaedic Hospital NHS Foundation Trust, Birmingham and Solihull Mental Health NHS Foundation Trust, Dudley Group of Hospitals NHS Foundation Trust, The Royal Wolverhampton Hospitals NHS Trust, Sandwell and West Birmingham Hospitals NHS Trust, Walsall Hospital NHS Trust, Worcestershire Acute Hospitals NHS Trust.

Dudley PCT, NHS South Birmingham, Heart of Birmingham Teaching PCT, NHS Birmingham East and North, Sandwell PCT, NHS Walsall, Wolverhampton City PCT

Advantage West Midlands, Medilink West Midlands, MidTECH Innovations Ltd, Skills for Health

The British Medical Journal Group

Walsall Local Authority

The authors would like to thank all our partners who contributed their valuable time and expertise to the Advisory Board, the Stakeholder group and theme specific project teams.
<table>
<thead>
<tr>
<th>Content</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 Introduction and overview</td>
<td>1</td>
</tr>
<tr>
<td>2.0 Themes and topics</td>
<td>1</td>
</tr>
<tr>
<td>2.1 The Education Mapping, Quality and Advice theme</td>
<td>1</td>
</tr>
<tr>
<td>2.2 The Service Improvement through Knowledge Exchange, Innovation</td>
<td>2</td>
</tr>
<tr>
<td>and Re-design theme</td>
<td></td>
</tr>
<tr>
<td>2.3 The Industry and Technical Innovation theme</td>
<td>2</td>
</tr>
<tr>
<td>2.4 Topic 1: Home Therapies in Chronic Kidney Disease</td>
<td>2</td>
</tr>
<tr>
<td>2.5 Topic 2: Simulation</td>
<td>3</td>
</tr>
<tr>
<td>3.0 Home therapies in CKD - a summary and synthesis</td>
<td>4</td>
</tr>
<tr>
<td>3.1 Phase 1 activities</td>
<td>4</td>
</tr>
<tr>
<td>3.1.1 Consultation report to Specialised Renal Commissioners</td>
<td>5</td>
</tr>
<tr>
<td>3.1.2 Preliminary investigation of structures and processes for home</td>
<td>6</td>
</tr>
<tr>
<td>therapy education in renal units</td>
<td></td>
</tr>
<tr>
<td>3.2 Phase 2 activities</td>
<td>7</td>
</tr>
<tr>
<td>3.2.1 Education theme: An exploration of the educational role of nurses</td>
<td>7</td>
</tr>
<tr>
<td>in facilitating the transition to Home Therapies</td>
<td></td>
</tr>
<tr>
<td>3.2.2 The exploration of barriers and enablers to facilitating the</td>
<td>8</td>
</tr>
<tr>
<td>participation of renal patients and carers in peer support</td>
<td></td>
</tr>
<tr>
<td>3.2.3 Service users and carer perspectives</td>
<td>10</td>
</tr>
<tr>
<td>3.2.4 Sexuality and long term conditions</td>
<td>10</td>
</tr>
<tr>
<td>3.2.5 Local Research Governance processes</td>
<td>11</td>
</tr>
<tr>
<td>3.2.6 Experiences of partnership working</td>
<td>11</td>
</tr>
<tr>
<td>3.2.7 Home therapies work stream conclusions</td>
<td>13</td>
</tr>
<tr>
<td>3.3 Service improvement theme: evaluation</td>
<td>14</td>
</tr>
<tr>
<td>3.3.1 Demonstrator sites</td>
<td>15</td>
</tr>
<tr>
<td>3.3.2 Focus groups: exploring factors influencing decisions about</td>
<td>15</td>
</tr>
<tr>
<td>therapy</td>
<td></td>
</tr>
<tr>
<td>3.3.3 Case study sites – an evaluation of how renal units are increasing the uptake of home therapies</td>
<td>16</td>
</tr>
<tr>
<td>3.3.4 Literature review of decision making for renal replacement</td>
<td>17</td>
</tr>
<tr>
<td>therapy treatment options</td>
<td></td>
</tr>
<tr>
<td>3.3.5 Observation study: staff-patient communication influencing choice of therapy</td>
<td>18</td>
</tr>
<tr>
<td>3.4 The Industry and technical innovation theme</td>
<td>18</td>
</tr>
<tr>
<td>3.4.1 Overview of the Industry and technical issues in home therapies</td>
<td>19</td>
</tr>
<tr>
<td>3.4.2 Barriers to technical innovation</td>
<td>19</td>
</tr>
<tr>
<td>3.4.3 Simulation &amp; industry developments in self-needling</td>
<td>20</td>
</tr>
</tbody>
</table>
3.4.4 HAPTIC development for renal biopsy 21

4.0 Simulation topic – other work packages 22
4.1 Accreditation and certification of existing simulation providers 22
4.2 Skills passport 23
4.3 RCT Orthopaedic report 23
4.4 Survey of medical students skill acquisition in intimate examinations 23
4.5 Programme grant application 24
4.6 Centre for Inter-professional Simulated Education and Training (CIPSET) 24

5.0 Summary 24
1.0 Introduction and overview
The West Midlands Central Health Innovation and Education Cluster (WMC HIEC) was commissioned to run from April 2010 – March 2013. The WMC HIEC aimed to ensure that high quality education, strengthened by accelerated adoption of new technologies and models of care, supported the workforce in providing the highest quality health care. The WMC HIEC represented a collaboration of partners from NHS PCTs, Acute NHS Trusts including Mental Health, five universities, industrial, commercial and 3rd sector organisations covering Birmingham and the Black Country, Worcestershire and Herefordshire. It was hosted by the University of Birmingham and the partners contributed expertise in research and evidence based practice, innovative educational provision, innovation in practice and quality improvement. The WMC HIEC approach was seen to have a data-collection, analysis, coordinating and influencing role, sitting between SHA and PCT commissioners on the one hand and the service and patients and carers on the other. The WMC HIEC was not seen to be just another organisation but a partnership or community of practice where participants come together with the express aim of improving education and linking education to innovation, through improving uptake of both. It is these linkages that made WMC more than just another innovation ‘broker’.

2.0 Themes and topics
The WMC HIEC overall strategy drew together the work of three themes which were demonstrated through two main topic areas. The three themes were:

2.1 The Education Mapping, Quality and Advice theme
This theme concentrated on the mapping of relevant education and training, the promotion of multi-professional training, supporting development work on blended learning, developing primary research questions and developing a model for the future of workforce planning. The theme lead has published 2 papers relating to i) continuing professional development: accountability, autonomy, efficiency and equity in five professions and ii) the mixed economies of continuing learning in work. The first paper can be found at http://www.birmingham.ac.uk/Documents/college-mds/haps/projects/WMHIEC/publications/2-WMC-HIEC-Education-Theme-Report-1-Continued-Professional-Development-in-five-professions.pdf. The second paper can be found at http://www.birmingham.ac.uk/Documents/college-mds/haps/projects/WMHIEC/publications/3-WMC-HIEC-Education-Theme-Report-2-The-mixed-economies-of-continuing-learning-in-work.pdf.
The education theme contributed significantly to the work of the CKD topic and their report on the educational role of nurses in promoting home therapies can be found in section 3.2.1.

2.2 The Service Improvement through Knowledge Exchange, Innovation and Re-design theme

This theme concentrated on the facilitation of the uptake of new knowledge into education, clinical practice and service through monitoring and feedback; the promotion of innovations in service delivery by upgrading the service user pathway. This theme was a cross-cutting theme within the WMC HIEC programme, designed to provide knowledge, expertise and support to the substantive topics. Further discussion of this theme and links to their final reports can be found in Section 3.3.

2.3 The Industry and Technical Innovation theme

This theme concentrated on ensuring effective evidence based adoption of technology by acting as a network node for organisations involved in development, regulation, assessment, purchase and adoption of innovative health products. It used a network role to accelerate innovation uptake in collaboration with organisations such as MedilinkWM and MidTECH. This theme was established to help embed awareness of the importance and advantages of engaging with industry and to continue culture change, by helping further improve relationships with industry and building on partnerships between the NHS, higher education and industry. The theme aimed to support healthcare professionals working in the CKD and simulation areas and other HIEC stakeholders by acting as a network node, adding to existing networks/partnerships and supporting overcoming barriers to adoption of medical technology and devices in the NHS. Such barriers to innovation uptake are known to involve issues including; politics, funding, (including silo-budgeting and training), innovation awareness, the evidence base, commissioning, procurement, reimbursement, regulatory requirements and adoption.

The final report discusses the advantages of engaging with industry and the results of mapping industry networks to apply to the two topic themes. It identifies the outcomes of this engagement and some barriers experienced by the team. Further discussion of this theme and links to their final reports can be found in Section 3.4.

2.4 Topic 1 - Home Therapies in Chronic Kidney Disease.

This topic aimed to facilitate an integrated service improvement plan for the management of long term conditions closer to home. The WMC HIEC bid identified this topic for consideration because it is clear from the evidence-base that home therapies are superior to hospital treatment for many service users since it is both preferred and more effective. There is
evidence that home dialysis for people with kidney failure results in increased life expectancy, a better quality of life, and cost savings compared with dialysis provided in satellite or hospital settings. Also, the importance of informed patient choice and care closer to home are consistently promoted in NHS policy. The Department of Health recommends that home haemodialysis (HHD) should routinely be offered as part of a full menu of renal replacement therapy options, including transplantation, peritoneal dialysis and conservative management. Overall, the percentage uptake of home therapies is considered to be too low and increasing the uptake of home therapies meets national and regional priorities in that it addresses a chronic disease, spanning urgent and community care, involving many types of clinician and based on service users and their families / carers empowerment and control. However, moving from a predominantly hospital to community-based service is not straightforward and a number of potential barriers have been identified in the literature.

The WMC HIEC aimed to ‘add value’ to other initiatives by:

a) promoting a wider partnership including patients and carers in transforming acute services to improve quality, affordability and moving care closer to home.

b) promoting cost effective service change while improving the quality of service provision

c) linking existing initiatives between education, service redesign and innovation.

d) improving co-ordination between all stakeholder groups

e) improving and promoting collaborative research across institutions and professions

Further discussion of this topic and links to their final reports can be found in Section 3.0.

2.5 Topic 2 – Simulation

This topic aimed to develop simulation as an educational method in order to develop the West Midlands workforce and improve patient safety focusing on the involvement of patients and carers in the Chronic Kidney Disease topic. The WMC HIEC bid identified this topic for consideration in response to the need to:

a) build on an existing area of expertise and examine novel applications

b) develop accreditation for educational providers to develop standards for units and certification of education practitioners supported both nationally and internationally

c) identify duplication and gaps in provision and share good practice

d) co-ordinate provision of simulation across institutions in the NHS and HEIs

e) maximise opportunities for inter-professional learning

f) develop simulation education in response to developing new models of care including team building

g) lead, facilitate and support the development of Centre for Inter-professional Simulated Education and Training. The Centre for Inter-professional Simulated Education and Training (CIPSET) project was incorporated under the WMC HIEC (see section 4.6)
The WMC HIEC was seen to be ‘adding value’ to previous initiatives by:

a) maintaining and further developing existing and new collaborations and innovations in the field.

b) providing a focus for improved co-ordination and new development in simulation

c) improving and promoting collaborative research across institutions and professions.

Further discussion of this topic and links to their final reports can be found in Section 3.4.3 and 4.0.

3.0 Home therapies in CKD: a summary and synthesis

This report highlights the results of three reports and proposes a tentative model of the factors implicated in increasing the uptake of home therapies. This is a speculative model and would require further testing and integration with reports from other WMC-HIEC work streams including the demonstrator site projects, the simulation theme and service evaluation theme.

This report highlights that the diagnosis with CKD initiates a journey of progressive physical and psychological change that could potentially expose the individual to the impact of any fragmentation of care and services or changes in their health and social, economic or psychological wellbeing. Transfer into RRT is a further disruptive and stressful transition even if preparation is excellent (Corben & Rosen 2005). The WMC-HIEC CKD work stream proposed to explore some of the factors implicated in that journey.

All the WMC-HIEC projects, including the CKD Phase 1 and 2 projects and the other CKD oriented projects undertaken by the Service Improvement and Simulation leads, plus the demonstrator site projects have resulted in a comprehensive project report, including a literature review and detailed sections covering methodology, findings and discussion. Each concludes with recommendations for future work. This summary supplements but does not replace those more detailed reports. This report should be read in conjunction with, not instead of other WMC-HIEC CKD reports. For ease of access each of the reports underpinning this summary is prefaced by an Executive Summary. This report can be found at http://www.birmingham.ac.uk/Documents/college-mds/haps/projects/WMHIEC/publications/4-WMC-HIEC-CKD-Report-1-Summary-Overview.pdf

3.1 Phase 1 activities

The WMC HIEC was commissioned by the WM SHA to also support the proposed ‘Regional Home Therapies Service (RHTS)’ developed by the West Midlands Specialised Commissioning Team (WM SCG) and the West Midlands Renal Network (WM RN). Their ambitious plan to
increase the uptake of home dialysis in the West Midlands was supported by the introduction of a Commissioning for Quality and Innovation payment (CQUIN) to incentivise the West Midlands Renal Centres to increase their delivery of home therapies to 35% by 2015.

Phase 1 of the CKD topic consisted of a consultation project to understand NHS staff views on increasing the uptake of home dialysis for adult patients with chronic kidney disease.

3.1.1 Consultation report to Specialised Renal Commissioners

A review of the evidence base and visits to the West Midlands Renal Centres informed the design of three phases of data collection which comprised short semi-structured telephone interviews with lead nurses, clinicians responsible for patient flow data and renal technicians. Initial visits to six of the Renal Centres highlighted that each had a distinctive culture and mix of caseload. All Centres were seeking ways to achieve the CQUIN target and to expand their Home Therapies services; some Centres had established new posts specifically for this purpose.

The range of perceived barriers to the uptake of home therapies were closely aligned to those identified in the literature. The main findings from the follow-up interviews with doctors, nurses and technicians were distilled into five main themes:

1. High commitment from renal staff
2. A focus on achieving the CQUIN target
3. The limitations imposed by facilities and resources, chiefly dedicated space and staff time
4. The need for better data to assist benchmarking, quality monitoring and patient tracking
5. The role of technology, which was seen to be a catalyst of progress when cultural barriers such as education and beliefs were addressed.

From these themes, the key barriers to stimulating the uptake of home therapies were identified as organisational, human behaviour and resource issues. Education, training, availability of support and a sound therapeutic alliance were all identified as important factors in effective clinical care. Patient confidence in every aspect of the delivery system may be the most important single factor. A macro-level perspective of the dynamic inter-relationships of factors influencing the uptake of home therapies was presented using an adapted version of Porter’s Five Forces Model (1980), to serve as a vehicle for continuing debate.

---

1 The Commissioning for Quality and Innovation (CQUIN) payment framework enables commissioners to reward excellence by linking a proportion of providers’ income to the achievement of local quality improvement goals (DOH 2008)
Renal Centre staff interviewed during Phase 1 advocated the advantages of home therapies but reported this was not necessarily replicated across the whole team. The availability of resources to develop home therapies which are personalised, sustainable and highly reliable is a substantial concern to Renal Centre staff. There was confidence about reaching the CQUIN target, but some staff expressed concern about resource constraints, the importance of timely and tailored patient education, and retaining patient choice. Analysis of Renal Centres’ workforce skills mix could explore processes to optimise patient care.

Centres were already implementing a range of quality enhancement initiatives, including better patient tracking, more timely patient education, greater use of patient champions, and assisted and minimal care programmes.

Technology and home environment were not perceived as major barriers. However, gaining permission for necessary adaptations in the home appears to present an obstacle for patients living in rented accommodation or communal settings.

Opportunities for greater patient and carer involvement were identified, together with a need to consider different approaches to patient and carer involvement. A need for further work was identified around: the psychological impact of shifting care into patient homes; education for staff, patients and carers; the health, social and economic aspects of investing in home therapies; and, optimal ways to embed best practice. There were also some indications that underlying culture may be an issue amenable to change. We understood ‘culture’ to be a composite of systemic factors, attitudes and human behaviour. This report can be found at [http://www.birmingham.ac.uk/Documents/college-mds/haps/projects/WMHIEC/publications/5-WMC-HIEC-CKD-Report-2-to-Specialist-Renal-Commissioners.pdf](http://www.birmingham.ac.uk/Documents/college-mds/haps/projects/WMHIEC/publications/5-WMC-HIEC-CKD-Report-2-to-Specialist-Renal-Commissioners.pdf)

### 3.1.2 Preliminary investigation of structures and processes for home therapy education in renal units

A small exercise was undertaken, to identify and map across all universities in the West Midlands region where CKD related topics are taught in the undergraduate and postgraduate curricula. A comprehensive mapping was completed but yielded such a diverse and incomplete picture that it was decided not to proceed with further explorations. Most education providers considered renal disease a postgraduate specialism. In some universities, CKD and renal therapies are included in undergraduate learning about long term conditions or in relation to specific age groups; for instance in children’s nursing programmes. In others, CKD is not covered at all, though there is inevitably transferable learning, for instance in behavioural and communication sciences curricula.

Gaining a more coherent picture and achieving a critical analysis of provision mapped against future workforce needs or in relation to mandatory and essential skills would require a whole
system approach and resources beyond the scope of the WMC-HIEC project. However, the current re-organisation of commissioning structures and development of Local Education and Training Committees and Boards may enable this type of investigation to be revisited.

3.2 Phase 2 activities

The desire to explore and more fully understand these factors informed the evolution of the Phase 2 qualitative research projects. These included

a) the educational role of nurses facilitating the transition to home therapy
b) patient and carer needs for peer support
c) demonstrator site projects (as part of the Service Improvement theme)
d) case study sites (as part of the Service Improvement theme)

3.2.1 Education theme: An exploration of the educational role of nurses in facilitating the transition to Home Therapies.

This research explored the following questions:

- How do haemodialysis nurses view their roles in caring for, educating and training patients?
- How do haemodialysis nurses encourage patients towards self-management?
- What formal and informal education and training of patients is undertaken during dialysis sessions?

Interviews were conducted with nurses involved in delivering in-centre dialysis to explore the ways that nurses promote the uptake of home haemodialysis during the treatment session.

Findings highlighted the complexity of effectively delivering patient centred care. It is a very challenging enterprise for nurses to appraise patient needs from moment to moment and adjust their communication accordingly (Coget 2010). Nurses must constantly balance and prioritise clinical or instrumental care needs with socio- emotional needs and integrate this appraisal with their knowledge of the individual social and cultural context to judge the optimum moment to fulfil their educational role (Edelmann 2000). Patient wellbeing and needs vary from session to session and at different points within each session so receptivity to education and discussion about home therapies varies from moment to moment. Each individual nurse also brings their own social and cultural beliefs and experience to inform their approach. Power and authority, empathy, reciprocity and skills available all interact in a dynamic interchange which cannot be pre-determined by a protocol. Nevertheless, the findings indicate possible opportunities to make more consistent or effective use of dialysis sessions to encourage the beliefs, attitudes and behaviour change necessary to move along the transition to either self-care or home dialysis. For example, although nurses are very busy at the beginning and end of dialysis sessions, there may be opportunities to make more use of time when dialysis is under way.
The research findings considered how decisions are made about treatment modalities and day to day variables and how the underpinning therapeutic alliance supported or hindered these decisions. These factors are discussed in relation to managing the difficult balance between patient choice and skilful, non-coercive direction. Other systemic and cultural factors are also considered. For example, how decisions are made about patients who may be considered clinically unsuitable, unwilling or unable to dialyse at home. Opportunities to make greater use of self-care as an enabling method of increasing patient skills and confidence are also discussed in the research report.

Caring is integral to the role of a nurse. Recent reports highlight the outcomes when care and compassion are not invested. However, the research undertaken suggests the possibility that where nurses are perceived (or perceive themselves) primarily or solely as carers, this can limit the potential for patient self-efficacy and empowerment. Underlying beliefs about the nurse role in managing the balance between caring and enabling may be influential in determining the degree of facilitation offered to move a patient towards self-care. Inarguably this is a difficult balance to achieve and the suggestion is likely to elicit robust discussion as there is no automatically ‘right or wrong’ balance. However, achieving these challenging adjustments is part of the continuing challenge that nurses manage when working with patients living with a long term fluctuating condition. Further work would be needed to understand more fully how underlying and fundamental beliefs influence professional behaviour.

This research study also identified the importance and value of patient to patient education and how this informal education is given considerable credibility by patients and carers. This aspect of facilitating the transition was investigated in more depth in the next section. This report can be found at http://www.birmingham.ac.uk/Documents/college-mds/haps/projects/WMHIEC/publications/6-WMC-HIEC-Education-Theme-Report-3-Nurses-promotion-of-Home-Haemodialysis.pdf

3.2.2 The exploration of barriers and enablers to facilitating the participation of renal patients and carers in peer support

The research questions explored:

- How do patients and carers view peer support?
- What would patients and carers ideally want to gain from peer support?
- How can any perceived problems and barriers in taking up peer support be overcome?
- How would patients and carers prefer peer support to be made available?
Peer support may be delivered in a range of different ways in terms of mode, format, duration, personnel and intended outcomes. Discussions with staff at Renal Units in early 2012 indicated that a variety of informal and formal approaches to peer support were being used with variable levels of take-up.

Existing research suggests that peer support is popular amongst patients who are users. Nonetheless fewer patients take-up peer support than express an interest in such support. Yet accessing peer support can be beneficial in helping patients with chronic kidney disease (CKD) adjust to their illness, make choices and alleviate fears about possible therapies (Perry, 2005; Hughes et al, 2009; Greenhalgh et al, 2006).

The study has achieved a better understanding of what patients and carers need, want and expect from peer support and identifies how actual or perceived barriers to the take-up of peer support by patients and carers may be resolved.

The term ‘peer support’ was not universally well understood, so there may be a need for clearer definitions and information. Nevertheless, peer support is perceived by both patients and carers to be distinct from and supplementary to the care offered by clinical staff and friends or family. The study identified a substantial overlap between patients and carers regarding the perceived benefits and attributes of peer support. Carers identified a need for peer support as much as did patients. The carers of HHD patients appear to have particularly pressing needs to help them to adjust to their new role and responsibilities; they reported side-lining their own worries and concerns during the treatment decision making process.

A number of practical, emotional and psychological barriers to accessing peer support were identified which affirm and extend existing literature. The study identified that receptivity and needs for peer support may vary over time, so flexibility of provision is needed. Most of all, a majority of respondents were very wary of appearing ‘needy’ or to be labelled as ‘not coping’ so it appears to be important that peer support is a constituent of the ‘normal’ menu of options routinely offered by staff as part of a clinical care plan and promoted positively by clinical staff. An appealing peer support relationship was described as a reciprocal sharing, rather than a one way gift of help. Establishing rapport was also considered important if the peer support encounter is to be successful. To better establish rapport, patients and carers wanted to be involved in choosing their own peer supporter. This was particularly important for patients (and their carers) choosing HHD as their modality and may perhaps indicate a desire for a sense of greater control over their illness and treatment.
This project took place in parallel with a West Midlands Renal Network pilot to roll out a telephone model of peer support across the West Midlands. The two projects were independent but aligned and some of the recommendations made in the WMC-HIEC peer support study have been incorporated into the WM Renal Network pilot, most notably, the offer of face to face meetings between peer supporter and recipient in advance of continuing telephone contact. This project and the Phase 1 project also identified some of the advantages of a wider network of information, support and knowledge exchange. This report can be found at http://www.birmingham.ac.uk/Documents/college-mds/haps/projects/WMHIEC/publications/7-WMC-HIEC-CKD-SI-Report-3-Peer-Support.pdf

3.2.3 Service User and Carer perspectives
A key intention of the CKD work stream was to stimulate participation, collaboration and explore ways to improve involvement service users and carers in service evaluation and improvement. The summary report highlights how service users and carers were involved in the work stream and were involved in advising the team of their recommendations to increase the uptake of home therapies.

3.2.4 Sexuality and long term conditions
Service users identified a need for information, advice, support and the possibility of referral to specialist services to address concerns and difficulties managing their intimate and sexual relationships alongside the many challenges and transitions of living with CKD. Physical, medical, emotional, psychological and iatrogenic factors exert and influence on self-esteem, sexuality and sexual function as well as the energy and wellbeing resources to invest in relationship building and maintenance. Outline research proposals were submitted to several possible sources of funding to enable further exploration of sexual, intimacy and relationship support needs but none were successful. However, the CKD theme lead has linked with researchers within the UoB CLARHC who are interested in exploring sexuality and sexual needs among patients managing long term conditions and a bid to a suitable NIHR call is currently being developed. It is hoped this may enable both a systematic review and a collaborative action research project to improve patient information, clinical care and staff education. Without the WMC-HIEC, it is unlikely these links between researchers would have been made.
3.2.5 Local Research Governance processes

During the development of the CKD projects, the team became familiar with internal and external ethical scrutiny processes and also the local Research Governance process within NHS Trusts. The Integrated Research Ethics System (IRAS) has speeded up and, to a degree, simplified applications for approval to undertake research in NHS organisations, but local Research Governance systems do not appear to have kept pace. Despite approachable and courteous local staff, considerable inconsistencies, and delays were experienced, together with wide variations in the requirements within individual Trusts which necessitated considerable duplication. NHS staff also reported frustrations with the local systems which felt cumbersome, inefficient and time consuming, particularly as NHS staff were frequently managing research governance roles alongside other substantial responsibilities.

Because of the number of researchers from a range of organisations who contributed to the WMC-HIEC project it was evident these difficulties were not isolated instances. There was no scope to investigate this issue within WMC-HIEC time but two partner universities (University of Wolverhampton and Birmingham City University) contributed staff time to enable a small working group to be convened. This was convened and co-ordinated by the CKD theme lead, so ensuring outcomes were fed back to the WMC-HIEC. This working group compiled and submitted an evidence based paper to the Health Research Authority (HRA). We subsequently met with the CEO and Director of Innovation and Collaboration at the HRA and are actively contributing to the HRA plans to review and redesign local research Governance processes and systems. This is a further example of the legacy created by the WM-HIEC and the continuing networking and collaboration will ensure West Midlands NHS Organisations and universities help inform and shape HRA policy and practice.

3.2.6 The experience of partnership working

The investment of time and planning necessary to create successful partnerships for innovation should not be underestimated. Working in collaboration or partnership necessitates attention to underlying beliefs and cultural differences which inform behaviour. High level communication, listening and negotiation skills are needed to manage tacit and overt conflict. Tensions are normal and inevitable, to some extent essential as the group itself forms a micro-social system which may accurately reflect diversity within the wider academic and practice health community. Edelmann (2000) suggests it is more constructive to acknowledge tensions transparently and openly otherwise these can continue to exert a destructive impact, even if unconscious.

Partnership is a challenging enterprise requiring sustained and continued dialogue which values all involved as equal contributors of expertise, together with flexibility and creativity. Popay and Williams (1998), Finch (2000), Macpherson et al (2001) and Gutteridge and Dobbins (2010)
found that effective partnerships in health and social care require ownership and commitment by staff and strategic leadership to support the process and to enable the resources. Gutteridge and Dobbins (2010) argue that achieving meaningful involvement is not cost neutral but it can provide a value for money strategy, especially by catalysing knowledge transfer for innovation and integration of best practice.

We learned that in order to generate good quality and relevant outputs, it is important to take time to plan, to be flexible and to remain task and outcome focused while ensuring developmental discussion; this can be a new experience for cultures which have become increasingly target driven.

Although feedback from our service user and carer colleagues made it clear the CKD team had not fully resolved all the barriers to full partnership, we received encouraging feedback and the substantial efforts made were acknowledged. For the future, there is substantial transferable learning from initiatives to involve service users and carers (e.g. Tew et al 2004). There has been a greater and longer focus on partnerships with and for service users than between organisations and expert groups and the structural, organisational and cultural challenges may be similar. For example, working to involve mental health service users. Tew et al (2004) identified five levels of involvement and argued that for clarity of expectations and communication, it is vital to determine which level is appropriate for the project in hand.

It was clear that renal centre teams were managing very significant workloads. The WMC-HIEC project took place during a time of systemic re-organisation in preparation for the Health and Social Care Bill (2012) and in a climate of increasing cost improvement pressures. It is easy for research and innovation to become subsumed under the everyday workload so it is crucial that adequate resources, infrastructures and support are set aside to facilitate clinically led, patient centred service change.

It must be acknowledged that some participants both inside and external to the WMC-HIEC were ambivalent about the value of exploring the mechanics and process of partnership. There were also indications that although clinicians welcomed research a greater privilege was awarded to clinically focused research rather than research focused towards organisational or systems development. Finally, there is a tension to be managed between robust research design and methods and achieving speedy and tangible deliverables. Further work would be required to clarify these perceptions, which do not reflect either the NHS Research and Development Strategy (DoH 2006) or the Health and Social Care Act (2012). Both place considerable emphasis on the role of research in high quality services.
A local initiative by Wolverhampton PCT was reported as a case study on the Social Partnership Forum\(^2\) and identified a number of 'top tips' for successful partnership working. Top of the list was the need for a genuine desire and commitment, initially from the top of both management and staff side. Continuing positive leadership throughout is needed to identify the change agents and develop a set of shared or joint aims, values and principles. Wide ranging consultation is identified as important, together with tenacity and a determination to resolve conflict.

This report suggests possible methods to develop effective partnerships with the least possible delay and proposes the use of a model based on a typology of partnership behaviour (Pratt et al, 1999) intended to help Primary Care project groups and organisations appraise the type of collaboration and involvement desired and purposefully to facilitate the behaviours most likely to meet the needs of the partnership at different stages of evolution.

### 3.2.7 Home therapies in CKD conclusions

The original WMC-HIEC project proposal suggested that building capacity for innovation has many components, requiring supportive leaders, an imaginative, motivated and energetic workforce, sound infrastructures and a dynamic environment that is prepared to improve quality and/or efficiency. The CKD work stream has investigated a number of factors that have potential to inform leadership decisions, increase effectiveness, safety, efficiency and improve patient and carer experience. These are all important components of quality enhancement. However, substantial time is needed to establish robust and sustainable partnerships and short funding timescales are insufficient to establish full impact and demonstrate sustainable long-term outcomes. Nevertheless, the type of networking and dissemination achieved by the WMC-HIEC project are crucial to minimising duplication and repetition of effort and help to achieve a legacy which offers a firm, evidence based foundation for continuing work.

Facilitating a whole system culture change is beyond the scope, duration and capacity of the WMC-HIEC project and further work would be needed to test out the transferability and generalisability of the model proposed in Figure 5.2. Nevertheless, as identified in the peer support project, some recommendations have already been adopted and it is clear that the WMC-HIEC project has raised awareness, stimulated discussion and brought together individuals who may not previously have had opportunities to work collaboratively. Although it

\(^2\) from the Social Partnership Forum website, an alliance between DoH, employers and Unions to promote effective partnership working: http://www.socialpartnershipforum.org/casestudies/Priority2/Pages/PartnershipworkingatWolverhamptonCityPrimaryCareTrust.aspx. accessed 08.04.12)
is difficult to quantify impact, these interventions, (sometimes formal and frequently informal) are likely to have contributed to and helped catalyse changes already in planning or progress. Some of the factors identified in Figure 5.2 will continue to be investigated by the UoB CLARHC team and by Renal Services colleagues and taken forward through collaborations established during the course of the WMC-HIEC project.

Nevertheless, there is a need for greater understanding of how to devise outcome measures that will differentiate between inter-related and dynamic factors and incorporate effective evaluation of both economic value and quality of life. Measures are also needed to enable benchmarking of quality indicators between organisations and like for like comparison across different patient groups. It is very important also to devise both interventions and evaluation measures that are robust and critical but also engage staff in appreciative inquiry, not alienate them by appearing to be punitive.

Real opportunities have been identified for better networking and collaboration to improve knowledge exchange and knowledge transfer and to reduce duplication or achieve economies of scale. There is anecdotal feedback to suggest the CKD work stream has raised awareness of the factors implicated in a whole system shift towards the choice of home therapies as a default position and clearer justification of the reasons for other choices of modality.

Equally important, in exploring the opportunities jointly with renal service partners, it has been possible to highlight their confidence, capabilities and readiness to meet the challenges, to develop a culture and supporting systems and processes to deliver an effective, flexible and high quality home therapies programme which also allows a personalised service by enabling and supporting individualised exceptions to be accommodated.

3.3 Service improvement theme: evaluation
The WM SCG desire to set a five-year goal through their contract with the seven renal units in the West Midlands to increase the proportion of patients undertaking dialysis at home represented a significant change management challenge to the hospitals, which would require a shift of emphasis, resources and staff towards home therapies and away from hospital based treatment. The service improvement theme aimed to evaluate how the hospitals approached this challenge. The evaluation found a significant increase in the uptake of home dialysis in West Midlands hospitals during the first 21 months of the 5-year home dialysis target compared with the rest of England.
3.3.1 Demonstrator sites
The Phase 1 consultation had elicited ideas from renal centre staff for small projects which they felt had potential to stimulate an increase in the uptake of home therapies, but which they were unable to undertake because of resource limitations (usually staff capacity). A menu of ideas was generated which renal staff and WMC-HIEC team felt would be feasible within a short time scale but which had potential to make a measurable difference. The menu of options was used to inform a series of negotiations with renal centres to identify host sites and to broker agreement between centres who wished to work in partnership on specific projects. To catalyse these projects, the WMC-HIEC team offered to contribute both capacity in terms of time and HIEC resources, and capability in the form of research expertise. In return, the host sites were asked to participate in the audit and evaluation work to be undertaken within the WMC-HIEC Service Improvement Theme. Three demonstrator site projects were identified including a qualitative study to investigate factors which influence patient’s decisions about therapy options (see section 3.3.1); development of a simulated fistula (see section 3.6.3); an investigation of communication about home therapies (amalgamated into Case study site work in section 3.5.0).

3.3.2 Focus groups: exploring factors influencing decisions about therapy
The service improvement theme conducted focus groups and interviews with patients aimed to explore factors influencing their decisions about therapy. In particular, the study aimed to explore patients’ and dialysis partners’ experiences of learning and making decisions about dialysis modalities. Patients who are already receiving dialysis at a West Midlands NHS Trust were
invited to attend a focus group either at the University of Birmingham campus or in their local dialysis centres. In total there were 24 participants in 6 focus groups as well as 3 dialysis partners.

Four major themes emerged on analysis and one minor theme. In addition, two groups expressed dissatisfaction with the renal services and details of this have been included. Themes were:

- Information and Choice
- Lifestyle (employment, travel, family, convenience)
- Confidence (self-efficacy, fear of self-needling, risk of infection)
- Physical and Technical Factors
- Cost (minor theme)

Their report identifies specific concerns from patients and carers and some examples are given in addition to the main themes outlined above. There seems to be a need to increase engagement with one particular population, which may help to build bridges for home therapies in the future. The final report of this project can be found at http://www.birmingham.ac.uk/Documents/college-mds/haps/projects/WMHIEC/publications/8-WMC-HIEC-Service-Improvement-Theme-Report-1-Focus-Groups.pdf

Furthermore two journal articles are in preparation (Patient experience of dialysis services; Service evaluation of ways on increasing the uptake of home therapies) and will be available at the WMC HIEC website when published.

3.3.3 Case study sites – an evaluation of how renal units are increasing the uptake of home therapies

These projects were In-depth qualitative research in four case study sites in the West Midlands, and aimed to track and evaluate how renal units are increasing the uptake of home therapies for people with chronic kidney disease. These case studies aimed to evaluate their progress in relation to an evidence-based framework for change derived from the evidence about success factors for generic health service change and the shift of services from hospital to home settings.

The evaluation used qualitative methods, along with some quantitative analysis of the hospitals’ uptake figures for home therapies. The research design was consulted upon with local renal staff prior to field work. A total of 96 staff interviews and 93 patient interviews were completed
in four sites. The hospitals were selected in order to provide maximum variation in geographical spread, a rural-urban mix and variation in how dialysis services were provided. The patient interviews explored how patients who were already on dialysis (peritoneal dialysis, home haemodialysis and in-centre dialysis) had gone through the dialysis pathway, focussing on pre-dialysis education and choices, training for home dialysis and on-going care and support. Patients were also asked for their views about how the service could improve the uptake of home therapies and suggestions about how the service could be improved.

The staff interviews similarly explored the dialysis pathway, drawing on examples of patients that staff had recently had clinical contact with. Staff were also asked for their views about how they are inducted and trained for home therapies, how teams are structured and how this might influence staff confidence in home therapies. Suggestions about improving the uptake of home therapies were also explored alongside barriers to home therapies. The majority of staff who were interviewed were in clinical roles and were drawn from across the service. A number of Trust or Divisional senior managers and clinical leads were also interviewed. Individual confidential reports were presented to each site but an anonymised report of the issues highlighted can be found at http://www.birmingham.ac.uk/Documents/college-mds/haps/projects/WMHIEC/publications/9-WMC-HIEC-Service-Improvement-Theme-Report-2-Case-Study-Sites.pdf

3.3.4 Literature review of decision making for renal replacement therapy treatment options.

This review commissioned by the Service Improvement theme aimed to explore the social science and practice-based literature around treatment decisions for renal replacement therapy. Renal replacement therapy (RRT) is required when kidney function is no longer able to support life. There are a number of potential treatment options for renal patients. Renal replacement therapies include transplantation, peritoneal dialysis (PD) or haemodialysis (HD). Peritoneal dialysis is a home-based treatment - modalities include continuous ambulatory peritoneal dialysis (CAPD) and automated peritoneal dialysis (APD). Haemodialysis can be carried out within a patient’s home - home haemodialysis (HHD).

The specific research questions this literature review intends to address are as follows:

- How are treatment decisions approached by patients and professionals?
- What factors impact on a patient’s treatment decisions?
- Are there specific approaches or trends within particular conditions?
- Are there any proven, novel approaches to support patient decision making?

---

3 Renal replacement therapies include transplantation, peritoneal dialysis (PD) or haemodialysis (HD). Peritoneal dialysis is a home-based treatment - modalities include continuous ambulatory peritoneal dialysis (CAPD) and automated peritoneal dialysis (APD). Haemodialysis can be carried out within a patient’s home – home haemodialysis (HHD).
The report highlights issues relating to patient empowerment and involvement, decision making processes, how patient characteristics affect patient preferences and the relationship between patients and healthcare professionals. The report also considers information needs for effective decision making and the use of decision aids. The report highlights considerations for peer support in self-care decision making and identifies that little is known about how people make decisions across the trajectory of CKD and not just in relation to RRT modalities. The author suggests that where patients have had limited ability to be involved and to share decision-making up to the point of choosing a modality option, that they will find it more difficult to engage with a new approach. Patients should therefore be encouraged to be as actively involved in their care and share decision-making as they express a wish to be as early as possible in their disease progression to establish and develop a mode of interaction which is normalised and productive. The full review can be found at http://www.birmingham.ac.uk/Documents/college-mds/haps/projects/WMHIEC/publications/10-WMC-HIEC-Service-Improvement-Theme-Report-3-Literature-review-of-decision-making.pdf

3.3.5 Observation study: staff-patient communication influencing choice of therapy

A follow-on observational study was undertaken in one site to look at the pre-dialysis pathway in more detail. Staff members at this site were interested to understand more about the effectiveness of their interactions with patients in out-patients and pre-dialysis home visits in promoting home therapies. The aims of the observational study were: to look at the barriers to home therapy which patients faced and how staff tackled these barriers; to consider staff and patient perspectives on home therapies and how patients’ concerns and questions were dealt with; and to look at the communication strategies and styles that were being used by clinicians. A total of 35 patients were observed in out-patient appointments where the topic of dialysis was discussed, plus 7 pre-dialysis home visits.

Further dissemination activities included a workshop session on the interim findings at the CKD Dissemination event held in September 2012, a NHS Kidney Care national Webinar, 12th March 2013.

3.4 The Industry and technical innovation theme in home therapies

The final report for this theme includes an identification of issues and technical barriers in relation to equipment and devices to support CKD home therapies (see section 3.4.1 and 3.4.2), exploring new product development to support the move to home therapies including the use of
simulation to aid the development of self needling techniques, exploring the development of an educational video for patients and carers and exploring the use of a HAPTIC training device for renal biopsy training in conjunction with the simulation theme (see section 3.4.3). The final report can be found at http://www.birmingham.ac.uk/Documents/college-mds/haps/projects/WMHIEC/publications/11-WMC-HIEC-Industry-Theme-Report.pdf

3.4.1 Overview of the Industry and technical issues in home therapies

This report highlights that Industry has long been associated with the provision of renal dialysis services, both to the NHS as a partner or provider and also direct to patients outside of the clinical environment. There are currently 9 companies in the UK who provide services for renal patients. This ranges from the supply of consumable items to contracted dialysis service provision. Service provision is mainly found as the ownership and management of a satellite unit delivering dialysis sessions to a set number of patients outside the nephrology department of a hospital. All satellite services are funded directly from the NHS on a best practice tariff basis. This means that a commercial organisation providing the service is reimbursed on a per patient per session basis that is contracted with the providing authority for a set period of time.

The report highlights a number of barriers to the uptake of home dialysis including the use of satellite units, tendering and provision of a home dialysis service, supply chain arrangements, patient awareness and knowledge of home therapy, single use of capital equipment, conversion from PD at home and failing transplant patients. The report highlights threats to increasing targets following the restructuring of NHS commissioning, the tariff system and increased unit capacity. The report identifies recent technological advances in dialysis machines and the role of industry in educating renal unit staff and patients and their carers and the difficulties in providing up to date information. The report concludes that there are a large of number of complex factors which need to be taken into consideration. Practical solutions to technology, services and resources could be enhanced though closer partnership with industry providers in determining and satisfying renal unit and patients requirements. Other factors which affect the uptake are driven by cultural and organisational constraints which may require external facilitation to construct a more cohesive regional approach to home dialysis.

3.4.2 Barriers to technical innovation

The Industry theme undertook semi-structured telephone interviews and informal communications with renal technicians from seven renal centres in the West Midlands and clinical opinion leaders indicated technology and equipment currently available does not appear to be the major barrier to increased uptake of home haemodialysis. Increased uptake is already
achieved in certain areas with existing systems and the use of recent advances in technology to overcome barriers relating to dialysis equipment and home adaptation was considered less important than changes in culture, attitudes and education. The report highlights the type of equipment used and a discussion of opportunities to use smaller equipment more recently introduced. Further information was gathered by the NHSC Horizon Scanning Centre who published a news brief “Transportable haemodialysis machines for established renal failure” published in April 2012
http://www.hsc.nihr.ac.uk/topics/transportable-haemodialysis-machines-for-establish/.

The report provides a useful introduction to transportable haemodialysis machines such as the NxStage System One and the SelfCare systems.

Renal centres outlined several minor features which could improve existing equipment including warning systems. The theme concluded that from a technological standpoint, as with other home based therapies, service delivery, philosophy, education and culture change remain key areas to be addressed if increased uptake of home haemodialysis is to be achieved. Once these are addressed, a wide range of relatively simple advances in, or applications of, technology would be able to further facilitate uptake. For example, telemedicine technology could be used to offer better home support such as via Skype or video links, allowing consultants and healthcare professionals to hold on line consultations with patients while they were at home. Home haemodialysis equipment must provide the treatment prescribed, be simple to use and it must be reliable retaining the confidence of patients and healthcare staff. ‘Transportable’ equipment such as the NxStage is attracting interest however clarification of its optimal role both clinically and in relation to health economics will clarify such technologies place in facilitating uptake in home haemodialysis care. Vascular access and self cannulation were widely considered important issues and that technology may have a role in facilitating self-needling / cannulation training.

3.4.3 Simulation & Industry theme developments in self needling

This topic consisted of a number of work packages undertaken following discussions with major stakeholders. Healthcare professionals and patients widely considered vascular access and self cannulation to be important issues and believed that technology may have a role in facilitating self-needling / cannulation training. The Industry theme also considered that learning the ability to ‘self-needle’ when gaining vascular access to a fistula was one of the aspects of training that takes the longest.

The report highlights the content of current training and suggestions for enhancing training in the future through the use of a training video to show good practices, tips on how to hook up
and manage the needle with one hand and outlining different methods of needling such as the 
buttonhole and ladder techniques. Showing the technique clearly, how to troubleshoot/problem 
solve, and identifying how to manage and minimise pain and clotting problems were also 
deemed important.

A further potential role of simulation in self-needling training is the use of haptics (the science of 
applying touch/tactile sensation and control to interaction with computer applications) and the 
use of life like models such as artificial arms currently used by some renal units. The potential 
advantages and challenges are discussed in their report.

Initial meetings with nursing and clinical staff from a series of renal units provided a means of 
identifying requirements of an ‘ideal’ training device. Input from Royal Wolverhampton NHS 
Trust, Shrewsbury and Telford Hospital NHS Trust, University Hospital North Staffordshire NHS 
Trust and University Hospitals Birmingham NHS Foundation Trust was then supplemented by 
input from patients, industry and other healthcare opinion leaders. This identified the ‘ideal 
requirements’ for a self needling cuff simulator and possible advantages and limitations are 
discussed. Further development will depend on practicing experts within the healthcare units 
providing self-needling training confirming the need, suitability and utility of such devices, 
clarifying the devices role in training and acting as ‘clinical and technology champions’ to push 
forward development of the approach. In the case of ‘cuff’ devices either the existing 
commercially available venepuncture cuff could be used for immediate further feasibility studies 
or defined specifications of a device need to be agreed and condensed from the many ideal 
requirements proposed, so potential manufactures could produce a prototype for further testing. 
Ideally a consortium of renal unit staff and commissioners could act as champions for the 
approach and liaise with potential manufactures already identified. In combination, a research 
project application for prototype product development or testing of the concept could be 
prepared and submitted for subsequent funding.

3.4.4 HAPTIC development for renal biopsy
Simulation is a method and not an end in itself. However, in the context of such procedures as 
renal biopsy, the ability to perform a biopsy in simulation (so long as the simulation is realistic) is 
a priori safer for patients. East Midlands HIEC, UK Haptics (now known as Jasmine Media) and 
WMHIEC are collaborating in developing such a training programme, and thus far a biopsy 
needle ‘kit’ has been developed and this will lead to full simulation using haptic simulation 
technology and simulated ultrasound.
4.0 Simulation topic

The simulation topic was established to:

- Support the CKD theme as appropriate: dealt with mostly in the industry theme report, elsewhere in this HIEC report, but see also below

- Develop links between NHS, industry and universities to develop simulations which could improve patient safety through improved and safer training

- Support and further develop the multi-professional learning system known as CITEC, to evaluate, disseminate and mainstream this approach which later became the CIPSET work stream.

More specifically, simulation work packages were developed as follows (note that the individual work packages developed partly in response to early development work)

- Accreditation and certification of existing simulation providers
- A procedural skills passport
- An RCT using simulation to develop skills in orthopaedic examination among medical students
- Survey of ‘new doctors’ acquisition of skills in intimate examinations
- CIPTEC – business plan for network of provision
- Programme grant application in intimate examination skills acquisition involving the development (with industry) of new haptic training devices for performing intimate examinations.

The simulation topic also aimed to develop protocols for further simulation research to engender a continuing flow of work related to simulation in education (focussed on pre-qualification education and training, but not exclusively so). This report also refers to:

- A quantitative and qualitative investigation of medical students’ acquisition of intimate examination skills
- A programme grant application

4.1 Accreditation and certification of existing simulation providers
This work aimed to scope existing national & international guidance, identify criteria and opportunities for accreditation & certification, develop QA standards for simulation programmes and develop proposals for an accreditation system for WM region, pilot system and evaluate.

4.2 Skills passport
The University of Birmingham Medical School has been aware for some years of the need to develop better quality control measures of medical student competencies: the old ‘see one do one teach one’ approach to procedural skills is no longer tenable. Over a period of two years or so the University of Birmingham developed a skills handbook with key themes: each skill should be core to newly qualified doctors’ skill sets; a learning trajectory would lead to supervised practice and thence to what Cate (2013) called ‘entrustable skills’ (i.e. procedures which students could competently perform despite not yet being formally qualified). As part of the WMC HIEC this work has been shared across the West Midlands and modified versions of the passport are being used at Keele and at Warwick, significantly facilitating the orientation of newly qualified FY1s into West Midlands Trusts.

4.3 RCT Orthopaedic report
The ability to perform an appropriate focussed physical examination is a core skill for a doctor. In the context of musculoskeletal examinations (for rheumatological, orthopaedic or trauma conditions) this may involve some pain/discomfort for the patient. In a collaboration instigated by Mr Ed Davis of the Royal Orthopaedic, an RCT has been run over the past 20 months. The RCT is investigating if training medical students using simulation will improve their clinical examination skills, so they can perform proficiently whilst minimising patients’ discomfort. We are comparing two different types of simulation: volunteer simulated and professional simulated patients.

The primary quantitative outcome measure is students’ marks on the objective clinical end-of-year tests; secondary quantitative outcomes will be self-reported numbers of patient examinations carried out by students in their musculoskeletal attachment. We are also conducting focus groups in March and April 2013 to explore students’ views on using simulated patients. The trial started in October 2011 and will finish collecting data in the summer of 2013. 500 students have entered the trial and results will be available in the Autumn 2013.

4.4 Survey of medical students acquisition of skills in intimate examinations
As the HIEC developed its early thinking it became increasingly clear (anecdotally at least) that there appeared to be a significant gap in the acquisition by medical students of intimate examination skills (defined as female breast, male and female rectal, female pelvic, male
genitalia). A simple survey (at Appendix 3) was distributed through the Scottish, Northern and West Midlands Deaneries. Note that particular concerns had been expressed by the Northern Region PG dean that there had been significant local issues with the lack of these skills in newly qualified doctors). A quantitative investigation into final year medical students’ skill acquisition in intimate examinations (note the survey referred to above is of newly qualified doctors reporting on their memory of such skills acquisition) is in development; ethics approval has been granted and the medical schools of Aberdeen, Barts, Birmingham, Brighton, Bristol, Cambridge, Edinburgh, Glasgow, Imperial, Keele, Kings, Leicester, Liverpool, Norwich, Nottingham, Oxford, Peninsula, Southampton, St Georges, and UCL have agreed to take part. This will provide more accurate assays of the competence of each medical school’s new doctors, allow comparison between medical schools, and help determine if this phenomenon is related to patients’ unwillingness, or varies between medical schools.

4.5 Programme grant application

It is becoming increasingly clear that although the technology for simulation is developing rapidly, the knowledge to underpin its development, introduction and evaluation is sorely lacking. The WM HIEC is therefore working on a programme grant application on the acquisition of Intimate Exam (IE) skills, focussed on learning digital rectal examination (DRE) skills to examine the prostate for cancer. This application is dependent on first obtaining sufficient funds to develop and test a prototype DRE haptic and this is being actively pursued.

4.6 Centre for Inter-professional Simulated Education and Training (CIPSET)

The NHS WMSHA was supportive of extending the work of their previously funded CITEC project and the CIPSET proposal aimed to ensure that this initiative continued to develop and become self sustainable for the longer term. Their report is included in the Simulation final report as Appendix 5.

5.0 Summary

This executive summary outlines the breadth of the WMC HIEC work and acts as a brief guide to the large amount of data that is included in the main reports which can be found on the WMC HIEC website. http://www.birmingham.ac.uk/research/activity/mds/projects/WMC-HIEC/index.aspx