Enhancing research capacity across healthcare and higher education sectors: an integrated model

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Abstract

Background

With current policy in healthcare research in the United Kingdom focused on development of research excellence in individuals and teams, the importance of building capacity for implementation and translation of research among the professionals who use that research in daily practice has never been more apparent. The judicious use of research outcomes and evaluation of best evidence and practice in healthcare is integrally linked to the research capacity and capabilities of the workforce. In addition to promoting high quality research, mechanisms for actively enhancing research capacity more generally should be in place to address the complexities that both facilitate and undermine this activity.

Methods

A comprehensive collaborative model for building research capacity in one health professional group, speech and language therapy, was developed in a region within the UK. The unique context of the North East of England and the strong research ethos of this profession in addressing complex interventions offered a context for developing and implementing a highly integrated model between healthcare and university sectors. Two key frameworks underpin this model. The first framework addresses the individual participants' potential trajectory from *research consciousness* to *research participative* to *research active.* The second framework embeds a model developed by Farmer and Weston [1] into a broader framework of practice-academic partnership and knowledge and skills exchange, and considers external drivers and impacts on practice and patient outcomes as key elements.

Results

This integrated model between practice and academia has been successful in building a culture of research activity within one healthcare profession in a region in the UK and has resulted, to date, in a series of research related outcomes. Understanding the key components

of this partnership and the explicit strategies used has driven the implementation of the model.

Conclusions

A strong, equitable collaboration between clinical and academic partners working towards a common outcome can both enhance the use of research within the healthcare workforce and contribute actively to the research process. A set of propositions are specified to facilitate both transferability of this partnership model to other professional groups and clinical teams and evaluation of the model components.

Background

Building sustainable research capacity within the health care professions is fundamental in taking the health research agenda forward in the UK and to achieving the overarching goal of improved national health (http://www.nihr.ac.uk). At the heart of this agenda lies both the conduct of high quality research and a commitment to ensure the capacity for implementation of research outcomes. The need for those people delivering the research to be aware of how to interpret and use research findings, and for the research to reflect issues relevant to those at the interface of patient care, is paramount to successful implementation of research outcomes. To achieve this synergy, all health care professionals need to be actively engaged in the research process in order that they can engage critically with the available evidence through both understanding and utilising the outcomes of research. This engagement should extend to applying judicious consideration to the recruitment of participants for research programmes, to being able to contribute to the development of research activity by asking the research questions, and to be aware of personal research readiness in the context of the research process itself. This paper describes a model being used to build this research capacity that emphasises the importance of a research ready workforce that can both implement research outcomes and contribute to further research activity.

The policy context

The drivers for increased research capacity in the UK workforce have been clearly articulated by Department of Health policy over recent years. In 2006, the *Best Research for Best Health* [2] strategy produced a platform in the shape of the National Institute for Health (NIHR) (http://www.nihr.ac.uk) to drive, develop and deliver high quality research across the whole NHS economy. This platform sought to achieve this aim through the development of research capable staff by funding a Faculty of highly skilled researchers from a range of healthcare professions and developing the research skills and career paths of future leaders of research through a series of awards and post-graduate training. Funding of a national advice service

further assisted professionals wishing to undertake research, in particular, clinical trials, to steer a path through the complex processes involved. This focus on developing a pool of excellent researchers in healthcare was subsequently reinforced through the UK Clinical Research Collaboration (UKCRC) report *Developing the Best Research Professionals* [3]. While aimed primarily at developing academic careers for nurses, the broader application to allied health professionals was acknowledged. This report, chaired by Janet Finch, and therefore often referred to as the *Finch Report*, focused on the need to develop research training at postgraduate level to produce professionals with the skills to actively develop and lead research activity, and on the creation of opportunities to combine clinical and academic careers. With its goal to "ultimately produce research leaders and academics of the future" (p6), or personnel that would be "capable of operating at the highest levels of research" (p15), its ambition was not unlike the remit of NHS Education for Scotland, the Scottish Executive Health Department and The UK Health Foundation in setting up the pre-doctoral and postdoctoral opportunities for Nursing, Midwifery and Allied Health Professions (NMAHPs). The promotion and conduct of research continues to remain a core NHS role (*Equity and Excellence: Liberating the NHS*, 2010) [4], with research regarded as integral to increasing the quality and productivity of the NHS, and the strategy of promoting research leaders is still at the heart of its activity. What is not as visible, however, is a systematic focus on the research capabilities of those professionals who need to use the research. Equally, seeking the direct input from those professionals into the research process to facilitate greater levels of research activity in the workplace is less apparent.

Similar activity around research excellence has been present within the University sector where high quality research has been promoted, evaluated and rewarded through the Research Assessment Exercises (RAE) (http://www.rae.ac.uk) and, latterly, the Research

Excellence Framework (REF) (http://www.ref.ac.uk). High quality research remains at the core of these exercises, however, the increasing importance for this research to have real societal impact has become a driver for universities to collaborate with those professional users of research. While maximising research impact is dependent on outputs being evaluated and used by professionals, this process is one that is also facilitated by input from practice to ensure the right research is being conducted. Ensuring that this link between the university and healthcare sectors is present in the translational chain is a very real challenge but one regarded as vital if the research agenda is to work in practice. Recent emphasis has been placed on the crucial relationship between local University partners and healthcare to work together to build research capacity by the NIHR Service Delivery and Organisation research programme (http://www.sdo.nihr.ac.uk/).

Models to enhance research capacity

A model that sets out to integrate the two sectors and focus on the reciprocity of the knowledge and skills required for research has not yet been reported. A number of different efforts by health professional group to increase research capacity have, however, highlighted different processes. Atkins et al [5], in aiming to build research capacity in allied health professionals (AHPs) across one region in the UK, drew on the six phases of Rowan's [6] research cycle model where professionals undergo a process of identifying necessary research activity from clinical practice, developing and implementing a project to address this and then disseminating this back to practice, with the cycle then potentially beginning over again. Farmer and Weston [1] reported a more systemic model of research capacity-building developed from a general practitioner (GP) and primary health care perspective within an Australian context. Within this model, four categories of GPs were identified in relation to research engagement: (1) non-participants (this made up the largest group) who "have

insufficient time or support to undertake research, or even to apply evidence in their clinical practice" (p.1140), (2) those participating in data collection or evaluation of others' research, (3) those involved in managing research projects, often gaining formal research training, and (4) those academic practitioners who lead on securing funding and supervising teams. Inherent here is the belief that practitioners can progress from one category to another but for this to occur, Farmer and Weston identified six principles that need to be in place. These involved (i) having a context where all GPs can come in at any stage of the "whole system" or research process and progress to higher categories, (ii) accommodating diversity such that individual backgrounds, interests and learning styles can be responded to, (iii) reducing some of the barriers, particularly around paid protected time and peer support, (iv) enabling of collaborations between groups and individuals, potentially through joint academic-clinical posts, (v) accessing feedback and mentoring from more experienced researchers and (vi) having opportunities for networking.

With respect to reducing barriers, Farmer and Weston's concerns echo other studies. Atkins et al cited inability to access funding as being a significant obstacle in increasing research activity. In the light of this, they proposed that collaboration between qualified professionals and pre-registration students could provide a fruitful and mutually advantageous environment where professionals could engage with the research process when specific research funding was difficult to obtain. In this regard, links to the university sector were encouraged for specific projects. Other barriers relating to managerial and organisational structures have also been clearly documented within healthcare [7].

The contribution of each of the components outlined in the above studies is not disputed: the model set out by Farmer and Weston, in particular, provides a useful framework for capturing

a range of key principles. These earlier studies, however, are considered to not go far enough in setting out some of the essential components for creating an effective and sustainable research capacity-building environment, in particular in capturing academic-practice partnership. The importance of academic-practice partnership and the focus on reciprocal exchange of knowledge and skills have proven to be core to the activity reported here. This paper outlines a comprehensive model that has been developed and successfully implemented by speech and language therapists in the North East of England. This model, while building overtly on principles akin to those outlined above, develops the principles of academic-practice partnership and knowledge and skills exchange between the two sectors in a reciprocal manner. The professional context for developing this model will be expanded prior to elaboration of the frameworks proposed here. Findings of an independent evaluation [8], commissioned by the partners to explore the impacts of this activity, are also discussed.

Building a local model within a professional context

Health and social care professionals all seek to engage in research-led practice, judiciously implementing evidence based practice, and overseen by the standards of their respective professional colleges and/or councils. While health professionals are the focus of this paper, many issues are common to building research capacity in the social care professions [9,10]. The need to embed, influence and contribute to research is a common driver for each of the professional groups, often linking with local education and training institutions and with funding bodies which commission and/or fund the research. In order to facilitate this activity through enhancing capacity and capability, a well established speech and language therapy partnership in the North East of England involved in collaborative educational practice provided the context for developing a highly productive research collaboration. The establishment of the North of Tyne Speech and Language Therapy Research Collaboration

(referred to subsequently as the Collaboration) formalised existing links between Speech and Language Therapy clinical managers in the three Primary Care Trusts within the NHS North of Tyne area, academics in the School of Education, Communication and Language Sciences, Newcastle University, and the Research and Development (R&D) division of the NHS North of Tyne region. Steered by a small group of representatives from these three groups, the Collaboration was perceived as a highly inclusive network whose membership included all speech and language therapists and related academics within the local vicinity. With a strong research culture already firmly established within the profession, a model to build research capacity grew organically from the partnership, with the frameworks and processes considered to have wide ranging applicability for other professions. The components of the model are set out below with a view to this being tested as a transferable framework to both different professional groups and to multi disciplinary groups working in a common clinical area. Further, a set of propositions considered to be critical in embedding research in the workforce are specified.

Methods

Two key frameworks underpin this model, elements of which build on earlier models, and yet have some important conceptual differences. These revolve around (1) individual participant involvement and (2) practice-academic partnership. These are outlined below, followed by a discussion of the principles involved.

Individual participant framework

Identifying the individual participant's engagement in the research process is essential, a feature of Farmer and Weston's model in the progression from non-participative to active in research. In the model proposed here, healthcare professionals move from (and between)

research conscious to *research participative* to *research active* (see figure 1), a process not dissimilar to making "the transition from research consumer to research facilitator and producer" put forward by Atkin et al (p. 105) [4]. Unlike Farmer and Weston's model, however, no category is present for a "non-participating" group of professionals as all members of the speech and language therapy profession are required to engage in research related activity (Health Professions Council Standards of Proficiency; Standard 2b1: be able to use research, reasoning and problem-solving skills to determine appropriate actions; http://www.hpc-uk.org/assets/documents/10000529Standards_of_Proficiency_SLTs.pdf). Being r*esearch conscious* is therefore considered an essential level for HPC regulated professions working within health and social care, where individuals have an awareness of research in the workplace and the skills to seek, critique and use evidence already in the public domain as part of their daily practice. Furthermore, Care Quality Commission regulations regarding suitability of staffing (4.13 Reg 22) require a level of knowledge, experience, qualifications and skills which can only be achieved through a workforce having appropriate regard for the evidence base (http://www.cqc.org.uk/). The second level, *research participative*, is where individuals are involved as a member of a research team or project. Individuals here, often in the context of their clinical teams, play a key role in ensuring that all research is delivered. Roles such as signposting a patient population for NIHR research projects or gaining consent from relevant prospective participants may be involved here, along with more direct engagement in, for example, implementing novel complex interventions. Individuals at this level may also be part of a team developing research ideas and projects in collaboration with academics. Those professionals falling into the *research active* group of individuals include those who are undertaking a research degree at postgraduate level or have research embedded in their substantive job with numerous links

to academics and research orientated information and support. Members of this group may be members of the NIHR Faculty or on this trajectory.

Insert figure one about here

The horizontal cone in the model in figure 1 broadly reflects the respective proportions of the categories with the majority of healthcare professionals falling within the research conscious group, a smaller proportion participating in research, while a smaller proportion still likely to be active producers/instigators of research. The model is used within the Collaboration to directly increase speech and language therapists' awareness of their own perception of themselves in the research process and enable them to reflect on their own status and trajectory, a fundamental feature here being that *all* professionals fall somewhere along the research continuum at *all* times. These roles of engagement in the research process are neither static nor exclusive, with an individual potentially being at different research levels at different times in their careers. Recognition that the Collaboration's objective was not to transform every clinician into an active researcher was important for building confidence in the model; indeed this would have been counterproductive. Rather, the intention was to embed research *awareness* within clinical services and into individuals' own developmental trajectory. It is also recognised that, to ensure all professionals fall minimally within the research conscious stage of the model and are able to deliver research in practice, the raising of awareness of research skills and direct input to skill development requires planning and implementation within any organisation. The process, however, of facilitating all professionals within these three levels is supported by a second framework that encompasses the principles of research engagement.

Practice-academic partnership

The second framework (see figure 2) sets out the unique, broader context which is believed to underpin the model. This model takes the six areas offered by Farmer and Weston and places them in the context of the wider issues of (i) practice-academic partnership, (ii) knowledge and skills exchange, with emphasis also placed on the importance of identifying both (iii) the external drivers and (iv) the proposed impact on practice and patient outcomes. These will be discussed before expanding on the six areas proposed earlier.

Insert figure two about here

Central to this discussion is the practice-academic partnership which has enabled the reciprocal exchange of knowledge and skills between the two, bringing together members from different organisations and requiring the reconciliation of different cultures and values. To drive this integrated collaboration, a steering committee involving senior managers from practice (both from the clinical profession and R&D) and from the academic team was formed, and a shared vision was agreed that set out a set of common values that would underpin the working of the group. Consistent with studies reporting that groups with high levels of value similarity have been shown to work more effectively [11,12], this process resulted here in the development of high levels of trust, transparency and respect amongst the partners [8]. In particular, the building of trust, advocated as pivotal to gaining cooperation from partners [13], was central in facilitating effective working within the group.

With the practice-academic partnership in place, a second key component proposed was a focus on reciprocity in developing research capacity through a two way exchange of knowledge and skills. Motivated by the clinical issues facing the practitioner, ideas for

research arising directly from practice have been actively facilitated through dedicated workshops and events and then linked with the perspectives and skill base of the academic. Testable questions have been formulated and protocols designed to take forward the ideas. This has often required major shifts in perspectives and ownership of ideas, along with a time commitment to the early stages of the research process. During this process, it has been necessary to clarify the distinction between evidence-based practice and practice-led research, emphasising the frequent gaps in evidence and the need to create and then evaluate new evidence. Such a process has formed a key part of the dialogue of the Collaboration and of the education events with participants.

A third overarching component of the model is the identification of external drivers underpinning collaborative activity. Understanding the external drivers, often unique to different professional groups ,their dependence on the prevailing political, social and economic context, is essential in processes such as determining priorities, ensuring motivation, setting up mechanisms for working together, accessing funding, and implementing outcomes. Different partners are recognised as having different drivers. The drivers for the NHS partners have revolved around building a research-ready and -active workforce that would facilitate the translation of research outputs and address the strategic need for an improved evidence base to inform safe, efficient and effective practice and commissioning. An important motivation for service managers, underpinned by the desire to improve services delivered to patients, was to effect a culture change, i.e. raising the base level of research awareness and skills to a level where staff felt ready and supported to take active steps towards research participation and activity at an appropriate time. Academics were motivated by the advantages posed by strong links with clinical partners in underpinning robust research outcomes that could be readily embedded in practice. This

would ensure high levels of clinical relevance to teaching and research programmes within the University and facilitate postgraduate recruitment. Aligning these two worlds more closely was recognised as perhaps the Collaboration's greatest challenge and, to date, greatest achievement [8]; appreciating the underlying differences was important in accommodating them.

Identification of the proposed outcomes and impact for practice of the collaborative activity is the final overarching factor. While recognising that some outcomes may be unexpected, these need to be identified and planned for at the outset. These are discussed in more detail later.

Principles of partnership working

With the above components providing a necessary scaffold to the model, each of the six principles from Farmer and Weston's model are then incorporated within the framework. These are both expanded here and applied to the current context, and the relationship between these principles and the wider features of the model demonstrated. In presenting the model, the individual professional or clinical team is placed at the centre (see figure 2).

(1) Whole system approach

A whole system approach, discussed by Farmer and Weston, highlights the potential for professionals at different stages of their career to enter the research process, depending on service need, resource capacity, motivation and career path. The model presented here has incorporated this principle, supporting staff at all levels, from new graduates to senior clinical managers, to turn ideas into research projects, and identifying suitable pathways through the research process. Additionally, a unique focus of the activity that has taken place in the North East of England has been the systematic integration of final year students from the Speech

and Language Sciences programme at Newcastle University to engage in activity such as service audit, service evaluation and literature reviews. With evidence based practice already firmly bedded within the academic curriculum [14], this work, which forms part of their clinical curriculum each year, has supported pilot studies, bid writing and the emergence of clearer research questions for clinicians in the early stages of forming their ideas. Students form an integral part of the whole system, enhancing the learning and skill value of the placement, while engaging the student early in the application of research principles in practice. The Collaboration has also sought to empower services and organisations, involving teams and individuals in exploring research ideas, with student projects strategically feeding into service priorities and larger developing research projects. Examples of this include collecting retrospective client data from three services to inform and develop a prospective data collection protocol for language development norms in children with Down Syndrome, and piloting questionnaires for clients in an acute stroke unit.

Influencing the national agenda in collaboration with the Royal College of Speech and Language Therapists [15] has also sought to widen impact. The Collaboration has hosted national research events, led national workshops and fed directly into policy development through its awareness raising campaign.

(2) Accommodating diversity

Farmer and Weston's view of accommodating the different research needs of individuals and the diversity of interests and learning styles is reflected highly in this model. While a range of initiatives have aimed to accommodate difference, those that have been most successful have been in targeted but highly inclusive events involving practice and academic partners, delivering workshops through the RCSLT Northern Research Special Interest Group (SIG)

and other existing groups, and supporting individuals in one-to-one meetings with academics. The former have included sessions to draw out research questions from practice with a diverse range of populations, linking practitioners directly, for example, into opportunities with students or into postgraduate programmes to further develop research skills. Specifically, an MSc in Evidence Based Practice (EBP) in Communication Disorders was established to develop research skills while taking forward small scale projects that strategically address the clinical and service needs of the NHS employing organisation to which the student is attached.

(3) Reducing barriers

Identifying and overcoming barriers are necessary components of building research capacity. In the programme of activity discussed here, barriers identified in earlier studies relating to time, funding and organisational structures, were managed through three primary strategies. The first targeted the difficulties raised by access to time and funding through securing small amounts of Flexibility and Sustainability Funding (FSF), a Department of Health funding source available to research active NHS Trusts "that allows for local discretion and management of people to support and develop patient and people driven research" (http://www.nihr.ac.uk). Successful bids for FSF funding were used to support individuals through backfilling time, enabling practitioners to conduct small scale studies, review the literature or prepare larger bids. This has already resulted in the submission of four bids for NIHR funding: one successful, one unsuccessful and two pending decision. With the practitioner paired with an academic partner, this activity was maximally efficient and supported by an internal bidding process that, through detailed feedback and mentoring, ensured well designed projects. A second strategy was implemented through a further successful FSF bid to fund a Speech and Language Therapy Research Facilitator post

(initially for one year). This eased the barrier of time for the steering group and the academic partners, with the Research Facilitator taking on such roles as the management of events, liaising with Ethics Committees, and navigating different funding streams. The third strategy for overcoming organisational barriers has been through the unequivocal commitment of senior clinical managers within the profession and R&D teams on the Collaboration steering group, establishing a research culture at a high level. This has led to organisational change through, for example, the explicit labelling of research activities as enhancing *research consciousness* and the introduction of local team research strategy meetings, each contributing to individuals' awareness of their position within a research culture. The raising of the status of journal club activity has been encouraged so that this was not only valued as a forum for reading and discussing new research findings, but also as a tool to support research projects through critically appraising relevant literature. Numbers of team members participating in research has also been increased through strategic project support from supernumerary resources, e.g. student speech and language therapists.

Interestingly, one barrier identified was a lack of research confidence amongst very able practitioners such that, despite the strategies outlined above, a perception persisted that research both took place away from the workplace (indeed, occurred in 'ivory towers' [8] (p.11)) and was beyond their capability [8]. Such tasks as conducting literature searches were considered removed from daily clinical practice and both time and support were regarded as essential to overcome barriers of this type. A broad based definition of research was therefore regarded as important to enable the reality of the workplace to map onto research activity, again legitimising such activities as audit, journal groups, workplace publications and formal research events within usual practice.

(4) Enabling collaborations

Farmer and Weston highlighted the role of enabling collaborations in research capacity building, focusing on both intra- and inter-disciplinary collaboration, joint academic-practice appointments and multi-centre projects. This has been a key component in the current model, facilitated through collaborations between students, practitioners and academics, collaborations with industry and the private sector through successful establishment of Knowledge Transfer Partnerships (KTPs) (http://www.ktponline.org.uk/), and collaborations with national research initiatives. Supporting the collaboration between clinicians and academics has also been a focus of the dedicated Research Facilitator position in running joint events and preparing joint research applications.

(5) Providing feedback and mentoring

Greater access to academic mentoring was proposed by Farmer and Weston as a way of increasing research skills and is embedded within the model proposed here. Both the provision of, and involvement in, research events by academic partners has provided regular input into the discussions related to ideas, research methods and access to funding. Developing ideas through these events has led directly to mentoring of speech and language therapists to plan projects in manageable chunks, often incorporating the use of wider service resources such as journal clubs and student placements. Equally, the pairing up of academic and clinical partners in the robust process of submitting applications for pump priming of small scale projects has ensured that feedback to clinicians and ongoing mentoring throughout the process has occurred. Where this process has led to the writing of larger bids, this mentoring process has frequently evolved into supervision of formal postgraduate research.

(6) Facilitating networking

The final component of the model proposed here is that of facilitating networking, a factor which Farmer and Weston have drawn from the UK context and encouraged at a local level in Australia. Several networking strategies have been employed by the Collaboration. A supportive research environment has been facilitated through linking the Collaboration's objectives to existing professional groups aimed at continuing professional development, joining up the activity where appropriate. The RCSLT Northern Research SIG, in particular, has established itself as a partner of the Collaboration, collaborating in a programme of skill development and raising research awareness in the workplace. The development, led by the Research Facilitator, of an interactive website, to inform, share, educate, and disseminate information has also played a role in facilitation of networks (http://research.ncl.ac.uk/slt/).

Results and discussion

Evaluating outcomes

Tangible outcomes for practice are a key component of the model and, as proposed earlier, clear methods for identifying and measuring these should be stipulated at the outset. Measurable outputs relevant to this work to date include:

(1) research activity (e.g. securing of NIHR Research for Patient Benefit funding for a large research project to improve patient outcomes and to inform evidenced based commissioning)

(2) pilot work undertaken to inform five larger research projects

(3) knowledge skills exchange (e.g. three successful KTPs have been awarded to date)

(4) seven bids submitted for research funding

(5) ongoing practice evaluation (e.g. regular service evaluations undertaken by supervised students on placement)

(6) research skill development (e.g. skills training by the RCSLT Northern Research SIG, with sessions regularly attended by 30 local clinicians; annual events led by the Collaboration to draw out research questions attended by 60 local clinicians)

(7) increased postgraduate enrolment of practitioners (e.g. third cohort of new MSc in Evidence Based Practice being recruited, application for NIHR Doctoral Fellowship submitted).

Other objectives of the Collaboration that relate to changing the research culture, increasing research confidence and putting in place accessible processes, are more covert and have required different measurement instruments. To explore these aspects, an independent evaluation was commissioned by the Collaboration after approximately two years of activity [8]. The evaluation used a qualitative methodology to explore both the perceptions and activities around the work of the group, and the research capacity structures of the associated partners linked to the Collaboration. The empirical basis of this evaluation consisted of semi-structured face-to-face interviews with core members of the Collaboration and key partners, and a focus group comprising speech and language therapy clinicians. Following established principles of qualitative data analysis, the interviews sought to achieve an understanding of the internal structures of the Collaboration and produce a narrative around emergent themes. Evidence of culture change was captured through reported enhancement of research opportunities, positively influencing job satisfaction and, further, contributing to staff retention. Managers' encouragement of research activity was viewed as pivotal in shaping a research culture within a service.

Transferability to other professions and contexts

One area examined by the independent evaluation was the potential for the transferability of the partnership model to other health and social care professionals, with transferability of the principles and processes emerging as a key theme [8]. Despite the contextualised nature of the Collaboration in the North East of England, the model of integrated strategic partnership to build research capacity was considered to be highly relevant to other groups and to other contexts, with the building of strong working relationships being a pivotal component of the partnership model. The Collaboration was seen to have benefitted greatly from its local context, with Newcastle University traditionally having a close relationship with local speech and language therapy services. Additionally, all partners believed that the geographical context provided a unique environment for innovation and close community ties. Transferability of the model would therefore depend on an awareness of each new local context, considering existing and potential collaborations and unique characteristics of a region. This awareness would combine with an understanding of the challenges faced in building integrated partnerships and in developing local strategies. Other components considered central to its success included the perceived long term commitment by all partners, that success should be built slowly and steadily, and that regular review of objectives and strategies needed to be undertaken. Successful transferability would depend on these components being present. The evaluation also identified the need for maximum transparency and mechanisms that facilitated both access and readiness to engage (e.g. being perceived as approachable) as being important components of success for either this or other collaborations.

In order to maximise the success of such a model in building research capacity and facilitate the normalisation of research activity in clinical practice, a set of propositions are set out here to guide development and facilitate evaluation.

1. When the range of strategic drivers for research at individual and organisational levels are identified and understood at the outset, the partners will be more able to provide a realistic context for identifying achievable, measurable outcomes for practice.
2. The development of a shared vision early in the process based on trust, transparency and inclusivity, and that undergoes regular review, will underpin the success of a group's activity in a shorter timescale than if this common ground is not explicit.
3. Equal commitment from both practice and academic partners is necessary to ensure the reciprocal exchange of knowledge and skills.
4. The encouragement of different levels of research engagement will support the development of research activity by accommodating and valuing the diversity of individuals' interests and career paths.
5. High level support from professional and strategic research managers will facilitate greatest culture change through the legitimisation of research practices in the workplace, identification of mechanisms for supporting individuals and/or teams, and the leadership required for sustainability.
6. Greater regular contact of partners and participants will be facilitated by partners with close geographical proximity and common local drivers, and be able to draw on existing networks and higher education opportunities to target skill development.
7. Identifying and facilitating access to financial and human resources will enable key barriers to be minimised.
8. When measurable outcomes and impacts for practice are specified at the outset and linked to the strategic aims of the partner organisations, progress towards achieving the goals of an integrated collaboration will be swifter than if the strategic link does not exist.

Conclusion

The increased capability of all professionals to engage with research processes is viewed as fundamental to both the translation of research into practice and to support the broader policy objectives of ensuring excellence in healthcare research. The development of an integrated partnership between health and university sectors in speech and language therapy in the North East of England has accelerated the level of local research activity, with the consequence that research capacity and readiness have increased. While the activity described here is set within one profession and took place in one geographical region in the UK, the principles underpinning the activity are viewed as being relevant and replicable to other health care professions and clinical teams in other locations. Propositions which lie at the heart of the Collaboration described here signpost the way for enhancing research capacity in healthcare with a view to improved patient outcomes.

List of abbreviations

NIHR: National Institute for Health Research

Competing interests

The author(s) declare that they have no competing interests

Authors' contributions

All authors contributed equally

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References

1. Farmer E, Weston K: **A conceptual model for capacity building in Australian primary health care research**. Australian Family Physician 2002, 31: 1139-1142.
2. Department of Health: **Best Research for Best Health. A New National Health Research Strategy.** London: Her Majesty's Government; 2006.
3. UK Clinical Research Collaboration. **Developing the Best Research Professionals. Report of the UKCRC Subcommittee for Nurses in Clinical Research (Workforce)** *Chair Janet Finch*. UKCRC: London.
4. Department of Health. **Equity and Excellence: Liberating the NHS**. London: Her Majesty's Government; 2010.
5. Atkin H, Jones D, Smith K, Welch A, Dawson P, Hargreaves G: **Research and development capacity building in allied health: Rhetoric and reality.** *International Journal of Therapy and Rehabilitation* 2007, **14:**104-109.
6. Rowan J: **A dialectal paradigm for research**. In: Reason P, Rowan J eds. Human enquiry. A Sourcebook of new Paradigm Research 1981. John Wiley and Sons, Chichester: 93-112.
7. Harrison RA: **Barriers and opportunities to developing research capacity in primary care trusts: the views of staff attached to a primary care trust.** *Primary Health Care Research and Development* 2005, **6:**185-189.

8. Fay M: **Building research capacity in Speech and Language Therapy practice: An evaluation of working relationships and emerging partnerships.** Newcastle upon Tyne UK: North of Tyne Speech and Language Therapy Research Collaboration; 2009

9. Fisher, M., Francis, J. & Fischer, C. (2007). **SCIE Report 16: Social care research capacity consultation**. London, Social Care Institute for Excellence.

10. Orme, J & Powell, J. (2007). **Building Research Capacity in Social Work: Process and Issues.** *British Journal of Social Work*, 38, 988–1008

11. Jehn KA: **Enhancing Effectiveness: An Investigation of Advantages and Disadvantages of Value-Based Intragroup Conflict.** *International Journal of Conflict Management* 1994, **5:**223 - 238.

12. Jehn KA, Mannix EA: **The Dynamic Nature Of Conflict: A Longitudinal Study Of Intragroup Conflict And Group Performance.** *Academy of Management Journal* 2001, **44:**238-251.

13. Aldrich HE, Fiol CM: **Fools rush in? The institutional context of industry creation**. *Academy of Management Review* 1994, **19**, 645-670.

14. Klee T, Stringer H, Howard D: **Teaching evidence based practice to speech and language therapy students in the United Kingdom**. *Evidence-based Communication Assessment and Intervention* 2009, 3(4), 195-207.

15. Stringer H, James D, Whitworth A, Welsh S, Proudfoot A, Giles J.Haining. **Discover your inner researcher: developing a research ready workforce**. *Royal College of Speech and Language Therapists Biennial Conference* 2008, London.

Figures

Figure 1. Model for mapping professional development needs and research capacity used within the North of Tyne Speech and Language Therapy Research Collaboration

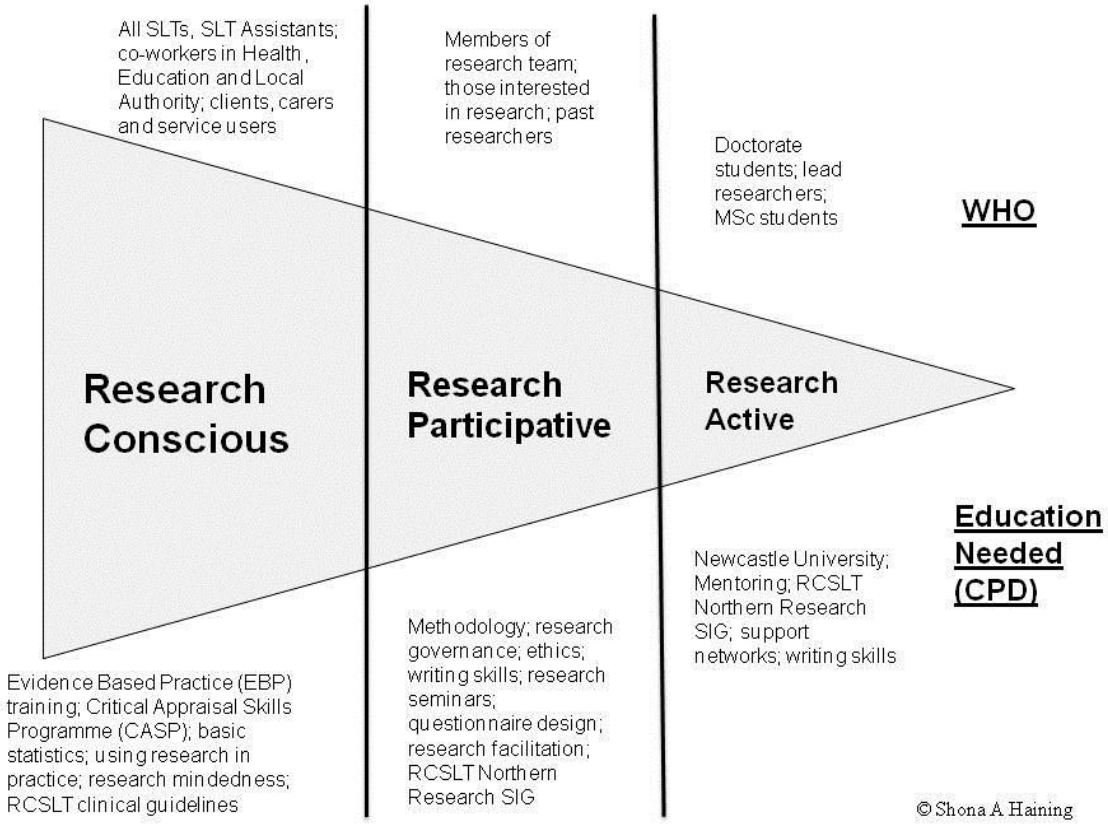

Figure 2. Model for research capacity building used within the North of Tyne Speech and Language Therapy Research Collaboration