Title: Non-Physicians and Stroke: Career Perspectives

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Non-Physicians and Stroke –Career Perspectives

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Introduction

Stroke Medicine has developed as a specialty in its own right over the past twenty years : clinical services have become more organised to provide access to increasingly effective hyperacute, rehabilitation and preventive treatments. There is therefore a growing need for doctors, nurses and allied health professionals with skills, experience and qualifications which are stroke-specific. Training pathways have begun to emerged to provide a skilled workforce to meet this need. This article is focussed on career development for non-physicians in response to the rapid evolution of specialist stroke therapies and nursing clinical care and research. This expansion of stroke services requires a specialised and highly trained stroke workforce to deliver optimal care, research and education[1]. Non-physician led services are essential to provide high quality care with good outcomes for stroke patients. Gaps in the UK stroke workforce were described in a Stroke Association position paper[2] which is focussed on the National Health Service (NHS) system. The global picture is even more stretched, with shortages seen in the developing world across all professional groups as the burden of stroke increases[3]. This highlights the need for fully functioning interprofessional stroke teams capable of working across professional and geographical boundaries to deliver effective stroke care.

Although research on the impact of non-physician stroke care delivery remains limited, as an example of how effective non-physician led interventions can be, one study found that for every 11 patients receiving an Occupational Therapy intervention one was spared a deterioration in their level of function[4]. In addition to the need for stroke-specific nursing and therapist care provision on acute stroke units there is also a growing need for specialist nurses to work along physicians in the emergency department and outpatient settings. Stroke specialised nurses can take on key roles in stroke prevention, diagnosis, thrombolysis delivery, post stroke clinical care, as well as providing information and support for patients and carers. Increasing use of community stroke rehabilitation teams, e.g., early supported discharge teams, have also shown clear benefit for stroke patients[5]. At present, training pathways for each profession involved in stroke care are separated, with few links between curricula or shared delivery of teaching. The training pathways remain narrow within professions with little specific content on the role of the multidisciplinary group in stroke practice.

Within the NHS each non-physician post is assigned a banding and progression which potentially culminates in a consultant role. Currently non-physician consultant posts are rare but invaluable in providing senior leadership to stroke teams in addition to their clinical input. The route to stroke specialist nurse or stroke consultant nurse is challenging due to the lack of funded posts. For these roles in addition to clinical up-skilling a higher degree is desirable in order to achieve career progression which can be either a Masters or Doctorate in a stroke related subject. Good quality mentoring is also key in addition to networking with others in the stroke community to establish and maintain the relationships necessary to do this.

As part of career development, departmental teaching programmes are also vital for up-skilling and maintaining the non-physician workforce. Indeed, interprofessional education is a norm within most stroke units and is strongly supported by the World Health Organisation[6] as a way to ensure the delivery of high quality care. This model gives the opportunity for knowledge exchange and building

a shared interprofessional understanding of stroke clinical care and research which leads to collaborative care. Role clarity and boundaries are important but increasingly developing "cross over" stroke skills is necessary in a busy clinical environment e.g.teaching nurses how to assess patients with impaired swallow and occupational therapists learning from psychology to deliver cognitive rehabilitation An ideal would be a multidisciplinary team who share a group of predefined core stroke skills to allow for fluidity of patient care delivery in the acute phase. This is seen to some extent in practice when health professionals work together to deliver thrombolysis and stroke rehabilitation: indeed, the more integrated and collaborative the working practices the more effective the care delivered becomes.

Masters Programmes for Non-Physicians: How We Did It

For career progression and leadership positions within all fields of healthcare there is generally a requirement for a higher degree, i.e. at Masters or doctorate level to provide opportunities to accumulate more specialised knowledge and to develop research skills. Specialist higher degree training for both physicians and non-physicians across professional boundaries is an essential component of training future stroke leaders. Stroke Masters, certificate and diploma programmes are not common; those which we are aware of and are widely advertised are listed in Table 1. These vary in terms of modular content and the 'blend' - i.e., the percentage of face to face vs distance learning.

With this in mind, we have developed a Master's level programme in Stroke Medicine at University College London Queen Square Institute of Neurology which has been running since 2015 to a group of interprofessional international students. (.https://www.ucl.ac.uk/prospective-students/graduate/taught-degrees/clinical-neuroscience-stroke-msc). The teaching is delivered in person to groups of between ten and forty students with additional seminar style teaching sessions which are interactive. This seminar format creates a forum where professionals can communicate across their usual role boundaries to develop their ideas and share practice. We have awarded over 30 Master's certificates and taught hundreds of students who have selected modules from our programme or attended short courses (https://www.ucl.ac.uk/ion/study/stroke-one-day-course-advanced-stroke-neuroimaging). Our alumni form a global stroke community, an international group of professionals working within the field of stroke medicine and research who can share best practice, experiences and opportunities for further career development after they have been awarded a stroke masters degree. They return to teach with us and remain connected via social media. This creates belonging and identity as a group of stroke practitioners and researchers and aids retention of expert staff within the field.

One highlight of the course is shadowing on the hyperacute stroke unit which helps develop an understanding of the complex clinical environment with exercises in multidisciplinary working designed to develop role clarity, professional identity and an understanding of shared inter-disciplinary decision making. Another key feature of the course is the research project which leads to the production of a 10,000 word essay. This is an opportunity for the student to a take a deep exploration of cutting-edge research in a chosen topic under the supervision of one of the senior expert researchers at the UCL Queen Square Institute of Neurology. The projects are completed under interprofessional supervision with both physicians and non-physicians acting as supervisors. Benefits include developing specialist knowledge, providing acceptance for the student across professions, shared reflection on practice and identification of blind spots. Academically high

achieving students are recognised with a distinction, entry on the Dean's List or the Lindsay Symon Queen Square stroke prize.

Accessible Learning Opportunities for Non-Physicians : Institutional Considerations

The main challenge with obtaining a higher degree whilst working in clinical practice is accessibility: part-time working is not possible for many, and with limited study budget availability costs can be prohibitive. This makes it of vital importance that clinical stroke departments in hospitals develop a culture of supporting employees to actively seek out further training opportunities supported by professional bodies, multi-professional conferences e.g., the UK Stroke Forum (https://www.stroke.org.uk/professionals/uk-stroke-forum) and stroke charities. An internal departmental interprofessional teaching programme - necessary both for continued professional development and multi-disciplinary team building - can be blended with online learning programmes such as the stroke e-Learning programme from Health Education England[7] or via the World Stroke Organisation e-Learning[8] platform. Anyone organising or leading non-physician teaching programmes in the UK should be aware of the Stroke Specific Education Framework[9] which outlines the learning objectives for stroke training programmes and provides toolkits to help devise learning activities. This can also be accessed by non-UK stroke educationalists who wish to build curricula.

A major criticism of non-physician training programmes are that they are often designed and delivered by medically-trained clinicians. Our Faculty includes course conveners from non-physician professions to address this challenge. Indeed, inclusivity and opportunities for role modelling are required for effective interdisciplinary teaching programmes and should be the aim. A further challenge is the potential lack of co-ordination across hospital sites who design and run their own teaching programmes without sharing programmed learning activities, which led us to open our Faculty to healthcare professionals from other UK centres. There is potential to develop learning events and resources shared via regional stroke networks and in this way allow for quality-assured teaching across larger geographical regions with reduction in duplication and variation. This may reduce teacher workload enabling busy clinical staff to participate in delivering sustainable teaching programmes.

Conclusion

Developing accessible and well-designed learning opportunities for non-physicians in stroke medicine is challenging but necessary for both building the workforce, research teams, and a community of practice in modern interdisciplinary stroke care[10]. Interprofessional education is a key component in developing collaborative practice in stroke medicine in order to achieve a sustainable expert and motivated leadership network and workforce to provide a consistently high quality of care for patients with stroke.

Name of the Programme	Name of the Institution	Participants	Mode of delivery	Exit Qualification(s)
Clinical Neurosciences: Stroke MSc	University College London	Physicians and Non Physicians	Face to face	Masters of Science
MSc in Cardiology and Stroke	University of Hertfordshire	Non physicians and physicians	Blended ie online and face to face	Postgrad certificate or diploma

				Masters of Science
Stroke Medicine MSc	University of Buckingham	Non Physicians and General Practitioners	Online	Masters of Science
European Master in Stroke Medicine	University of Bern	Scientists and Physicians	Blended (majority online)	Masters of Science
Master of Research in Stroke	Cardiff Metropolitan University	Non Physicians and Physicians	Face to Face	Master of Research in Stroke
Postgraduate Diploma in Stroke Care	University of Auckland	Non Physicians and Physicians	Face to face	Diploma or Certificate in Stroke Care
Principles of Stroke Practice	University of Central Lancashire	Non Physicians	Face to face	Certificate in Stroke Practice

Table 1. Masters Level and short courses worldwide which are suitable for non physicians

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