# Evidence Brief: Stroke Nursing

## Contents



Produced by the Knowledge Management team Evidence Briefs offer an overview of the published reports, research, and evidence on a workforce-related topic.


**Date of publication:** September 2024


Please acknowledge this work in any resulting paper or presentation as:
Evidence Brief: Stroke nursing. Katie Nicholas. (September 2024). UK: Workforce, Training and Education Knowledge Management Team

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- Complete Evidence Brief list – link for Workforce, Training and Education staff
- Complete Evidence Brief list – link for External staff

# Key publications – the big picture

The Stroke workforce: overworked and undervalued – building a stroke workforce for the future
Source: Stroke Association
Publication date: Updated July 2023
The stroke workforce is the backbone of our stroke services. From nurses and physiotherapists to speech and language therapists and social care workers, these individuals work tirelessly in challenging circumstances to provide the best level of care possible.

NHS Long Term Workforce Plan
Source: NHS
Publication date: June 2023
The first comprehensive workforce plan for the NHS, putting staffing on a sustainable footing and improving patient care. It focuses on retaining existing talent and making the best use of new technology alongside the biggest recruitment drive in health service history.

Stroke: GIRFT Programme National Specialty Report Free registration on the FutureNHS platform required to view
Source: Getting It Right First Time (GIRFT)
Publication date: April 2022
See p. 134 for Workforce
This report brings together our findings and recommendations based on the evidence and data we have collated during the GIRFT stroke programme. As part of this programme, we have provided detailed data packs for every acute stroke service in England, met with 122 acute stroke services across England and held 22 STP/ICS-based network events that brought clinical, executive, commissioning and managerial teams together across multiple organisations. It has been our privilege to meet so many talented and committed stroke teams. They have shared numerous examples of good practice, many of which are shared in this report. They have engaged with the evidence-base developed for this programme—much of which was new data collected specifically to support the GIRFT process—and have committed to support quality improvement activities based on the insights from the data and individual trust reports.

# Case Studies

A new nurse-led pathway to deliver better patient outcomes post-stroke
Source: Nursing Times
Publication date: 10 June 2024
Stroke is a leading cause of death and disability in the UK and one in four stroke survivors will experience another stroke within five years of their first episode. This has led to an increase in the number of stroke-related readmissions into hospitals across the UK. Remote patient monitoring and programming, which is available with insertable cardiac monitoring devices, allows healthcare teams to remotely monitor patients; capturing medical data without needing to arrange an in-clinic visit. Nurse practitioners from University College London Hospitals NHS Foundation Trust developed a pioneering stroke care pathway using this technology, improving the detection of atrial fibrillation while freeing up vital cardiac resources across the trust. Selina Edwards and Roberto Macarimban-Inglesant from the trust explain how they helped to revise the stroke care pathway.

Stroke: GIRFT Programme National Specialty Report Free registration on NHSFutures platform required to view
Source: Getting It"stroke Right First Time (GIRFT)

See p. 139 Case Study on Stroke Nurse Consultants

# The Star for workforce redesign

More resources and tools are available by searching **Stroke** the Star

# Statistics

You can find relevant statistics on the Health and Care Statistics Landscape under **“Health and Care”** use the **“Workforce”** filter

# National Data Programme

Workforce, Training and Education staff can look at the National Data Warehouse (NDL) SharePoint site to find out more about datasets and Tableau products.

# Published Peer Reviewed Research

## Advanced Practice

Exploring tacit knowledge based on an expert nurse's practice for stroke patients Abstract only*
Item Type: Journal Article
Authors: Obama, Satsuki;Hidaka, Tsuyako and Tanigaki, Shizuko
Publication Date: 2023
Journal: Nursing Philosophy : An International Journal for Healthcare Professionals 24(4), pp. e12459
Abstract: This study explored tacit knowledge based on an expert nurse's practice who cares for stroke patients by using the hermeneutic phenomenological approach. The participant ('Ms. A') was a nursing researcher and college faculty member involved in the education of advanced practice nurses; her specialty was stroke rehabilitation nursing. She was asked to describe the meaning and value she gained from her memorable nursing experiences. Four interviews-approximately 1 h each-were conducted, and the associated data were interpreted together with the participant based on the method of interpretive circulation. Notably, the analysis was ended when a fusion of horizons was recognized. The participant recalled her nursing experiences based on six model cases. During the analysis, the following five elements were extracted: belief in the ability of vulnerable people to survive]; being together]; respect for human dignity]; preparedness to respond to and bear suffering together]; and theoretical knowledge base approaches true understanding of patient experience]. Further, the nursing model-the Roy Adaptation Model-utilized by Ms. A in the process of recognizing humans as whole beings was deeply interpreted and implemented as a guideline for her implicit advanced practice. Moreover, her deep understanding and utilization of theoretical knowledge base also built the foundation for her implicit advanced practice. In conclusion, Ms. A's tacit knowledge and the elements support the process of tacit knowledge acquisition. Her narratives, hermeneutic attitude as an interpreter, and learning attitude throughout interaction with others will strongly help her knowledge development. We intend to continue the study with multiple participants and explore the structure of tacit knowledge possessed by advanced practitioners. Future endeavours will include the development of a tacit knowledge learning strategy. Copyright © 2023 John Wiley & Sons Ltd.

Exploring advanced nursing practice in stroke services: a scoping review
Author(s): Bailey et al.
Source: British Journal of Neuroscience Nursing 17(Sup2) s8-s14.

Publication date: 2021
Background: Stroke care is becoming increasingly reliant on advanced nursing practice (ANP); however, little is known about these roles within the stroke specialty. Aims: To explore the current knowledge of advanced nursing practice in stroke services internationally, specifically the conceptualisation of ANP and the rationale for its implementation. Methods: Arskey and O'Malley's scoping review methodology was employed, and six academic databases were utilised. Findings: Two key themes were identified; 'role development' and 'four pillars of advanced practice'. The review identifies that ANP is implemented primarily to provide acute stroke care. Conclusions: Current research does not clarify the rationale for implementing these posts or how ANP is conceptualised. This review does identify that stroke ANP incorporates the four pillars of advanced practice (clinical, research, leadership and education) and was implemented to improve the quality of stroke care. Barriers and facilitators to implementation were also identified.

'The Lynchpin of the acute stroke service' – an envisioning of the scope and role of the advanced nurse practitioner in stroke care in a qualitative study
Author(s): Laird et al.
Source: Journal of Clinical Nursing 29(23-24) pp. 4795-4805
Publication date: October 2020
Background: Stroke prevalence is rising internationally. Advanced practice nursing is established across many jurisdictions; however, its contribution to stroke services is under research.
Aim: To gain insights into the future scope and role of future advanced nurse practitioners in stroke care from the perspectives of key stakeholders. Design: A qualitative descriptive approach. Methods: Interviews were conducted in 2019 with a purposive sample of 18 participants, comprising stroke nurses, stroke unit managers, stroke survivors and their family carers, recruited in one UK healthcare trust. The research is reported in line with COREQ. Data were analysed in accordance with an inductive content analysis approach. Results: The abstraction process generated four main themes. These were 'The lynchpin of the acute stroke service', 'An expert in stroke care', 'Person and family focussed' and 'Preparation for the role'. Conclusion: These findings offer new perspectives on the potential scope and role of advanced nurse practitioners in stroke service delivery. Further research should focus on how to address the challenges confronted by advanced nurse practitioners when endeavouring to engage in autonomous clinical decision-making. Impact: Study findings may advance postregistration education curricula, clinical supervision models and research directions. Relevance to clinical practice: There is support for the implementation of advanced practice nursing in the hyperacute and acute stroke phases of the care pathway. An interprofessional model of clinical supervision has potential to support the developing advanced nurse practitioner in autonomous clinical decision-making.

Taking an acute stroke service to the next level Abstract only*
Author(s): Sanders
Source: Nursing Standard 35(4) pp. 72-74
Publication date: 2020
How an advanced nurse practitioner programme transformed our practice and improved access and outcomes for our patients. In 2014, our acute stroke service was not meeting the required national standard. The team of five whole-time-equivalent nurse specialists would take new referrals between 7.30am and 5pm and coordinate the stroke pathway through University Hospital Southampton NHS Foundation Trust. They were trained to do National Institutes of Health Stroke Scale assessment (NIHSS), but needed a medical review to complete their admission clerking, prescribing and requesting of further investigations.

Conference Abstract: Expanding a stroke advanced Nurse practitioner service to provide 24/7 cover-a summative evaluation-1 year on Abstract all available
Item Type: Conference Proceeding
Authors: Smith, A., Sanders, C., Ferreira, M., Silva, L., Pester, R., Chapman, G., Lau, C., Rafael, S. and Valentine, S.
Publication Date: 2019
Publication Details: International Journal of Stroke. Conference: UK Stroke Forum Conference. Telford United Kingdom. 14(4 SUPPL) (pp 11); SAGE Publications Inc., pp. 11
Abstract: Introduction: Introducing a stroke Advanced Nurse Practitioner (ANP) team has helped transform the hyper acute service delivered at University Hospital Southampton (UHS) by providing timely specialist assessment and access to hyper acute treatments. Approximately 1 in 5 acute stroke referrals at UHS are received out of hours (OOH's). Expansion of the ANP service is providing stroke specialist involvement at point of entry 24/7, increasing patient access to acute stroke treatments at all hours, day or night. Method(s): SSNAP data, referral records and case notes over the past 2 years were analysed in order to evaluate the benefit of an OOH's ANP service in the treatment of acute stroke patients. Result(s): Since the introduction of a 24 hour ANP presence key performance indicators have increased and less inequality exists between in hour and OOH's care. OOH advances include: More patients receive a CT scan within 1 hour (90% CI). Fewer stroke mimic admissions to the HASU OOH (99% CI) with a greater number receiving a stroke diagnosis (95% CI). Greater detection of appropriate thrombolysis patients OOH (95% CI). Greater access to specialist stroke management within 1 hour from hospital arrival (99% CI). Increase in stroke patients receiving swallow screens within 4 hours from hospital arrival (99% CI). Secondary analysis showed further positive impact on the wider hospital and workforce. Conclusion(s): A 24-hour ANP service better provides rapid access to acute stroke treatments for a significant subset of patients referred OOH, whilst positively affecting staff and organisational priorities and targets.

Conference Abstract: Evolving senior nurse roles in acute stroke services: An exploration of past present and future in English hospitals (Severn region) See p. 513 (Abstract all available)
Item Type: Conference Proceeding
Authors: Vincent, L. and Shaw, L.
Publication Date: 2019
Publication Details: European Stroke Journal. Conference: 5th European Stroke Organisation Conference, ESOC 2019. Milan Italy. 4(Supplement 1) (pp 513); SAGE Publications Ltd, pp. 513
Abstract: Background and Aims: United Kingdom stroke services have improved since the creation of a stroke sub-speciality in 1999, but audits show there is vast regional variation. Twenty years ago, stroke coordinators signposted patients to rehabilitation services, supported service development and comprised a regional network which shared knowledge/expertise. These roles either disappeared as specialist services became established or evolved into advanced practitioner roles as thrombolysis/thrombectomy became the focus. Unlike their emergency department counterparts, these posts don't have standardised competency frameworks. Prior to introducing stroke nurse competencies, we explored the contemporary issues encountered by local hospitals and their evolution over time. Method(s): Qualitative telephone survey of advanced stroke nursing roles in six hospitals comprising one UK region Results: Each site had evolved different types of advanced nursing roles which lacked role definition, competencies, standardised validated training, or mentorship. Shifts towards acute stroke services had afforded less time for service development and has been instrumental in dissolution of the stroke coordinators' network. Overall individuals were feeling isolated and overwhelmed, limiting their ability to focus on service development and innovation. Conclusion(s): We have

identified a clear need for standardisation of advanced acute stroke nursing roles. We recommend that further work should include a national role definition, scope of practice and competency framework. This would support development from junior nurse right up to fully trained nurse practitioners, adept at leadership/ service development. Support is required from structured mentorship and a nationally/ professionally validated MSc programme. The rejuvenation of a local nurse practitioner network would improve education, service development and morale.

The impact of an Advanced Nurse Practitioner training programme in an acute stroke service. Abstract only*
Item Type: Journal Article
Authors: Sanders, C. and Ashman, G.
Publication Date: 2018
Journal: British Journal of Neuroscience Nursing 14(3), pp. 130-134
Abstract: Over the last 3 years, specialist stroke nurses, who primarily co-ordinated the pathway and undertook a standardised National Institutes of Health Stroke Scale (NIHSS) examination, have transitioned into a team of trainee advanced nurse practitioners (t-ANP) with Master's level education completed at the University of Southampton via the Advanced Clinical Practice Master's pathway. This development has allowed the team to use appropriate autonomy to independently clerk, admit and commence treatment of patients suspected to have had an acute stroke. In addition to this, expanded scopes of practice have increased patient access to investigations and treatment, with the t-ANP requesting investigations such as chest X-rays, carotid ultrasound and computed tomography (CT) head imaging. This has contributed to a significant increase in patients receiving a CT head scan within 1 hour of arrival, allowing faster access to hyper-acute treatment and interventions. Master's level modules attended (part-time) at the University of Southampton over a 4-year period ensure a clear level of practice and progression for the team. Support from stroke consultant physicians has allowed both stroke and general medical competencies to be achieved with supervised practice and weekly teaching sessions on stroke-related topics. Further to this, trust-wide courses such as ECG interpretation, advanced life support and a university module in Neurosciences all contribute towards further development within the role. Weekly review meetings with the t-ANP to discuss key admission performance are held in order to drive the service forward and ensure that improvements can continue to be made. Plans for future development include: t-ANPs to be able to administer IV thrombolysis (currently medical personnel administer in the trust); involvement in helping to lead new research trials alongside research nurses; and expanded scopes of practice in order to request MRI scans for patients requiring further imaging. The team also plans for future expansion as part of a larger business plan in order to cover regional mechanical thrombectomy referrals. 

## Career Pathways

A sustainable stroke nursing workforce requires a clear pathway for career progression. Title only*
Item Type: Journal Article
Authors: Lightbody, L.
Publication Date: 2017
Journal: British Journal of Neuroscience Nursing 13(6), pp. 295-296
The author conveys her thoughts on an emerging evidence about the central role of stroke nurses in lowering mortality rates and ensuring quality outcomes and mentions related topics such as the Nursing and Midwifery Council, the National Health Service, and transient ischaemic attack.

## Education and Training

The impact of education/training on nurses caring for patients with stroke: a scoping review
Author(s): Zhao et al.
Source: BMC Nursing 23:90
Publication date: 2024
Background: Stroke survivors have complex needs that necessitate the expertise and skill of well-trained healthcare professionals to provide effective rehabilitation and long-term support. Limited knowledge exists regarding the availability of specialized education and training programs specifically designed for nurses caring for stroke patients. Aim: This review aims to assess the content and methods of training for nurses caring for stroke patients, examine its impact on both nurses and patients, and identify key facilitators and barriers to its implementation. Methods: We conducted a comprehensive scoping review by reviewing multiple databases, including PubMed, Cumulative Index to Nursing and Allied Health Literature, PsycINFO, Embase, Web of Science, Scopus, ProQuest Dissertations and Theses, Google Scholar, and Cochrane databases. Data extraction and narrative synthesis were performed following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews guidelines. Results: Seventeen articles were included in this review. We found that education/training not only enhanced patients' self-care abilities, nursing outcomes, and satisfaction, but also had a positive impact on the knowledge, skills, and practices of nurses. The obstacles to education/training included feasibility and cost-effectiveness, while the driving factors were management support and participation, professional education/training, and controlled environment creation. Conclusions: This review highlights the crucial role of education/training in enhancing stroke care provided by nurses. Effective education/training integrates various educational methods and management support to overcome implementation barriers and optimize clinical practice benefits. These findings indicate the necessity of universal and consistent stroke education/training for nurses to further improve patient outcomes in stroke care.

Commentary: Importance of training and education for nurses delivering stroke care Full text available with NHS OpenAthens account*
Item Type: Journal Article
Authors: McLoughlin, A. and Kidd, L.
Publication Date: 2024
Journal: Evidence-Based Nursing
Implications for practice and research

- Nurses working in clinical stroke care could benefit from leadership and management strategies that encourage empowerment and time and space to reflect on current evidence, training and practice.
- Comprehensive evaluation strategies are needed to assess the impact and effectiveness of empowerment-based stroke education and training on patient outcomes.

Healthcare professionals' experience regarding competencies in specialized and primary stroke units: A qualitative study
Author(s): Hyvärinen et al.
Source: Journal of Vascular Nursing 42(1)
Publication date: March 2024
Aim: To describe healthcare professionals’ experience of needed competence in patient stroke care within specialist and primary healthcare. Background: Healthcare professionals who provide stroke care need multifaceted, multi-professional skills; ongoing training is important for competent stroke care. Design: A descriptive qualitative study. Methods: Six focus group interviews with semi-structured interviews were conducted in October and

November 2020. Healthcare professionals (*n* = 25) working in stroke care units in both specialist and primary healthcare settings were interviewed. The interviews were recorded, transcribed and analyzed inductively by content analysis. The study was conducted, and results were reported according to the Consolidated Criteria for Reporting Qualitative Research. Results: Five main categories were identified: clinical competence; multiprofessional networking competence; competence in interaction skills; emotional and psychoeducational support competence; and self-management and development competence. Conclusion: Competence in stroke care includes both in-depth and wide-ranging professional competences that require ongoing development. Utilizing various education models and collaborative learning approaches can help meet the requirements for developing competence in stroke care.

Nursing assessment and care for a patient with a neurological disorder

Author(s): Luis Teixeira
Source: British Journal of Nursing 33(5)
Publication date: 2 Match 2024
The previous article discussed the pathophysiology involved in disorders of the nervous system. Having considered some of the most prevalent disorders, this second part uses a case study to explore effective patient assessment and emphasise the importance of facilitating patient self-management for improved outcomes. By addressing these key aspects, nursing professionals can enhance the quality of care and the support provided to individuals experiencing neurological disorders.

Status of knowledge, attitude and practice of poststroke dysphagia in neurological nurses in China: A cross-sectional study

Item Type: Journal Article
Authors: Wang, R.;Song, Y.;He, Y.;Long, S. and Feng, L.
Publication Date: 2023
Journal: PLoS ONE 18(4), pp. e0284657
Abstract: Objectives To explore the status and related factors of knowledge, attitude, and practice (KAP) of poststroke dysphagia among neurological nurses in China. Methods Neurological nurses from 40 tertiary hospitals in Southwest China were invited to complete a survey on the knowledge, attitude, and practice of the nursing of poststroke dysphagia. We used a questionnaire to collect the participants' information including the basic characteristics and the KAP Questionnaire on poststroke dysphagia in the neurological ward. A sample of 707 participants completed the survey. Results The knowledge, attitude, and practice scores for the nursing of poststroke dysphagia were 12.00+/-4.09, 71.99+/-11.00, 52.22+/-9.08, respectively. The total score of knowledge towards the nursing of poststroke dysphagia was significantly different among nurses with different ages, working time of nursing, working time of nursing in neurology, the highest level of education, professional title, position, the method of training, the number of dysphagia-related nursing trainings, the total length of dysphagia nursing training, and the nursing basis of patients with dysphagia. The total score of attitudes towards the nursing of poststroke dysphagia was significantly different among nurses with the way they were trained, and the nursing basis for patients with dysphagia. The total score of practice towards poststroke dysphagia was significantly different among nurses with the number of dysphagia-related nursing trainings, the total length of dysphagia nursing training, the training method, and the basis of nursing patients with dysphagia. Conclusion Neurological nurses' knowledge score in poststroke dysphagia is relatively low, and

the knowledge level needs improvement. The attitude and practice score of neurological nurses in dysphagia after stroke was much better than the knowledge score. Managers and nursing researchers should develop and offer effective training for neurological nurses to improve their knowledge, attitude and practice towards poststroke dysphagia, and then improve patients' health outcomes.

The Mobile Stroke Unit Nurse: An International Exploration of Their Scope of Practice, Education, and Training Abstract only*
Item Type: Journal Article
Authors: Coote, Skye;Mackey, Elizabeth;Alexandrov, Anne W.;Cadilhac, Dominique A.;Alexandrov, Andrei V.;Easton, Damien;Zhao, Henry;Langenberg, Francesca;Bivard, Andrew;Stephenson, Michael;Parsons, Mark W.;Campbell, Bruce C. V.;Donnan, Geoffrey A.;Davis, Stephen M. and Middleton, Sandy
Publication Date: 2022
Journal: The Journal of Neuroscience Nursing : Journal of the American Association of Neuroscience Nurses 54(2), pp. 61–67
Abstract: ABSTRACT: BACKGROUND: Mobile stroke units (MSUs) are ambulance-based prehospital stroke care services. Through immediate roadside assessment and onboard brain imaging, MSUs provide faster stroke management with improved patient outcomes. Mobile stroke units have enabled the development of expanded scope of practice for stroke nurses; however, there is limited published evidence about these evolving prehospital acute nursing roles. AIMS: The aim of this study was to explore the expanded scope of practice of nurses working on MSUs by identifying MSUs with onboard nurses; describing the roles and responsibilities, training, and experience of MSU nurses, through a search of the literature; and describing 2 international MSU services incorporating nurses from Memphis, Tennessee, and Melbourne, Australia. METHODS: We searched PubMed, CINAHL, and the Joanna Briggs Institute Evidence-Based Practice database using the terms "mobile stroke unit" and "nurse." Existing MSUs were identified through the PRE-hospital Stroke Treatment Organization to determine models that involved nurses. We describe 2 MSUs involving nurses: one in Memphis and one in Melbourne, led by 2 of our authors. RESULTS: Ninety articles were found describing 15 MSUs; however, staffing details were lacking, and it is unknown how many employ nurses. Nine articles described the role of the nurse, but role specifics, training, and expertise were largely undocumented. The MSU in Memphis, the only unit to be staffed exclusively by onboard nurse practitioners, is supported by a neurologist who consults via telephone. The Melbourne MSU plans to trial a nurse-led telemedicine model in the near future. CONCLUSION : We lack information on how many MSUs employ nurses, and the nurses' scope of practice, training, and expertise. Expert stroke nurse practitioners can safely perform many of the tasks undertaken by the onboard neurologist, making a nurse-led telemedicine model an effective and potentially cost-effective model that should be considered for all MSUs. 

Conference abstract: Zoom or in the room, meeting the stroke education standard Abstract all available
Item Type: Journal Article
Authors: Friedrich, S. H. and Cobb, C. E.
Publication Date: 2022
Journal: Stroke 53
Abstract: Background: Comprehensive Stroke Center nurses are required to receive 8 hours of stroke education annually; meeting this objective has been a challenge for administrators due to

staffing shortages as well as the need to social distance during the COVID pandemic prompting virtual learning as a method to meet these standards. Web based courses often lack the multiplicity of diverse learning modalities needed for success. Purpose(s): Our objective was to provide a meaningful way to provide stroke education using the six perceptual modalities needed for adult learning which included visual, aural, printed, tactile, interactive, and kinesthetic learning. Method(s): The stroke administrative team conducted a needs analysis based on nursing requests, outcome metrics, and requirements of the Joint Commission. A hybrid approach was delivered to the staff using four hours of classroom didactics, three hours of online classes, and one hour of education at hospital skills fairs, and unit meetings. Classrooms utilized social distancing, requiring multiple classes to be offered. Result(s): Nurses were surveyed with a 12 question Likert scale about how well they were prepared to integrate learned material into clinical practice comparing both virtual and live modalities. They were also asked about individual learning modalities. Twenty-five people responded to the survey. Only 12% of virtual learner respondents felt strongly prepared to care for stroke patients compared to 76% of classroom learners. Seventy-nine percent preferred classroom learning compared to 17% virtual, with a 4% hybrid preference. Learning preferences were multifactorial for visual, aural, printed, tactile, interactive, and kinesthetic learning being 95%, 48%, 56%, 40%, 11%, and 20% respectively. Conclusion(s): Virtual learning provides solutions in difficult situations, however classroom education is the preferred method of learning for healthcare professionals delivering evidenced based care for acute stroke patients. Planning committees should at least consider a hybrid approach that offer classroom time to caregivers.

Conference abstract: Improving novices stroke nurses' education to improve patient outcomes Abstract all available
Item Type: Conference Proceeding
Authors: Warren, K.S.
Publication Date: 2022
Publication Details: Stroke. Conference: 2022 International Stroke Conference and State-of-the-Science Stroke Nursing Symposium. Virtual. 53(SUPPL 1) (no pagination); Lippincott Williams and Wilkins,
Abstract: Problem: Stroke care is a lifelong chronic disease process that is constantly evolving for patients and the hospitals that care for them. Today's evidence-based care of stroke patients is time-sensitive and time-intensive for the registered nurse (RN). With the growing incidence of stroke, there is an emerging need for nurses' education and timely bedside assessment. Eighty percent of strokes are preventable through risk factor management, and twenty percent of stroke patients will have a recurrence. Nurses are primarily responsible for providing this education. However, new stroke nurses in the Emergency Room or on the stroke unit may not have this foundation of knowledge or know the current evidence-based practice, which is often not taught in school. Purpose(s): The purpose of this study is to evaluate nursing knowledge and performance at baseline, post education intervention, and again two months after implementation to determine if providing several different education techniques improves knowledge, performance, and retention during a quality improvement project. EBP Questions: RQ1: Is there a significant difference between stroke knowledge test scores before, immediately after, and two months after receiving an evidence based educational intervention. * RQ2: Is there a significant difference in stroke code simulation scores before, immediately after, and two months after receiving an evidence based educational intervention. * RQ3: Is there a correlation between nurse's stroke code simulation scores at two months and their years of

experience as a nurse? Methods: A quasi-experimental design will be used to compare the knowledge novice stroke nurses at baseline. Again, after a four-hour lecture. Finally, after simulation they will again be tested for knowledge. Outcome(s): The expected outcome is that staff knowledge will increase with each simulation. As the nurses continue to learn and practice, they should increase awareness of stroke signs and symptoms for patients arriving in the emergency room through triage or EMS. Significance: This study will contribute to evidence-based research to determine if multi-faceted education techniques are best when training novice nurses to new time sensitive processes in this critical access hospitals.

Conference abstract: Oral healthcare education for stroke nurses: A scoping review Abstract all available
Item Type: Conference Proceeding
Authors: Lombardo, L., Talluri, B., George, A., Ajwani, S., Wynne, R., Sanchez, P. and Ferguson, C.
Publication Date: 2021
Publication Details: International Journal of Stroke. Conference: Stroke Society of Australasia Annual Scientific Meeting. Perth, WA Australia. 16(1 SUPPL) (pp 19-20); SAGE Publications Inc., pp. 19
Abstract: Background: Cognitive and motor deficits are common consequences for stroke survivors, impeding independence with daily tasks like oral hygiene. Poor oral health leads to discomfort and potentially avoidable complications, including pneumonia. Nurses are key providers of oral healthcare. Education and training are important to drive quality oral health outcomes, however the effectiveness of this is largely unknown. Aim(s): To explore the characteristics and effectiveness of education and training interventions for stroke professionals. Method(s): Design: scoping review. Databases Medline, PubMed, CINAHL and SCOPUS for articles prior to November 2019. Key terms included stroke, education, oral hygiene, interventions, nurses and similar terms. Inclusion criteria: Peer reviewed, English language, primary research studies on educational interventions, targeting nurses caring for stroke patients. Result(s): Four articles were analysed. Education interventions were the centrepiece of multi-faceted oral healthcare (OHC) interventions, supported by adjuncts such as OHC protocols, guidelines and adequate OHC supplies. Education modalities included traditional two-hour training packages repeated eight times, a 90 web-based learning package covering oral healthcare best practice, and a web-based continuing professional development program based on theory of planned behaviour. Results reported variability in improvement of attitudes and knowledge after training, while one study showed significant association between OHC practice and previous OHC training (pResult(s): Four articles were analysed. Education interventions were the centrepiece of multi-faceted oral healthcare (OHC) interventions, supported by adjuncts such as OHC protocols, guidelines and adequate OHC supplies. Education modalities included traditional two-hour training packages repeated eight times, a 90 web-based learning package covering oral healthcare best practice, and a web-based continuing professional development program based on theory of planned behaviour. Results reported variability in improvement of attitudes and knowledge after training, while one study showed significant association between OHC practice and previous OHC training (pConclusion(s): There is limited evidence for education and training interventions effectiveness in promoting oral healthcare care among stroke care providers in stroke units. Interventional studies to test the feasibility and effectiveness of educational interventions to improve oral healthcare provision of stroke patients should be prioritised.

Conference abstract: Implementation of well-designed 3-level stroke care training program (SCTP) for nurses in acute stroke unit (ASU) Log in with NHS OpenAthens account* See p. 153
Item Type: Conference Proceeding
Authors: Mok, M., Yip, K.Y., Lee, T.Y., Chan, Y.S. and Wong, D.
Publication Date: 2021
Publication Details: International Journal of Stroke. Conference: World Stroke Congress 2021. Virtual. 16(2 SUPPL) (pp 153); SAGE Publications Inc., pp. 153
Abstract: Background and Aims: Studies reported that success of implementation of a tailored and multifaceted training program could enhance nurses' knowledge and competency in stroke patient care. This study aims to enhance interests, confidence, competency and job satisfaction in different tiers of ASU nurses. Method(s): In 2016, we collected comment from nurses in ASU of Pamela Youde Nethersole Eastern Hospital by questionnaire. In 2017, we implemented a well-designed 3-level SCTP which included: Level 1 - Stroke Care Orientation for ASU novice nurses; Level 2 - Tissue Plasminogen Activator (TPA) Nurse Training; and Level 3 - Stroke Nurse Coordinator Training in ASU. Supplementary Cue Cards with important stroke care message were given after completion of each level of SCTP. In 2019, evaluation forms were collected to evaluate success of SCTP implementation. Result(s): In comparison of 2016 and 2019, % of ASU nurses completed Level 1 and Level 2 Training were increased from 0% to 100% and 30% to 54% respectively. Numbers of trained TPA and Stroke Nurses were increased from 0 to 9 and 6 to 7 respectively. Average satisfaction score working in ASU for Stroke Nurses and Specialty Nurses were improved from 4.1/5 to 4.5/5 and 4.0/5 to 4.5/5 respectively versus no significant change (4.2/5 to 4.3/5) for non-trained nurses. All agreed that the need of 3- level SCTP in ASU was response to nurses' interests and competency. Conclusion(s): In conclusion, the findings demonstrated positive impact for improving nurses' confidence and job satisfaction in ASU which subsequently, generates a collaborative effect for staff retention in stroke care service.

Conference abstract: A regional stroke simulation programme to improve acute stroke training for front-door healthcare professionals Log in with NHS OpenAthens account* See p. 314
Item Type: Conference Proceeding
Authors: Cardoso, I., Mehdi, Z., Marigold, J., Dharmasiri, M. and Siddegowda, S.
Publication Date: 2020
Publication Details: International Journal of Stroke. Conference: 12th World Stroke Congress 2020. Vienna Austria. 15(1 SUPPL) (pp 314); SAGE Publications Inc., pp. 314
Abstract: Background And Aims: Stroke is a medical emergency that requires timely diagnosis and management to minimize brain damage and maximize the benefits from revascularisation therapy. In many hospitals in the United Kingdom, the general medical registrar and/or stroke nurse are responsible for front-door stroke management. It is imperative that medical professionals involved in the acute stroke pathway are adequately trained, and feel confident in making rapid decisions when assessing patients. In the Wessex region, a survey revealed a perceived lack of inter-professional acute stroke training opportunities. Simulation is renowned as an ideal learning modality for delivering training of emergency situations in a safe but realistic environment. This quality improvement project aimed to provide an educational platform for enhancing regional stroke training in Wessex. Method(s): A one-day multi-modal stroke simulation course was developed comprised of didactic teaching followed by six acute stroke scenarios. Scenarios included revascularisation cases of varying complexity, and an intracerebral haemorrhage case. Each scenario was followed by a structured debriefing session. Candidates were surveyed before and after the course to assess learning outcomes. Result(s): The course has been running

twice a year since 2016 across multiple sites in the region, with an attendance of twelve delegates per course. Quantitative and qualitative data analysis revealed positive outcomes with regards to managing acute stroke cases, especially making revascularisation decisions, and improving inter-professional skills. Conclusion(s): This stroke simulation programme has provided regional stroke training to multiple front-door health care professionals, and has consistently proven to be an invaluable educational resource in the region.

Conference abstract: An evaluation of a London wide training programme to support stroke nursing competencies-successes and challenges Log in with NHS OpenAthens account* See p. 169
Item Type: Conference Proceeding
Authors: Cluckie, G. and Roots, A.
Publication Date: 2018
Publication Details: International Journal of Stroke. Conference: 11th World Stroke Congress, WSC 2018. Montreal, QC Canada. 13(2 Supplement 1) (pp 174); SAGE Publications Inc., pp. 174
Abstract: Introduction Stroke specific competencies can ensure appropriate knowledge and skills for stroke nurses. Stroke nursing competencies were developed across London in 2011. Following a re-launch in 2015 bi-annual training days were initiated to improve knowledge for the competencies. This study reports the evaluation of 3 years of training days. Methods Bi-annual training days were initiated based on the knowledge in the London stroke nurse competencies with lectures on 8-10 domains per training day. Data were collected on numbers of participants, grade and hospitals of nurses. Standardised evaluations from each participant on individual lectures were collected and training programmes altered as a result. Results 326 nurses from 28 stroke units attended training between March 2015 and February 2018. Highest evaluation scores were given to sessions on acute stroke treatments (4.8/5.0) and reperfusion therapies (4.9/5.0). The session from a patient on their experience was the highest scoring on all training days (5.0/5.0). Low evaluation scores were consistently given to sessions on continence (3.8/5.0) and end of life care (4.2/5.0) and these were removed from the programme. Qualitative comments reported satisfaction with the content, the training provided and the free training. Challenges included securing suitable venues, gaining support for refreshments and participants not attending. Conclusion A city wide stroke nurse training programme can support the use of nurse competencies and are well evaluated. Sessions on hyper-acute stroke care and patient experience are most highly evaluated. A continuous review process can ensure training is updated and relevant to participants.

Conference abstract: Stroke nurse fellowship: Improving quality and coordination in complex stroke patient care Abstract all available
Item Type: Conference Proceeding
Authors: Banks, D., Yarbrough, K. and Ball, C.
Publication Date: 2014
Publication Details: Stroke. Conference: 2014 International Stroke Conference and State-of-the-Science Stroke Nursing Symposium of the American Heart Association/American Stroke Association. San Francisco, CA United States. Conference Publication: (var.pagings). 45(SUPPL. 1) (no pagination); Lippincott Williams and Wilkins,
Abstract: Background: Aligned with our Primary Stroke Center's goal to achieve Comprehensive Stroke Center (CSC) designation, nursing leadership met to discuss strategies to increase bedside expertise following an influx of new graduate nurses. CSCs are required to operate inpatient stroke units staffed by qualified stoke caregivers, comply with professional standards, and demonstrate a commitment to providing stroke related education. Thus, a stroke nurse fellowship (SNF)

program was developed. The SNF serves as an essential resource for nursing/patient education, performance improvement, and staff retention. The purpose of this abstract is to provide an overview of the SNF Program content, implementation, and feasibility. Method(s): The SNF curriculum was developed from the American Board of Neuroscience Nursing's new Stroke Certified Registered Nurse (SCRN) credentialing. The program reviews CSC standards/performance measures and provides interdisciplinary neurology rounding experiences, mock survey tracer exercises, rehab facility observation, and BAT code simulated learning. Program classes are 4 hours biweekly for 6 months and culminate with a mentored process improvement (PI) project. Potential applicants are recruited from the pool of less experienced nursing staff. Result(s): Nine candidates from 3 nursing units submitted applications. Seven were selected to begin the fellowship program in September, 2013. Program outcomes include percent of stroke related patient education standards documented, percent of candidates successful on SCRN examination, PI project impact, and increased nurse retention. Also, barriers and facilitators of the program will be reviewed. Conclusion(s): Developing a SNF program was feasible due to interdisciplinary collaboration and use of existing resources, thereby minimizing financial constraints. The SNF Program supports the UMMC's commitment to the regulatory and educational standards of a CSC. There is potential for other specialty services to use this program as a model for developing unit based experts and improving the quality of patient care.

## Evidence-based Nursing

Effects of evidence-based nursing in patients with stroke: A systematic review and meta-analysis
Item Type: Journal Article
Authors: Xue, Xiaolu;Zhang, Lifang;Zhen, Jiao and Zeng, Xiaoxia
Publication Date: 2024
Journal: Nurse Education in Practice 76, pp. 103921
Abstract: AIM: The aim of this study was to evaluate the efficacy of evidence-based nursing (EBN) in patients with confirmed stroke., BACKGROUND: After acute hospital treatment, stroke patients often return home for rehabilitation. Stroke ward nursing, demonstrates improved disability-free survival rates. EBN as a new nursing paradigm, rooted in authentic scientific evidence, will transform traditional nursing models. The goal is to advance nursing science, enhance practices and optimize patient outcomes., DESIGN AND METHODS: PubMed, Embase, Cochrane Library and Web of Science were comprehensively searched from the inception to July 2nd, 2023. 13015 patients with confirmed stroke were included, of which 3351 patients were in EBN group, 9664 patients were in the control group. Odd ratio (OR) and standardized mean difference (SMD) and the 95% confidence intervals (CIs) were calculated., RESULTS: Twelve studies were included in this study. The risk of bias in included studies was assessed as low. The OR for cumulative death was 1.61 (95% CI: 0.68, 3.85; z = 1.08, P = 0.2811). The pooled SMD for SF-36 physical component scores was -0.06 (95% CI: -1.15, 0.04; z = -1.11, P = 0.2688). The SMD for SF-36 mental health scores was -0.01 (95% CI: -0.10, 0.09; z = -0.10, P = 0.9207). The SMD for WHOQOL-BREF mentality scores was -0.06 (95% CI: -0.21, 0.10; z = -0.71, P = 0.4754). The SMD for WHOQOL-BREF physiology scores was 1.13 (95% CI: -1.13, 3.39; z = 0.98, P = 0.3283)., CONCLUSIONS: EBN is effective in improving psychological status, physical functions and quality of life in patients with stroke in individual studies, efficacy of EBN was not observed in pooled analyses, more evidence-based information is needed to comprehensively assess the efficacy of EBN in stroke patients. 

## Leadership

Promoting cardiovascular nursing practice and research: A model for a university joint appointment. Abstract only*
Item Type: Journal Article
Authors: B. Lauck S.;E. Thorne S.;M. Saewyc E.;Heppell, L.;Black, A. T. and A. Virani, S.
Publication Date: 2022
Journal: Journal of Clinical Nursing 31(3-4), pp. 311-317
Abstract: Background: University joint appointments promote continuity of academic leadership and the acceleration of nurses' impact on improved outcomes and health service delivery. The role of university-appointed and hospital-located nurse scientists is of growing interest in the academic and clinical settings, and within the nursing profession. There is a pressing need to describe and study models of appointments, responsibilities and contributions to strengthen the integration of this boundary-crossing role across the continuum of the nursing profession. Aims and Objectives: We report on the implementation of the inaugural St. Paul's Hospital and Heart & Stroke Professorship in Cardiovascular Nursing at the University of British Columbia, Vancouver Canada. Discussion(s): This model was based on recommendations provided by nursing to provincial government policy-makers, co-created and co-funded by academic and practice partners. Appointed by the university, the role is primarily located in the hospital, with the target of contributing 75% of time and focus on clinical research and leadership. The position is facilitated by its academic affiliation and the provision of university research and teaching infrastructure. In clinical practice, the role benefits from integration and visibility in the cardiac programme and leadership team, collaboration with advanced practice and multidisciplinary research groups, and access to office and human resources located on the clinical unit. Deliverables centre on achieving adjusted indicators of university performance to support academic promotion, and delivery of a practice-close research programme that prioritises improved patient outcomes, multidisciplinary practice and improved outcomes. Relevance to Clinical Practice: The dual appointment aims to provide tangible benefits to both the university and the hospital that match each organisation's needs; this requires sustained senior leadership engagement and support, and modification of conventional indicators of impact and success. Its ongoing evaluation will elucidate required modifications and future strategies required to strengthen nurses' academic and clinical leadership. Copyright © 2021 John Wiley & Sons Ltd

## Learning from Covid-19

Virtual Rounding in Stroke Care and Neurology Education During the COVID-19 Pandemic - A Residency Program Survey
Item Type: Journal Article
Authors: Kolikonda, M. K.;Blaginykh, E.;Brown, P.;Kovi, S.;Zhang, L. Q. and Uchino, K.
Publication Date: 2022
Journal: Journal of Stroke and Cerebrovascular Diseases 31(1), pp. 106177
Abstract: Background and Purpose: During the coronavirus disease 2019 (COVID-19) pandemic, we instituted virtual inpatient stroke rounds and acute stroke evaluations via telemedicine in the emergency department. We sought to explore trainees' and experienced providers' views on stroke care and education. Method(s): The implementation and the survey took place at a single academic comprehensive stroke center in northeast Ohio in the United States. "Virtual rounding" consisted of patient presentation and discussion in the morning in on-line virtual team format followed by in-person patient rounds in small groups. Acute stroke evaluations in the emergency department included direct in-person evaluation by neurology residents with supervision over telemedicine.The

neurology residents, stroke fellows, stroke nurse practitioners, and stroke staff physicians were surveyed 2 months after implementation. Quantitative data was analyzed using descriptive statistical analysis, written responses in comment sections were analyzed using content analysis. Result(s): Thirty-two of 42 (73%) surveys were completed. Nine (45%) residents and 5 (42%) experienced providers responded that virtual rounds did not compromise learning and education on stroke service. Fifteen (75%) residents and all experienced providers agreed that virtual rounds protected caregivers from exposure to the virus. While more than a third of residents (37%) did not feel comfortable utilizing telemedicine in ED, the majority of experienced providers (89%) were at ease with it. A total of 58% of residents and 67% of experienced providers felt that they were spending less time at the bedside, and 42% of residents and 58% of experienced providers felt less connected to patients during the pandemic. Conclusion(s): Majority of neurology residents' experience was not positive utilising telemedicine as compared to other staff providers. This is likely attributed to lack of prior exposure and unpreparedness. Incorporation of telemedicine curricula in medical school and residency training could prepare the next generation physicians to effectively use these technologies and meet the growing need for telehealth services for current and future pandemics.Copyright © 2021 Elsevier Inc.

## Navigators/ Coordinators

Conference abstract: Implementing Stroke Systems Of Care Within A New Hospitalv Abstract all available
Item Type: Journal Article
Authors: Ronosky, K.;Hackett, C.;Wood, M.;Cerejo, R.;Pasquella, J. and Latouf, K.
Publication Date: 2023
Journal: Stroke 54

Abstract: Background: Stroke programs are often developed and implemented in well-established health care facilities. Stroke coordinators and nurse navigators are essential leaders to ensure success of a stroke program. We aimed to establish strong culture of engagement in the care of stroke patients from day one of a new 160-bed hospital, by hiring a stroke coordinator and navigator to assist with developing a stroke program prior to opening the hospital. Method(s): Five months prior to opening a stroke coordinator was hired and navigator was assigned to coordinate post-acute stroke care. A multidisciplinary stroke oversight committee was formed, which guided development of the stroke program and integrated leaders from all areas involved with direct or indirect stroke patient care. In the months preceding go-live; policies and order sets were implemented, stroke alert processes, specific to each unit, with scenarios were reviewed. All nursing staff completed eight hours of stroke education, including NIHSS certification prior to go-live. Additionally, six mock stroke alerts were completed with the assistance of our simulation and training center. Result(s): One hundred twenty-two patients presented and were diagnosed with stroke between hospital opening on 09/30/2021 and 06/30/2022. The majority of patients were diagnosed with acute ischemic stroke (AIS) or transient ischemic attack 115 (94.3%), age was 69.1+/-14.8 years and median NIHSS was 1 IQR, 0 - 2]. Two patients were recommended for and received AIS treatment; one IV thrombolysis and one endovascular stroke thrombectomy. Thirty four patients were added to the stroke care pathway and closely followed for 90 days. The hospital was 100% compliant with all Get with the Guidelines (GWTG) STK measures, with the exception of CSTK-01 NIHSS at 78%. Additionally, all GWTG achievement measures and quality measures achieved at least 93%, except for dysphagia screening which was at 86% compliance. Conclusion(s): Developing a stroke program by integrating a stroke coordinator and navigator prior to hospital opening facilitated best practices for stroke systems of care from

day one. This allowed a brand-new hospital to achieve similar levels of compliance on key GWTG measures compared to other stroke certified hospitals.

Conference abstract: A stroke transition of care intervention with stroke nurse navigator and early stroke clinic follow-up reduces readmissions for stroke at 12 months Abstract all available
Item Type: Journal Article
Authors: Matmati, K.;Matmati, N.;Madison, S.;Vogl, S.;Bixler, B.;Vogler, K.;Dombovy, M. and Burke, C.
Publication Date: 2022
Journal: Stroke 53
Abstract: Introduction: Stroke is a leading cause of disability in the United States, and one in four occur in people who have already had a stroke. Preventable hospital readmissions contribute to the high medical costs of stroke. Transition of care programs have been successful in reducing hospital readmissions in other diseases, but the data on such programs for stroke is mixed. A transition of care program was implemented at a large urban stroke center, utilizing interventions shown to be effective in the literature, with the goal of reducing recurrent strokes and hospital readmissions. Method(s): The transition of care program consisted of: two Stroke Nurse Navigators, personalized stroke education in the hospital, two-day phone call reinforcing education and reviewing medications, early follow-up within 7-10 business days with a Stroke Neurologist, and further education on personalized risk factors in the clinic. Baseline data from the year prior to intervention, and each quarter of the three-year project period were obtained on the following measures: Rate of recurrent stroke admissions within one year, all-cause readmission within one year, all-cause readmission within 30 days, patient scheduled for initial follow-up within 7-10 days, compliance with follow up in the stroke clinic, and percent of patients receiving two-day post discharge phone call. Discharge data were reviewed on 949 patients in 2016 (year 0) and on 2,328 patients in the three-year project period (starting in July 2017). Result(s): The rate of readmission for stroke was 8.5%, 9.0%, 6.6%, and 4.2% for year 0, 1, 2, and 3, respectively. This represents a reduction of 50% from the year prior to the intervention to year 3 of the grant. All-cause readmission remained stable, at 38.9%, 42.6%, 36.6%, and 37.4% for year 0, 1, 2, and 3 respectively. An improvement was seen in process measures: patients scheduled for early follow up in the stroke clinic, adherence to follow-up, and two-day post-discharge phone calls. Conclusion(s): In conclusion, the transition of care intervention led to a reduction from baseline in readmissions for stroke within one year, but did not impact all cause readmission at one year or 30 days. This is a meaningful outcome for those who have suffered strokes. This program can serve as a model.

## New and extended roles

The role of stroke nurses in thrombolysis administration in Australia and the United Kingdom: A cross-sectional survey of current practice
Item Type: Journal Article
Authors: Hamilton, H.;Dale, S.;McElduff, B.;Craig, L. E.;Fasugba, O.;McInnes, E.;Alexandrov, A. W.;Cadilhac, D. A.;Lightbody, E.;Watkins, D. C. and Middleton, S.
Publication Date: 2022
Journal: Journal of Clinical Nursing 31(1-2), pp. 158–166
Abstract: BACKGROUND: The role of stroke nurses in patient selection and administration of recombinant tissue plasminogen activator (rt-PA) for acute ischaemic stroke is evolving. OBJECTIVE(S): To compare differences in stroke nurses' practices related to rt-PA administration in Australia and the United Kingdom (UK) and to examine whether these differences influence rt-PA treatment rates. METHOD(S): A cross-sectional, self-administered questionnaire administered to a lead stroke

clinician from hospitals known to provide rt-PA for acute ischaemic stroke. Chi-square tests were used to analyse between-country differences in ten pre-specified rt-PA practices. Non-parametric equality of medians test was used to assess within-country differences for likelihood of undertaking practices and association with rt-PA treatment rates. Reporting followed STROBE checklist. RESULT(S): Response rate 68%; (Australia: 74% n = 63/85]; UK: 65% n = 93/144]). There were significant differences between countries for 7/10 practices. UK nurses were more likely to: request CT scan; screen patient for rt-PA suitability; gain informed consent; use telemedicine to assess, diagnose or treat; assist in the decision for rt-PA with Emergency Department physician or neurologist; and undergo training in rt-PA administration. Reported median hospital rt-PA treatment rates were 12% in the UK and 7.8% in Australia: (7.8%). In Australia, there was an association between higher treatment rates and nurses involvement in 5/10 practices; read and interpret CT scans; screen patient for rt-PA suitability; gain informed consent; assess suitability for rt-PA with neurologist/stroke physician; undergo training in rt-PA administration. There was no relationship between UK treatment rates and likelihood of a stroke nurse to undertake any of the ten rt-PA practices. CONCLUSION(S): Stroke nurses' active role in rt-PA administration can improve rt-PA treatment rates. Models of care that broaden stroke nurses' scope of practice to maximise rt-PA treatment rates for ischaemic stroke patients are needed. RELEVANCE TO CLINICAL PRACTICE: This study demonstrates that UK and Australian nurses play an important role in thrombolysis practices; however, they are underused. Formalising and extending the role of stroke nurses in rt-PA administration could potentially increase thrombolysis rates with clinical benefits for patients.

The Mobile Stroke Unit Nurse: An International Exploration of Their Scope of Practice, Education, and Training. Abstract only*
Item Type: Journal Article
Authors: Coote, S.;Mackey, E.;Alexandrov, A. W.;Cadilhac, D. A.;Alexandrov, A. V.;Easton, D.;Zhao, H.;Langenberg, F.;Bivard, A.;Stephenson, M.;Parsons, M. W.;Campbell, B. C. V.;Donnan, G. A.;Davis, S. M. and Middleton, S.
Publication Date: 2022
Journal: The Journal of Neuroscience Nursing : Journal of the American Association of Neuroscience Nurses 54(2), pp. 61-67
Abstract: ABSTRACT: BACKGROUND: Mobile stroke units (MSUs) are ambulance-based prehospital stroke care services. Through immediate roadside assessment and onboard brain imaging, MSUs provide faster stroke management with improved patient outcomes. Mobile stroke units have enabled the development of expanded scope of practice for stroke nurses; however, there is limited published evidence about these evolving prehospital acute nursing roles. AIMS: The aim of this study was to explore the expanded scope of practice of nurses working on MSUs by identifying MSUs with onboard nurses; describing the roles and responsibilities, training, and experience of MSU nurses, through a search of the literature; and describing 2 international MSU services incorporating nurses from Memphis, Tennessee, and Melbourne, Australia. METHOD(S): We searched PubMed, CINAHL, and the Joanna Briggs Institute Evidence-Based Practice database using the terms "mobile stroke unit" and "nurse." Existing MSUs were identified through the PRE-hospital Stroke Treatment Organization to determine models that involved nurses. We describe 2 MSUs involving nurses: one in Memphis and one in Melbourne, led by 2 of our authors. RESULT(S): Ninety articles were found describing 15 MSUs; however, staffing details were lacking, and it is unknown how many employ nurses. Nine articles described the role of the nurse, but role specifics, training, and expertise were largely undocumented. The MSU in Memphis, the only unit to be staffed

exclusively by onboard nurse practitioners, is supported by a neurologist who consults via telephone. The Melbourne MSU plans to trial a nurse-led telemedicine model in the near future. CONCLUSION(S): We lack information on how many MSUs employ nurses, and the nurses' scope of practice, training, and expertise. Expert stroke nurse practitioners can safely perform many of the tasks undertaken by the onboard neurologist, making a nurse-led telemedicine model an effective and potentially cost-effective model that should be considered for all MSUs.Copyright © 2022 American Association of Neuroscience Nurses.

Conference abstract: Extending the stroke nurse practitioner model into the pre-hospital setting on the Melbourne mobile stroke unit Abstract all available*
Item Type: Conference Proceeding
Authors: Mackey, L., Coote, S., Weir, L., Davis, S., Donnan, G. and Parsons, M.
Publication Date: 2019
Publication Details: International Journal of Stroke. Conference: SMART STROKES 2019 Conference. Hunter Valley, NSW Australia. 14(1 Supplement) (pp 17); SAGE Publications Inc., pp. 17
Abstract: Background: In 2009 Melbourne Health (MH) implemented the Stroke Nurse Practitioner (SNP) model. The SNP facilitates stroke care across the patient's hospital journey from the hyperacute phase, through the inpatient stay, and outpatient follow up. The role encompasses improving patient access and treatment, holistic patient management and continuity of care, as well as risk factor modification and secondary stroke prevention. In 2017, the first Australian Mobile Stroke Unit (MSU) was deployed for pre-hospital stroke assessment and management. The MSU is a custom-built specialist Ambulance Victoria vehicle with CT scanner and acute stroke personnel (two paramedics and MH staff including a CTradiographer, stroke neurologist and an advanced stroke nurse). Aim(s): The role and model of the SNP in the pre-hospital setting in Australia has not previously been described. Method(s): The new MSU SNP model will build on the existing 2009 SNP model, incorporating prehospital stroke assessment, triage and access to time critical treatments. Result(s): In the pre-hospital setting, the SNP will have a leadership role in decision-making and MSU team coordination, using higher level decision-making and assessment skills to facilitate rapid early assessment and treatment. The SNP will autonomously and collaboratively manage patients with the on-board Neurologist or via telemedicine. The MSU SNP will prescribe medications from the MSU formulary, order MSU non-contrast CT-brain scans, and liaise with primary and comprehensive stroke units for patient transfer. Conclusion(s): The future SNP model will incorporate advanced nursing management of patients with stroke and TIA in the pre-hospital setting on the MSU.

Neuroscience TPA nurse for statstroke treatment: A new model of care Log in with NHS OpenAthens account* See p. 27
Item Type: Conference Proceeding
Authors: Bohn, S., Newcommon, N., Palardy, H., Venables, M., Demchuk, A. and Hill, M.
Publication Date: 2017
Publication Details: International Journal of Stroke. Conference: 2017 Canadian Stroke Congress. Calgary, AB Canada. 12(4 Supplement 1) (pp 27); SAGE Publications Inc., pp. 27
Abstract: Introduction: Overcrowding in Emergency Departments (ED) is stretching ED resources. An ED nurse has limited exposure to acute stroke, challenging the ability to acquire solid stroke nursing skills. A trained neuroscience nurse optimally achieves acute ischemic stroke management as fast and effective treatment is facilitated by stroke protocol familiarity. To lessen ED burden and enhance care for stroke patients, we recommend incorporating a tPA nurse into the STATstroke team

for afterhours care. Method(s): STATstroke nursing includes attending STATstroke alerts, accompanying patients to CT, assisting with care in ED, preparing and delivering thrombolysis (tPA), and managing angiosuite care for patients requiring endovascular therapy (EVT). STATstroke nursing is provided by an advanced practice Nurse Practitioner (NP) during business hours and a tPA nurse on non-business hours and weekends. The tPA nurse is included in the neuro-critical care unit baselines which are reconfigured after each emergency intervention (tPA +/- EVT) to ensure post ED care is managed by the tPA nurse. Result(s): The participation of the tPA nurse in afterhours STATstroke expedites treatment resulting in better outcomes, same provider care, and effective utilization of ED resources. A sample of 183 STATstroke alerts reviewed between March 9, 2016 and September 14, 2016 demonstrated a median tPA nurse off unit time of 1.1 hours/patient (0.1-7.0) resulting in 202.4 ED nursing hours gained. Conclusion(s): The introduction of a tPA nurse into acute stroke processes has achieved: (1) advanced neuro-nursing care; (2) ED nursing relief; (3) facilitated fast treatment times; and (4) increased safe, continuous care.

Developing a clot retrieval nursing role to support stroke patients receiving endovascular therapy Log in with NHS OpenAthens account* see p. 86
Item Type: Conference Proceeding
Authors: Russell, S., Beesley, L., McNicolWhiteman, R., Vens, M. and Notarandrea, C.
Publication Date: 2017
Publication Details: International Journal of Stroke. Conference: 2017 Canadian Stroke Congress. Calgary, AB Canada. 12(4 Supplement 1) (pp 86-87); SAGE Publications Inc., pp. 86
Abstract: Introduction: Recent clinical trials and key opinion leaders have identified endovascular therapy as the best practice guideline for management of large ischemic strokes. The development of an interdisciplinary endovascular stroke response team has identified a gap in managing care for these patients. For optimal procedural efficiency, it was suggested that one clinical professional be required for intravenous thrombolytic management, sedation and hemodynamic monitoring. A level two intensive care nurse was identified as an excellent candidate for this role. Method(s): An Ontario-wide environmental assessment exploring the composition of endovascular stroke response teams was conducted in 2015. This, in combination with a gap analysis of the competencies required led to the development of a Clot Retrieval Nurse. This role involves facilitating patient transition from the emergency department, clinically managing the patient intra-procedurally and coordinating transfer to the Level 2 Neurosciences Stepdown Unit post-procedure. Selected nurses underwent an intensive clinical and theoretical training process to gain the competence required to treat stroke patients in the Neurointerventional Radiology suite. Result(s): One year post-implementation, seven Clot Retrieval nurses have excelled at providing continuity of care and supporting efficiencies in workflow processes. The team provides 24/7 on-site coverage allowing opportunity to stroke endovascular candidates across the hyperacute care continuum. Conclusion(s): The collaborative role is an innovative integration between the neurosurgical unit and the diagnostic imaging department. The role will continue to evolve as the program expands and patient volumes increase. The role will be sustained through simulated clot retrieval cases along with supplementary education for staff.

Conference abstract: The stroke clinical nurse specialist role-the Irish experience Abstract all available
Item Type: Conference Proceeding
Authors: McElwaine, P., Noone, I. and Harbison, J.
Publication Date: 2015
Publication Details: International Journal of Stroke. Conference: European Stroke Organisation Annual Conference 2015.

Glasgow United Kingdom. Conference Publication: (var.pagings). 10(SUPPL. 2) (pp 348); Blackwell Publishing Ltd, pp. 348
Abstract: Background: Following the Irish National Audit of Stroke Care 2008 and the development of the National Stroke Programme, the recruitment of specialized staff including Stroke Clinical Nurse Specialists (CNS) was a key element in improving stroke care in Ireland. We surveyed the Stroke CNS to see how the role works in practical terms and what challenges are evident. Method(s): A survey was administered to Stroke CNS attenders of a study day in late 2014. The survey was based on the framework of the original job description for the specialist nursing role. The survey was self administered. Result(s): Of the 22 respondents, which represented 82% of the CNS currently in position in Ireland, the average time in position was 3.8 years, with a combined total of 84 years' experience in Stroke Medicine. The majority of their time (>50%) was spent on ward based clinical role including patient assessment and education, and 95% of respondents were involved in at least monthly staff education. Protected time for their training was available to 23% of respondents. 8/22 (36%) were in involved in non-Stroke related commitments in their working week. They identified low staffing rates in the stroke service and a lack of clarity in the CNS role as the greatest challenges they face. Discussion(s): The responses show that the specialist nurses are providing essential services to stroke patients, that there are significant challenges the role, but that there is a knowledgeable and experienced group of people to draw from when developing the role into the future.

## Rehabilitation

Experiences of chain of care and rehabilitation after stroke: a qualitative study of persons discharged to skilled nursing facilities before returning home
Item Type: Journal Article
Authors: Fors, Sofie;Brandal, Anna;Pessah-Rasmussen, Helene and Lindgren, Ingrid
Publication Date: 2024
Journal: Journal of Rehabilitation Medicine 56, pp. jrm35240
Abstract: OBJECTIVE: To explore how people with stroke, discharged to skilled nursing facilities before returning home, experience the chain of care and rehabilitation., DESIGN: Qualitative, semi-structured interview design., METHODS: Thirteen stroke survivors discharged from a stroke unit to a skilled nursing facility before returning to independent living participated. Semi-structured telephone interviews were conducted 2-5 months after stroke and analysed with content analysis., RESULTS: The analysis resulted in three categories, Organizational processes, critical and complex, Rehabilitation, the right support at the right time and Adaptation to the changed situation, with a total of 9 subcategories. The informants perceived low participation in planning and goalsetting and limited information. Support from the healthcare services was important to proceed with improvements although the amount of supported training varied. Factors hindering and facilitating managing everyday life were described, as well as lingering uncertainty of what the future would be like., CONCLUSION: Support and rehabilitation as well as individuals' needs varied, throughout the chain of care. To enable participation in the rehabilitation, assistance in setting goals and repeated information is warranted. Tailored care and rehabilitation throughout the chain of care should be provided, followed up at home, and coordinated for smooth transitions between

organizations.

Experience of rehabilitation specialist nurses in providing bowel care for stroke patients: A qualitative study Abstract only*
Item Type: Journal Article
Authors: Ma, Sumin;Zheng, Xutong;Gu, Jiayi;Yang, Yongkang;Li, Chengjuan;Li, Yuan and Fan, Xiaoyan
Publication Date: 2024
Journal: Journal of Advanced Nursing (John Wiley & Sons, Inc.) 80(4), pp. 1523–1530
Abstract: Aims: This study aims to explore the experiences of rehabilitation specialist nurses in providing bowel care to stroke patients and to identify the factors that either facilitate or hinder their practice. Design: This was a descriptive qualitative design study. Methods: Between May 2022 and October 2022, we conducted in-depth and semistructured interviews with 12 rehabilitation specialist nurses from two tertiary hospitals in Changsha, China. Thematic analysis was employed to analyse the interview transcripts. Findings: Three key themes were revealed from our analysis: (1) acceptance of bowel care as a process, (2) high level of recognition improves the experience and (3) challenges stemming from limited knowledge and rights. Acceptance of bowel care as a dynamic process, coupled with a high level of recognition, enabled nurses to prioritize the health and safety of patients over personal feelings and achieve professional accomplishments. However, they encountered challenges in terms of professional development and restricted prescribing rights for bowel care. Conclusion: The experiences of rehabilitation specialist nurses in providing bowel care are dynamic. These findings have important implications for healthcare improvement, including the need for collaboration with healthcare professionals and nurturing nurses' self-identity, comprehensive training plans, innovative programs and expanding the scope of rehabilitation specialist nurses' rights. Impact: This study enhances our understanding of the challenges faced by rehabilitation specialist nurses caring for stroke patients with neurogenic bowel dysfunction. The findings provide insights into how to enhance bowel care experience and develop further in this field. Reporting Method: This study adhered to the EQUATOR guideline and utilized the COREQ checklist.

The Role and Contributions of Nurses in Stroke Rehabilitation Units: An Integrative Review
Author(s): Tanlaka et al.
Source: Western Journal of Nursing Research 45(8) pp. 764-776
Publication date: August 2023
Nurses' contributions to stroke rehabilitation have been viewed as pivotal, but therapeutically nonspecific. This integrative review synthesized empirical literature on the roles and contributions of nurses to inpatient stroke rehabilitation to answer three research questions: (a) What specific skills or tasks have been identified as the roles and contributions of nurses to inpatient stroke rehabilitation? (b) How do nurses perform these skills/tasks to support and promote inpatient stroke rehabilitation and recovery? and (c) What factors have been identified to impact nurses' working conditions on inpatient stroke rehabilitation units? A systematic search of multiple electronic databases retrieved seven studies which provided significant context and examples to these questions. *What nurses do* in practice included, for example, maximizing patients' independence in performing daily activities, preventing harm, and preserving integrity. *How nurses perform* their therapeutic roles included teaching, coaching, coordination, management, advocacy, collaboration. *Factors that impact nurses' working conditions* consisted of time, resources, and knowledge. This review demonstrates our current understanding of nurses' contributions to inpatient stroke rehabilitation, highlights their significant role, identifies current barriers/challenges of

implementing stroke nursing care, and suggests ways of documenting and measuring nurses' contributions.

## Skill mix

Conference abstract: Effectiveness of a stroke nursing team (SNT) to streamline 24-hour hyperacute stroke care service in a Hong Kong Regional Hospital Log in with NHS OpenAthens account* See p. 91
Item Type: Conference Proceeding
Authors: Mok, M., Yip, K.Y., Lee, T.Y., Chan, Y.S., Wong, D. and Lo, H.Y.
Publication Date: 2021
Publication Details: International Journal of Stroke. Conference: World Stroke Congress 2021. Virtual. 16(2 SUPPL) (pp 91); SAGE Publications Inc., pp. 91
Abstract: Background and Aims: Owing to relative shortage of neurologists in Hong Kong, we need skill mix of experienced nurses for central coordination to deliver high quality patient-centered stroke care. Well-trained Stroke Nurse (SN) has challenge of stepping into new roles to support intravenous (IV) Thrombolysis (TPA) service since 2011. From 2017, some operational changes, 5 expertized SNs and 10 trained ward-based TPA nurses were formulated a SNT to support off-site Neurologists for catering 24-hour comprehensive stroke care service. This study aims to evaluate the effectiveness of SNT in streamlining hyperacute stroke care service Methods:We conducted a retrospective review on acute stroke admissions from year 2011 to 2019 in our hospital stroke database. All data was collected prospectively and analysed by Microsoft Excel. Result(s): Compared the year 2012 with 2019, number of acute stroke admissions was about 1000 yearly. SNs and TPA nurses attended Accident Emergency Department (AED) stroke alerts increased from 356 to 803 times per year (125.56% increase) in hyperacute stroke service. Acute ischaemic stroke either received IV TPA or intra-arterial (IA) Mechanical Thrombectomy (MT) increased from 1.70% to 9.54%, average Door-to-TPA time decreased from 105 minutes to 68 minutes (35.24% decrease), Door-to-TPA delivered within 60 minutes (during office hours) increased from 15.4% to 60.0% and result in post-TPA symptomatic intracranial haemorrhage decreased from 7.7% to 3.9%. Conclusion(s): Well-trained SNs and TPA nurses could act as catalysts to speed up acute stroke response to increase TPA usage, improved door-to-TPA time, and enhanced department collaboration to streamline stroke patient care journey and enhance patient safety.

## Staff experiences

Exploring the communication experiences of stroke nurses and patients with aphasia in an acute stroke unit Abstract only*
Item Type: Journal Article
Authors: Heard, R.;Anderson, H. and Horsted, C.
Publication Date: 2022
Journal: Speech, Language and Hearing 25(2), pp. 177–191
Abstract: Aim: The purpose of this qualitative study was to investigate the perceptions of stroke nurses and patients with aphasia on their experiences of communicating in an acute stroke hospital unit. Method(s): Five stroke nurses and six patients with aphasia participated in this study. The nurses participated in a focus group and the patients participated in one-on-one interviews. The focus group and interviews were semi-structured and elicited information from participants about potential facilitators and barriers to successful communication in the acute unit. The focus group and interviews were recorded and transcribed. Thematic analysis was used to analyze the data. Result(s): Analysis of the interview transcripts generated five key themes. Theme one, two and three represented perspectives of both nurses and patients with aphasia. Theme four was represented by patients only and theme by nurses only. Themes reflected: (1) the frustration experienced by nurses and

patients with aphasia when communicating; (2) the perceptions of nurses and patients with aphasia on the use of communication supports; (3) the beliefs on what healthcare information needs to be shared between nurses and patients with aphasia; (4) the excellent care provided by nurses to patients with aphasia; and (5) the positive attitude of nurses when communicating with people with aphasia. Conclusion(s): Stroke nurses and patients with aphasia experience difficulty communicating. These findings suggest that specific strategies, such as tailored Communication Partner Training (CPT) for nurses and centralised nurse access to a range of communication aids and resources, might contribute to the formation of a more communicatively accessible acute hospital environment for patients with aphasia. Copyright © 2020 Informa UK Limited, trading as Taylor & Francis Group.

The lived experiences of nurses in one hyper-acute stroke unit
Abstract only*
Author(s): Catangui  and Roberts
Source: British Journal of Nursing 23(3) pp. 143-148
Publication date: February 2014
Hyper-acute stroke units (HASUs) admit all stroke patients across London. As a novel London stroke model, the integration of thrombolysis in acute ischaemic stroke is an important element of hyper-acute stroke care for patients. In this model, nurses working in a hyper-acute stroke unit are involved in the delivery of thrombolysis treatment. By use of a phenomenological approach, the study investigates the 'lived experiences' of nurses' preparation for their role and explores any factors that affect nurses' participation in thrombolysis treatment. The nurses' roles-which facilitate, support, monitor, anticipate and result in prevention-are central to effective thrombolysis treatment. However, factors such as communication, teamwork, clinical decision, training, staffing and safety affect their thrombolysis roles. Addressing factors that affect nurses' thrombolysis roles could lead to improved communication, collaborative teamwork and better patient outcomes.

## Systematic Reviews

Effectiveness of interventions involving nurses in secondary stroke prevention: A systematic review and meta-analysis.
Item Type: Journal Article
Authors: Parappilly, Beena P.;Field, Thalia S.;Mortenson, William B.;Sakakibara, Brodie M. and Eng, Janice J.
Publication Date: 2018
Journal: European Journal of Cardiovascular Nursing 17(8), pp. 728-736
Abstract: BACKGROUND AND PURPOSE: Among members of the health care team, nurses play a large role in actively engaging stroke survivors in secondary stroke prevention programs. This systematic review and meta-analysis examines the effectiveness of interventions in which nurses have a primary role on modification of risk factors among stroke survivors. METHODS: We systematically searched for randomized controlled trials in relevant databases investigating the role of nurses in secondary stroke prevention. Meta-analyses were conducted using Cochrane Review Manager Software. The mean pooled effect size, a 95% confidence interval (CI), and I-squared ( I2) for heterogeneity were calculated. RESULTS: Sixteen randomized controlled trials were included with a total of 3568 stroke and transient ischemic attack patients. After removing one outlier, the models demonstrated a statistically significant effect on reducing systolic blood pressure (SMD = -0.14 (95% CI = -0.23, -0.05), I2 = 0%; p = 0.002, six studies, n =1885) and diastolic blood pressure (SMD = -0.16 (95% CI = -0.27, -0.05), I2 = 0%; p = 0.003, four studies, n =1316). The interventions also significantly improved physical activity (five studies, n=1234), diet (three studies, n=425), medication adherence (two studies, n=270), and knowledge of risk factors

(three studies, n=516). However, there was no effect on smoking cessation or reduction in use of alcohol. CONCLUSION: We found that interventions in which nurses had a primary role were effective on improving medical and behavioral risk factors, as well as knowledge of risk factors as part of secondary prevention of stroke.

Nursing practice in stroke rehabilitation: Systematic review and meta-ethnography. Abstract only*
Item Type: Journal Article
Authors: Clarke, D. J.
Publication Date: 2014
Journal: Journal of Clinical Nursing 23(9-10), pp. 1201-1226
Abstract: Aims and objectives: To identify and synthesise the available research evidence in order to generate an explanatory framework for nursing practice in stroke rehabilitation. Background(s): Although nurses are the largest professional group working with stroke survivors, there is limited understanding of nursing practice in stroke units. In particular, there is currently very little evidence in respect of nurses' involvement in poststroke rehabilitation. Design(s): Meta-ethnography. Method(s): A systematic review was undertaken. The review question was: 'What is the nature of nursing practice in the care and rehabilitation of inpatient stroke survivors?' Searches of 12 electronic databases identified 14,655 publications, and after screening, 778 remained; 137 papers were obtained and 54 retained for mapping. Sixteen qualitative studies were included in the meta-ethnography. Result(s): Nurses' involvement in poststroke rehabilitation was limited. Contextual factors impacted on nurses' perceptions and practice. Nurses' integration of rehabilitation skills was perceived to be contingent on adequate nurse staffing levels and management of demands on nurses' time. Team working practices and use of the built environment indicated separation of nursing and therapy work. Physical care and monitoring were prioritised. Stroke-specific education and training was evident, but not consistent in content or approach. Stroke survivors and families needed help to understand nurses' role in rehabilitation. Conclusion(s): The review provides compelling evidence that there is an need to re-examine the role of nurses in contributing to poststroke rehabilitation, including clarifying when this process can safely begin and specifying the techniques that can be integrated in nurses' practice. Relevance to clinical practice: Integrating stroke-specific rehabilitation skills in nurses' practice could contribute substantially to improving outcomes for stroke survivors. The explanatory framework developed from the review findings identifies issues which will need to be addressed in order to maximise nurses' contribution to the rehabilitation of stroke survivors. © 2013 John Wiley & Sons Ltd.

## Technology

A Telestroke Nurse and Neuroradiologist Model for Extended Window Code Stroke Triage Abstract only*
Item Type: Journal Article
Authors: Helms, Anna Maria;Yang, Hongmei;Karamchandani, Rahul R.;Williams, Laura;Singh, Sam;DeFilipp, Gary J. and Asimos, Andrew W.
Publication Date: 2023
Journal: The Journal of Neuroscience Nursing : Journal of the American Association of Neuroscience Nurses 55(3), pp. 74–79
Abstract: ABSTRACT: BACKGROUND: Distinguishing features of our stroke network include routine involvement of a telestroke nurse (TSRN) for code stroke activations at nonthrombectomy centers and immediate availability of neuroradiologists for imaging interpretation. On May 1, 2021, we implemented a new workflow for code stroke activations presenting beyond 4.5 hours from last known well that relied on a TSRN supported by a neuroradiologist for initial triage. Patients without a target large vessel occlusion (LVO) were managed without routine

involvement of a teleneurologist, which represented a change from the preimplementation period. METHODS: We collected data 6 months before and after implementation of the new workflow. We compared preimplementation process metrics for patients managed with teleneurologist involvement with the postimplementation patients managed without teleneurologist involvement. RESULTS: With the new workflow, teleneurologist involvement decreased from 95% (n = 953) for patients presenting beyond 4.5 hours from last known well to 37% (n = 373; P < .001). Compared with patients in the preimplementation period, postimplementation patients without teleneurologist involvement experienced less inpatient hospital admission and observation (87% vs 90%; unadjusted P = .038, adjusted P = .06). Among the preimplementation and postimplementation admitted patients, there was no statistically significant difference in follow-up neurology consultation or nonstroke diagnoses. A similar percentage of LVO patients were transferred to the thrombectomy center (54% pre vs 49% post, P = .612), whereas more LVO transfers in the postimplementation cohort received thrombectomy therapy (75% post vs 39% pre, P = .014). Among LVO patients (48 pre and 41 post), no statistical significance was observed in imaging and management times. CONCLUSION : Our work shows the successful teaming of a TSRN and a neuroradiologist to triage acute stroke patients who present beyond an eligibility window for systemic thrombolysis, without negatively impacting care and process metrics. This innovative partnering may help to preserve the availability of teleneurologists by limiting their involvement when diagnostic imaging drives decision making. Copyright © 2023 American Association of Neuroscience Nurses.

Sustaining telecare consultations in nurse-led clinics: Perceptions of stroke patients and advanced practice nurses: A qualitative study

Item Type: Journal Article

Authors: Wong, A. K. C.;Bayuo, J.;Wong, F. K. Y.;Kwok, V. W. Y.;Tong, D. W. K.;Kwong, M. K.;Yuen, B. M. K.;Fong, C. S.;Chan, S. T.;Chan, R. S. Y. and Li, W. C.

Publication Date: 2023

Journal: Digital Health 9

Abstract: Objective: The ongoing pandemic has accentuated the use of telecare services; however, only limited progress has been made in understanding the barriers and facilitators to using these services. In order to move towards sustaining such essential services, the present study aimed to ascertain the experiences of stroke survivors and healthcare providers regarding the utilization of a post-stroke telecare service in Hong Kong. Method(s): Interpretive description was employed for this study. Semi-structured discussions and interviews were undertaken with nine stroke survivors and four stroke nurses who delivered the telecare services. The principles of thematic analysis were inductively followed to analyse the data. The Standards for Reporting Qualitative Research checklist was used to guide the reporting of the data. Result(s): Three themes emerged: (a) pre-existing post-discharge service pathways; (b) push factors/facilitators for telecare usage; and (c) barriers to telecare usage. Overall, the telecare service was considered a significant alternative and one that complements conventional face-to-face follow-ups. Stroke survivors were motivated to use the service because it was convenient and flexible. However, significant barriers exist, including technical issues and a lack of guidelines and training opportunities for healthcare providers. Conclusion(s): Although telecare is still evolving, several factors drive stroke survivors to use the service. Attention needs to be paid to the emerging barriers to improve long-term usage of the service. Clear guidelines are needed to underpin the

development and implementation of telecare services. Copyright © The Author(s) 2023.

Developing a hyperacute stroke-ready nursing workforce: a service improvement initiative Abstract only*
Author(s): Turner et al.
Source: British Journal of Neuroscience Nursing 16(Supp 5)
Publication date: October 2020
Background: Thrombolysis treatment varies considerably between in- and out-of-hours services. Aims: This improvement initiative aimed to upskill acute stroke unit nurses as stroke thrombolysis response nurses, testing a new model of nursing in readiness for hyperacute stroke unit developments. Methods: Three registered nurses were trained to a specialist competency framework. The role was tested over 28 weeks, and times to treatment milestones were measured. Thrombolysed patients from the test period were statistically compared with a matched group using a two-sample t-test in Excel. Qualitative feedback was sought from the stroke team, medical and emergency department colleagues. Findings: Median out-of-hours door-to-needle time reduced from 85 to 61.5 minutes. Statistically significant differences were seen in the time to stroke unit admission (p=0.012) and swallow screen (p=0.038). Stroke and emergency department colleagues considered the role essential to out-of-hours thrombolysis treatment. Conclusions: The stroke thrombolysis response nurse role reduced variation in treatment and improved timely acute stroke care. This work may inform the development of stroke nursing workforce models.

Nurses' Role in Implementing and Sustaining Acute Telemedicine: A Mixed-Methods, Pre-Post Design Using an Extended Technology Acceptance Model.
Item Type: Journal Article
Authors: Bagot, K.;Moloczij, N.;Arthurson, L.;Hair, C.;Hancock, S.;Bladin, C. F. and Cadilhac, D. A.
Publication Date: 2020
Journal: Journal of Nursing Scholarship : An Official Publication of Sigma Theta Tau International Honor Society of Nursing 52(1), pp. 34-46
Abstract: PURPOSE: Technology-based systems like telemedicine are frequently being implemented into healthcare settings, impacting clinician practices. Little is known about factors influencing acute telemedicine uptake, if factors differ across time, or between nurses and non-nurses. DESIGN: A mixed-methods, pre-post design with implementation of a new acute stroke telemedicine service. METHOD(S): A survey based on an extended Technology Acceptance Model (TAM) was administered to clinicians involved in acute stroke care at 16 regional hospitals (2014-2017). Open-ended questions postimplementation (at 6 months) included strengths of the program and areas to improve. Subsequently, a secondary analysis of nurses' semistructured interviews at the first telemedicine site (2010-2011) was completed to provide greater explanatory detail. FINDINGS: Surveys were completed by nurses (preimplementation n = 77, postimplementation n = 92) and non-nurses (pre n = 90, post n = 44). Preimplementation, perceived usefulness was the only significant predictor of intending to use telemedicine for nurses, while perceived ease of use and social influence were significant for non-nurses. Postimplementation, perceived usefulness was significant for both groups, as was facilitating conditions for nurses. Specific examples aligned to TAM categories from our detailed interviews (n = 11 nurses) included perceived usefulness (improved clinical support and patient care), perceived ease of use (technical,

clinical aspects), facilitating conditions (setting, education, confidence), and social influence (working relationships). CONCLUSION(S): Important factors for acute stroke telemedicine varied between nurses and non-nurses, and changed after implementation. The benefits of telemedicine should be emphasized to nurses. Preimplementation, more non-nurses wanted systems to be easy. Support in clinical, technical, and relationship aspects of telemedicine consultations is required. CLINICAL RELEVANCE: Nurses are influential in implementing acute telemedicine, which is complex, with clinical and technical aspects entwined. Evidence-based implementation strategies must be tailored over time, and between nurses and non-nurses, to ensure initial uptake and ongoing use.

Conference abstract: An inter-professional simulation training programme for stroke nurses and allied health professionals to improve management of post stroke complications Log in with NHS OpenAthens account* See p. 313
Item Type: Conference Proceeding
Authors: Mehdi, Z., Williams, S., Jackson, S. and Pattoo, U.
Publication Date: 2020
Publication Details: International Journal of Stroke. Conference: 12th World Stroke Congress 2020. Vienna Austria. 15(1 SUPPL) (pp 313); SAGE Publications Inc., pp. 313
Abstract: Background And Aims: Co-ordinated multidisciplinary team (MDT) working is the corner stone of good stroke care. Post-stroke complications are frequent and can have devastating consequences. A bespoke in-house stroke MDT simulation course was created to meet the differential learning needs of the team, and to improve the management of common post-stroke problems. Method(s): Firstly, a focus group comprising allied health professionals and stroke healthcare assistants was conducted to identify the perceived learning needs of the team. Three key simulation scenarios were then developed with learning outcomes aligned with the areas identified by the focus group - post-stroke falls; post-stroke neurological deterioration; and post-stroke infections. The course took place on four separate occasions to maximise attendance. Pre-course and post-course feedback was collected from all participants, and a deductive thematic analysis of the findings was performed. Result(s): Twenty-six members of the stroke MDT including registered nurses, healthcare assistants, physiotherapists, occupational therapists, therapy assistants and students, participated in the education programme. Participants agreed that the course improved confidence in managing acute stroke patients, and stated they would recommend the course to colleagues. Thematic analysis revealed three common themes of improvement: specific knowledge of managing post-stroke complications, generic skills in managing stroke emergencies, and non-technical skills especially MDT working. Conclusion(s): The simulation programme allowed inter-professional learning, and helped to improve skills in managing common post-stroke complications. Simulation is an excellent modality for teaching stroke-specific skills to the MDT. Scenarios are now being developed to address further MDT learning needs such as managing post-stroke incontinence, post thrombolysis complications, and poststroke seizures.

## Upskilling

Developing a hyperacute stroke-ready nursing workforce: a service improvement initiative Abstract only*
Author(s): Turner et al.
Source: British Journal of Neuroscience Nursing 16(Supp 5)
Publication date: October 2020
Background: Thrombolysis treatment varies considerably between in- and out-of-hours services. Aims: This improvement initiative aimed to upskill acute stroke unit nurses as stroke thrombolysis response nurses, testing a new model of nursing in

readiness for hyperacute stroke unit developments. Methods: Three registered nurses were trained to a specialist competency framework. The role was tested over 28 weeks, and times to treatment milestones were measured. Thrombolysed patients from the test period were statistically compared with a matched group using a two-sample t-test in Excel. Qualitative feedback was sought from the stroke team, medical and emergency department colleagues. Findings: Median out-of-hours door-to-needle time reduced from 85 to 61.5 minutes. Statistically significant differences were seen in the time to stroke unit admission (p=0.012) and swallow screen (p=0.038). Stroke and emergency department colleagues considered the role essential to out-of-hours thrombolysis treatment. Conclusions: The stroke thrombolysis response nurse role reduced variation in treatment and improved timely acute stroke care. This work may inform the development of stroke nursing workforce models.

# eLearning

Stroke programme
Source: NHS England eLearning for Healthcare
Although stroke is the leading cause of adult disability and the fourth largest cause of death in the UK, it is estimated that 70% of strokes could be prevented and better managed.
The Stroke elearning programme has been designed to provide an overview of stroke care across the entire pathway and promote better patient care, by providing all health and social care professionals and multidisciplinary teams with the appropriate level of knowledge, skills and experience they need to deliver effective stroke prevention and care to people with stroke, and at risk of stroke.

UK Career Framework for Stroke Nurses
Source: RCN Learn
Publication date: last review 31 October 2023
Build your knowledge around the range of career pathways around stroke nursing and the minimum recommended education requirements, in addition to mapping your career development and assessing your skills and knowledge.

# Competency Frameworks

Stroke Competency Framework for Health Care Providers
Source: Alberta Health Services Canada
This inter-professional tool outlines the knowledge and skills you need to provide effective care for stroke patients and their families. It also provides orientation guides for educators in three areas of service.

UK Career Framework for Stroke Nurses (RCN log in required to view)
Source: Royal College of Nursing

Stroke-Specific Education Framework
Source: Health Education England
The Stroke-Specific Education Framework (SSEF) describes the knowledge and skills required for those working in stroke health and care services. The framework, based on the 20 quality markers of the National Stroke Strategy (2007), aims to provide a structured and standardised approach to education and training for those working within, and affected by, stroke. The SSEF also guides education and training providers in the development and delivery of high-quality stroke-specific, and stroke-relevant, curriculum.

London Stroke Nurse Competency Workbook
Source: London Cardiovascular and Stroke Networks
The London Stroke Nurse Competency Workbook has brought together the shared expertise and experience of stroke nurses from across the capital to produce a best practice reference document. The workbook provides hospitals with an effective tool for training nurses to a highly consistent and competent level.

Stroke Competency Toolkit (SCoT) Specialising Competencies: For registered nurses working in Stroke Units
Source: NHS Scotland
Publication date: 2013
The Better Heart Disease and Stroke Care Action Plan (2009) suggests that nurses working in a stroke unit demonstrate that they have achieved specialist knowledge and competence in stroke care. There has been a great deal of discussion as to what defines such specialist knowledge and competence. The Scottish Stroke Nurses Forum (SSNF), Chest, Heart & Stroke Scotland (CHSS) and NHS Education Scotland (NES) have developed a knowledge and skills toolkit for nurses working in stroke units that aligns with NES Stroke Core Competencies (2005) and the NHS KSF Health and Wellbeing dimensions. The; “Knowledge and Skills for Nurses in Stroke Units Toolkit” has completed a consultation process through the SSNF and has been endorsed by NES and the National Advisory Committee for Stroke (NACS).

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