Evidence Brief: Stroke Nursing

Contents

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There may have been an update to this Evidence Brief - to check you are reading the most current version please see the links below:

- Complete Evidence Brief list – link for HEE staff
- Complete Evidence Brief list – link for External staff

Key publications – the big picture

Stroke: GIRFT Programme National Specialty Report Free registration on NHSFutures 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.

What we think about: the stroke workforce
Source: Stroke Association
Publication date: 2019
We need a stroke workforce of sufficient numbers and skills to ensure that every stroke patient and survivor, regardless of where they live, gets the best quality treatment, care and support. That is why we're calling on health leaders across the UK to address the challenges of recruiting, training and retaining stroke specialist staff. We also want them to put in place plans to address any potential impacts of Brexit, the ageing population and increasing stroke incidence rate on the stroke workforce.

Guidance for nurse staffing in stroke services
Source: National Stroke Nursing Forum
Publication date: November 2016
High quality, compassionate stroke care is about relationships between people with stroke, their families and staff. It is not solely about how many numbers of nurses are needed on stroke units. Each inpatient Stroke Unit, Community Stroke Team, and Community Nurse need the right resources to provide high quality specialist clinical care, compassion and rehabilitation to people with stroke and their families. This paper provides advice specifically for the stroke speciality from admission to rehabilitation. The aim of this paper is to provide sound, specialist advice based on available evidence and expert opinion from four stroke nursing specialist interest groups in the United Kingdom.i This document should be an adjunct to, and be read alongside national guidance and specific recommendations or legislation from all four countries in the UK.

Case Studies

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

See p. 139 Case Study on Stroke Nurse Consultants

HEE Star

More resources and tools are available by searching **"stroke"** in the HEE Star

Statistics

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

HEE National Data Programme

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

Published Peer Reviewed Research

Up-skilling

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.

Staff experiences

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.

Advanced Nurse Practitioners

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.

[Expanding a stroke advanced Nurse practitioner service to provide 24/7 cover-a summative evaluation-1 year on](#) Abstract only
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.

[Evolving senior nurse roles in acute stroke services: An exploration of past present and future in English hospitals (Severn region)](#)
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.

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. Copyright © 2018 MA Healthcare Ltd. All rights reserved.

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

New roles

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.

A stroke transition of care intervention with stroke nurse navigator and early stroke clinic follow-up reduces readmissions for stroke at 12 months

Item Type: Conference Proceeding
Authors: Matmati, K., Matmati, N., Madison, S., Vogl, S., Bixler, B., Vogler, K., Dombovy, M. and Burke, C.
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: 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.

From stroke code to stroke clinic; the emerging role of the stroke nurse navigator
Item Type: Conference Proceeding
Authors: Nystrom, K.V., Neuschatz, K., Petrucci, D., Coppola, A. and Parker, R.L.
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: Background: With numerous stroke centers across the US now caring for complex stroke patients, the role of the stroke nurse navigator has catapulted to be one of the critical elements of a successful stroke program. Our hospital developed an innovative model that addresses the transitions of care after stroke and describes the unique nurse navigator model for stroke patients and families. Method(s): Under a triple aim mission statement to support patients and families throughout the care continuum, five practice domains were identified spanning the patient's stroke journey - see table 1. For each domain, expected experiences were described and best practices were outlined. Result(s): Our hospital supported hiring stroke nurse navigators to develop best practices as a complementary role to the stroke care teams during each phase of the patient's hospitalization to promote a seamless from stroke code to stroke clinic. After discharge, the navigators aligned with acute and subacute rehabilitation teams, visiting nurse agencies, and with patients and caregivers at home. In addition to clinical care, the navigators participated in quality improvement projects, regulatory readiness for certification, and community outreach programs - see Table 2. Discussion(s): The stroke nurse navigator, as a critical member of the stroke program, is uniquely positioned to optimize the transitions of care for patients and families recovering from stroke. This evolving model of acute and recovery stroke care identifies the practice domains and outlines the navigator practice responsibilities that compliments the medical care along the stroke recovery care continuum.Table 1.

Extending the stroke nurse practitioner model into the pre-hospital setting on the Melbourne mobile stroke unit Abstract only*
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.

[The stroke clinical nurse specialist role-the Irish experience](#)
Abstract only
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.

Skill mix

[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*
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.

Education and Training

[Zoom or in the room, meeting the stroke education standard](#)
Item Type: Conference Proceeding
Authors: Friedrich, S.H. and Cobb, C.E.
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: 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.

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. no pagination
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.

[Improving novices stroke nurses' education to improve patient outcomes](#)
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.

[Oral healthcare education for stroke nurses: A scoping review](#)
Abstract only
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.

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.

[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.

[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.

Stroke nurse fellowship: Improving quality and coordination in complex stroke patient care
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.

Technology

[Improving the Use of Blockchain Technology in Stroke Care Information Management Systems.](#)
Item Type: Journal Article
Authors: Yang, Y.;Song, A.;Chang, Q.;Zhao, H.;Kong, W. and Xue, Q.
Publication Date: 2022
Journal: Computational and Mathematical Methods in Medicine 2022, pp. 2642841

Abstract: Blockchain is a new and popular technology in the digital age. Blockchain technology is referred to as decentralised and distributed digital ledgers, which are called blocks. These blocks are linked together with the cryptographic hashes and are used to record transactions between many computers. No single block can be altered without altering the related blocks. Modification of individual block data is impossible because each block contains information from the previous block. This is the unique strength of blockchain. Timestamps and hashes are some of the important terms when blockchains are considered. Data security is guaranteed with this advanced technology. Blockchain technology finds its application in the healthcare industry with many advantages in a queue. Medical data can be transferred safely and securely for fool-proof management of the medicine supply chain, which helps in healthcare research. Blockchains are used to securely encrypt a patient's information in the event of an outbreak of a pandemic disease. A stroke is referred to as a brain attack, also called cerebral infarction. A cerebral infarction is a sudden stoppage of blood flow in the blood vessels connected to the brain. This study focused on evaluating the application of blockchain technology in Stroke Nursing Information Management Systems. This emerging technology is already in use in the healthcare industry. The patient's data is kept decentralized, transparent, and mainly incorruptible, thus keeping it secured and sharing of data is quick.

[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.Copyright © 2019 Sigma Theta Tau International.

[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.

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.

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.

Competency/ Career Frameworks

UK Career Framework for Stroke Nurses Accessible to RCN members
Source: Royal College of Nursing
Publication date: 2022
The UK Career Framework for Stroke Nurses is a new web-tool that is intended to guide the stroke nursing workforce and professional development in supporting stroke services and delivery models. It specifically outlines a range of career pathways within stroke nursing, including the recommended education requirements and role descriptors.

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.

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