

Neurological Services Workforce - References

Web Links

ACT Health Workforce Plan 2005 - 2010 April 2005

<http://www.health.act.gov.au/c/health?a=da&did=4000000&pid=1113350375>

AIHW Labour Force - Health Australian Institute of Health & Welfare

<http://www.aihw.gov.au/labourforce/health.cfm>

AIHW Medical Labour Force 2003 Australian Institute of Health & Welfare National Health Labour Force Series

"This report presents demographic and labour force statistics on the 7medical profession in Australia. It is based on the main findings of the 2003 national survey of registered medical practitioners. Information presented in the report includes the number of registered practitioners in each geographic region and in each state and territory, their age and sex profiles, areas of practice, medical specialties and hours worked. The report also includes comparisons over time using data from the 2000, 2001 and 2002 national surveys of registered medical practitioners." Authored by AIHW. Published 2005-08-19 01:00:00; ISSN 1327-4309; ISBN 1 74024 489 3

This does not showed the workforce needed but the workforce as it was in 2003. The second link is to the spreadsheets that show numbers. See pages 29 to 31 from the second link - on neurology.

<http://www.aihw.gov.au/publications/index.cfm/title/10153>

<http://www.aihw.gov.au/publications/hwl/mlf03/mlf03.pdf>

American Academy of Neurology Neurology in the Next Two Decades: Report of the Workforce Taskforce of the AAN June 1999

<http://www.aan.com/about/membership/wftf.pdf>

Australian Health Ministers' Conference National Health Workforce Strategic Framework April 2004

<http://www.healthsci.utas.edu.au/pih/pdf/nathea04.pdf>

Australian Medical Workforce Advisory Committee See especially the second link for Sustainable Specialist Services: A Compendium of Requirements 2004 Update Neurology is shown on pages 85 to 86.

<http://www.healthworkforce.health.nsw.gov.au/amwac/amwac/>

http://www.healthworkforce.health.nsw.gov.au/amwac/pdf/sustss_20044.pdf

Australian Physiotherapy Association Submission to the WA Department of Health Organisational Development Division Healthy Workforce Consultation 14 December 2005

http://apa.advsol.com.au/independent/documents/submissions/wa_workforce_consultation.pdf



Australian Productivity Commission Australia's The Health Workforce - a Position Paper September 2005

<http://www.pc.gov.au/study/healthworkforce/positionpaper/healthworkforce.pdf>

<http://www.pc.gov.au/study/healthworkforce/>

Australian Resource Centre for Healthcare Innovations ARCHI Health Workforce "This topic covers recruitment and retention, training, occupational health and safety (violence in the workplace), staff roles, rural and remote staffing, and other related areas."

<http://www.archi.net.au/content/index.phtml/itemId/117132>

Canada. A Review of Scopes of Practice of Health Professions in Canada: A Balancing Act Patricia M Baranek November 2005 Health Council of Canada

http://www.hcc-ccs.ca/docs/HCC_Scopes_of_PracticeEN.pdf

Canada Modernizing the Management of Health Human Resources in Canada: Identifying Areas for Accelerated Change Report from a National Summit June 23, 2005 Health Council of Canada

http://www.hcc-ccs.ca/docs/HCC_HHRsummit_2005_eng.pdf

Good Care Planning for People with Long Term Conditions UK Department of Health June 2005

http://www.networks.nhs.uk/uploads/2005_Jun/Matrix_Care_planning_report.pdf

Health Workforce Australia Includes a page with Information on the Australian health workforce.

<http://www.health.nsw.gov.au/amwac/index.html>

<http://www.health.nsw.gov.au/amwac/info.html>

Modernising Workforce Planning - UK Department of Health "Integrated systems of workforce planning help to meet the staffing levels proposed in the NHS Plan. This section explains how this is being done, and provides information on the organisations involved in making it happen."

<http://www.dh.gov.uk/PolicyAndGuidance/HumanResourcesAndTraining/ModernisingWorkforcePlanningHome/fs/en>

New South Wales Health Workforce Planning

<http://www.health.nsw.gov.au/workforce/>

New Zealand General Physician Numbers: Discussion Paper Prepared by IMSANZ NZ Executive at the Request of the RACP (NZ) Office August 2005

http://www.imsanz.org.au/resources/documents/NZ_genmed_workforce.pdf

NHS Modernisation Agency Action on Neurology Improving Neurology Services: A Practical Guide March 2005

http://www.natpact.nhs.uk/uploads/2005_Apr/Action_On_Neurology.pdf

NHS Modernisation Agency Good Care Planning for People with Long-Term Conditions: Updated Version September 2005

"This report, commissioned by the NHS Modernisation Agency to support implementation of the National Service Framework (NSF) for People with Long-Term Conditions, is the outcome of a project which aimed to provide guidance and tools "to assist local health and social care service providers to implement evidence-based, person-centred care planning". Although the NSF focuses on neurological conditions, the guidance is intended to be more widely applicable. The report considers the benefits of, and barriers to, evidence-based, person-centred care planning". Although the NSF focuses on neurological conditions, the guidance is intended to be more widely applicable. The report considers

the benefits of, and barriers to, implementation of good care planning, and identifies critical success factors. It includes case studies and a self-assessment toolkit."

http://www.networks.nhs.uk/uploads/2005_Oct/CarePlanningReportSep05.pdf

NHS Modernisation Agency Neurology Website "This site replaces the Action On Neurology website and provides information about the outcomes from the Action On Neurology programme, summarised in the report Improving Neurology Services - a practical guide.

Delivering well co-ordinated patient centred neurology services is challenging as people with neurological conditions often have complex needs requiring a range of services and support from different professionals and agencies.

The National Service Framework for Long Term Conditions (NSF) published in March 2005 describes a set of core principles in the form of Evidence Based Quality Requirements, which are designed to address the needs of people living with long term neurological conditions.

The Action On Neurology report links the outcomes and lessons learnt by the pilot sites to the relevant NSF Quality Requirements to support the implementation of the NSF and gives ideas about how to go about redesigning services. Many examples of good practice can also be found in the NSF Good Practice Guide.

See the Neurology Collaboration area to find out more about the Action On Neurology pilot sites and some of the tools they have developed to improve their services."

<http://www.wise.nhs.uk/cmsWISE/Clinical+Themes/neurology/services.htm>

NHS Modernisation Agency Workforce Themes

<http://www.wise.nhs.uk/cmsWISE/Workforce+Themes/Into.htm>

NHS Workforce Scorecard "The NHS workforce scorecard is a tool, developed locally to enable HR interventions to be aligned with the overall goals of an organisation. It measures the contribution of HR to patient value and service improvement."

<http://www.dh.gov.uk/PolicyAndGuidance/HumanResourcesAndTraining/NHSWorkforceScorecard/fs/en>

Royal Australasian College of Physicians Clinical Workforce in Internal Medicine and Paediatrics in Australasia 2003 Published May 2004

<http://www.racp.edu.au/hpu/workforce/clinicalsurvey2003.pdf>

Royal Australasian College of Physicians Restoring the Balance. An Action Plan for Ensuring the Equitable Delivery of Consultant Services in General Medicine in Australia and New Zealand 2005 - 2005

http://www.racp.edu.au/hpu/workforce/Restoring_theBalance.pdf

Royal College of Physicians of London Neurology

Consultant Physicians Working with Patients: The duties, responsibilities and practice of physicians in general medicine and the specialties. 3rd Edition p.197 shows current workforce numbers and requirements.

http://www.rcplondon.ac.uk/pubs/books/CPWP/ConsPhys2.neurology.pdf?bcsi_scan_276FAA45874D151E=0&bcsi_scan_filename=ConsPhys2.neurology.pdf

Scottish Health Workforce Plan 2004

<http://www.scotland.gov.uk/Resource/Doc/47237/0013465.pdf>

Scottish National Workforce Planning Framework 2005

<http://www.scotland.gov.uk/Publications/2005/08/30112522/25230>

Skills for Health UK Competencies Framework Long Term Conditions - Neurological Care

http://www.skillsforhealth.org.uk/view_framework.php?id=95

<http://www.skillsforhealth.org.uk/index.php>

Career Framework <http://www.skillsforhealth.org.uk/careerframework/>

UK Department of Health A Career Framework for Healthcare Scientists in the NHS 14 November 2005 "The Healthcare Scientists (HCS) Career Framework aims to provide a guide for NHS and partner organisations on the implementation of an integrated career framework for all healthcare scientists based on the concept of skills escalation and offering flexible career opportunities to meet workforce, service and individual needs."

http://www.dh.gov.uk/PublicationsAndStatistics/Publications/PublicationsPolicyAndGuidance/PublicationSPolicyAndGuidanceArticle/fs/en?CONTENT_ID=4123205&chk=khDK5m

UK Department of Health A National Framework to Support Local Workforce Strategy Development

15 December 2005 "This document has been developed by the Department of Health together with stakeholders across health and social care. This includes organisations such as Sector Skills Councils, NHS Employers, the Local Government Association and a range of local and national stakeholders.

The document suggests a framework within which governing bodies and boards supported by HR directors and managers across health and social care can develop their local strategies.

For NHS organisations, it aims to complement 'A workforce response to local delivery plans' published in August 2005."

http://www.dh.gov.uk/PublicationsAndStatistics/Publications/PublicationsPolicyAndGuidance/PublicationSPolicyAndGuidanceArticle/fs/en?CONTENT_ID=4124746&chk=iv8Gmm

UK Department of Health A Workforce Response to Local Delivery Plans: A Challenge for NHS Boards August 2005

<http://www.dh.gov.uk/assetRoot/04/11/74/64/04117464.pdf>

UK Department of Health HR in the NHS Plan: More Staff Working Differently 2002

http://www.dh.gov.uk/PublicationsAndStatistics/Publications/PublicationsPolicyAndGuidance/PublicationSPolicyAndGuidanceArticle/fs/en?CONTENT_ID=4009112&chk=BhxN/z

UK Department of Health Long Term Conditions National Service Framework (NSF)

<http://www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/LongTermConditions/LongTermInformation/fs/en>

Working group 1: sudden onset with subsequent partial or complete recovery

"An NSF for long-term conditions working group NSF aim:

To advise the ERG in confidence on the development of a National Service Framework (NSF) for long-term conditions with a focus on **neurological services**, making recommendations on the areas in which standards might be set and on how these might be achieved."

http://www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/LongTermConditions/LongTermInformation/LongTermInformationArticle/fs/en?CONTENT_ID=4074255&chk=Ttg4eL

Working group 2: intermittent and unpredictable

http://www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/LongTermConditions/LongTermInformation/LongTermInformationArticle/fs/en?CONTENT_ID=4074268&chk=%2BFVHZb

Working group 3: progressive disability and stable conditions with changing needs due to development and ageing

http://www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/LongTermConditions/LongTermInformation/LongTermInformationArticle/fs/en?CONTENT_ID=4074269&chk=OdARQp

UK Department of Health Making the Change: A Strategy for the Professions in Healthcare Science 2001

http://www.dh.gov.uk/PublicationsAndStatistics/Publications/PublicationsPolicyAndGuidance/PublicationPolicyAndGuidanceArticle/fs/en?CONTENT_ID=4010607&chk=jEtC4G

UK Department of Health Meeting the Challenge: A Strategy for the Allied Health Professions November 2000 "Examines the Government's commitment to expanding the roles which the allied health professions play in health and social care, ensuring they can use their skills flexibly and creatively to the benefit of patients."

<http://www.dh.gov.uk/assetRoot/04/05/51/80/04055180.pdf>

UK Department of Health Planning Framework: Role Resdesign There are a great many links from this site to related information.

http://www.dh.gov.uk/PolicyAndGuidance/HumanResourcesAndTraining/WorkingDifferently/EuropeanWorkingTimeDirective/EWTDGuidanceLinksArticle/fs/en?CONTENT_ID=4075499&chk=ISo%2B7x

UK Department of Health Supporting New Roles and Ways of Working "The Allied Health Professions branch promotes skill mix and integrated working across professions, services and organisations to ensure best use of scarce professional skills. This includes promoting the role of generic therapy assistants, enablement workers (home care assistants trained to act as therapy assistants in the home setting) and the role of the education health workers developed between health and education to provide nursing and therapy support for children with complex medical and therapeutic needs. There are a range of policy priorities such as choice, access, waiting and national service frameworks requiring transformational changes across the allied health professions; the following initiatives are designed to secure extended roles which make effective uses of the knowledge and skills of all AHP's." 2003

http://www.dh.gov.uk/AboutUs/HeadsOfProfession/ChiefHealthProfessionsOfficer/CHPOPolicyAreas/CHPOPPolicyAreasArticle/fs/en?CONTENT_ID=4061506&chk=6tDW33

Victorian Department of Human Services Health Workforce

<http://www.health.vic.gov.au/yourhospitals/workforce.htm>

WA Health Healthy Workforce Consultation Overview October 2005

<http://www.health.wa.gov.au/hrit/workforceframework/docs/3155%20WorkConsultOverv.pdf>

WA Allied Health Taskforce on Workforce Issues

<http://www.alliedhealth.health.wa.gov.au/documents%5CAHTWI%20Initial%20report%20finalversion.pdf>

<http://www.health.wa.gov.au/mahc/Allied%20web%20page7.htm>

Journal References

Check journal availability (online and print) at your Library's intranet site. Some of the articles may also be available via the CIAO interface. [Clinical Information Access Online]

<http://www.ciao.health.wa.gov.au> Articles not available locally may be obtained through the inter-library document supply system.

Acad Med. 2005 Jan;80(1):39-43.

Balancing continuity of care with residents' limited work hours: defining the implications.

Fletcher KE, Saint S, Mangrulkar RS.

Primary Care Division, Clement J. Zablocki Veterans Affairs Medical Center, 5000 W. National Avenue, Milwaukee, WI 53295, USA. kathlyn.fletcher@med.va.gov

The impact of the new resident work-hours rules on all aspects of patient care and education must be considered. While physician fatigue has taken center stage as the primary motivation behind this movement, the effect of these rules on the continuity of care for hospitalized patients needs to be critically analyzed from the perspectives of patients, physicians, and the health care system. The authors describe a conceptual framework that places continuity at the center and then considers the benefits and drawbacks of preserving continuity from the perspectives of the major stakeholders. They describe the categories of outcomes related to residents' fatigue and sleep deprivation that have been studied. Only a few studies have addressed patient outcomes, while most address resident outcomes. The authors discuss some of the possible solutions, including night float and the British system of shift work, and suggest that these solutions have different effects on each group of stakeholders, including both intended and unintended benefits and harms. Finally, the research agenda that arises from this framework is described. It includes taking into account multiple perspectives, identifying important outcomes, and considering unintended consequences. Using this framework, medical educators may better evaluate previous studies and consider remaining questions.

PMID: 15618090 [PubMed - indexed for MEDLINE]

Age Ageing. 2003 Mar;32(2):211-7.

British Association of Stroke Physicians: benchmarking survey of stroke services.

Rodgers H, Dennis M, Cohen D, Rudd A; British Association of Stroke Physicians.

School of Population and Health Sciences (Epidemiology and Public Health), The Medical School, University of Newcastle upon Tyne, Newcastle upon Tyne NE2 4HH, UK. helen.rodgers@newcastle.ac.uk

BACKGROUND: the National Service Framework for Older People requires every general hospital which cares for stroke patients to introduce a specialist stroke service by 2004. **OBJECTIVE:** to describe the organisation and staffing of specialist hospital-based stroke services in the UK. **DESIGN:** a national postal survey of consultant members of the British Association of Stroke Physicians (BASP) seeking details of the provision of neurovascular clinics, acute stroke units (ASUs), stroke rehabilitation units (SRUs), and the organisation and staffing of these services. **RESULTS:** the response rate was 91/126 (72%). Fifty-four neurovascular clinics, 40 ASUs and 68 SRUs were identified. Neurovascular clinics used a number of strategies to maintain rapid access and 30 (56%) were run by a single consultant. Only 50% ASUs usually admitted patients within 24 h of stroke. As the number of beds available on ASUs and SRUs did not reflect the total number of stroke in-patients, 21 (53%) ASUs and 45 (79%) SRUs had admission criteria. Training opportunities were limited: 37% ASUs and 82% SRUs had no specialist registrar. The therapy sessions (1 session=half a day) available per bed per week on a SRU were: physiotherapy 0.8; occupational therapy 0.6; speech and language therapy 0.25. **CONCLUSIONS:** significant development is needed to achieve the NSF target for hospital-based stroke services as few Trusts currently have all components in place and even when available not all stroke patients have access to specialist care. Stroke specialists will be required to run these services but training opportunities are currently limited. Stroke unit therapy staffing levels were lower than was available in randomised controlled trials.

PMID: 12615567 [PubMed - indexed for MEDLINE]

Ann Surg. 2005 Sep;242(3):364-70; discussion 370-4.

Neurosurgical coverage: essential, desired, or irrelevant for good patient care and trauma center status.

Esposito TJ, Reed RL 2nd, Gamelli RL, Luchette FA.

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SUMMARY AND BACKGROUND DATA: As a result of many factors, the availability of neurosurgeons (NS) to care for trauma patients (TP) is increasingly sparse. This has precipitated a crisis in access to neurosurgical support in many trauma systems, often placing undue burden on level I centers. This study examines the profile of head-injured (HI) trauma patients and their actual need for the specific expertise of a neurosurgeon. **METHODS:** The National Trauma Data Bank (NTDB) was queried for specific information relating to the volume, nature, timeliness, and outcome of HI TP. Study patients were identified by reported International Classification of Diseases, 9th Edition (ICD-9) codes denoting open (OHI) or closed head injury (CHI) in isolation or in combination with other injuries. **RESULTS:** Total number of NTDB patients studied was 731,823, of which 213,357 (29%) had a reported HI. CHI represented 22% of all TP and 74% of HI. OHI was reported in 8% of all TP and was 26% of HI. Craniotomy (crani) was performed in 3.6% of all HI (1% of all TP). This was in 2.8% of OHI and 2.6% of CHI. Mean Glasgow Coma Scale score (GCS) of crani patients was 9, and 13 for the noncrani group. Subdural hematoma occurred in 18% of HI (5% of TP),

with 13% undergoing crani. Epidural hematoma occurred in 10% of HI (3% of all TP), with 17% undergoing crani. Median time to OR for all cranis was 195 minutes (195 for CHI; 183 for OHI). Of all cranis, 6.5% were performed within 1 hour of hospital admission. Intracranial pressure (ICP) monitoring was reportedly used in 0.7% of TP and 2.2% of HI. CONCLUSIONS: Care of TP with HI rarely requires the explicit expertise and immediate presence of a neurosurgeon due to volume and nature of care. HI was diagnosed in <30% of TP reported to the NTDB. Over 95% required nonoperative management alone, with only 1% of all TP and 2%-4% of HI TP requiring crani and/or ICP monitoring. Immediate availability of NS is not essential if a properly trained and credentialed trauma surgeon or other health care provider can appropriately monitor patients for neurologic demise and effect early transfer to a center capable of, and committed to, operative and postoperative neurosurgical care. A subgroup of patients known to have a high propensity for the specific expertise of a neurosurgeon may be able to be identified for direct transport to these committed centers.

PMID: 16135922 [PubMed - indexed for MEDLINE]

Arch Intern Med. 2000 Jan 10;160(1):119-20.

Brain attack: who will write the orders for thrombolytics?

Wehrmacher WH, Iqbal O, Messmore H.

Publication Types: Letter

PMID: 10632317 [PubMed - indexed for MEDLINE]

Arch Phys Med Rehabil. 2003 Mar;84(3):410-8.

Characteristics of effective and efficient rehabilitation programs.

Johnston MV, Wood KD, Fiedler R.

Kessler Medical Rehabilitation Research and Education Corp, West Orange, NJ 07072, USA. mjohnston@kmrrec.org

OBJECTIVE: To investigate the characteristics of rehabilitation hospitals and units correlated with gains in motor and cognitive function, after adjusting for case severity of the patients admitted and for length of stay (LOS). DESIGN: The Uniform Data System for Medical Rehabilitation (UDSMR) database was first analyzed to develop a method of adjusting for patient case severity on admission. Rehabilitation programs were surveyed to assess characteristics commonly thought to be associated with efficiency and effectiveness. Data on these characteristics were linked to UDSMR data on patient characteristics and functional gain. SETTING: Seventy-seven rehabilitation hospitals across the United States. PARTICIPANTS: A total of 37,692 inpatients from the participating rehabilitation hospitals. INTERVENTION: Comprehensive rehabilitation programs not altered by researcher. MAIN OUTCOME MEASURES: Program effectiveness was estimated by gains in motor and cognitive subscale scores of the FIM trade mark instrument between admission and discharge, adjusted for indicators of caseload severity at admission. Efficiency was estimated by adjusting gains for LOS as well. RESULTS: Primary factors affecting both motor and cognitive gains included admission function (treated curvilinearly), age, certain diagnostic distinctions, onset-admission interval, admission class, and LOS. Correlations between staffing intensity and numerous other program characteristics with functional gain were meager, each accounting for less than 2% of variance. LOS was predicted by a number of factors, notably by the percentage of managed care cases ($r=-.20$), but not by staffing intensity. CONCLUSIONS: Relationships between rehabilitation practices and functional gains by patients do not appear to be simple or overt. Continued research is needed to identify reliable connections between rehabilitative processes and patient outcomes in practice. Copyright 2003 by the American Congress of Rehabilitation Medicine and the American Academy of Physical Medicine and Rehabilitation

PMID: 12638110 [PubMed - indexed for MEDLINE]

Aust Health Rev. 2002;25(6):100-8.

Safe working hours--doctors in training a best practice issue.

Lewis A.

Australian Medical Association, Victoria.

In 1995, the Australian Medical Association launched its Safe Working Hours campaign. By 1998, this had been developed into a National Code of Conduct that continues to resonate in the Australian public health system. However, and particularly in respect of Doctors in Training (DITs) who continue to work long hours, there are levels of resistance to proposals that seek to re-organise work or change prevailing professional and cultural expectations. Long working hours have substantial impacts on a DIT's capacity to

consistently deliver high quality patient care, dilute the effectiveness of their training regime and have negative consequences on their health, social life and family responsibilities. While public hospitals often maintain the view that minimal budget flexibility restricts their capacity to affect change in a positive way, in fact devisable productivity and efficiency gains can be achieved by reducing working hours. Further, the medical profession needs to consider whether long hours provide an optimal environment for quality learning and performance.

PMID: 12536869 [PubMed - indexed for MEDLINE]

Can J Neurol Sci. 2005 Aug;32(3):306-10.

Comment in: Can J Neurol Sci. 2005 Aug;32(3):275-6.

Inventory of pediatric neurology "manpower" in Canada.

Keene DL, Humphreys P.

Department of Pediatrics, Division of Pediatric Neurology, Children's Hospital of Eastern Ontario, Ottawa, Ontario, Canada.

OBJECTIVE: To review the demographics and workload characteristics of pediatric neurology in Canada. **METHOD:** A standardized survey questionnaire was mailed out to practicing pediatric neurologists in Canada in 2001. Variables examined were age, gender, hours on call, regular hours worked per week, type of practice and projected changes in practice over next five to ten years. Results were compared to the 1994 Pediatric Neurology Manpower Survey which had used the same survey instrument. **RESULTS:** Fifty-six (70%) pediatric neurologists practicing in Canada returned the survey. As was the case in 1994, no significant differences in workload were found based on age or gender. The average age of the practicing pediatric neurologist in 2001 was 51 years compared to 45 years in 1994. The proportion of physicians over 55 years in 2001 was 35% compared to 25% in 1994. **CONCLUSIONS:** Pediatric neurology in Canada is an aging specialty needing a significant recruitment of new members

PMID: 16225170 [PubMed - indexed for MEDLINE]

Can J Neurol Sci. 2005 Aug;32(3):275-6.

Comment on: Can J Neurol Sci. 2005 Aug;32(3):306-10.

The challenge of Canadian pediatric neurology manpower supply.

Shevell MI.

Publication Types: Comment Editorial

PMID: 16225166 [PubMed - indexed for MEDLINE]

Clin Med. 2002 Sep-Oct;2(5):436-9.

UK neurologists and the care of adults with acute neurological problems.

Warlow C, Humphrey P, Venables G.

Western General Hospital NHS Trust, Edinburgh.

In the UK, most patients admitted to hospital with acute neurological problems are not looked after or even seen by a consultant neurologist. As a result, the outcome of their care may be suboptimal. The Association of British Neurologists believes that, in order to provide a reasonable service, the number of consultant neurologists will have to increase more than threefold, to about 1,400. This should be achievable in the next 10-15 years and would bring UK neurological services up to the standards that already obtain in comparable European countries.

PMID: 12448591 [PubMed - indexed for MEDLINE]

Epilepsia. 2003 May;44(5):727-31.

ILAE Commission of European Affairs Subcommittee on European Guidelines 1998-2001: The provision of epilepsy care across Europe.

Malmgren K, Flink R, Guekht AB, Michelucci R, Neville B, Pedersen B, Pinto F, Stephani U, Ozkara C; ILAE Commission of European Affairs, Subcommittee on European Guidelines.

Epilepsy Research Group, Institute of Clinical Neuroscience, Sahlgrenska University Hospital, SE-413 45 Goteborg, Sweden. kristina.malmgren@neuro.gu.se

PURPOSE: To assess the needs and resources available in the provision of basic epilepsy care across Europe. **METHODS:** A mailed questionnaire was used, the European Epilepsy Services inventory (EESI). The EESI was distributed to all 36 European chapters of the International League Against Epilepsy (ILAE), and answers were obtained from 32, a response rate of 89%. For the purpose of studying trends across Europe,

the chapters were divided into a Western, an Eastern, a Central, and a Southern group. RESULTS: The survey results showed that there was a wide range in the number of physicians and specialists involved in epilepsy care across Europe, with a trend toward higher numbers of neurologists, pediatricians, and pediatric neurologists in Eastern Europe. Many different specialties were involved in epilepsy care, and many chapters reported differences in the provision of care across their countries, with less possibility for patients to see a specialist in the least provided areas, where most epilepsy patients were cared for by general practitioners and internists. Problems with high costs of the newer antiepileptic drugs were most pronounced in Eastern Europe. Problems with lack of comprehensive care and of epilepsy specialists, with stigma and social problems, and with insufficient professional education and knowledge about epilepsy were reported all across Europe. CONCLUSIONS: Knowledge about differences in the pattern of provision of epilepsy care and about the main problems encountered by the European ILAE chapters is of importance in the continuing efforts to improve management of epilepsy all over Europe.

Publication Types: Evaluation Studies

PMID: 12752475 [PubMed - indexed for MEDLINE]

Eur J Neurol. 2003 May;10(3):205-11.

The Education Committee of the EFNS: activities and work in progress.

Education Committee of the EFNS. EFNS Head Office, Vienna, Austria.

Publication Types: Guideline

PMID: 12752392 [PubMed - indexed for MEDLINE]

Eur Neurol. 2003;50(4):207-14.

Impact of emergency room neurologists on patient management and outcome.

Moulin T, Sablot D, Vidry E, Belahsen F, Berger E, Lemounaud P, Tatu L, Vuillier F, Cosson A, Revenco E, Capellier G, Rumbach L.

Department of Neurology, University Hospital, Besancon, France. thierry.moulin@univ-fcomte.fr

The frequency and impact of in-patient assessment by a neurologist in the emergency room (ER) setting remain largely underestimated. The objective of our study was to analyse the impact of neurologist in-patient management. METHODS: Over a period of 12 months, we prospectively recorded the demographics of patients requiring examination in the ER, the ER team's tentative neurological diagnosis, the neurology team's final diagnosis and patient outcomes. The time interval between admission, call for a neurologist and the assessment by the neurologist were recorded. RESULTS: Assessments by neurologists were performed in 14.7% (1,679/11,421) of all patients admitted to the ER. The mean time between admission and examination was 32 (+/- 36) min, irrespective of the day of the week, and dependent on the tentative diagnosis: shorter for stroke and status epilepticus ($p < 0.05$) and longer for confusion and vertigo ($p < 0.05$). The initial causes for examination were: stroke (33.1%), epilepsy (20%), loss of consciousness (9%), headaches (9%), confusion (5.4%), peripheral nervous system disorders (4.4%), vertigo (4.2%), cognitive dysfunctions (4%), gait disorders (3.2%) and miscellaneous (7.1%). Overall, false positive or negative diagnoses were produced by the ER in 37.3 and 36.6% of ER admissions, respectively. A complete change of diagnosis by the neurologist was found in 52.5% of patients. Of the patients undergoing a neurological examination, 18.4% were able to go home, 31.8% were admitted to the stroke unit, 32.4% to the general neurology unit and 17.4% to other departments. CONCLUSION: Our study stresses the need for a neurologist in the ER, both in quantitative terms and for the benefit of patient management. Copyright 2003 S. Karger AG, Basel

PMID: 14634264 [PubMed - indexed for MEDLINE]

J Adv Nurs. 2001 Oct;36(1):7.

MS specialist nursing in North America.

[No authors listed]

Publication Types: News

PMID: 11601412 [PubMed - indexed for MEDLINE]

J Child Neurol. 2004 Jan;19(1):6-13.

The future of child neurology: a profile of child neurology residents.

Polsky D, Werner RM.

Division of General Internal Medicine, University of Pennsylvania, Blockley Hall, Rm. 1208, Philadelphia, PA 19104-6021, USA.

Current workforce projections estimate that there is a shortage of child neurologists. We surveyed child neurology residents to learn more about the entry point for a career in child neurology: what attracts current residents to the field of child neurology and what the future career plans of child neurology residents are. Most respondents (52%) were exposed to child neurology for the first time in their third or fourth year of medical school, with 41% reporting that they chose the specialty at that time. US medical graduates identified having a mentor as one of the most influential exposures in their career choice. Respondents predict that they will spend less time on patient care and more time on research than current practicing child neurologists report. When asked about what could improve the attractiveness of the field, residents responded that medical students should get increased and earlier exposure to child neurology. Given the declining number of individuals pursuing a career in child neurology and that current residents predict that they will spend less time seeing patients than their predecessors do, understanding how to attract more candidates to child neurology will be essential to alleviate future shortages in child neurology.

PMID: 15032376 [PubMed - indexed for MEDLINE]

J Child Neurol. 2003 Mar;18(3):180-4.

Pediatric neurology services in Canada: demand versus supply.

Ronen GM, Meaney BF.

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As the practice of pediatric neurology has continued to evolve and expand, concerns have emerged regarding a perceived trend toward increasing clinical demand and decreasing manpower. Quantitative data are lacking, however. To address this, a questionnaire was sent to hospital-based pediatric neurology units in Canada, with all 18 centers responding. A total of 63 full-time-equivalent pediatric neurologists were disproportionately spread across the country, giving an overall ratio of 2.1 per million population (or 1.1 per 100,000 children). Waiting times for nonurgent consultations showed a median of 12.5 weeks. The number of weekly clinics per population was not proportional to either the number of specialists per center or to the waiting times. The regional variations in the level of service do not correlate with the regional manpower figures, reflecting different individual profiles of clinical and academic activities.

PMID: 12731643 [PubMed - indexed for MEDLINE]

J Clin Neurophysiol. 2001 Mar;18(2):162-5.

Current practice in administration and clinical criteria of emergent EEG.

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Policies of administration and availability of EEG offered during nonbusiness hours vary widely among EEG laboratories. The authors surveyed medical directors of accredited EEG laboratories (n = 84) to determine the ranges of availability and clinical indications for approval of continuously available emergent EEG (E-EEG). Of 46 respondents, 37 (80%) offered E-EEG. Two centers recently lost funding for E-EEG. Availability was not associated with the total number of EEGs performed annually. The mean estimated response time from request to expert interpretation was 3 +/- 4 hours (range, 1-24 hours). The five clinical indications for which most respondents approved E-EEGs were possible nonconvulsive status epilepticus (100%), treatment of status epilepticus (84%), cerebral death exam (81%), diagnosis of convulsive status epilepticus (79%), and diagnosis of coma or encephalopathy (70%). Respondents disagreed widely when asked which clinical situations merited E-EEG, with some approving all requests and others denying all except for nonconvulsive status epilepticus. The wide range of current practice suggests that research focused on outcomes of aggressive, EEG-aided patient evaluation and treatment are needed to define better the costs and benefits of a continuously available EEG service.

PMID: 11435807 [PubMed - indexed for MEDLINE]

J Eval Clin Pract. 2004 May;10(2):241-6.

A multidisciplinary guideline for the acute phase of stroke: barriers perceived by Dutch neurologists.

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RATIONALE, AIMS AND OBJECTIVES: Guidelines for stroke management should improve quality of care. Dissemination of guidelines, however, does not guarantee guideline adherence. The aim of this paper is to investigate barriers for guideline adherence to bring about suggestions for possible implementation strategies. **METHOD:** Questionnaire survey among all Dutch neurologists working on neurology wards in general hospitals during the year 2000 in The Netherlands. **RESULTS:** The neurologists expressed a high degree of agreement with the diagnostic and preventive recommendations, but expressed doubts with regard to the therapeutic recommendations, especially for the recombinant tissue plasminogen activator therapy. In general, barriers at the organizational and the multidisciplinary team level were most prominent. **CONCLUSIONS:** Active implementation of the guidelines seems necessary. Implementation strategies should be focused on the different sources of barriers: the caregiver, the patient and the organization of care.

PMID: 15189390 [PubMed - indexed for MEDLINE]

J Neurol Neurosurg Psychiatry. 2004 Mar;75(3):406-9.

Provision of 24 hour acute neurology care by neurologists: manpower requirements in the UK.

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OBJECTIVES: The ABN has published standards of care for patients with acute neurological disease. Derriford Hospital provides a 24 hour neurology intake service to a population of 500,000 with the equivalent of four consultants, three specialist registrars (SpRs), and four senior house officers (SHOs) with a 37 bed ward. The authors undertook a prospective study of all neurology admissions to enable calculation of manpower necessary to meet the ABN guidelines. **METHODS:** All admissions to the neurology department were analysed prospectively for a three month period (March to May 2002). **RESULTS:** There were 629 admissions (equating to 2500 per year); data were collected for 93%. 78% of admissions were emergency, 16% elective. The mean number of neurology inpatients at any time was 76, with three (4%) being elective. The main diagnostic categories were stroke (29%), headache syndrome (13%), and epilepsy or seizures (12%). With regard to emergency admissions, 94% were seen by a neurology SHO within 6 hours and 81% by an SpR or consultant within 24 hours. Twenty five percent of emergency admissions were not seen by a consultant. 55% of patients were cared for on non-neurological wards for their entire admission. Median length of stay for stroke patients was 9.5 days, compared with 4 days for other patients. 37% of patients received a neurology follow up appointment. Currently each SpR spends 18 hours per week involved in the care of acute neurology admissions. **CONCLUSION:** Meeting the ABN guidelines will require an increase in total neurology bed provision to at least 15 per 100,000 population, with the equivalent of 3 consultant sessions (11 hours/week). Meeting the European Working Time Directive will require a minimum of 8-10 SpRs working a full shift system, which will have a significant impact on training and other aspects of service delivery.

PMID: 14966156 [PubMed - indexed for MEDLINE]

J Neurol Neurosurg Psychiatry. 2003 Jan;74(1):5.

Comment on: J Neurol Neurosurg Psychiatry. 2003 Jan;74(1):20-4.

Assessment of health needs in multidisciplinary care.

Young CA.

Publication Types: Comment Editorial

PMID: 12486254 [PubMed - indexed for MEDLINE]

J Neurol Neurosurg Psychiatry. 2001 Aug;71(2):182-7.

Acute care in neurosurgery: quantity, quality, and challenges.

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OBJECTIVE: Part of the daily routine in neurosurgery is the treatment of emergency room admissions, and acute cases from other departments or from outside hospitals. This acute care is not normally included in performance figures or budget management, nor analysed scientifically in respect of quantity and quality of care provided by neurosurgeons. **METHOD:** Over a 1 year period, all acute care cases managed by two neurosurgical on call teams in a large northern German city, were recorded prospectively on a day by day basis. A large database of 1819 entries was created and analysed using descriptive statistics. **RESULTS:** The minimum incidence of patients requiring neurosurgical acute care was estimated to be 75-115/100 000

inhabitants/year. This corresponds to a mean of about 6/day. Only 30% of patients came directly via the emergency room. The fate of 70% of patients depended initially on the "neurosurgical qualification" of primary care doctors and here deficits existed. Although most intracerebral and subarachnoid haemorrhages were managed with the participation of neurosurgeons, they were not involved in the management of most mild and moderate traumatic brain injuries. Within 1 year the additional workload from acute care amounted to 1000 unplanned admissions, 900 acute imaging procedures, and almost 400 emergency operations. CONCLUSION: The current policy in public health, which includes cuts in resources, transport facilities, and manpower, is not compatible with the demonstrated extent of acute neurosurgical care. In addition to routine elective work, many extra admissions, evening or night time surgery, and imaging procedures have to be accomplished. An education programme for generalists is required to improve overall patient outcome. These conclusions hold special importance if health authorities wish to not only maintain present standards but aim to improve existing deficits.
PMID: 11459889 [PubMed - indexed for MEDLINE]

J Neurol Sci. 2002 Jun 15;198(1-2):3-7.

Comment in: J Neurol Sci. 2002 Jun 15;198(1-2):1-2.

Training and distribution of neurologists worldwide.

Bergen DC; World Federation of Neurology Task Force on Neurological Services.

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Information about the global distribution, number, and training of neurologists and other neuro-specialists is vital for the planning of prevention, care, and treatment of disorders of the nervous system, which are a major cause of death and disability worldwide. Delegates of the World Federation of Neurology (WFN) were surveyed about the number, training, and location of neurologists in their countries. Sixty-three out of 84 responded (75%). Most neurologists receive full-time training in neurology, but pass an examination or board in neurology in only 41/63 (65%) of countries. Comprehensive training in neurology is available in only 35/59 (59%) of countries responding, with some training abroad for the rest. Very few neurologists are located in developing countries. Populations per neurologist range from 6240 to over 4 million. Continuing medical education is required for neurologists in only 34/63 (54%) of countries. In 45/64 (71%) of countries, only a small proportion (0-25%) of neurologists work full time in academic centers. A substantial majority (75-100%) of neurologists work in private practice in many countries (17/63 or 27%). In 31/63 (49%) of countries, most neurologists practice in large cities.

PMID: 12039656 [PubMed - indexed for MEDLINE]

J Neurol Sci. 2002 Jun 15;198(1-2):1-2.

Comment on: J Neurol Sci. 2002 Jun 15;198(1-2):3-7.

Neurologic care and the care provided by neurologists: implications of the World Federation of Neurology workforce survey.

Menken M.

Publication Types: Comment Editorial

PMID: 12039655 [PubMed - indexed for MEDLINE]

J Neurooncol. 2004 Aug-Sep;69(1-3):19-23.

Chairman's reflection on the past, present and future of neurosurgical oncology.

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The development of neurosurgical oncology as a subspecialty is closely tied to the development of neurosurgery as a whole. Therefore, the progress that has taken place in the diagnosis and the surgical management of neurosurgical disorders has been widely applied to oncologic disorders affecting the nervous system. The challenges and opportunities that characterize the specialty are grouped into five general categories. These are issues that are related to (1) the management of a large and diverse patient population, (2) the proper training of neurosurgeons to develop the set of required technical skills, (3) the lack of disease curability and its associated opportunity for research endeavors, (4) the importance of the multidisciplinary coordination of care in a horizontal matrix model, and (5) the psychosocial dimensions that are a part of the complexity of human nature. Based on a current assessment of the subspecialty, a

perspective on the unfolding future is obtained. This future can be characterized by a stronger workforce, a broader connectivity and representations, and an improved scientific inquiry.

Publication Types: Review

PMID: 15527077 [PubMed - indexed for MEDLINE]

J Neurosurg. 2005 Oct;103(4):585-90.

Fast forwarding: the evolution of neurosurgery. The 2005 presidential address.

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Despite the major social and economic reorganization of medical practice that has taken place during the past 40 years, neurosurgery-the most fascinating specialty in all of clinical medicine-has grown and prospered. Today, this specialty is poised for an era of spectacular advancement and improvement in care; however, significant problems with the potential to retard this growth face neurosurgery. Among these problems is the medical liability situation, which has the potential to destabilize neurosurgical practices and the current health care delivery system. Other issues facing neurosurgery include the potential for loss of the unique nature of the specialty through a conversion to shift-worker surgeons and increasing reliance on profit-seeking institutions for financial stability and liability protection. Lifestyle choices are of growing importance and currently discourage women from entering the field. With a growing knowledge base, there is the recognition that it may not be possible for most individuals to master all aspects of the specialty. There is continued confusion about manpower needs. In addition, some neurosurgeons are choosing to practice in ways that fail to meet the neurosurgeon's obligations to society. There is a growing number of neurosurgeons who dislike providing trauma coverage and there is the potential for some neurosurgeons to give up intracranial neurosurgery. The author believes that it is not competition that will improve the delivery of neurosurgical care and allow for continued growth, but cooperation, and that it will be possible to alleviate many of our problems through increased regionalization of neurosurgical care delivery. This proposal has the potential to promote the formation of neurosurgical teams, ameliorate the problem of physician fatigue, allow greater development of subspecialty skills, and ease the burden of trauma call. It should allow satisfactory solutions to lifestyle considerations and encourage more women to enter the field of neurosurgery. Such a transformation would encourage advances in care to be brought rapidly into the clinical setting and allow neurosurgery to be practiced at the very highest level.

Publication Types: Addresses

PMID: 16266037 [PubMed - indexed for MEDLINE]

J Paediatr Child Health. 2005 Jul;41(7):313-6.

Comment in: J Paediatr Child Health. 2005 Jul;41(7):311-2.

Drug treatment of neonatal seizures by neonatologists and paediatric neurologists.

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OBJECTIVE: To survey anti-epileptic drug (AED) treatment of early-onset neonatal seizures by neonatologists and paediatric neurologists. **METHODS:** A self-administered questionnaire was posted to Australian and New Zealand neonatologists and paediatric neurologists. Participants were given the hypothetical case of a full-term infant with early-onset seizures following perinatal asphyxia and asked to nominate their preferred AED for treatment of three seizure episodes during the first 24 h. **RESULTS:** One hundred and seven (57%) of 187 individuals answered the questionnaire: neonatologists responded more often than neurologists ($\chi^2(1,187) = 7.18, P = 0.007$). Phenobarbitone was used by 95% of the respondents to treat the first episode of seizures and 75% of them used an appropriate loading dose (20 mg/kg). Phenobarbitone was used by 84 and 40% of the respondents to treat the second- and third-seizure episodes, respectively. Neonatologists used phenobarbitone, phenytoin and a benzodiazepine with equal frequency to treat a third episode of seizures, whereas neurologists rarely used a benzodiazepine. Neonatologists used significantly larger total doses of phenobarbitone than neurologists. Very few respondents used pyridoxine to treat recurrent seizures that were historically linked to perinatal asphyxia and hypoxic-ischaemic encephalopathy. Neonatologists were more likely than neurologists to discontinue AED within a few days of seizure cessation ($\chi^2(1,106) = 11.60, P = 0.0006$). **CONCLUSIONS:** Australian and New Zealand neonatologists and paediatric neurologists generally use phenobarbitone to treat neonatal seizures presumed to be owing to hypoxic-ischaemic encephalopathy, though they do not always use appropriate doses. Neonatologists use phenobarbitone, phenytoin or a benzodiazepine for second and

third episodes of seizures, whereas neurologists tend not to use benzodiazepines. Neonatologists use larger total doses of phenobarbitone than neurologists in pursuit of seizure control. Neonatologists discontinue AED earlier than neurologists.

PMID: 16014133 [PubMed - indexed for MEDLINE]

J Pediatr. 2005 Jan;146(1):20-5.

Comment in: J Pediatr. 2005 Jan;146(1):3-5.

Comparing the supply of pediatric subspecialists and child neurologists.

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OBJECTIVE: To examine physician workforce characteristics and workforce projections of one vulnerable pediatric subspecialty, child neurology, and compare this subspecialty with other pediatric subspecialties, general pediatrics, and adult neurology. **STUDY DESIGN:** National survey of child neurologists compared with other pediatric specialties in the Community Tracking Study Physician Survey (CTS) and the American Medical Association (AMA) Masterfile, and input-output workforce projections. **RESULTS:** Child neurologists are more likely than other specialists to report that the complexity or severity of patients' conditions at the time of referral is less than it should be and that the number of patients being referred to them has increased. Projections of the future workforce reveal that by 2022 the number of pediatric subspecialists and pediatricians will increase substantially, to almost 180% and 150% of the current workforce, respectively. Among child neurologists and adult neurologists, practicing physicians will be only 109% and 105% of the current workforce by 2022. **CONCLUSIONS:** Child neurologists are more likely to face future workforce shortages than other pediatric subspecialists. To reduce future shortages, recruitment efforts need to be concentrated on the at-risk subspecialties such as child neurology. In the short-term, addressing the high prevalence of inappropriate low-acuity referrals to child neurologists may ease the gap between supply and demand.

PMID: 15644816 [PubMed - indexed for MEDLINE]

J Pediatr Nurs. 2003 Feb;18(1):70-4.

An assessment of the mental health of physicians specializing in the field of child neurology.

Horiguchi T, Kaga M, Inagaki M, Uno A, Lasky R, Hecox K.

Department of Developmental Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Ichikawa, Chiba, Japan.

We assessed physicians working in the field of child neurology with the aim of improving the physicians' mental health. Our questionnaire included a burnout inventory and a general health questionnaire. We analyzed 29 responses from physicians in a variety of countries obtained through the Internet. According to their responses, 8 (27.5%) of the respondents had attained a burnout status, and 27 respondents (93.1%) had neurotic conditions. We found a greater percentage of physicians in poor mental health than we had found previously in assessments made in Japan. However, the respondents in the present survey had more positive styles for coping with stress. The length of time working as a physician affected respondents in Japan and internationally, whereas nationality or working environment (workplace, night shifts, and so on) did not. Consultants or mentors on work and assertive stress coping would be effective. Copyright 2003, Elsevier Science (USA). All rights reserved.

PMID: 12610791 [PubMed - indexed for MEDLINE]

Lancet. 2000 Sep 9;356(9233):894-9.

Comment in: Lancet. 2000 Sep 9;356(9233):869-70. Lancet. 2001 Jan 13;357(9250):146-7.

Lancet. 2001 Jan 13;357(9250):146; author reply 147.

Alternative strategies for stroke care: a prospective randomised controlled trial.

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BACKGROUND: Organised specialist care for stroke improves outcome, but the merits of different methods of organisation are in doubt. This study compares the efficacy of stroke unit with stroke team or domiciliary care. **METHODS:** A single-blind, randomised, controlled trial was undertaken in 457 acute-stroke patients (average age 76 years, 48% women) randomly assigned to stroke unit, general wards with stroke team support, or domiciliary stroke care, within 72 h of stroke onset. Outcome was assessed at 3,

6, and 12 months. The primary outcome measure was death or institutionalisation at 12 months. Analyses were by intention to treat. FINDINGS: 152 patients were allocated to the stroke unit, 152 to stroke team, and 153 to domiciliary stroke care. 51 (34%) patients in the domiciliary group were admitted to hospital after randomisation. Mortality or institutionalisation at 1 year were lower in patients on a stroke unit than for those receiving care from a stroke team (21/152 [14%] vs 45/149 [30%]; $p < 0.001$) or domiciliary care (21/152 [14%] vs 34/144 [24%]; $p = 0.03$), mainly as a result of reduction in mortality. The proportion of patients alive without severe disability at 1 year was also significantly higher on the stroke unit compared with stroke team (129/152 [85%] vs 99/149 [66%]; $p < 0.001$) or domiciliary care (129/152 [85%] vs 102/144 [71%]; $p = 0.002$). These differences were present at 3 and 6 months after stroke. INTERPRETATION: Stroke units are more effective than a specialist stroke team or specialist domiciliary care in reducing mortality, institutionalisation, and dependence after stroke.

Publication Types: Clinical Trial Randomized Controlled Trial

PMID: 11036894 [PubMed - indexed for MEDLINE]

Lancet Neurol. 2003 Sep;2(9):572-9.

Comment in: Lancet Neurol. 2003 Oct;2(10):594; discussion 594.

Neurology training around the world.

Hooker J, Eccher M, Lakshminarayan K, Souza-Lima FC, Rejdak K, Kwiecinski H, Corea F, Lima JM.

The National Hospital for Neurology and Neurosurgery, Queen Square, WC1N 3BG, London, UK.

PMID: 12941581 [PubMed - indexed for MEDLINE]

LDI Issue Brief. 2005 Apr;10(6):1-4.

Child neurology: workforce and practice characteristics.

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For more than a decade, reports have indicated that the supply of child neurologists is inadequate to provide care for the growing number of children with acquired and genetic neurological conditions. It is critical to understand how the shortages affect the practice of child neurology, the attitudes of child neurologists, and ability of the field to attract new members. This Issue Brief examines these workforce issues, and profiles the attitudes and practice characteristics of child neurologists and trainees.

PMID: 15954241 [PubMed - indexed for MEDLINE]

Neurology. 2005 Mar 22;64(6):942-8.

Specialty care by child neurologists: a workforce analysis.

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OBJECTIVE: To provide a current profile of the practice of child neurology, report the attitudes of child neurologists toward practice, and analyze the supply of child neurologists. **METHODS:** In March 2002, a questionnaire was sent to all active members of the Child Neurology Society ($n = 1,051$) and to nonmember physicians under age 70 who listed child neurology as a primary or secondary specialty on the American Medical Association Masterfile ($n = 433$). The response rate was 65%. Eligibility criteria were then applied to arrive at the sample of main specialty in child neurology working at least 20 hours per week in patient care. The final population was 604. Differences in practice characteristics were tested by practice type, and the number of full-time patient care child neurologists was projected by extrapolating to nonrespondents. **RESULTS:** There are 904 full-time patient care child neurologists in the United States and 1.27 per 100,000 children. Career satisfaction is 90%, yet no growth in the supply is projected over the next 20 years. Wait times for an appointment average 53 and 44 days for a new and return visit, with longer wait times in university settings. Average annual income is 151,000 dollars. **CONCLUSION:** The practice characteristics of child neurologists suggest that the specialty will be challenged to meet patient demands.

PMID: 15781805 [PubMed - in process]

Neurology. 2004 Mar 23;62(6):864-9.

Comment in: Neurology. 2004 Mar 23;62(6):845-6. Neurology. 2004 Oct 12;63(7):1342; author reply 1342. Neurology. 2004 Oct 26;63(8):1544; author reply 1544.

State of training in child neurology 1997-2002.

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OBJECTIVE: To track growth of child neurology training programs during the past 7 years and to assess changes in resident demographics, use of different pathways for completion of training, and chosen careers after residency. **METHODS:** Two surveys were sent: one in June 2000 (response rate = 92% of active programs) and one in May 2001 (response rate = 98%) to the directors of all Accreditation Council for Graduate Medical Education-listed child neurology programs. Fifty-eight programs were consistently active through the survey period. **RESULTS:** From 1997 through 2002 there was an average of 80 positions per year with a fill rate of 65% and an average of 1.4 positions per program. Fifty-five percent of programs completely filled their first-year positions. An average of 47% of residents were international medical graduates. In 2001 and 2002, 51.5% of trainees were men, and 48.5% were women. Sixteen percent entered their programs through an alternative pathway. An equal number of residents entered academic and fellowship positions after graduation (41%), and 18% of residents went into private practice. Twenty-three percent went into basic research. Residents wrote papers in 48% of the programs. **CONCLUSIONS:** The number of child neurology positions and trainees has been stable through recent years but may not meet the growing demand for services. The increasing number of international medical graduates and women in training programs predicts a change in the demographic characteristics of the future child neurology workforce. Many residents are pursuing academic careers, and continued support for programs that provide avenues for training in research is needed.

PMID: 15037682 [PubMed - indexed for MEDLINE]

Neurology. 2004 Mar 23;62(6):845-6.

Comment in: Neurology. 2004 Oct 12;63(7):1342; author reply 1342. Neurology. 2004 Oct 26;63(8):1544; author reply 1544. Comment on: Neurology. 2004 Mar 23;62(6):864-9.

Pediatric neurology's midlife crisis.

Rothman SM.

Publication Types: Comment Editorial

PMID: 15037678 [PubMed - indexed for MEDLINE]

Neurology. 2004 Jan 13;62(1):E3-4.

ACGME work hours regulations: a perspective from neurology program directors.

Kissela B, Peltier W.

Department of Neurology, University of Cincinnati College of Medicine, Cincinnati, OH, USA.

PMID: 14718734 [PubMed - indexed for MEDLINE]

Neurology. 2002 Sep 10;59(5):789; author reply 789.

Comment on: Neurology. 2002 Feb 12;58(3):495-7.

Will neurology residents with large student loan debts become academicians?

Feinberg DM.

Publication Types: Comment Letter

PMID: 12221190 [PubMed - indexed for MEDLINE]

Neurology. 2000 Feb 22;54(4):787-9.

Erratum in: Neurology 2000 Jun 13;54(11):2193.

Neurology in the next two decades: report of the Workforce Task Force of the American Academy of Neurology.

Bradley WG.

American Academy of Neurology, St. Paul, MN 55116, USA.

PMID: 10690963 [PubMed - indexed for MEDLINE]

Neurology. 2000 Jan 25;54(2):480-4.

Training the future neurology workforce.

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OBJECTIVE: To address training demands on future neurologists, the American Academy of Neurology (AAN) surveyed its US members as to their views about training the future neurology workforce. **METHODS:** The survey was mailed to 575 US neurologists and 425 residents/fellows. Respondents (54%) were asked about their perceptions of current and future educational programs and settings needed to improve practice competence; issues related to subspecialization; and the role of non-neurologists in providing neurologic care. Views of neurologists were compared with those of neurology residents/fellows. **RESULTS:** Most respondents support additional training in outpatient, community, and staff model health maintenance organization settings. The majority of respondents oppose a required fifth year of training or a yearly competency examination, but neurologists who have a subspecialty interest and residents/fellows favor elective certification and higher fees by subspecialists. General neurologists oppose these ideas. Most neurologists feel that primary care physicians, nurse practitioners, and physician assistants can manage uncomplicated neurologic problems, although residents/fellows are less willing to accept the role of nonphysician providers for neurologic services. **CONCLUSIONS:** Neurology educational programs should consider addressing deficiencies that today's practitioners perceive. Increasing subspecialization, although favored by most neurologists, creates a challenge for the neurologic community as neurologists without subspecialty training see this trend as a threat to their livelihood.

PMID: 10668718 [PubMed - indexed for MEDLINE]

Neurology. 2000 Jan 11;54(1):214-8.

Employment-seeking experiences of residents in 1996: a window into the neurology marketplace.

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OBJECTIVE: To assess career choice and employment-seeking experience of senior neurology residents in 1996. **METHODS:** Graduating residents in adult and pediatric neurology (n = 573) were surveyed to obtain career plans, initial job selection, health care attitudes, and demographic information. Results were compared with 1996 data on all United States neurologists and data from an American Medical Association (AMA) resident survey regarding the employment status of new physicians. **RESULTS:** Survey response rate was 71%. There was a significant increase in international medical graduates and women entering neurology compared with the current workforce. Seventy-four percent of graduates planned to enter a fellowship position; 19%, private practice; 5%, an academic position; and 2%, a career outside of clinical medicine. Neurology residents differ from aggregate national data because only 28% of residents responding to an AMA survey across all specialties applied to fellowships in 1996. Overall, 44% of neurology graduates planned an academic career. **CONCLUSIONS:** Changing demographics and career choice of recent graduates may require continued monitoring and could be important in neurology workforce planning. The high rate of fellowship training and plans for academic careers in 1996 is of interest and may reflect both resident response to new demands in the changing health care market and a need to modify residency programs to enhance academic training and competitiveness of neurology graduates.

PMID: 10636151 [PubMed - indexed for MEDLINE]

Occup Ther Int. 2002;9(3):167-84.

Experiences with the COPM and client-centred practice in adult neurorehabilitation in Taiwan.

Chenq YH, Rodger S, Polatjko H.

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The application of a client-centred approach and the Canadian Occupational Performance Measure (COPM) were investigated in a neurorehabilitation unit in Taiwan. Four Taiwanese occupational therapists were trained in the use of client-centred practice and the COPM before using them with 12 clients attending neurorehabilitation. The COPM and the Reintegration to Normal Living Index (RNL) were administered before treatment and after one month of neurorehabilitation to investigate the sensitivity of the COPM in measuring change. Pre and post interviews were also conducted with the participating occupational therapists to ascertain their perceptions of the clinical utility of the COPM, and to determine their views about the client-centred approach. Matched t-tests showed significant increases in clients' self-ratings of performance and satisfaction on the COPM and in RNL scores between pre and post tests. The qualitative findings highlighted issues regarding the administration, scoring and identification of problems in the

COPM and client-centred practice, such as clients' willingness to manage their own health care and empowerment to participate in intervention, as well as therapists' knowledge of and confidence with this new approach. Although this study was limited by small sample size and the use of only one hospital neurorehabilitation unit, it has shown the utility of the COPM as an outcome measure in this setting. Further research is warranted to investigate cultural influences on client-centred practice.
PMID: 12921096 [PubMed - indexed for MEDLINE]

Pediatr Neurol. 2004 Oct;31(4):308; author reply 308-9.
Comment on: Pediatr Neurol. 2004 Jan;30(1):35-8.
How to attract students to child neurology.
Stafstrom CE.
Publication Types: Comment Letter
PMID: 15464649 [PubMed - indexed for MEDLINE]

Pediatr Neurol. 2004 Jan;30(1):35-8.
Comment in: Pediatr Neurol. 2004 Jan;30(1):33-4. Pediatr Neurol. 2004 Oct;31(4):308; author reply 308-9.

Strategies to attract medical students to the specialty of child neurology.
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The decline in the number of medical students choosing to enter the field of child neurology is a concern. We undertook this study to learn more about the qualities of highly regarded medical schools that may play a role in attracting students to the field of child neurology. We surveyed child neurologists at top U.S. medical schools that were most successful and least successful at attracting students to child neurology to determine what factors influenced the number of students entering the field of child neurology. We determined that the medical schools that produced the most child neurologists had stronger neuroscience curricula, stronger academic reputations, and larger Divisions of Child Neurology. Our findings suggest that our attention should be focused on academic centers that have more resources to create an atmosphere that is appealing to prospective applicants. These schools should implement a curriculum in neuroscience and child neurology that specifically exposes students early and maintains their interest in the field of child neurology.
PMID: 14738948 [PubMed - indexed for MEDLINE]

Pediatrics. 2003 Nov;112(5):1083-7.

Use of a telephone nursing line in a pediatric neurology clinic: one approach to the shortage of subspecialists.

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OBJECTIVE: There are not enough pediatric neurologists to meet the many needs of pediatric neurology patients. The Hospital for Sick Children has responded by expanding the nursing role in the pediatric neurology outpatient clinic. The objective of this study was to examine the use of a telephone nursing line in this hospital-based pediatric neurology clinic. **METHODS:** A cross-sectional study was performed on all telephone call records collected during a 2-week study period. Each initial incoming call concerning a patient was counted as an index call. Associations between clinic type or diagnosis and length of telephone calls were assessed using the chi(2) test. **RESULTS:** A total of 208 index calls were received, generating a total of 597 incoming and outgoing calls. The most common clinic types were Epilepsy clinic (35.6%) and General Neurology clinic (32.7%), and the most common patient diagnoses were epilepsy (63.5%) and developmental delay (45.2%). Most patients were between the ages of 1 and <7 years (33.9%) and 12 and <18 years (32.8%) and male (55.2%). Most calls were made by mothers (57.2%) to ask about medical administrative issues (28.4%) and/or symptoms (27.9%). Physicians were notified for 47.1% of calls; nurses were twice as likely to notify physicians for calls concerning new symptoms (relative risk: 2.1; 95% confidence interval: 1.6-2.7). Most calls required between 1 and 5 minutes (49.0%). Long telephone calls (>10 minutes) were strongly associated with a diagnosis of epilepsy. **CONCLUSIONS:** There is a high demand for the neurology nursing line in our clinic. Most telephone calls and most long telephone calls concerned patients with epilepsy. Nurses managed more than half of all telephone calls without

physician assistance. Use of a nursing line can aid in the provision of care to complicated subspecialty patients. Additional strategies are needed to optimize delivery of care to high-need medical populations.
PMID: 14595050 [PubMed - indexed for MEDLINE]

Rehabil Nurs. 2001 May-Jun;26(3):108-13.

A patient acuity and staffing tool for stroke rehabilitation inpatients based on the FIM instrument.

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We undertook to develop a tool based on the FIM instrument to predict the number of nursing hours required to care for stroke patients in an acute inpatient rehabilitation program. The initial study to evaluate the feasibility of using the FIM instrument revealed that the total FIM score had a strong inverse relation to the level of care indicated by the Patient Care Index (PCI) at days 1, 5, 7, 10, 15, and 20 of rehabilitation ($r_s = -.76$ to $-.87$). The results warranted continued investigation of the FIM instrument as a guide for nurse staffing decisions. Based on data from the initial study, five categories of FIM score ranges were designated that demonstrated the most accuracy of placing patients at the correct level of care. Special care considerations unique to institutional settings were identified and incorporated into the tool's final format, as were the calculations to determine the amount of assistance needed. The study reported here was undertaken to evaluate the level of care indicated by the adapted tool, compared with that of the PCI, in a sample of 67 stroke admissions. Spearman correlations revealed a moderate relationship ($r_s = .49$ to $.54$) between the amount of care determined by the Patient Acuity and Staffing tool and through the PCI at the first, second, and third team meetings. We conclude that the system is an effective, efficient guide for scheduling nurse staffing on the stroke rehabilitation unit.

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Rehabil Nurs. 2000 Nov-Dec; 25(6): 224-30, 242. (35 ref)

Nursing interventions in stroke rehabilitation: a study of nurses' views of their pattern of care in stroke units.

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The care given to stroke patients in acute care general wards has been described as of a poor standard, with resultant poor outcomes. Systematic reviews have established the benefits of stroke units on patient outcomes such as functional ability and mortality. The trials have also hypothesized on the reasons for such improvements. One explanation is that the establishment of an interested, enthusiastic, and specialized nursing workforce within a stroke unit improves levels of care and hence, outcomes. However, there has been no research to identify the nature of the nursing care that is provided. To identify the nursing interventions of such a workforce, we asked 90 nurses in 21 stroke units about the care that they provide for stroke patients and their caregivers. Our study suggests that nursing interventions in stroke care can be discussed within the criteria and concepts of six themes--focus of care, outcomes of care, direct care, continuity of care, mode of care, and context of care. These themes are dependent on one another for the successful delivery of the care that the nurses expect to deliver. The implications of these findings for the delivery and organization of rehabilitative nursing care are discussed.

Seizure. 2004 Mar;13(2):87-94.

The role of the clinical nurse specialist in epilepsy. A national survey.

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PURPOSE: To review and describe the key roles of the UK clinical nurse specialist in epilepsy (CNSE), and to identify the specialist nurses' contribution to care through an exploration of CNSE's perceptions of their roles. **METHOD:** Using the Delphi technique [Applied Project Design and Analysis, 3rd ed., Churchill Livingstone, London, 2000, p. 243] a national survey of all known UK CNSEs was completed. One hundred and thirty questionnaires identifying nine key hypotheses central to the role of the CNSE were distributed and 76 valid questionnaires returned. **RESULTS:** The response rate was 63% and was geographically representative of the UK population of CNSEs. CNSEs were employed in a range of hospital and community settings with differing patient groups. Seventy-two percent of respondents held higher academic nursing qualifications but only 36% had previous epilepsy or neurology experience. Thirty percent of respondents had been employed in the role of CNSE for more than 5 years and 84% were employed as a G or H grade

nurse. Only 39% of CNSEs held nurse-led clinics and of those 32% were responsible for all decisions made during their clinic. Furthermore, 40% of CNSEs saw new patients who had not previously been reviewed by one of the medical team. The level of responsibility for drug management was mainly at a monitoring and advisory level but a small number of CNSEs held much greater responsibility. The responses to the nine hypotheses were compared using cross tabulations. **CONCLUSION:** The findings of the study and the review of the CNSE in the UK revealed that the key roles of the CNSE were difficult to define. Yet, the respondents identified that there were common core features central to their contribution to care as specialist nurses.

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Seizure. 2003 Mar;12(2):77-84.

Implementing good practice in epilepsy care.

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Examples of evidence-based guidelines for epilepsy care exist. However, guidelines are of little use if they are not recognised, implemented and supported. The object of this study was to establish the degree to which good practice guidelines for epilepsy have been implemented and to identify positive and negative factors that affect their implementation. Semi-structured questionnaires were sent to 750 randomly selected health professionals working in primary and secondary care in England. The sample comprised nurses (200), adult consultants (including learning disability consultants) (300), paediatric consultants (150) and general practitioners (100). Aspects of good practice are being implemented in some areas, but not generally, therefore service provision is likely to remain fragmented until this is addressed. Professionals have been prevented from successful implementation of guidelines to sustain good practice due to a number of factors, most notably lack of time, workload, competing priorities and staffing levels. Factors that have promoted and encouraged the successful adoption and application of good practice include inputs from epilepsy specialist nurses (ESNs), appropriate, timely and accessible professional development opportunities and the support and enthusiasm of colleagues.

PMID: 12566230 [PubMed - indexed for MEDLINE]

Stroke. 2005 Jul;36(7):1358-9; author reply 1359.

Comment on: Stroke. 2005 Mar;36(3):690-703.

Organizing stroke systems of care.

Rymer MM.

Publication Types: Comment Letter

PMID: 15994449 [PubMed - indexed for MEDLINE]

Stroke. 2005 Mar;36(3):690-703. Epub 2005 Feb 2.

Comment in: Stroke. 2005 Jul;36(7):1358-9; author reply 1359.

Recommendations for the establishment of stroke systems of care: recommendations from the American Stroke Association's Task Force on the Development of Stroke Systems.

Schwamm LH, Pancioli A, Acker JE 3rd, Goldstein LB, Zorowitz RD, Shephard TJ, Moyer P, Gorman M, Johnston SC, Duncan PW, Gorelick P, Frank J, Stranne SK, Smith R, Federspiel W, Horton KB, Magnis E, Adams RJ; American Stroke Association's Task Force on the Development of Stroke Systems.

Publication Types: Guideline Practice Guideline

PMID: 15689577 [PubMed - indexed for MEDLINE]

Stroke. 2003 Dec;34(12):2957. Epub 2003 Nov 20.

Comment on: Stroke. 2003 Dec;34(12):2951-6.

Editorial comment-- telemedicine: the solution to provide rural stroke coverage and the answer to the shortage of stroke neurologists and radiologists.

Wang DZ.

Publication Types: Comment Editorial

PMID: 14631080 [PubMed - indexed for MEDLINE]

Stroke. 2003 Jun;34(6):e55-7. Epub 2003 May 15.

Impact of establishing a primary stroke center at a community hospital on the use of thrombolytic therapy: the NINDS Suburban Hospital Stroke Center experience.

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BACKGROUND AND PURPOSE: To increase the proportion of ischemic stroke patients treated with thrombolytic therapy, the establishment of primary stroke centers in community hospitals has been advocated. We evaluated the use of thrombolytic therapy before and after institution of a primary stroke center in a community hospital. **METHODS:** The availability of an on-call stroke emergency response team was the only significant additional resource required for this hospital. All eligible patients were treated with intravenous tissue plasminogen activator (tPA). The number of patients with cerebrovascular disease, number and proportion of patients treated with tPA, times to treatment, and patient outcomes were recorded during the first 2 years of the stroke center. **RESULTS:** During the 12 months before institution of the stroke center, 3 ischemic stroke patients (1.5%) were treated with tPA. During the 2-year period of around-the-clock coverage, 44 of 420 ischemic stroke patients (10.5%) were treated with intravenous tPA, a significant increase in tPA use ($P < 0.0001$). **CONCLUSIONS:** Establishment of a primary stroke center at a community hospital resulted in a substantial increase in the proportion of patients receiving thrombolytic therapy for ischemic stroke. If this experience is generalized, the beneficial impact of primary stroke centers on stroke outcomes and costs to the healthcare system may be substantial.

PMID: 12750543 [PubMed - indexed for MEDLINE]

Stroke. 2002 May;33(5):1339-40.

Comment on: Stroke. 2002 May;33(5):1334-9.

Assessment of regional acute stroke care.

Bhardwaj A.

Publication Types: Comment Editorial

PMID: 12532966 [PubMed - indexed for MEDLINE]

Stroke. 2002 May;33(5):1334-9.

Comment in: Stroke. 2002 May;33(5):1339-40.

Acute stroke care in Illinois: a statewide assessment of diagnostic and treatment capabilities.

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BACKGROUND AND PURPOSE: To define areas for quality improvement in acute stroke care, a statewide assessment of preparedness for acute stroke diagnosis and treatment was carried out among 202 acute receiving hospitals in Illinois. **METHODS:** Medical directors or their designees completed a 1-page survey form that addressed availability of personnel, diagnostic technology, and organized programs for the treatment of acute stroke patients at their facility. In the analysis, acute care receiving hospitals in the Greater Chicago Metropolitan Area (GCMA) (Cook, Dupage, Lake, Will, and Kane counties) were compared with those in the remainder of the state. **RESULTS:** Of the acute care receiving hospitals, 91% responded to the survey. Overall, 99% had an emergency room receiving facility, 98.3% had a CT scanner, and slightly >70% had a recombinant tissue plasminogen activator (r-TPA) protocol. We found that 93.2% of residents in Illinois lived in a county with at least 1 acute care facility with an r-TPA treatment protocol. However, many of the non-GCMA receiving hospitals did not have a neurologist or a neurosurgeon available. Furthermore, specialized stroke diagnostic technology (eg, transcranial Doppler, diffusion-weighted MRI, MR angiography) was generally lacking in both the GCMA and non-GCMA, as were stroke community awareness programs and acute care stroke teams. **CONCLUSIONS:** Stroke is a preventable and treatable disease. However, there are barriers to stroke care that are based on the availability of personnel, diagnostic technology, and programs. A systematic approach to the organization, implementation, and maintenance of services could improve outcome for stroke patients and reduce the public health burden of this deadly disease.

PMID: 11988612 [PubMed - indexed for MEDLINE]