

Where Do AMU Nurses Perceive Their Educational Needs? Results of the 20:10 project

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Key Messages

1. There is no accepted curriculum for nurses working in Acute Medicine.
2. Nurses felt that education needed to centre around frequently presenting symptoms.
3. Skills identified, overlapped with those traditionally performed by junior doctors, thus supporting the concept of interprofessional education.
4. Formal educational support is needed to address these needs and secure future recruitment.

Abstract

Our aim was to identify the perceived educational needs of nurses working in acute medicine to enable development of a training curriculum specifically for this staff group.

Methods: Post-graduate nurses from North Wales were invited to list 20 conditions and 10 skills for which they felt under prepared for their work in acute medicine. A workshop was then organized, attended by acute medicine nurses, medical colleagues and educationalists from two local universities to discuss initial data.

Results: Nurses identified particular needs for education around presenting symptoms with perceived deficits in knowledge or training. We found a heavy emphasis on respiratory and cardiac conditions. There was considerable overlap with frequent diagnostic categories from non-surgical hospital discharges and with priorities for training of junior doctors. Skills were often those traditionally associated with medical staff or care of patients with critical illnesses.

Conclusion: The 20:10 project represents the first attempt to map educational needs of nursing staff on the Acute Medical Units of a large University Health Board using self-reported needs. The identified needs will support professional development, create incentives for recruitment and guide University postgraduate developments and commissioning.

Keywords

Acute medicine, nursing, education, curriculum, professional development.

Introduction

Background - Acute Medical Unit Development

Acute Medical Units (AMUs) were introduced in the 1990's to bring together the resources required to look after acutely ill medical admissions in a more effective way.¹

This model has been adopted by the majority of UK hospitals. AMUs receive the unselected medical

admissions and may have integrated ambulatory care units. Most AMUs have monitored beds and in many hospitals the capability to look after patients with increased monitoring needs or the need for basic single organ support (level I and level II patients). Service provision can include patients with acute coronary disease requiring continuous cardiac monitoring, patients requiring Non-Invasive Ventilation and patients requiring haemodynamic support via central venous cannulae. Staff therefore need significant skills in the assessment and management of acute illness.²

Background - Education and Skills Development

In addition to offering a multifunctional service, nurses working in AMUs need to be specialists in safe discharge planning.³ The high turnover of patients and fast pace of work is a significant risk factor for burn out of staff⁴ and can also compromise patient safety.⁵ Recruitment into specialties is often improved by coherent educational support⁶ and career progression.⁷

Nurse education, both pre and post registration, needs to be provided in the context of a changing healthcare landscape. Education and skills development for AMU nurses should be geared towards the specific requirements of the AMU environment.

The aim of this study was to explore the self reported educational needs of nurses working in AMUs in order to allow educational providers to create a curriculum for a modular postgraduate qualification in acute medical nursing.

Methods

Setting

Three District General Hospitals (DGHs, Wrexham Maelor Hospital, Ysbyty Glan Clywd, Rhyl and Ysbyty Gwynedd, Bangor) in North Wales that form

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part of the same University Health Board, each covering a population of around 250,000 and a mix of rural and urban areas. All three AMUs admit between 25 and 35 patients per day, have dedicated Acute Physicians, and access to level III facilities on site but no provision of level II beds within either of the AMUs. There is provision of Ambulatory Care in two of the hospitals.

Newly registered nurses are largely recruited from two local Universities (Glyndwr University, Wrexham and Bangor University) with some additional recruitment from Cheshire and Merseyside. More experienced nurses are recruited internally from other areas of the hospital, and occasionally national recruitment is carried out to meet needs.

Participants

Staff nurses working in the three AMUs, regardless of their banding or duration of contract were invited to participate in this study. Junior nurses, team leaders, professional development leads and nurse managers were all represented in the group.

Project design

The participants were asked to list 20 conditions for which they felt under-prepared following qualification and employment as a registered nurse. The teams were also asked to list which skills they felt required further training. A single list was then compiled by each of the participating AMUs by consensus.

A workshop was organized in July 2010. It was open to all team members from the three units, and there was representation of a senior nurse from each of the units. The participants included two educationalists. The workshop served as a focus group for the development of the curriculum and encouraged participant collaboration. The focus group collated the data from the three AMUs by consensus providing a core list of conditions and skills that require further nurse education and development. The list was not ranked. Conditions and skills were listed alphabetically.

Comparisons were made with conditions generated from non-surgical emergency admissions in England for

20:10 conditions chosen by nursing team	'Top 20' conditions from 2009 curriculum for GIM / AIM training	Top conditions from HRG statistics 2007/2008* in order of frequency
Asthma	Abdominal pain	Nonspecific chest pain
Cardiac and non-cardiac chest pain	Acute back pain	Pneumonia (except that caused by tuberculosis or STD)
Congestive cardiac failure	Blackout	Urinary tract infections
Cellulitis	Breathlessness	Chronic obstructive pulmonary disease and bronchiectasis
Chronic obstructive pulmonary disease	Chest pain	Acute bronchitis
Dyspnoea diagnosis	Confusion	Cardiac dysrhythmias
Headaches	Cough	Coronary atherosclerosis and other heart disease
Hyperglycaemia	Diarrhoea	Skin and subcutaneous tissue infections
Iron deficiency Anaemia	Falls	Epilepsy, convulsions
Lower respiratory tract infection	Fever	Acute cerebrovascular disease
Neurological Deficit in alert patients	Fits	Syncope
New onset atrial fibrillation and atrial flutter without ACS	Haematemesis	Other connective tissue disease
Palpitations	Headache	Noninfectious gastroenteritis
Pleural effusion	Jaundice	Poisoning by other medications and drugs
Pneumothorax	Limb pain	Other upper respiratory infections
Pulmonary Embolism	Palpitation	Acute myocardial infarction
Stroke	Poisoning	Asthma
Transient ischemic attack	Rash	Other upper respiratory disease
Upper respiratory tract infection	Vomiting	
Urinary tract infection	Paralysis	

*From Subbe CP *et al. Eur J Intern Med.* 2011; 22: 339-43. quoted with permission of the authors

STD: Sexually transmitted disease, ACS: Acute Coronary Syndrome; AIM – acute internal medicine; GIM – General (Internal) Medicine

Table 1. Comparisons of top 20 conditions chosen from 20:10 workshop, top 20' conditions from 2009 GIM/AIM curriculum and the top conditions from HRG statistics from NHS England 2007/2008.

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Arterial blood gas analysis
Cannulation
Care of long lines
ECG Interpretation
External Pacing
Management and priority of care
Non-Invasive Ventilation
Phlebotomy
Triage
Use of a stethoscope for chest auscultation

Table 2. Top 10 skills from 20:10 workshop.

2007/2008⁸ and the top 20 conditions in the 2009 GIM/AIM curriculum.⁹ Nurse educationalists indicated that pre-registration nurse education does not use a disease model and whilst this meant that similar tables of conditions covered in nurse education were not available, many of the conditions are introduced in pre-registration nurse education.

Results

The results of the focus group discussions are compiled in Tables 1 and 2.

List of conditions

The list of conditions contained clinical diagnoses (Chronic Obstructive Pulmonary Disease) as well as symptoms ("breathlessness"). The bulk of conditions (14/20) were from the areas of cardio-vascular and respiratory medicine.

List of skills

The skills fell into three groups: skills largely restricted to the care of critically ill patients (non-invasive ventilation, central venous catheter care etc), skills traditionally covered by medical students, doctors and other health care professions (phlebotomy, cannulation, interpretation of an Electrocardiogram (ECG), interpretation of blood gases, use of a stethoscope) and organizational skills that are more relevant in areas of high turn over (triage, management and prioritization of care).

Comparison to Hospital Episodes and Acute Internal Medicine Curriculum

The predominance of cardiovascular and respiratory conditions (14/20) corresponds to 12/20 diagnostic groups in the analysis of hospital episodes in England in 2007/2008 that were attributable to ischemic heart disease or acute respiratory illness, and to 5/20 potentially cardiac or respiratory presenting symptoms (black-out, breathlessness, chest pain, cough, palpitations) in the "Top 20" Common Medical Presentations, as defined in the the 2009 training curriculum for General Internal Medicine (GIM) and Acute Internal Medicine (AIM). The nursing conditions also included specific reference to stroke and transient ischemic attack.

The top 20 presentations in the GIM / AIM curricula are entirely symptom based, which is appropriate given that initial assessment of patients by junior doctors involves the determination of differential diagnosis from a patient's narrative. However this approach has limitations, since some conditions such as acute hyperglycaemic emergencies do not present with a clearly defined set of symptoms; competencies for management of these situations are therefore reflected elsewhere in the curriculum. By comparison the nursing list describes a mixture of diagnoses and problems. There is reference to a number of specific causes of breathlessness (pleural effusion, pulmonary embolism, congestive cardiac failure, and pneumothorax) in addition to the generic 'problem' of dyspnoea. Iron deficiency anaemia and hyperglycaemia as well as urinary tract and upper respiratory tract infection are also specifically listed. It is interesting to note that there was considerable overlap between the list generated by nurses and the HRG coding for admissions in our hospital in 2008-2009 (see Table 1).

Discussion

Our findings

Tables 1 and 2 illustrate the 20:10 project's attempt to describe the self – perceived educational needs of nurses working within today's North Wales AMUs. For regional educational providers it is now possible to start the foundations of a postgraduate curriculum in Acute Medicine nursing incorporating the identified conditions and skills. Current specialist modules delivered by local educational institutions (accident and emergency, coronary care, intensive care and high dependency care nursing) are able to deliver many if not all of the skills highlighted. However this provision is fragmented in the context of Acute Medicine nursing and only partly addressed in undergraduate level teaching.¹⁰ The comprehensive assessment of medical and functional dimensions of patient presenting to AMU is not currently covered by any of the educational programs on offer in this area. Given that the AMU sits at the interface between primary and secondary care, it is surprising that skills associated with working in the social environment of the patient in the community were not listed. Equally, in the face of an aging population, the fact that very few conditions specific to older patients (falls, acute confusion, dementia) were mentioned is worthy of note. This emphasises the limitations of the project in trying to define a curriculum based solely on the perceived needs of the staff. A combined approach utilizing HRG data may be more appropriate.

Interprofessional Education

The large overlap between the diagnostic categories, the curriculum for Acute Medicine and the self-assessed learning needs of nurses working in the AMU would strongly support a move to a more interprofessional approach to education.¹¹ The benefits of interprofessional education (IPE) are well recognised by the Department of Health,¹² General Medical Council¹³ and Nursing Midwifery Council¹⁴ and the UK consensus conference on

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Acute Medicine.¹⁵ Despite this, robust and reproducible templates for IPE have not been adopted. A systematic review undertaken by Cooper¹⁶ examined the evidence for interdisciplinary learning and concluded that there are benefits relating to change in knowledge, attitude, skills and beliefs. Without the advantages of designated infrastructure, facilities and staff, finding an appropriate environment to maximise IPE can be demanding.

Expanding roles

The information from the workshop reflects in part the changing professional roles and shifting boundaries influenced by such things as European Working Time Directive and reduction in junior doctors' hours. With professionalization of nursing, the expanded as well as advanced nurse role requires the practitioner to be skilled in many areas previously undertaken by medical colleagues for example, prescribing, medical interventions and treatment, clinical assessment and diagnosis.¹⁷ Healthcare workers, especially in acute medicine, are taking on more specialised roles, including the "medical" admission and discharge process, leading to a blurring of traditional professional boundaries. Healthcare education should reflect these changes across the range of roles and responsibilities.

Limitations

Nursing staff from the three units were invited to participate in generating the content of a future curriculum. However, there was no mechanism in place to ensure a representative sample. It is possible that the suggested content for the development of a postgraduate curriculum in acute medical nursing would not cater for the needs of new-comers to AMU or senior team leaders. Additionally the focus of our paper was *perceived* as opposed to objective needs; this is likely to be driven by the case-mix that staff experience in our local units. For example management of Deep Vein Thrombosis (DVT) in North Wales is largely done in an outpatient setting, and one of the units admits all patients with upper gastro-intestinal bleeding through the surgical department. Similarly, patients presenting with suspected stroke in North Wales are only admitted to a stroke unit after initial review in the AMU.

Advanced nurse practitioners (ANP) and Nurse Consultants in Acute Medicine have specific educational needs which may differ from those identified in this study. Their roles straddle professional boundaries, involving admission of patients alongside medical practitioners, ordering first line investigations, prescribing medication and managing services for defined patient groups (pulmonary emboli, asthma, cellulitis).

Implications for delivery of local education

Current nurse pre-registration training attempts to prepare students for a broad range of professional options, ranging

from community to critical care nursing. The broad range of professional profiles means that more specialized training will be required upon qualifying, especially within acute medical nursing. It is possible that objective educational needs of staff were different from those collated from self-assessments. This might be a fruitful area for future work. We believe that in order to get buy-in from staff it is crucial for an educational program to start with areas of interest to staff and develop a program from there.

Simulation might be used as an adjunct to expose the nursing student to scenarios of critical illness,^{18,19} and could be usefully applied to training in most of the 20 conditions and 10 skills. Pre-registration nurse education at Glyndwr University aims to provide up to 300 hours of simulated practice, which will continue in future nurse curriculum development.⁷ Simulation training provides nursing students with skills which otherwise may not become developed until qualifying due to the differing standards and expectations of hospitals, wards or specialist area.

A proportion of qualified nurses continue their professional educational and training at postgraduate level. Short courses which focus on skill acquisition rather than academic achievements maybe the way forward to achieve training that is "fit for purpose".¹¹ The foundation courses may also be mapped against junior doctor training for Acute Medicine therefore promoting standardization of practice and facilitating the principle that "those who work together, should train together".⁵ Additionally the AMU provides a unique environment for experiential learning given the breadth and depth of pathology as well as the near continuous opportunity for supervision by senior medical and nursing staff.

The results of our workshop give local educational providers and NHS health care providers the opportunity to develop a foundation postgraduate curriculum for acute medical nursing by merging existing curricula. We are currently engaging all stakeholders to take this work forward as we now have the opportunity, within a larger organization, to ensure such programmes are viable in a rural environment. E-learning might have to play a significant part in the delivery.²⁰

Conclusion

Appropriate postgraduate education and training for nursing staff working in the demanding environment of Acute Medicine is essential to attract and retain staff, and support quality of care, efficiency of service and patient safety. The 20:10 project identifies perceived gaps in education and suggests a set of core conditions and skills that are being shared with doctors training in Acute Medicine. This highlights the opportunity for a more interprofessional approach to health care education.

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