Renaissance of hospital generalists

Hospital medicine in the US and acute medicine in the UK are the fastest growing specialties in their countries. **Robert M Wachter** and **Derek Bell** examine the factors behind their rise and how the differing national healthcare systems have influenced their structure

In the past 15 years, the organisation of hospital care has been transformed in both the United States and United Kingdom. In the US, the traditional model—in which primary care physicians came to the hospital to oversee inpatient care—was supplanted by one in which a hospital based generalist physician, the hospitalist, assumed this role.[1] In UK hospitals, acute physicians have taken over from disease specialists in the management of acutely unwell patients and those with complex multisystem illnesses during the first 48-72 hours of admission.[2]

The growth of the generalist in both countries has been rapid. The number of hospitalists in the US has expanded from a few hundred 15 years ago to over 30 000 today. Around 70% of US hospitals now employ hospitalists,[3] and the odds that an older patient admitted to hospital would receive care from a hospitalist increased by 29% a year between 1997 and 2006.[4] Although the number of acute physicians in the UK is much smaller (roughly 600), the field grew by 63% between 2002 and 2007, making it the fastest growing specialty in Britain.[5] Here, we describe the impact of these twin movements and analyse how both have been shaped by the structure and culture of their national healthcare systems.

Factors driving the growth of the hospitalist and acute medicine

The American hospitalist is a generalist physician who is responsible for patients throughout their hospital stay—not only in medicine units but often in intensive care units, "step-down" units (high dependency units in the UK), and surgical units (where the US model is known as co-management).[3 6] Many studies have found that hospitalists significantly decrease lengths of stay and costs without harming quality and patient satisfaction.[6-9]

In addition to the generally favourable outcome data, several other developments in the US promoted hospitalist growth. When hospitals came under pressure to improve their quality and safety, hospitalists embraced these tasks and became recognised leaders in them.[3 10] And after regulators capped the working hours of residents (known as specialty registrars in the UK) in 2003, hospitalists filled the gaps. As hospitalists became established, many primary

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Hospitalist	Acute physician
Overall responsibility for hospital care (with consultants as needed)	Responsible for care in acute medical unit (with consultants as needed)
Usually includes co-management of surgical patients	May include some surgical and high dependency patients
Includes step down units and often intensive care	Usually does not include intensive care units
May be teaching or non-teaching service	Includes teaching
Usually includes overnight coverage	Does not include overnight care
Patients followed until discharge	Patients not discharged home are transferred to subspecialty team after 48-72 hours
Sometimes staff post-discharge clinics, but other ambulatory practice is rare	Staff complex care ambulatory and admission avoidance clinics as well as post-discharge clinic (usually)

care doctors withdrew from hospital care, judging their skill set or availability to be insufficient or that the economics of attending hospital were unfavourable. Finally, because most US hospital stays are reimbursed with a fixed payment (based on diagnosis) per admission, hospitals benefited from savings in cost and length of stay generated by hospitalists and were therefore willing to provide financial support for hospitalist programmes.

The care model in the UK has led acute medicine to assume a different shape. Patients are referred to hospitals by general practitioners to see subspecialists (for elective or urgent consultations) or as an emergency.[11] Patients admitted to hospital from an emergency department or referred by a general practitioner would in theory be placed on the ward best able to manage their primary problem. Given the prevalence of multisystem diseases and the fact that wards are often full, misallocation was a problem. For example, a patient with asthma or heart failure might be assigned to a gastrointestinal unit, where care would be overseen by the doctors on that ward (with or without specialist input) or by the correct specialist team visiting the ward. In either case, such mismatches are likely to compromise the quality and efficiency of care.[12] Even when patients were on the "right" ward, many had comorbidities that required other medical or nursing expertise.

For a British acute physician, the greater size and scope of the hospitalist's domain seem attractive, as does the avoidance of a mandatory handover to a subspecialty ward after an arbitrary period.

Acute medicine emerged in an effort to improve the early management of acutely unwell medical patients.[2 13-15] In the US, most hospitalists (80%) are general internists, who need not obtain additional training or certification to practise as hospitalists. However, because general internal medicine had been declining as a specialty in Britain for a generation, acute physicians were initially drawn from a variety of specialties, most commonly chest medicine, nephrology, and intensive care medicine.[11 16] A four year training programme in acute medicine was introduced in 2003.

Acute physicians focus on the first few days of hospital care, usually managing patients within an acute medicine unit, obtaining specialty input as needed. Unlike the US, where the hospitalist remains the responsible physician until discharge (table, previous page), UK patients not discharged home within 48-72 hours (in practice, about 50% of patients) are routinely transferred to the most suitable specialty ward.[17]

Just as in the US, where the hospitalist growth was promoted by national policies, acute medicine has been buoyed by two national policy initiatives. Firstly, the introduction of a maximum four hour stay in emergency departments in 2002 promoted the appointment of acute physicians to improve the running of acute medical units.[18] Secondly, the European Working Time Directive required UK training programmes to reduce the duty hours of registrars to 58 hours/week in 2004 and then 48 in 2009.[19] As in the US, these restrictions created a vacuum that was partly filled by acute physicians working in acute medical units, particularly in routine hours.[5]

Theoretical and empirical rationale

In both the US and UK, economic pressures, combined with the increasing availability of sophisticated diagnostic testing (such as computed tomography) and therapeutics (such as intravenous antibiotics administered at home), have driven more complex care into the outpatient setting. The result is that the average patient in hospital is now older, has more comorbidities, and takes more medications than before. Moreover, healthcare leaders now appreciate the need to re-engineer systems of care to achieve the highest quality, safety, and efficiency. Hospitalists and acute physicians are well placed to deal with both of these challenges through their expertise in managing complex patients, focus on the hospital setting, comfort in leading multidisciplinary improvement teams, and adoption of performance improvement skills as core competencies.[1 3 10]

Although some growth has been driven by these organisational imperatives, research evidence has also been critical. Hospitalist care has been shown to reduce hospital lengths of stay and costs, for both medical and surgical patients (although some costs may shift to outpatients).[6-8 20] Other evidence shows that medical education improves, patient satisfaction is neutral, and the effects on quality are mixed.[6-9]

Acute medical units in the UK have been associated with lower inpatient mortality, improved patient and staff satisfaction, reduced hospital stays, and increased throughput.[14 15 21] Although there are no controlled studies comparing generalist care with subspecialty care, there is good evidence that generalist care is less expensive.[22] Specialist care for patients with certain acute problems (such as stroke or myocardial infarction) has advantages over generalist care,[23] but a US study showed that when mismatches occurred (such as a gastroenterologist caring for a patient with heart failure) both costs and mortality rose substantially.[24] Providing guideline concordant care for every disease in patients with multiple illnesses is difficult and can lead to polypharmacy, a further argument in support of a generalist coordinator for patients with multiple conditions.[25]

Influence of healthcare systems

Hospital medicine and acute medicine both emerged in response to the desire to re-establish the role of a generalist coordinator for acutely unwell patients in hospital. Both specialties have positioned themselves as leaders in direct clinical care and systems improvement, both have thriving specialty societies, and both have experienced extremely rapid growth.

Nevertheless, the two specialties have some important differences. Hospitalist programmes in the US average about 10 physicians; some large hospitals have over 40 hospitalists.[3] This is far larger than in the UK, where the number of acute physicians in a hospital averages three, up to a maximum of 7-8.[2 14] This difference is partly explained by the broader scope of hospitalists, who care for patients throughout their hospital stay and provide 24 hour cover (table). Most US hospitalists also co-manage surgical patients, in some cases assuming the role of responsible physician postoperatively (with the surgeon acting as consultant).[6] By contrast, most acute physicians in the UK provide comprehensive care for only the initial phase of hospital treatment, occasionally including surgical patients with medical problems, and do not provide resident cover at night.

Another reason for the smaller numbers and more restricted scope in the UK is the requirement for specialty training in acute medicine and the limited number of training and certification programmes, although these have increased in recent years.

While their overall scope is narrower, acute physicians carry out several activities uncommon among US hospitalists. For example, few hospitalist programmes have the equivalent of the admission avoidance or complex care ambulatory clinics that acute physicians staff. Moreover, acute physicians are required to obtain at least one specialty skill (such as endoscopy, echocardiography, or an educational diploma) to obtain their specialty qualification.[16] No such requirement exists in the US.[3]

The relative absence of centralised planning and the dominance of market forces in determining the US workforce has also contributed to the differences between the two countries. Hospitalists' unprecedented growth was not accompanied by, nor did it depend on, changes in federal regulations, payment policies, or early endorsements from key professional associations or certifying boards.[3] However, the UK's tight control over its physician workforce—exercised

through training programmes and NHS consultant positions—meant that acute medicine required early endorsement by key national bodies, the development of training slots, and major changes in payment policies and hospital unit structures.[5 11 13 16] Any expansion of the role of acute physicians beyond the acute medicine unit would need to take account of the displacement of other hospital specialists, since consultants hold lifelong NHS employment contracts. Few such contracts exist in the US, permitting more rapid change, with all of its benefits and challenges.

Cross learning

Hospital generalists in both the UK and US have cause to look wishfully at their colleagues across the Atlantic. For a US hospitalist looking at acute medicine, the localisation of the acute medicine unit is enviable (hospitalists often care for patients scattered around the hospital), and the requirement for an additional skill and participation in specialised ambulatory clinics may add value and prevent burnout. For a British acute physician, the greater size and scope of the hospitalist's domain seem attractive, as does the avoidance of a mandatory handover to a subspecialty ward after an arbitrary period.

It seems inevitable that hospital medicine and acute medicine will continue to grow and evolve. While recognising that they will always be shaped by local forces, we also believe that they should learn from each other's experience. Cross-Atlantic dialogue will increase the chances that each system meets its goals.

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1 Wachter RM, Goldman L. The emerging role of "hospitalists" in the American health care system. *N Engl J Med* 1996;335:514-7.
2 Bell D, Skene H, Jones M, Vaughan L. A guide to the acute medical unit. *Br J Hosp Med* 2008;69:M107-9.
3 Wachter RM. The hospitalist field turns 15: new opportunities and challenges. *J Hosp Med* 2011;6:E1-4.
4 Kuo Y-F, Sharma G, Freeman JL, Goodwin JS. Growth in the care of older patients by hospitalists in the United States. *N Engl J Med* 2009;360:1102-12.
5 Ward D, Potter J, Ingham J, Percival F, Bell D. Acute medical care. The right person, in the right setting—first time: how does practice match the report recommendations? *Clin Med* 2009;9:553-6.
6 Auerbach AD, Wachter RM, Cheng Q, Maselli J, McDermott M, Vittinghoff E, et al. Comanagement of surgical patients between neurosurgeons and hospitalists. *Arch Intern Med* 2010;170:2004-10.
7 Wachter RM, Goldman L. The hospitalist movement 5 years later. *JAMA* 2002;287:487-94.
8 Peterson MC. A systematic review of outcomes and quality measures in adult patients cared for by hospitalists vs nonhospitalists. *Mayo Clin Proc* 2009;84:248-54.
9 Seiler A, Visintainer P, Brzostek R, Ehresman M, Benjamin E, Whitcomb W, Rothberg MB. Patient satisfaction with hospital care provided by hospitalists and primary care physicians. *J Hosp Med* 2011 Oct 31 [Epub ahead of print].
10 McKean SC, Budnitz TL, Dressler DD, Amin AN, Pistoria MJ. How to use the core competencies in hospital medicine: a framework for curricular development. *J Hosp Med* 2006;1(suppl):57-67.
11 Royal College of Physicians. *Acute medicine, making it work for patients. A blueprint for organisation and training*. RCP, 2004.
12 Goulding L, Adamson J, Watt I, Wright J. Patient safety in patients who occupy beds on clinically inappropriate wards: a qualitative interview study with NHS staff. *BMJ Qual Saf* 2011 Nov 18 [Epub ahead of print].
13 Acute Medicine Taskforce. *Acute medical care. The right person, in the right setting— first time. Report of the Acute Medicine Task Force*. Royal College of Physicians, 2007.
14 Jones MC, Bell D. What is acute medicine and do we need it? *Br J Hosp Med* 2009;70:S8-10.
15 Byrne D, Silke B. Acute medical units: review of evidence. *Eur J Intern Med* 2011;22:344-7.
16 Joint Royal Colleges of Physicians Training Board. Acute internal medicine (AIM) and sub-specialty of acute medicine. www.jrcptb.org.uk/specialties/ST3-SpR/Pages/acute-medicine.aspx.
17 Subbe CP, Bottle RA, Bell D. Acute medicine: triage, timing and teaching in the context of medical emergency admissions. *Eur J Intern Med* 2011;4:339-43.
18 Weber EJ, Mason S, Carter A, Hew RL. Emptying the corridors of shame: organizational lessons from England's 4-hour emergency throughput target. *Ann Emerg Med* 2011;57:79-88.
19 Goddard AF, Hodgson H, Newbery N. Impact of EWTD on patient:doctor ratios and working practices for junior doctors in England and Wales 2009. *Clin Med* 2010;10:330-5.
20 Kuo YF, Goodwin JS. Association of hospitalist care with medical utilization after discharge: evidence of cost shift from a cohort study. *Ann Intern Med* 2011;155:152-9.
21 Scott IA, Vaughan L, Bell D. Effectiveness of acute medical units in hospitals: a systematic review. *Int J Qual Health Care* 2009;21:397-407.
22 Greenfield S, Nelson EC, Zubkoff M, Manning W, Rogers W, Kravitz RL, et al. Variations in resource utilization among medical specialties and systems of care: results from the Medical Outcomes Study. *JAMA* 1992;267:1624-30.
23 Langhorne P, Pollock A, Stroke Unit Trialists' Collaboration. What are the components of effective stroke unit care. *Age Ageing* 2002;31:365-71.
24 Weingarten SR, Lloyd L, Chiou CF, Braunstein GD. Do subspecialists working outside of their specialty provide less efficient and lower-quality care to hospitalized patients than do primary care physicians? *Arch Intern Med* 2002;162:527-32.
25 Boyd CM, Darer D, Boult C, Fried LP, Boult L, Wu AW. Clinical practice guidelines and quality of care for older patients with multiple comorbid diseases: implications for pay for performance. *JAMA* 2005;294:716-24.

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EDITORIAL, p 10

BMJ BLOGS **Lord Ashcroft**

Anti-NHS Bill candidates would boost the Tories

A group of doctors is threatening to stand candidates at the next general election in revenge for the Health and Social Care Bill.

They plan to target at least 50 senior Liberal Democrats and Conservatives with small majorities. running on what Clive Peedell, co-chair of the NHS Consultants' Association, describes as "the non-party, independent ticket of defending the NHS."

The history of similar movements and independent candidates in general elections offers little encouragement for Dr Peedell and his colleagues, but recent years offer two notable exceptions.

One of them was in 2001 when Dr Richard Taylor was elected in Wyre Forest on a platform of restoring the Accident & Emergency unit at Kidderminster Hospital. The second was in Tatton in 1997 when Martin Bell unseated Neil Hamilton

Both show that to win, independent candidates need an issue that is local, specific, and popular.

They also need the connivance of at least one major party. None of these conditions are in place for Dr Peedell's group.

But suppose the doctors defied history and managed to make an impact. Recently I conducted a poll to find out. In the standard voting intention we found Labour on 41%, with the Conservatives on 36%, and the Lib Dems on 9%.

Interviewees were then told: "Some doctors opposed to the coalition government's policies on the NHS have suggested they may put up candidates at the next election on a non-party, independent ticket of defending the NHS."

When we asked how they would vote in such a scenario, the NHS candidates came third, with 18%.

This included 4% of those who would otherwise have voted Tory—but 15% of Liberal Democrats and fully one fifth of Labour voters. Labour's five-point margin became a Conservative lead, of 33% to 30%. The Liberal Democrats fell to 7%.

The effect of Dr Peedell's intervention would be to transform a comfortable outright Labour victory into a hung parliament with the Conservatives just four seats short of a majority.

This blog first appeared in full on ConservativeHome.com. For further details of the research, please go to www.lordashcroft.com.

Lord Ashcroft is an international businessman, author, and philanthropist. From 2005 to 2010 he was deputy chairman of the Conservative Party.

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