# **Editorial**

# Annals of Medicine and Surgery – Educating and Developing Leading Physicians and Surgeons

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### 21st Century Healthcare – A Perfect Storm

A perfect storm is developing in 21st century healthcare with unprecedented demands being placed on healthcare systems across the globe. In the western world, we have soaring rates of obesity, diabetes, and chronic disease.<sup>1</sup> In the developing world, high rates of infant and maternal mortality, tobacco use, infectious diseases, malnutrition, and trauma.<sup>2,3</sup> In both developed and developing countries, population aging has attained unprecedented levels and is expected to continue to do so over the next 50 years, heralding a new phase in human history.<sup>4</sup> Such trends are occurring within the context of rising; global demand for surgery/interventions,<sup>5</sup> use of costly technology and drugs, costs of healthcare,<sup>6</sup> and geopolitical instability against the backdrop of tight fiscal restraint resulting from a global financial crisis.<sup>7</sup>

The National Health Service (NHS) in England and Wales now needs to make efficiency savings of £20bn by 2014–15.<sup>8</sup> There has also been a concomitant surge in public and patient expectations, as well regulatory demands.<sup>9</sup> Juxtaposed to this is the growing realisation and demand for patient choice with patient-centred care that's evidence-based, high quality, safe, timely, efficient and equitable; combined with less variation and greater reliability.<sup>10</sup>

This pressure cauldron will be felt most acutely by those on the front line who deliver the care – especially the trainee physicians and surgeons and their colleagues who will need to reconcile lower working hours with high quality training and high standards of evidence-based care for patients. The delivery of excellence will become increasingly difficult and physician leadership, novel solutions, clearer focus, and better more robust systems and practices are called for.

# An outdated cultural paradigm that needs transformation

The prevailing narrative over the decades within much of postgraduate training is to just 'get on with it' and to lace problems with maxims like 'publish or perish' – which according to a quick search on PubMed has 91 articles explicitly mentioning it – the oldest back in 1962!<sup>11</sup> Such thinking is unlikely to lead to the innovative solutions required for the problems presented by the 'perfect storm'. It undermines the creative talents of our most treasured asset, the totipotent human capital represented by our trainees and students.

Many trainees have often remarked that they don't enjoy writing papers and do it just to get a job: 'it won't make you a better clinician' is a frequent response. The 'publish or perish' culture has led to this 'intellectual vacuum' and we end up with people that resent the literature and their need to contribute to it. If we could turn around this paradigm to: *contributing to the literature makes you a better clinician* – then we would have far more success. Indeed, doing research and writing papers is a deeply educational activity, stimulating deeper understanding, reflection, and the development of focussed background knowledge simultaneously. It often stimulates new ideas and innovation; especially amongst those looking at things with fresh eyes i.e. trainees and students. Doing a literature review, and reading what one's peers and seniors internationally have written on an issue, widens ones horizons immensely. Contributing to the scholarly and scientific record is a privilege but can have a huge impact on personal development; but only for those that truly understand and appreciate its benefits. The maxim needs changing too, from 'publish or perish' to 'publish and flourish'.

Another great example of how this culture can warp priorities is audit. For decades doctors have been asked, or mandated, to do audit projects, only for these to be filed away upon completion without real change or sustained quality improvement having been created. Many young doctors resent this, feel disempowered with their own healthcare delivery system and become disillusioned, questioning the value of starting a project, and even the premise of audit itself.<sup>12,13</sup> If we were to change this paradigm to one where we use quality improvement and audit projects to help stimulate real, cost-effective, change within healthcare, then an army of intelligent quality improvement professionals would be born. People would not just do their job, but improve it and the system they work in – as professionals are supposed to.

# The desire for self actualisation

For trainees and students, self-actualisation is on the up. Numerous trainee and student societies and conferences have been launched in recent years. Many of them focussed on leadership or the broader public health and societal role of doctors. This may indicate an unmet need and a thirst for a broader perspective. It's time this energetic group (whose aspirations, imagination, and creativity are at their peak) had a journal which could educate, inform, and help raise the level of debate amongst this group.

# Annals of Medicine and Surgery: A 21st century Journal with a new approach

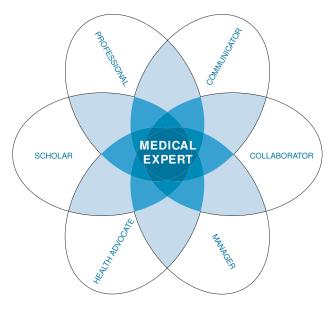
This is where the *Annals of Medicine and Surgery* (AMS) sits – to develop trainees to their maximum potential. AMS is a peer-reviewed, open access journal (www.annalsjournal. com), with a global outlook; targeted at physicians and surgeons in training, medical students, those that train them and those with an interest in our key focus areas (see below).

AMS will be happy to consider; original research (including qualitative and mixed methods), reviews, editorials, policy statements, guidelines, quality improvement and audit reports, practical "how to" type articles, round-table discussions, debate (including point-counterpoint styles written by paired authors), commentary, perspectives, opinion, brief reports, correspondence. Reports from conferences, symposia, and meetings are also invited. In addition, it will have critically appraised topics, journal club reports, and summaries of clinical guidance and Cochrane reviews – boosting the evidence-based medicine skills of those who write and read them. Innovations in education and research methods or standards will also be welcome.

Editorial decisions will be based on whether an article deserves publication rather than its apparent interest to a particular readership demographic. We will consider robust research that other general or specialist journals with defined readerships decline for editorial reasons. This includes studies that may not be methodologically new or multicentre, but whose answers provide insights on effects in different clinical contexts, populations, or healthcare settings. We welcome preliminary or locally relevant research if it raises wider issues and is carefully interpreted with limitations detailed. Protocols, pre-protocols (provisional study designs), early phase, and post-marketing studies from the device and pharmaceutical sector are welcome. We believe that publication bias detracts from the value of the scientific record and won't decline negative studies off-hand.

### Key focus areas for Annals of Medicine and Surgery

The journal is interested in publishing content from across the whole spectrum of clinical medicine and surgery, as well as the basic sciences. However, the journal will be particularly



Source: Royal College of Physicians and Surgeons of Canada.

Fig 1 The CanMEDS Clover which describes six roles that lead to optimal health and health care outcomes.

interested in twelve key focus areas which help develop lifelong skills:

- 1. Patient safety
- 2. Human factors, teamwork, communication and professionalism
- 3. Quality improvement science and practice
- 4. Evidence based medicine
- 5. Implementation science clinical evidence into practice
- 6. Leadership and management
- 7. Medical education, teaching, and training
- 8. Public and global health
- 9. Healthcare policy, delivery, commissioning, and resource management
- 10. Use of technology and health informatics
- 11. Clinical ethics and medical law
- Research and innovation bedside to bench and back again (including applications like personalised medicine)

The content areas have been kept deliberately broad, as that's what future physicians and surgeons will need – a broad knowledge base. As the population ages, patients are increasingly presenting acutely with multiple comorbidities, only to be seen and cared for by increasingly more specialised professionals. This need for breadth of education is increasingly being recognised. In a UK House of Commons Health Select Committee hearing earlier this year, Sir John Tooke, Vice-Provost for Health at University College London, extolled that postgraduate medical education and training should include; service improvement, commissioning, research, education, and the diffusion of clinical evidence into practice.<sup>14</sup>

Indeed, some of these areas are already core competencies in postgraduate curricula, yet often under-delivered. The US Accreditation Council for Graduate Medical Education (ACGME) core competencies includes the use of evidencebased medicine, interpersonal and communication skills, professionalism, ethics, and teamwork.<sup>15</sup> The Royal College of Physicians and Surgeons of Canada developed CanMEDS; an educational framework for optimal health and healthcare outcomes.<sup>16</sup> It incorporates; communication, collaboration, management, health advocacy, scholarship, and professionalism; with the ultimate goal of good patient care (Figure 1).

### A focus on patient safety, quality improvement, human factors, teamwork and communication

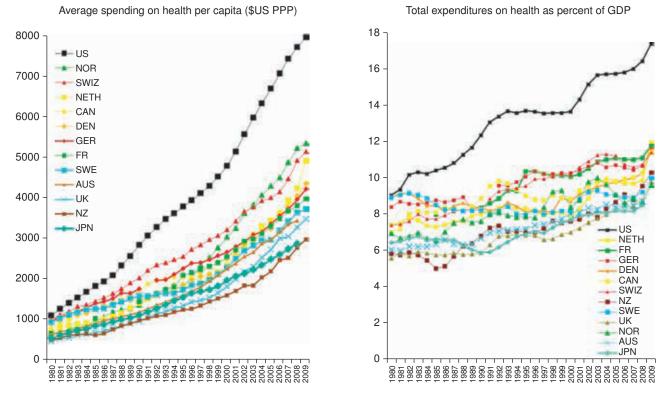
In 1999, the Institute of Medicine published To Err is Human<sup>17</sup> and stated that between 44,000–98,000 people die in US hospitals each year from medical errors that could have been prevented. This was followed in the UK by the Chief Medical Officer's report, An organisation with a memory,<sup>18</sup> which stated how adverse events in which harm is caused occur in 10% of hospital admissions or >850,000 a year. This costs the National Health Service an estimated £2bn a year in additional hospitals stays alone, and £400m a year settling clinical negligence claims, without considering the wider human, economic, and societal costs. It is increasingly being recognised how training in human factors, teamwork, and communication is an essential part of the solution to this. In a retrospective review of 258 closed malpractice claims, systems factors contributed to error in 82% of cases and communication breakdown was responsible for 24% of these.<sup>19</sup>

Spending more money alone is not the answer. The US spending on health per capita and as a percentage of GDP is more than double that of France or the UK;<sup>20</sup> yet performs worst for mortality amenable to healthcare (Figures 2 and 3). Indeed, up to 84,000 lives annually could be saved if the US lowered its preventable death rate to that of the top three performing nations.<sup>21</sup>

AMS is particularly interesting in publishing quality improvement and audit reports from trainees. We intend to publish those which provide educational value and help to raise the standard of work in this area through rigorous peer-review and keeping to accepted standards like SQUIRE.<sup>22</sup> Interventions will need to be provided in sufficient detail to allow replication elsewhere, contextual factors relevant to the implementation's success will need to outlined, and the key learning's gained from each cycle will need to be presented in a cogent fashion.

# A focus on Evidence Based Medicine

Clinical performance has been shown to deteriorate over time.<sup>23</sup> A commitment to lifelong learning and keeping up to date must be integral to the foundations of ethical professional practice. Governments also want enduring, sustainable, evidence-based policies towards disease prevention and management that integrates scientific and clinical evidence with health economics and consumer research.<sup>24</sup> But medical knowledge is growing at a phenomenal rate, doubling every 18 months.<sup>25</sup> At any given moment there are 55 new clinical trials taking place, 800 new primary care guidelines added each year and more than 2,000 new research papers added to Medline each day, this is a considerable challenge.<sup>26</sup> Paul Glasziou argues that the:

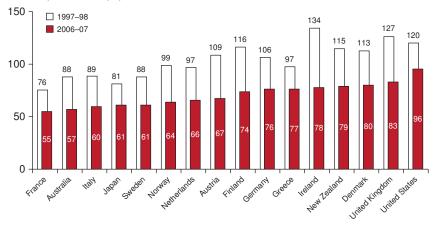


*Note:* PPP = Purchasing power parity – an estimate of the exchange rate required to equalize the purchasing power of different currencies, given the prices of goods and services in the countries concerned.

Source: OECD Health Data 2011 (Nov. 2011).

Fig 2 International comparison of spending on health (with permission from the Commonwealth Fund).

Deaths per 100,000 population\*



\* Countries' age-standardized death rates before age 75; including ischemic heart disease, diabetes, stroke, and bacterial infections. Analysis of World Health Organization mortality files and CDC mortality data for U.S.

*Source:* Adapted from E. Nolte and M. McKee, 'Variations in Amenable Mortality – Trends in 16 High-Income Nations,' *Health Policy*, published online Sept. 12, 2011.

Fig 3 Mortality amenable to health care (with permission from the Commonwealth Fund).

"The search engine is now as essential as the stethoscope ... a 21st century clinician who cannot critically read a study is as unprepared as one who cannot take a blood pressure or examine the cardiovascular system. The medical curriculum should reflect this importance of changing information for today's practitioner – the necessary skills must be taught and assessed with the same rigour as the physical examination."

The author agrees wholeheartedly. AMS will include summaries and commentaries on guidelines from the National Institute of Clinical Excellence (NICE) and others as well as Cochrane reviews. We hope AMS will be part of the mix of pedagogic approaches needed to foster lifelong learning.

# A focus on Medical Education and Teaching

Most medical faculty receive little or no training about how to be effective teachers, even when they assume major educational leadership roles.<sup>27</sup> However, teaching is being recognised as a competency by CanMEDS,<sup>28</sup> ACGME,<sup>29</sup> and the General Medical Council (GMC) in the UK.<sup>30</sup> People who teach will be required to develop the competencies needed to do so effectively. The perfect storm will necessitate physician and surgeons to take a greater public health role, advocating and modelling healthy behaviours, educating patients and the public about getting healthy and staying healthy.<sup>31</sup>

AMS is particularly interested in publishing innovations in the learning environment such as: bedside teaching and learning, resident or trainee teaching and development, faculty development, multidisciplinary learning, patient and public education.

# A focus on Leadership and Management

Earlier this year the GMC published *Leadership and management for all doctors*,<sup>32</sup> in which it stated:

"Being a good doctor means more than simply being a good clinician. Every day, doctors provide leadership to their colleagues, and vision for the organisations in which they work and to the profession as a whole."

In 2010, the Academy of Medical Royal Colleges and the NHS Institute for Innovation and Improvement in the UK published the Medical Leadership Competency Framework (MLCF).<sup>33</sup> The MLCF describes the leadership competences doctors need in order to become more actively involved in the planning, delivery, and transformation of health services. Hand in hand with these developments are the launch of the NHS Leadership Academy and the Faculty of Medical Leadership and Management. Leadership is now being recognised as a core skill that trainees need to develop.

AMS is particularly interested in publishing reports of leadership projects junior doctors and students have been involved. In addition, insights from their personal experiences of leadership which could be useful to others.

# A forum for Debate and Development

AMS will help facilitate commentary and dialogue within the scholarly and clinical communities about these issues. The debate itself will be educational and help to develop more reflective thinking physicians and surgeons with a broad perspective and knowledge of the system they work in as well as the patient in front of them.

The *sine qua non* of any good journal is editorial independence and the rigour and robustness of its peer-review process. AMS peer-review will be overseen by a senior international editorial board with significant editorial and specialty experience with an interest in nurturing talent. We also aim to attract the best independent reviewers across a range of specialty areas. The journal will provide a unique self-development opportunity by giving more trainees an insight into peer-review and editing. Thus giving them an opportunity to play their part in advancing science and medicine and to develop an understanding of the inherent responsibility that comes with this. To show our appreciation for reviewers, we will award reviewer certificates to our best performers and eventually each issue will have a 'reviewer of the issue'. We understand that the peer-review process can be a source of frustration for authors. We aim to have a high quality, efficient, and rapid peer-review process with submission to decision times of 28 days.

We wish to encourage greater interactivity and participation with the journal content and welcome author comments and responses via the correspondence section. Consistent with high quality scholarship, we seek manuscripts that meet high standards for validity, clarity, and generalisability.

Our aim is to encourage greater intellectual curiosity and the development of an academic cadre that is at present sub-optimal. We aim to develop the clinician-scientist within every doctor on the hospital floor, thus strengthening the academic and scholarly foundation amongst the 99% base of doctors who are not formally academics. This could yield real dividends in the long term.

### A journal that's truly open access

The open access movement has opened up scientific communication with broader dissemination of knowledge whose creation is often publicly funded. There is now increasing evidence that open access leads to more downloads and potentially more citations.34,35 As an open access journal, AMS is a natural home for research funded by the US National Institutes of Health, the UK Medical Research Council, and the Wellcome Trust since it complies with their mandates to make all research openly accessible. AMS will be open access but with a difference. Whilst there has been a rise in open access journals - most charge prohibitively high fees, especially for trainees who don't have access to institutional funds or grants. Typical fees for journals which publish a broad range of content (not just case reports) are £1,000-£2,000 and often greater, hence the voice of the next generation is lost when it is needed most. In comparison, AMS will charge a small fee upon acceptance to cover the costs of peer-review, journal production, online hosting, and archiving. There will be no submission, colour, or page charges and authors retain the copyright of their work. Submitted papers will be judged entirely on scientific validity rather than ability to pay.

### Annals of Medicine and Surgery – A historical note

Interestingly Annals of Medicine and Surgery was first launched nearly two hundred years ago in 1816 near Guy's and St. Thomas' Hospitals in London.<sup>36</sup> It contained sections on (1) original papers, (2) reviews, and (3) intelligence. This later section included a tabulated comparative view of the state of the atmosphere, prevalent diseases, and the mortality of the metropolis. One of the Editors William Prout, suggested iodine treatment for goitre which was applied by his colleague, John Elliotson, at St. Thomas' and also wrote a series of papers on the origin and properties of blood.<sup>37</sup>

# The Future

Bringing back a journal that was forgotten about nearly two hundred years ago is a challenge and one the author is familiar with.<sup>38</sup> AMS aims to be high impact within its community but will not chase impact factor to the detriment of its audience. Our raison d'être is to engage, develop, and harness the talents of trainees and students by giving them a modern, efficient, dynamic, and international journal as a vehicle for their scholarly and intellectual output. AMS will grow and develop with its readers and authors. We will adapt and be nimble and flexible to the needs and wants of those we serve – the trainee doctors and students. Perhaps innovative solutions to the perfect storm will come from such trainees – they are the future after all.

### Ethical approval

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### Conflict of interest

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### Author contribution

Single author manuscript.

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