

Annals of Medicine and Surgery – A modern Journal for Modern Trainees

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At its core, the purpose of healthcare is simple: to maximise quality and quantity of life. To achieve this vision, doctors have assumed an array of roles across a number of domains beyond the one-to-one patient-doctor interaction. Such domains include; teaching, research, leadership, management and clinical governance to name but a few. These roles and the healthcare systems in which they operate, have evolved over time to meet demand from patients, the profession, government and regulators. Further evolution is needed as we move into the 21st century to deal with the “perfect storm” of expensive technological advances, economic challenges and epidemiological changes.¹ It is the trainees and students of today who will drive this progress in the future. Journals are a gateway to scientific progress and we believe there is a need for a journal to educate and develop the knowledge, skills and attitudes of trainees and students. Furthermore, over the past few years, the very nature of scientific journal publication has come under scrutiny.² Hence we seek to establish a modern journal that deals with the challenges and opportunities of the 21st century.

The Skills That Trainees and Students Need to Learn Have Evolved Over Time

Healthcare provision has always involved more than direct clinician-patient interaction. For example, teaching continues to be as integral to medicine now as in the time of Hippocrates: “by the set rules, lectures, and every other mode of instruction, I will impart a knowledge of the art.”³ In the last century evidence based medicine (EBM) emerged as another domain central to good medical care. The theoretical benefit of an intervention must now be backed up with evidence of safety and efficacy. One of the most famous examples was the Cardiac Arrhythmia Suppression Trial (1989) in which prophylactic anti-arrhythmics given to patients following a myocardial infarction were shown to increase mortality; this went against popular, but unsupported, teaching of the time.⁴ One such drug, flecainide is now estimated to have led to the premature death of more Americans than the Vietnam or Korean Wars.⁵ A solid understanding of EBM is now considered an essential competency for the modern doctor.

Around the turn of the century, there was an increasing appreciation that knowledge and understanding of healthcare systems is essential to optimise patient outcomes. Even the most cutting edge research demonstrating a benefit to patients can take around 17 years to come to practice.⁶ Delays and difficulties in implementation often depend on system factors such as expense, staffing, appropriate resources and dissemination of knowledge. What, where, when, how, and by whom healthcare is delivered are all factors that can impact on patient outcomes. Thus leadership and management have emerged

as core competencies for trainee doctors.⁶ Doctors must now take ownership of the systems that they work in rather than abdicating responsibility for system failures that they see. Indeed, there is a growing body of literature demonstrating that junior doctor leadership improves patient outcomes.⁷⁻⁹

Another skill that doctors now need is the ability to respond to the challenges and opportunities of modern information technology. Thanks to the internet, patients are now often well-read; although this does not always equate to being well-informed. Doctors’ skill in the appraisal and communication of evidence is now increasingly important in their interaction with patients as well as amongst colleagues. Social networking provides its own professional challenges, especially for students and trainees.¹⁰

As these challenges evolve and new ones emerge, we aim to keep trainees and students up to date, develop their skills, encourage them to monitor their own outcomes and reflect on them and stimulate discussion across the broad scope of 21st century medicine and surgery. In order to fulfil these aims we have constructed a modern journal based on two key principles: a commitment to modern, best-practice publishing, and a philosophy of mentorship.

Open access

Until recently, journals had changed little since the 19th century. However, with the widespread use of personal computers and the internet, major change has been witnessed over

Table 1 Author Helpful Policy (adapted from Marusic and Marusic¹⁵)

Journal Activity	Policy	Benefit to authors
Pre-review		
Author guidelines	Comprehensive but clear details for different types of article	Clear instruction are especially important for first-time authors
Commission articles	Commissioned from senior authors (offering an expert viewpoint) and sometimes from junior authors as well (offering a different, often frontline, viewpoint)	Commissioned junior authors will be mentored
Review		
Editorial review process	Editors will help authors to improve their report before peer review if appropriate	Enables peer reviewers to focus on giving useful review and learning points
Peer review	Manuscripts will be reviewed on the basis of whether they are relevant and technically sound, rather than on interest or popularity	Authors do not need to worry about gauging the potential popularity of their paper but can focus on methodological rigour and sound analysis; key skills for the developing author
Timescale	We aim for 28 days from submission to decision	Waiting for decisions is frustrating Rapid decision time allows junior authors to build momentum in their early career and encourages new thinking
Rejection, revisions and author feedback	Rejection occurs only if the core concept or methodology is not technically sound or lacking relevance Even if major revisions are needed, we will give sufficient structured feedback to improve the manuscript and encourage resubmission. We will also support the author through the re-writing process	Every submission will be a valuable learning experience, whether accepted or otherwise Authors will receive active support and feedback from the journal

the course of the last 15 years. We are part of a new paradigm of scientific publishing: the online, open access journal. In an era of rapid electronic communication, the publishing model of subscription fees for paper issues has come under increasing scrutiny, including from an ex-editor of the British Medical Journal, Richard Smith.² Open access publication turns the traditional journal funding model on its head with the author(s) paying for the costs of publication (usually upon acceptance). Smith points out that flipping the model allows journals to remain financially viable without restricting access to new ideas. Thus, the online, open access movement takes us closer to the ideal of free, easy, instantaneous, and global exchange of ideas. This opens doors to opportunities and collaborations like never before. Those in the developing world can engage more meaningfully in the scientific process with open access; hence truly international journals can be created. Opening up the scientific process can have other, unexpected benefits. Take the story of Jack Andraka, the schoolboy aged 15 who developed a diagnostic test for pancreatic cancer at John Hopkins university, inspired by reading open access journals.¹¹

This model is increasingly successful, with open access articles more likely to be read, downloaded, and cited.^{12,13} Citation rates from many open access journals now match those of subscription-only equivalents.¹⁴ However, the cost of publishing a paper is often prohibitively high for trainees or students, who may be publishing their first paper and are far less likely to have institutional or grant funding or the requisite personal wealth. This journal will keep fees to a minimum, making it an attractive option for trainees and students alike. Furthermore, we do not ask for transfer of copyright, permitting unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original authors and source are credited. We strongly support the notion that knowledge gained is only useful if it is shared.

As well as embracing the open access movement, we aim to monitor and utilise the latest developments in good publishing practice. For example, the role of social media in modern publishing is not to be overlooked. With many doctors and other professionals using such sites in a professional capacity, this provides a clear avenue for AMS to utilise.¹⁰ We will offer commissioning opportunities through social media platforms. In tandem with this, such platforms can also be utilised for post-publication peer-review which can be provided rapidly and in real time. We will always work to ensure our practices are benefiting the scientific community. To this end, we will conduct regular feedback and information gathering exercises from our audience including readers, authors, editors, and reviewers. This will help to shape the direction of the journal as we move forward in the changing world of medicine and scientific publishing.

Developing Juniors

We have targeted trainees and students for a number of reasons. The importance of juniors in identifying problems and implementing change is increasingly recognised. They deliver frontline care and yet are less institutionalised, moving around departments and hospitals. Thus often they have a unique perspective and the ability to compare and contrast approaches with fresh eyes.⁷⁻⁹ We feel that a journal that directly engages this cohort and brings them further into the scientific process is serving an unmet need. Secondly, we believe there is a place for a journal that actively mentors juniors in developing their skills and competence in EBM, quality improvement, patient safety and the other key areas of interest we have highlighted.¹ This ethos runs throughout the journal and its staff, with a commitment to develop trainees and students as practising clinicians, readers, authors, reviewers, members of

the editorial team and indeed the wider scientific and clinical communities.

Readers and the wider community benefit from a journal that is free to access and broad in scope but with a focus towards topics not covered in detail in postgraduate or undergraduate curricula. Furthermore, we aim to establish links with groups and societies to promote the development of the core skills we have outlined above.

An “author-helpful” policy has been pioneered elsewhere¹⁵ and we have updated this to include the benefits available to authors from an online, open access journal (Table 1). The objective is to encourage and develop first-time writers as well as those with more experience. Potential first time authors may have interesting and important perspectives but may lack the initial self-confidence to invest time in writing something with little indication of reward. Our aim is that every submission and the process that follows is a valuable learning experience for the author, accepted or otherwise. The decision and publication processes themselves are rapid, with a projected submission to decision time of 28 days. Rapid publication is possible because we are not limited by the printing of paper issues. Once accepted, copyedited, and typeset, an article can be published directly online without delay to an “issue in press” – with content being added to the issue dynamically, as soon as it is ready.

Being online-only means we are not limited by physical space and page budgets: a commonly cited reason for rejection of technically sound papers. The UK House of Commons Science and Technology Committee report on peer review demonstrates that “online-repository journals” such as ours are paving the way forwards for peer reviewed publication.¹⁶ In the report the Wellcome Trust states that:

“The approach adopted... where the peer review process focuses solely on whether the findings and conclusions are justified by the results and methodology presented, rather than on assessment of the relative importance of the research or perceived level of interest it will generate—has both reduced the burden on the reviewer and the time it takes to get a paper published.”

Despite this, and our ‘author helpful policy’, we will not compromise on the methodological quality of papers we publish. We will require papers to follow relevant research integrity and reporting guidelines (e.g. CONSORT, PRIMSA, STROBE, SQUIRE, STARD, etc).¹⁷ The literature demonstrates that traditional and high impact journals often struggle as do all journals with ensuring compliance to guidelines such as CONSORT.¹⁸ We will also follow Committee on Publication Ethics (COPE) guidelines and also hope to raise awareness of ethical and sound publication practices.

Junior Peer-Review and Editing

The internal structures of the journal itself, including peer review, also aim to develop trainees and students. In fact the process of peer review has found itself under review recently. As well as the UK House of Commons report published last year, the publisher Elsevier issued a “Peer Review Grand Challenge” this year, for suggestions to improve the peer review process.¹⁹ These initiatives have arisen partly from the increasing difficulty journals are having finding enough quality peer reviewers to deliver good reviews on time. There are various explanations for this including increasing pressure on academics from their employing organisations, leaving

them less time for unpaid peer-review as well as the continued rise in the number of manuscripts being submitted.²⁰ A common theme from these sources is that training of junior peer reviewers is needed to ensure quality peer review is sustainable in the long term. AMS can play a significant role in this by developing a young cadre of quality peer-reviewers. Perhaps surprisingly, there is evidence that junior reviewers may actually deliver better reviews, spending more time and detailing any deficiencies in more detail.^{21,22} We will pair junior reviewers with senior colleagues with the dual benefit of quality assurance for editors and readers, and the opportunity to develop a growing pool of talented junior reviews through feedback, mentoring, coaching and educational seminars and content. Whilst some young doctors receive training in scientific critique, few receive training in peer review per se, although there are some pilot courses as such.¹⁹ In fact, peer review can take two forms,¹⁶ and the strength of this model is that it will allow us to utilise both “peer-review” (juniors reviewing the work of other juniors) and “expert review” (an expert in the field reviewing the work presented).

The editorial staff includes young trainees, such as ourselves, who are under the close guidance of senior board members with more experience. This ensures the journal is in touch with its target audience, is usable, demonstrates a commitment to mentoring the next generation but also provides a forum for meaningful additions to the literature and for ultimately better patient care. This blend of experience will enable us to be an adaptable and innovative journal. We aim to keep up to date with developments in publishing, especially the exciting opportunities that the internet and other technology hold.

Conclusion

A modern journal needs to mirror the ever expanding and demanding roles that trainees and medical students face. A dynamic journal such as AMS has the ability to ride the changes seen regularly in medicine while providing a valuable resource for those embarking on their training. Instead of re-enforcing the entrenched opposition felt between trainees and currently established journals, AMS will strive to work hand-in-hand with our target audience. However, the measure of our success will come not just from the number of submissions, publications, citations, or an impact factor; instead it will be through our contribution to the training of the next generation of leading physicians and surgeons.

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Conflict of interest

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Author contribution

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CFC: editing, and critical revisions.

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