Evidence based medicine manifesto for better healthcare

A response to systematic bias, wastage, error and fraud in research underpinning patient care

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Informed decision-making requires clinicians and patients to identify and integrate relevant evidence. But with the questionable integrity of much of today’s evidence, the lack of research answering questions that matter to patients and the lack of evidence to inform shared decision-making how are they expected to do this?

Too many research studies are poorly designed or executed. Too much of the resulting research evidence is withheld or disseminated piecemeal.1 As the volume of clinical research activity has grown,7 the quality of evidence has often worsened,8 which has compromised the ability of all health professionals to provide affordable, effective, high value care for patients.

The BMJ and the University of Oxford’s Centre for Evidence Based Medicine have collaborated on Evidence Live, a yearly conference designed to 'develop, disseminate and implement better evidence for better healthcare'. Through this work and other projects, we know of substantial problems but also progress and solutions spanning the breadth of the evidence ecosystem, from basic research to implementation in clinical practice.

The EBM manifesto offered here grew from that awareness. It is an open invitation for others to contribute to and join a movement towards better evidence by providing a roadmap for how to achieve the listed priorities and to share the lessons from achievements already made. Its aim is to complement and unite existing efforts as well as create new ones.

Why can’t we trust evidence?

Serious systematic bias, error and waste of medical research are well documented (Box 1).2 Most published research is misleading to at least some degree, impairing the implementation and uptake of research findings into practice. Lack of uptake into practice is compounded by poorly managed commercial and academic vested interests11 bias in the research agenda (often because of the failure to take account of the patient perspective in research questions and outcomes),16 17 poorly designed trials with a lack of transparency and independent scrutiny that fail to follow their protocol18 or stop early,19 ghost authorship,20 publication and reporting biases21 22 and results that are overinterpreted or misused,23 contain uncorrected errors24 or hide undetected fraud.9 21

Poor evidence leads to poor clinical decisions. A host of organisations has sprung up to help clinicians interpret published evidence and offer advice on how they should act. These too are beset with problems such as production of untrustworthy guidelines,20 regulatory failings23 and delays in the withdrawal of harmful drugs.24 Collectively, these failings contribute to escalating costs of treatment,25 medical excess (including the related concepts of medicalisation, overdiagnosis and overtreatment)26 and avoidable harm.24

Box 1 Problems with current evidence

► A landmark review suggested that results from half of all trials are never published, and that positive trials are twice as likely to be published as results from negative trials9
► The cost of clinical drug trials rose fivefold in one decade and is hindering the development of new medicines6
► 85% of research spending currently goes to waste6
► In a study of systematic reviews, 86% of 92 Cochrane reviews did not include data from the main harm outcome7
► A systematic review of 39 studies found no robust studies evaluating shared decision making strategies8
► From 2009 to 2014 the drug industry received fines totalling $13bn (£10bn; €12bn) for criminal behaviour and civil infringements—few systematic changes have occurred to prevent such problems occurring again9
► “Despite repeated calls to prohibit or limit conflicts of interests among authors and sponsors of clinical guidelines, the problem persists”10
► One third (34%) of scientists report questionable research practices, including data mining for statistically significant effects, selective reporting of outcomes, switching outcomes, publication bias, protocol deviations, and concealing conflicts of interest11
► A 2012 survey of 9036 BMJ authors and reviewers found that of the 2782 (31%) who replied, 13% had witnessed or had firsthand knowledge of UK based scientists or doctors inappropriately adjusting, altering, or fabricating data during their research for the purpose of publication12
► 8% of authors from 630 articles admitted they had lied in their authorship statements13
Developing more trustworthy evidence: the EBM manifesto

The steps required to develop trustworthy evidence (box 2) have been refined through a series of activities with stakeholders, including seminars, round table discussions, online consultations and direct feedback. Tackling the problems will take time, resources and effort. The evidence-based medicine community should take responsibility for this. However, it is a vast project that is being led, and will be led, by disparate groups around the world. We hope to focus attention on the tools and strategies most effective at delivering change, so that we can all work together to improve healthcare using better quality evidence. The manifesto document and priorities are a living document and will evolve over time to advocate for trusted evidence and will be led, by disparate groups around the world. We hope to focus attention on the tools and strategies most effective at delivering change, so that we can all work together to improve healthcare using better quality evidence. The manifesto document and priorities are a living document and will evolve over time to advocate for trusted evidence and safety through the better use of real world data.

References


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