

# BMJ

## Improving health outcomes for all

Impact report 2022



**Better evidence**



**Better decisions**



**Better systems**



Foreword from our Chief Executive Officer, Chris Jones

## Reflecting on our global impact

*Welcome to our latest impact report*

When you ask people who work in healthcare why they chose a career in medicine (or why they stay), often I hear that they want to make a difference – both to their patients, and the health systems and communities they work in.

These commendable aspirations ring true for us at BMJ. Our primary purpose is to share knowledge and expertise that improves health outcomes through **better evidence**, **better decisions**, and **better systems**.

In 2021, we launched our first evaluation of how we're delivering on this purpose, as an impact report. This second iteration summarises our impact from the middle of 2021 to June 2022 – when covid-19 began to loosen its grip on businesses everywhere, including our own. Once again, we've assessed our impact using the most quantitative measures we can find. We also give you first-hand accounts of how we've supported health professionals, and where we've contributed to improving the quality, safety, value, and sustainability of health systems.

As an organisation, at BMJ, we know the evidence we develop and deliver must be relevant and timely, meeting the evolving needs of healthcare professionals as they strive to maximise the health and wellbeing of their patients. That's why we're growing our investment in digital innovation, ensuring that we can continue to meet those changing needs. Through our continued expansion of events and partnerships, we are focused more than ever on bringing together the most influential change makers, both virtually and in person. We believe that expert

conversations spark innovative thinking about the big issues in patient care.

At the end of 2021, we bade a sad farewell to Dr Fiona Godlee after 16 years at the helm of *The BMJ* as editor in chief. She has left a strong legacy in the very skilful hands of doctor, journalist, editor, and broadcaster Dr Kamran Abbasi<sup>1</sup>. Kamran brings editorial experience, a global perspective, a clear sense of purpose, credibility and integrity, and a strong commitment to BMJ's values of being evidence based, patient centred, open and transparent, and courageous.



BMJ is committed to diversity and inclusion, so we are proud to have appointed a British Asian to this important role. Kamran is the first person of Black or Asian origin to be editor in chief of any of the top four international medical journals. *The Health Service Journal (HSJ)* recently named Kamran one of the 50 most influential Black, Asian, and minority ethnic people in health.<sup>2</sup>

### Holding ourselves accountable

Our framework articulates how we create impact through our mission of sharing knowledge and expertise to enhance health outcomes. I'm excited to present real-world, tangible examples of that work in this latest report.

Maintaining a clear account of what achieves the best results for health professionals is important to us at BMJ. With it, we can confidently continue to unlock new and exciting business opportunities and hold ourselves to account for delivering on our mission.

“

*As a purpose-led organisation, we believe our strategic intent<sup>3</sup> and vision of helping to create a healthier world must be based on a realistic and rigorous benchmarking system, backed up with real-world external validation.”*

I hope you enjoy reading this report.

**Chris Jones**, Chief Executive Officer

## Impact framework

BMJ is a global healthcare knowledge provider with a vision for a healthier world. We share knowledge and expertise to improve health outcomes.

### We do this by providing a continuum of services

Delivering quality research

Policy and guidelines influence

Synthesised learning and best practice

Strengthened workforce

Clearer clinical decisions

Improved health outcomes

### Which leads to



#### Better evidence

Patient engagement  
Improved research quality and integrity  
Faster and wider access to latest research



#### Better decisions

Ability to apply best evidence  
Improved knowledge, skills and career development  
Improved practice and patient care



#### Better systems

High quality policy and guidelines  
Open research systems  
Improved healthcare provision

### This ultimately results in

# Improved health outcomes

# Our impact in numbers 2022

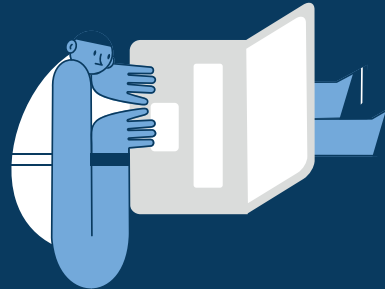


Partnering with over  
**11,000**  
academic, medical, and  
governmental institutions  
worldwide

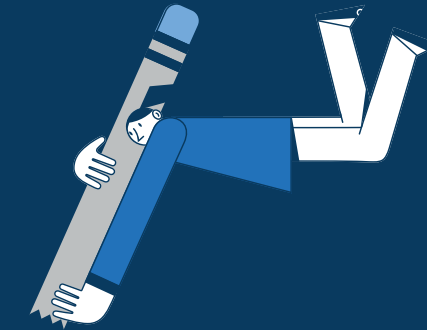


Ranking **4**  
in the world as one  
of the top general  
medical journals

Maintaining more than one third  
of our indexed journals ranking  
within the **top 10** of their  
category



Improving outcomes for over  
**16,000** patients  
through independent assessments  
and research on medicines by BMJ's  
Technology Assessment Group  
(BMJ-TAG)



Showing real influence and  
impact at government level with  
**24 journal mentions**  
in the House of Commons and  
House of Lords of the UK<sup>4</sup>



Serving **9.8 million**  
visitors to our websites every  
month





## Better evidence

### Finding a wider audience

The world's social and economic crises and the pandemic have shown there are many people who want trusted, reliable information and evidence. We believe that this is one of the reasons that people are turning to *The BMJ* in growing numbers. [www.bmj.com](http://www.bmj.com) saw the number of active users grow from 22 million in 2019 to 31 million in 2020, and 49 million last year.

To create a healthier world, our view is that policy makers and civil society must do what health professionals do, and that is to prioritise outcomes related to health and wellbeing. That's a world that we should unequivocally argue for, and work to achieve.

Our journals, learning products, and decision support tools are primarily focused on supporting frontline staff to improve patient outcomes. Whether it's research or education, we work with patients to make our content and information directly relevant to policy making and clinical practice.

We continue to have real influence and impact at government level. In March 2022, *The BMJ* was referred to in the [UK's parliament](#) to highlight the financial pressures besetting new medical schools.

Our agenda is broad and ambitious. *The BMJ*, our flagship journal, is both a leading UK and international publication. Our focus is health, but we support the multisectoral ambitions of the [Sustainable Development Goals \(SDGs\)](#).<sup>5</sup> And we are embracing new digital formats and multimedia, and adapting current article types to be more consumable and shareable online. Whilst we have some way to go to catch up with the best non-medical, non-scientific publishers, we are dedicated to making the changes that will transform *The BMJ's* international and digital content over the next three years.<sup>6</sup>



**Dr Kamran Abbasi**  
Editor in Chief, *The BMJ*





*The BMJ's* investigation reporting poor clinical trial practices is one of the best read and most widely shared articles in the history of scientific publishing.

## Improving transparency in research, clinical practice, and healthcare systems

The pandemic highlighted the danger of misinformation – an issue brought close to home last year when *The BMJ* locked horns with Facebook after one of its investigations was censored by Facebook fact checkers, and some readers attempting to share *The BMJ* article socially were warned against doing so by the platform.<sup>7</sup>

*The BMJ's* investigation reported poor clinical trial research practices at a contract research company helping to carry out a [Pfizer](#) covid-19 vaccine trial.<sup>8</sup> *The BMJ's* investigation raised important questions about data integrity and regulatory oversight at the [US Food and Drug Administration](#). It is now one of the best read and most widely shared articles in the history of scientific publishing.

At BMJ, we pride ourselves on the quality and reliability of what

we publish. Even journalistic articles are peer-reviewed and fact-checked, where appropriate, and involve our team of editors, technical editors, and statisticians. We believe that the best way of countering misleading information is to produce highly trusted information, so that health professionals and the public know who to turn to when they need help.

Investigative journalist Paul Thacker, writing for *The BMJ*, won a British Journalism Award<sup>9</sup> for his series on the financial interests of medical experts advising US and UK governments during the covid-19 pandemic.

As a result of the articles, the financial disclosures of members of the [Scientific Advisory Group for Emergencies \(SAGE\)](#) were published for the first time.



# BMJ Journals

## Creating academic impact

The impact of academic research cannot be defined by any single metric. As a DORA signatory, BMJ believes that the journal impact factor (JIF) is best shared alongside other metrics that can help an author decide where to publish.

These include Citescore, Total Altmetric mentions, and time to first decision amongst others. They are made available on our journal sites and demonstrate how BMJ is meeting researchers' needs for timely publication, reach and influence.

In the [2021 Journal Citation Report](#), the [Journal of NeuroInterventional Surgery](#) took first place in the Neuroimaging category, and three BMJ journals received their first impact factor, taking BMJ's JIFs indexed total to 41 journals:



**[BMJ Evidence-Based Medicine:](#)**  
4.691



**[BMJ Open Respiratory Research:](#)**  
5.054



**[BMJ Paediatrics Open:](#)**  
2.926

## Four of our titles received their first Citescore, taking our total to 63:



**[BMJ Neurology Open:](#)**  
0.9



**[BMJ Surgery, Interventions, & Health Technologies:](#)**  
1.2



**[BMJ Open Science:](#)**  
3.7



**[World Journal of Pediatric Surgery:](#)**  
0.7

And 32 of our indexed journals (84%) observed an increase in JIF, with [Annals of the Rheumatic Diseases](#) (27.973) and [Gut](#) (31.793) seeing increases above 8 points.

Finally, our flagship journal [The BMJ](#) increased its JIF from 39.890 in 2020 to 93.333,<sup>11</sup> moving it into fourth place in the Medicine, General and Internal ranks.

60%

are now indexed by [Clarivate's Journal Citation Reports](#)<sup>10</sup>

80%

indexed in Scopus also saw an increase in their CiteScore

89%

had their impact factor (JIF) rise in 2021

50%

are at the top of their category (Q1-Q2)

Encouraging new and important open science research discoveries

11th most cited publisher in Clinical Medicine

10th in Public Health

8th in Health Services Research<sup>12</sup>



## Valuing the benefits patients bring to helping generate the best evidence

BMJ is leading the world of medical journals in the way we work with patient editors, patient reviewers, and patient advisors.<sup>13</sup> We are passionate about partnering with patients and the public across all aspects of our work. Their insights bring a critical dimension to our work and thinking.

Increasingly, health professionals are working with patients, carers, patient advocates, and civil society organisations to improve the quality, safety, and sustainability of healthcare and our readers look to *The BMJ* to provide practical examples, expertise, and evidence. *The BMJ's* Partnership in Practice series is a co-produced series of readable narratives which draw attention to innovative collaborative “partnership” initiatives in clinical practice, service design and delivery, policymaking, medical education, and health research.<sup>14</sup>

*The BMJ's* [‘What your patient is thinking’](#) series brings together patient authors who share with our readers their personal experiences and recommendations to improve patient to doctor communication and care. This is another way BMJ works to improve the value, relevance, quality, and utility of the evidence.<sup>15</sup>



Additionally, a recent study<sup>16</sup> provides empirical support for the hypothesis that greater patient involvement in healthcare decision-making improves satisfaction with care irrespective of decisions made and clinical outcomes. Overall satisfaction with care was highest when decisions were reached through shared decision-making.<sup>17</sup>

### From May 2021-May 2022

- **303 articles published in *The BMJ* had a patient reviewer**
- **28% of *The BMJ* research articles in 2021 reported their work contained patient and public involvement (12% increase year on year)**
- **75% of BMJ Events advisory committees included a patient in 2021 (25% increase)**
- **90% of all BMJ Best Practice leaflets have been reviewed by a patient panel<sup>18</sup>**



*We believe there is a great value attached to patient-centred and codesigned clinical trials,<sup>16</sup> and involving patients in the knowledge creation process improves its value and can lead to better healthcare delivery and outcomes.”*

**Amy Price**, Research and Evaluation Editor (Patient and Public Partnership)





## Making patient and public partnerships an ethical imperative

In March 2022, we launched a new international multispecialty journal that seeks to promote multidisciplinary collaboration through encouraging scientific debate. Closely aligned with our flagship *The BMJ*, the newly launched *BMJ Medicine* helps to exchange new knowledge and ideas to improve the health of patients and the public.

*BMJ Medicine* has included patient reviewers from the outset. We encourage co-production of research and education<sup>19</sup> content and we ask patients to review our research alongside peer review. The editors also work closely with [The BMJ's patient editor team](#) and the wider patient community to continually develop the journal's policies, processes, and content.



*The launch of BMJ Medicine further exemplifies BMJ's unwavering commitment to championing patient and public involvement in research and healthcare. As a patient advisor, I'm thrilled and honoured to embody this commitment, especially at a time of heightened threats to public health and patient care."*

**Sophia Walker**, Patient Advisor, *BMJ Medicine*



## Delivering faster access to research through preprints

Early access to research results accelerates the pace of medical discovery

To improve the openness and accessibility of scientific findings in the medical field, we co-founded the medRxiv preprint server in 2019 we also encourage our authors to post their research as preprints. Since last year, we have also invested in integrating medRxiv with our journals platform to make the submission process easier for authors and to further speed up routes to the publication of peer-reviewed evidence.



*Preprints—manuscripts posted openly online prior to peer review—offer an opportunity to accelerate the dissemination of scientific findings to support responses to infectious disease outbreaks.”*

Johansson. MA, Reich. NG, Meyers. LA, and Lipsitch M. et al.

**Preprints: An underutilized mechanism to accelerate outbreak science | *The Public Library of Science (PLOS)***<sup>20</sup>



### medRxiv

## Making preprints mainstream

We want to reshape the way medical research is conducted and disseminated, and our co-founding of medRxiv with [Cold Spring Harbour Laboratory](#) and [Yale University](#) is helping us to do that. We are guided by one of our [five company values](#) that the best decisions depend on the best evidence, so have made it our responsibility to deliver a service that allows very rapid dissemination while checking that research is ethically and appropriately conducted and reported.

### Enabling faster access to evidence with

- ✔ Over 519K open access articles published<sup>21</sup>
- ✔ 4.6 million mentions of open access articles<sup>22</sup>
- ✔ Content published open access in our journals receiving 16M article views by over 13M users in more than 150 countries<sup>23</sup>

## Helping authors find the right home for their research

Helping authors find the most appropriate journal for their paper is perhaps the most important thing we can do. At BMJ, we want good quality research to reach the right audience in the shortest possible time, and that means helping authors to find the right journal first time via the smoothest submission process. But if an author’s first choice journal isn’t quite right, our article transfer service can move papers on to a suitable journal home with no fuss, in as little as two days.

### In 2021

- ✔ We helped 1,549 authors rejected from their first-choice journal to be accepted in an alternative BMJ journal
- ✔ Authors saved, on average, 35 days to receive a decision on their article when they transferred to another BMJ journal, compared to submitting elsewhere
- ✔ Authors who chose to use our article transfer service achieved an average of three citations and an Altmetric Score of 20<sup>24</sup>



*Being able to transfer the submission to another well-respected BMJ journal made for an appealing mechanism to resubmit as it allowed us to build on the reviews from our first submission.”*

**Author,**  
West Roxbury VA Medical Center, Boston, USA



## Strengthening ethics within the publishing community

[BMJ's research integrity and publication ethics team](#) have a broad remit, including advising on major errors and scientific misconduct affecting the work that we publish.

This involves developing policies to improve the integrity of our content, [voicing those policies](#), providing training for editors and influencing publication ethics beyond BMJ at conferences, and participating in publishing committees.

The team makes regular contributions to guidelines and discussion documents created by the Committee on Publication Ethics (COPE).<sup>25</sup> We are also co-authors on [official COPE guidance](#) for editors and publishers addressing manipulation of the publication process. We also recently took part in developing disclaimers and guidance on [how to deal with historically offensive content](#). In 2021, we were pleased that BMJ's visual summary on categories of harmful content featured in the COPE Webinar<sup>26</sup> on issues around historical offensive content; its damage and how to mitigate it.



*"I am reaching out because, we have continuously come back to your page on 'Five things you should do as a journal editor to support social justice' – particularly the graphic on the cycle of injustice. This visual is quite impactful and will aid in our efforts for editors to understand how their journal strategies and decisions affect the broader research ecosystem."*

**Shaina Lange**, Manager, Publishing Integrity Office Global Editorial Operations, Journals Publishing Group, American Chemical Society

BMJ's research integrity team developed a visual summary illustrating the cycle of injustice. It complements the [guide for editors](#), which gives practical strategies to advance equity, diversity and inclusion. It was recently adopted as a formal part of the [American Chemical Society \(ACS\) Publications e-learning course curriculum](#) and supplementary guide for ACS journal editors on practical strategies to advance equity, diversity and inclusion.<sup>27</sup>



## Safeguarding the integrity of science

In May 2022, BMJ collaborated with over 15 leading publishers by becoming an official participating member of the [STM Integrity Hub](#), a potentially powerful platform being built to detect integrity issues in manuscripts submitted for publication to scholarly journals. Representatives from BMJ are part of the collaboration group looking at Image Manipulation Detection, and play a key role on the Governance board for the project.



*"There is a limit to what any publisher can achieve alone in the fight against unreliable or counterfeit science. It is essential that we work together to uphold the integrity of the scientific record. The STM Integrity Hub is a promising step in the right direction."*

**Simone Ragavooloo**, Research Integrity Manager, BMJ





## Accelerating evidence into practice through trustworthy recommendations

The BMJ's Rapid Recommendations are a form of clinical guidance that is updated when new practice-changing evidence becomes available. They are a collaboration between *The BMJ* and the [MAGIC Evidence Ecosystem Foundation \(MAGIC\)](#).<sup>28</sup>

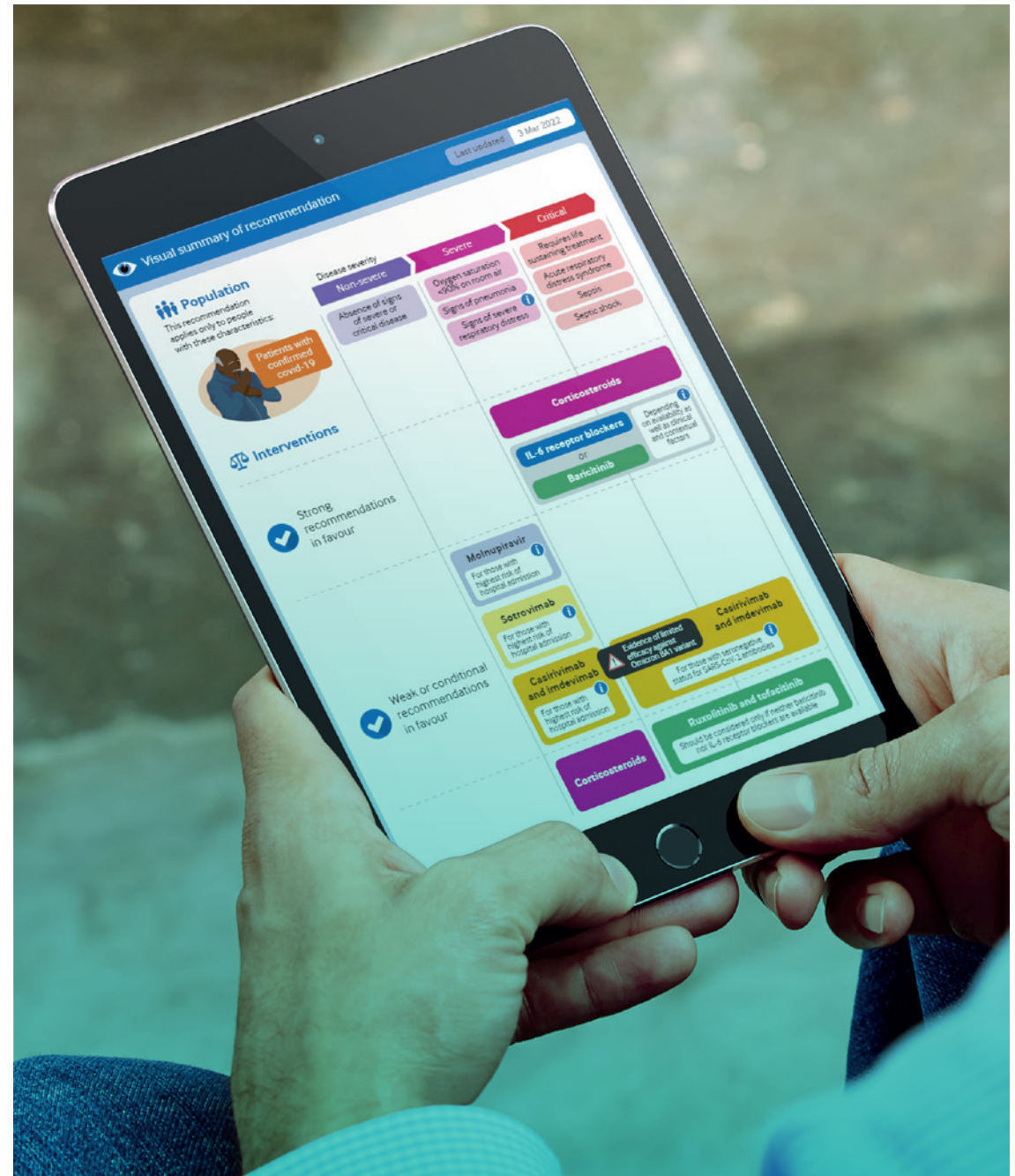
MAGIC and *The BMJ* also partnered with [WHO](#) during the covid-19 pandemic to quickly produce trustworthy guidance on the treatment and prevention of covid for a large international audience. The two living guidelines for drugs to prevent and treat covid-19 are live on [bmj.com](#).<sup>29</sup>

Our role in this is to not only apply our editorial expertise in developing educational content and evaluating science, but to also think through how we deliver the most reliable and best information that users need in an easily accessible format.

Underpinning these guidelines is a new article type developed during the pandemic; a living systematic review and network meta-analysis<sup>30</sup> which tracks the latest trials evaluating drug therapies and is updated as new evidence emerges.<sup>31</sup>

## Enabling clinical readers to apply the latest information to their practice

Since 2016, *The BMJ's* Rapid Recommendations have accelerated getting research evidence into practice. This means new research is incorporated into treatment guidelines in months rather than years. The number of rapid recommendations published or updated by *The BMJ* doubled from 10 in 2020 to 20 in 2021.





## Advancing global equity in an open access world

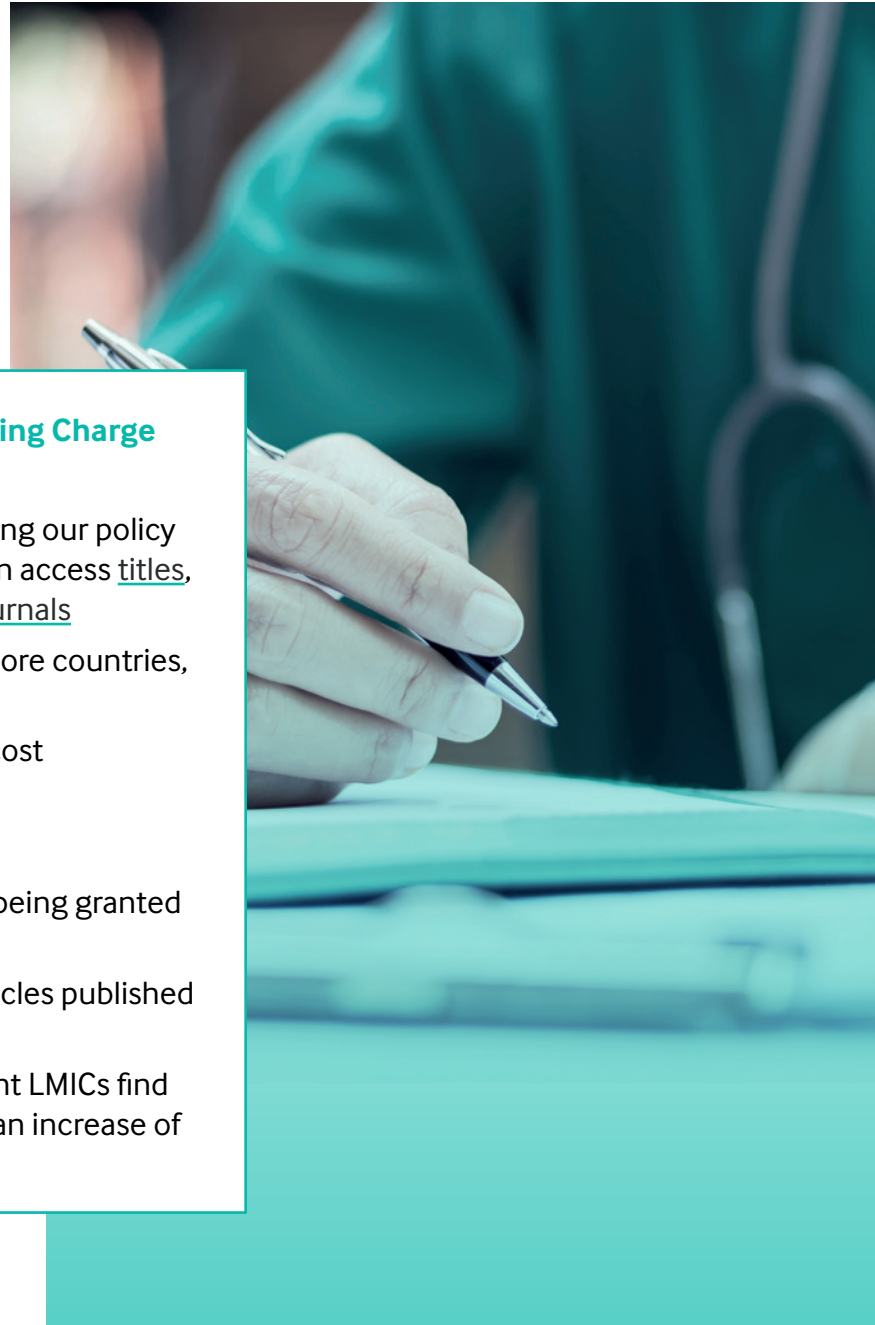
At BMJ we want to support authors from low and lower-middle-income countries (LMICs) to publish their research by means of open access in their journal of choice.

### In 2022, we extended our Article Processing Charge waiver policy:

- ✓ All of our journals now offer waivers, extending our policy to cover not just publication in our fully open access [titles](#), but also in our [hybrid](#) and [transformative journals](#)
- ✓ The scope of our programme includes 50 more countries, making many more authors eligible
- ✓ Our waiver covers 100% of the publication cost

### Since implementation in January 2022

- ✓ There has been a 130% increase in waivers being granted to authors from LMICs
- ✓ A 45% increase in the number of waived articles published from authors in LMICs
- ✓ And we've helped authors in over 20 different LMICs find the right journal for their research – that's an increase of over 50% for the same period last year



## Encouraging publication of the best research

An evidence base must be built from a variety of perspectives and maintain a focus on the inclusion of those historically excluded to improve the quality of research. In 2021 only 8% of articles published in BMJ Journals had corresponding authors from LMICs, down 47% on the year before, possibly reflecting pandemic effects. Our journals are working to increase the diversity of authorship for whom we publish, and [Medical Humanities](#) is a good example of that:



*Right now, we have our first candidate proposal—[Finding Joy in Africa](#). We are seeking Special Issue submissions right now from India, Southeast Asia, Latin America, Africa, and Oceania.”<sup>32</sup>*

**Brandy Schillace**, Editor in Chief, [Medical Humanities - BMJ](#)



## Better decisions

### Fostering critical thinking in students in Latin America

Research plays an important role in medical education and in improving the overall health of the population. It fosters critical thinking in students and enables them to better understand disease processes, on top of contributing to an academic portfolio of experiences and publications.

However, not all research from authors based in LMICs gets published, due to a lack of time, writing skills, or experience in the publication process.

For these reasons, [the Facultad de Medicina of the Universidad Nacional Autónoma de México \(UNAM\)](#) has implemented various strategies. One such strategy is the use of BMJ's [Research to Publication](#) to develop quality research that will be published in high-impact journals and, in parallel, create a culture of research amongst students.



#### A recent study, run by BMJ in collaboration with UNAM, has shown a marked effect on students' publishing rate one year after taking Research to Publication's training:

- ✓ 72% of the participants had completed a research project or clinical case study, and 35% had published
- ✓ 76% of the participants were considering working on another article over the next two years
- ✓ 97% of the participants said the course was a valuable investment of their time

Before taking the course, María Guadalupe Miranda-Novales had published 23 articles in 21 years and had been the lead author only once. The course not only helped her publish more articles in less time but also increased the number of articles published in English and in high-quality international journals.



## Delivering clinical decision support to improve health outcomes

Research alone is not enough. BMJ helps doctors improve their knowledge and skills, apply the best evidence, and make better clinical decisions with evidence-based tools and services underpinned by the latest guidance.

We speak to our [BMJ Best Practice](#) users often and have witnessed first hand how it continues to meet their needs and have a positive impact on clinical practice.

In recent surveys, BMJ Best Practice was rated very highly.<sup>33</sup> It scored particularly well for ease of use, navigation, and quality of content.<sup>34</sup>

90% of surveyed users said BMJ Best Practice has had an impact on their clinical practice<sup>35</sup>

82% of users believed that BMJ Best Practice helped them improve patient care<sup>36</sup>

78% believed that BMJ Best Practice saved them time<sup>37</sup>

90% felt that BMJ Best Practice helped or would have helped to reassure them that their practice was correct, or would have helped them to improve their practice.<sup>38</sup>

## Helping hospitals rise to the comorbidities challenge

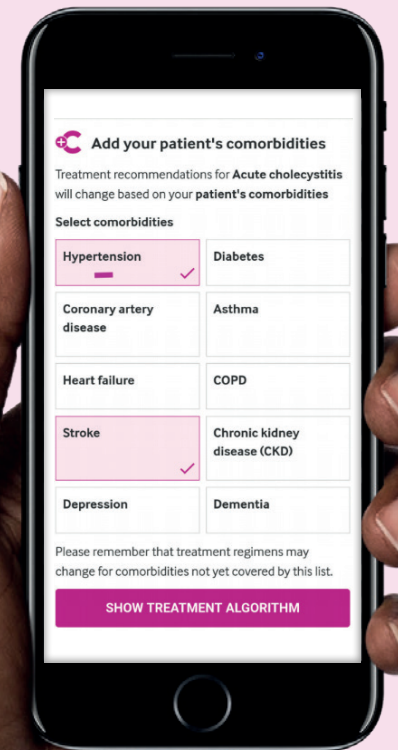
Launched in 2020, our unique Comorbidities Manager provides guidance on the treatment of a patient's acute condition alongside their pre-existing comorbidities. It is the only point of care tool to support the management of single conditions and patients with more complex comorbidities.

In April 2022, [Health Education England](#) renewed their partnership with BMJ Best Practice, as did [NHS Education for Scotland](#) and [NHS Wales](#). This means that BMJ Best Practice is available to all health professionals in England, Scotland, Wales and Northern Ireland, as well as large hospitals and medical schools globally.<sup>39</sup> It is the only clinical decision support tool that has been procured at a national level for England.



*“Over the past three years, we have seen how successful the roll out of BMJ Best Practice has been. We want to keep that momentum going, focusing next on increasing the level of integration of BMJ Best Practice into the clinical workflow.”*

**Sue Lacey Bryant**, National Lead for NHS Knowledge and Library Services





## Playing a vital role in healthcare professional education

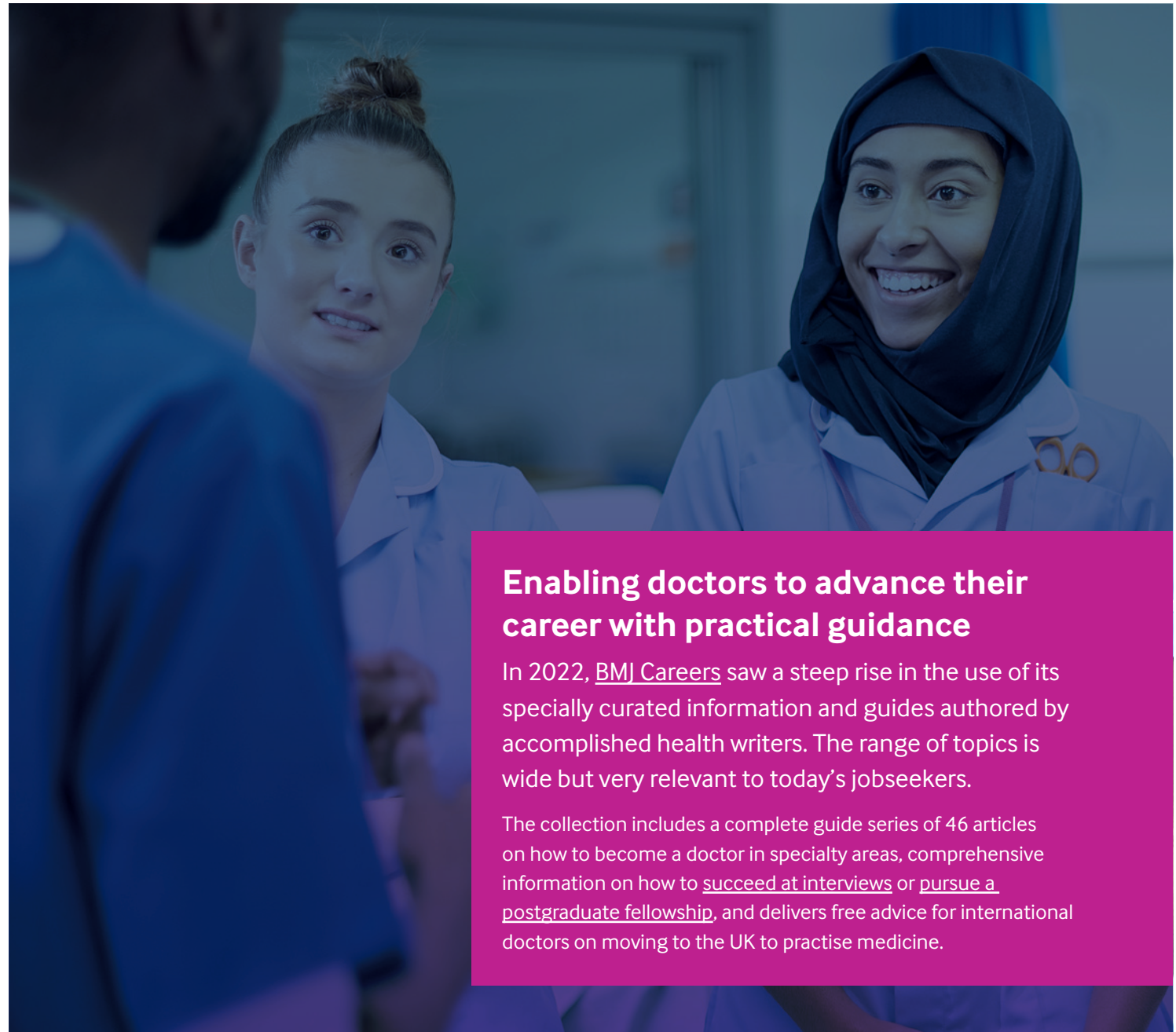
The ultimate goal of medical education is to produce competent and safe healthcare professionals. In our evaluations during the past year, we used simulated scenarios to assess the usefulness, usability, and effectiveness of BMJ Best Practice with medical students.<sup>40</sup>

We found that BMJ Best Practice enabled the medical students to arrive at the correct treatments for patients in simulated scenarios, and that it also enabled them to adjust these treatments appropriately to provide a tailored management plan.

**84%** of the students said they encounter patients with comorbidities on clinical placement

**92%** said comorbidities were not well covered in their curriculum

**100%** said the comorbidities guidance was helpful



## Enabling doctors to advance their career with practical guidance

In 2022, [BMJ Careers](#) saw a steep rise in the use of its specially curated information and guides authored by accomplished health writers. The range of topics is wide but very relevant to today's jobseekers.

The collection includes a complete guide series of 46 articles on how to become a doctor in specialty areas, comprehensive information on how to [succeed at interviews](#) or [pursue a postgraduate fellowship](#), and delivers free advice for international doctors on moving to the UK to practise medicine.





## Delivering the most relevant expertise to tackle the common conditions in South Asia

The courses delivered by [BMJ India](#)<sup>41</sup> enhance clinical practice by upgrading the knowledge of more than five million health professionals across South Asia. Delegates attend from India, Bangladesh, Sri Lanka, Pakistan, Bhutan, Nepal, and Myanmar. All the course content is evidence-based and peer-reviewed with the right blend of high international editorial standards and South Asian context.<sup>42</sup> In 2022, a new [BMJ India Webinar Series](#) launched, offering clinicians independent, unbiased, and evidence-based events under the strict editorial oversight of BMJ.

70%

pass rate was achieved at the first or second attempt by over 1,400 participants who took our diabetes course<sup>43</sup>

88.9%

of survey respondents said BMJ India webinars have had an impact on their clinical practice<sup>44</sup>

90%

of participants said the courses have had an impact on their clinical practice<sup>45</sup>



*I chose to do the course on diabetology because it is offered by BMJ, and supervised by renowned diabetologists and endorsed by the [Royal College of Physicians](#). An excellent course for practising surgeons handling both elective and emergent procedures.”*

**Dr Srivatsan Vijayaraghavan**, General Surgeon, Chennai





## Better systems

At BMJ, we go beyond delivering the best available clinical tools and knowledge. We also offer specialist services to help organisations work better and improve health systems.

### Using our health data and economics expertise to improve health systems

The [BMJ Technology Assessment Group \(BMJ-TAG\)](#) conducts health research for a range of institutions. Their work has led to some revolutionary changes to the way patients receive treatment through the UK's National Health Service (NHS). Over the past year, the group independently assessed the use of new treatments for [ovarian cancer](#) and other life threatening conditions.

Their independent assessment of niraparib found it to be fit for use for ovarian cancer by the eligible population in England, and it was subsequently recommended by the [National Institute for Health and Care Excellence \(NICE\)](#), the official body that provides national guidance and advice to improve health and social care.

In April 2022, as another result of TAG's independent assessment, elosulfase alfa was recommended for use in the NHS by NICE for treating [mucopolysaccharidosis](#)

[Type IV A \(MPS IVA\)](#). Treatment is expected to start in children when they are around three years old and will be lifelong. If untreated, MPS IVA can cause skeletal abnormalities, respiratory symptoms, pain, fatigue, and reduced life expectancy.

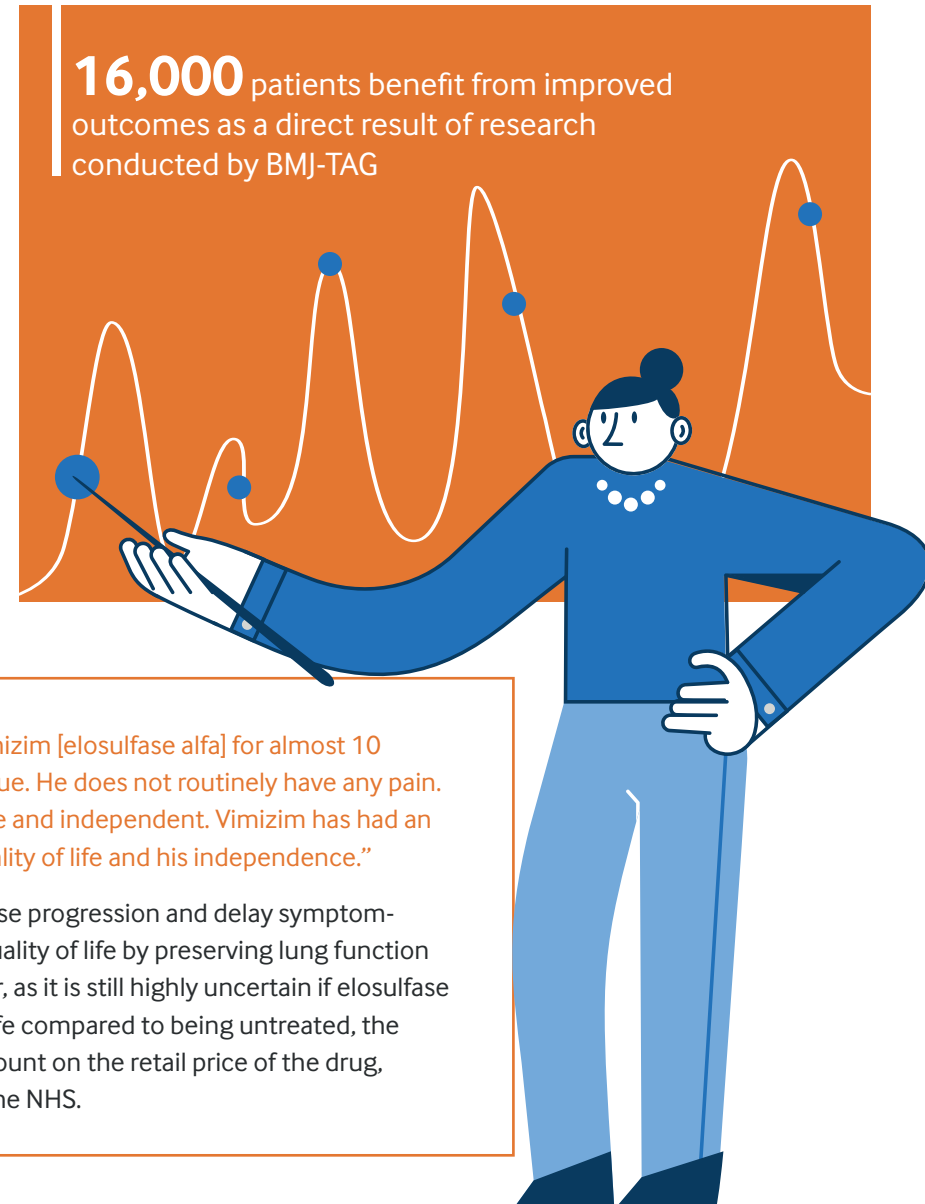
The [Society for Mucopolysaccharide Diseases \(MPS Society\)](#) considers elosulfase alfa to be 'life changing,' with one parent reporting that:



My son Sam has been receiving Vimizim [elosulfase alfa] for almost 10 years. He does not suffer from fatigue. He does not routinely have any pain. He is 13 [now] but is still very mobile and independent. Vimizim has had an incredible impact on his life, his quality of life and his independence."

Elosulfase alfa is likely to slow disease progression and delay symptom-onset. It also improves children's quality of life by preserving lung function and improving endurance. However, as it is still highly uncertain if elosulfase alfa actually increases someone's life compared to being untreated, the company offered a substantial discount on the retail price of the drug, resulting in a large cost saving for the NHS.

**16,000** patients benefit from improved outcomes as a direct result of research conducted by BMJ-TAG





## Playing our part in supporting cognitive burden in medicine via augmented intelligence: the role of RecoverX and BMJ

Clinicians today face a myriad of challenges, with an ever increasing amount of knowledge that is impossible to stay on top of and apply; all alongside increasingly high cognitive workloads. At the same time, less than 20% of clinical practice guideline recommendations are based on high quality evidence.<sup>46</sup>

The consequences of these challenges have a universal impact. [The National Academy of Medicine's \(NAM\)](#) analysis suggests that every human being will experience a diagnostic error at some stage of their life, sometimes with harmful consequences<sup>47</sup>. The Institute of Medicine has suggested, for example, that low value care represents about one-third of all health care expenditures.<sup>48</sup>

[RecoverX](#)<sup>49</sup> plans to bridge this knowledge and practice gap, solving critical cognitive challenges at the front end of healthcare by improving decision-making efficiency, reducing resource waste, and achieving better patient outcomes. They will do

this by developing evidence-based medicine (EBM) and augmented intelligence (AI) technologies to support and enrich clinicians' decision making, with the clinician in control and the technology acting like a "co-pilot" for their cognitive support.

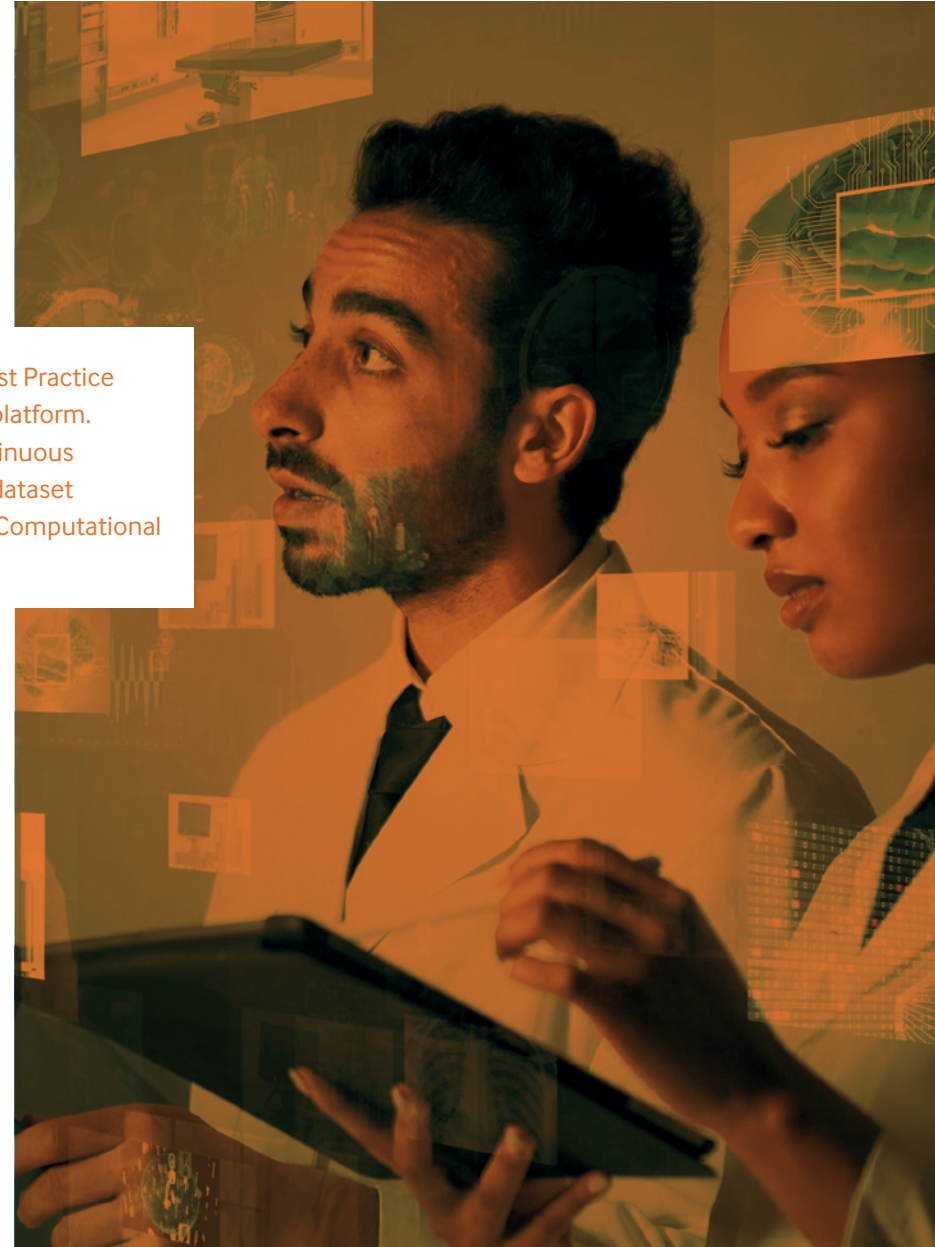
In 2021, the RecoverX team partnered with BMJ Best Practice to integrate our knowledge set into the RecoverX platform. Through this strategic partnership, we deliver continuous updates from BMJ Best Practice's evidence-based dataset through integration with RecoverX, via RecoverX's Computational Evidence technology and process.

RecoverX is engaging in production pilot deployments with evaluations of the product by practising clinicians in the United States of America. Through this deployment process, there is excitement in the medical community about the real possibility of transforming the way clinicians practice, moving from the currently overwhelmed human-based practice to an evidence-based, augmented intelligence-empowered future.



*From everything I've seen as an early user of the RecoverX platform, I'm tremendously excited about the way it brings relevant, evidence based clinical diagnostic information in real time to my practice of medicine and the potential it has to significantly enhance my diagnostic decisions."*

**Dr Mark Savant, MD**, Internal Medicine Doctor, San Francisco, CA





## Attracting an active network of listeners



Managing over 75 panel discussions, seminars, and large scale webinars in the past year



Streaming 470 podcast episodes<sup>50</sup>



Orchestrated 2.5 hour symposiums, attracting 16,000 delegates to Chinese and English speaking channels



87.4% of post-event survey respondents agreed that they will be implementing changes within their organisation, or to their practice, following their attendance at the [International Forum on Quality and Safety in Healthcare](#)

## Empowering systems leaders to establish effective leadership for quality and safety in hospitals around the world

In healthcare, leadership is decisive in influencing the quality of care<sup>51</sup> and the performance of hospitals.<sup>52,53</sup> In April 2022, BMJ orchestrated a symposium series that brought together hospital chief executives and presidents worldwide to discuss leadership, and how to maintain quality and safety in their hospitals. The online symposia in webinar format were curated in collaboration with the China Hospital Association, and sponsored by [Johnson & Johnson China](#).

Our BMJ team successfully stimulated effective interactions, discussions, and decision-making between healthcare professionals. Our privileged networks and global footprint meant we could bring together the most innovative and influential hospital leaders today, including Tomislav Mihaljevic, President and CEO of the Cleveland Clinic, USA and Steve Swensen, Professor, Mayo Clinic, USA.



## Creating dialogues that shape frameworks and inform policies

The recent pandemic prompted many scientists—and the public—to turn to social media to share and learn about the newest findings. It naturally opened the conversation to a much bigger audience. Information about pandemic science quickly became and remains to be of mainstream interest.<sup>54</sup>

In February 2022, BMJ supported the WHO and the NAM in a joint call to urge social media companies to incorporate the global principles of identifying credible sources of health information in their guidelines, safety policies, and enforcement to protect public health.<sup>55</sup> The principles state that sources should be science-based, objective, transparent, and accountable to be considered credible.

The call was followed up with us convening 15 global health experts to review whether the principles and attributes identified in a paper published by the NAM: *Identifying Credible Sources of Health Information in Social Media: Principles and Attributes*<sup>56</sup> could be applied by social media companies globally.

WHO and NAM urged technology companies to adopt these principles in January 2022, as part of a regular WHO 'Technology Task Force' meeting; a permanent group of representatives from more than 40 major technology companies, including Amazon, Facebook, Google, Microsoft, TikTok, and YouTube.<sup>57</sup>



## Helping NHS Trusts to tackle the recruitment crisis

During the past year, the NHS faced an unprecedented recruitment crisis, with mental health being one of the areas hardest hit by workforce challenges. The NHS staff vacancies figures published by NHS Digital in September 2021,<sup>58</sup> revealed some sobering figures.

Nearly 100,000 vacancies exist in the NHS across the country, and over one in 10 posts is unfilled in some regions. There are 39,813 nurse vacancies across the health service, with more than 11,000 of those in mental health. In addition, 5.82m people are waiting for elective care alongside a very high demand for mental health, emergency and primary care.

We responded to the crisis by launching [BMJ Careers: Mental Health](#), the UK's first dedicated recruitment service for all clinical mental health roles in March 2022. It is an online job board, where mental health specialists can find the most comprehensive listing of advertised vacancies for their area of expertise. The website currently hosts 2,000 live vacancies, with suitable roles for nurses, psychologists, occupational therapists, and other practitioners involved in the care of mentally ill patients.



## Concluding with commitment

In this second annual impact report, we have reflected on BMJ's impact, our mission delivery, and external validation of our work.

We hope it has provided a clear understanding of the many ways in which BMJ is helping to improve health outcomes, through



**Better evidence:** research dissemination and integration into policies and guidelines



**Better decisions:** evidence of best practices to ensure better clinical decisions and policy making



**Better systems:** support in strengthening the global healthcare workforce

Everything we do at BMJ is to support health professionals to improve their practice and deliver the best care through better evidence, better decisions, and better systems.

While we have benchmarked the areas where there have been improvements, we have also been transparent about identifying areas where we have not made the progress we had hoped. This is a constant process, and we will never stop seeking to improve the impact we have.

# References

1. Kmietowicz. Z. **Kamran Abbasi appointed as editor in chief of *The BMJ***. *The BMJ*. December 2021 Available from: [doi.org/10.1136/bmj.n3084](https://doi.org/10.1136/bmj.n3084)
2. **Dr Kamran Abbasi recognised as influential Black, Asian and minority ethnic leader** | Royal Society of Medicine. October 2021. Available from: <https://www.rsm.ac.uk/latest-news/2021/dr-kamran-abbasi-recognised-as-influential-black-asian-and-minority-ethnic-leader/>
3. At BMJ, our strategic intent is to be the trusted, indispensable knowledge partner for the crucial decisions our customers make.
4. We continue to have real influence and impact at government level. In March 2022, *The BMJ* was referred to [in the UK's parliament](#) to highlight the increase in overseas students attending UK medical schools.
5. United Nations | Department of Economic and Social Affairs | Sustainable Development | **THE 17 GOALS**. Available from: <https://sdgs.un.org/goals>
6. Carter. M. **BMJ – finding a wider audience** | *InPublishing*. April 2022. Available from: <https://www.inpublishing.co.uk/articles/bmj-finding-a-wider-audience-20641>
7. Coombes. R. **Facebook versus the BMJ: when fact checking goes wrong**. *The BMJ*. January 2022. Available from: [doi.org/10.1136/bmj.o95](https://doi.org/10.1136/bmj.o95)
8. Thacker. P. **Covid-19: Researcher blows the whistle on data integrity issues in Pfizer's vaccine trial**. *The BMJ*. November 2021. Available from: [doi.org/10.1136/bmj.n2635](https://doi.org/10.1136/bmj.n2635)
9. Coombes. R. **Investigative journalist wins British Journalism Award for "expertly researched" BMJ series**. *The BMJ*. December 2021. Available from: [doi.org/10.1136/bmj.n3052](https://doi.org/10.1136/bmj.n3052)
10. 63/68 of our journals are indexed in Scopus (so receive a Citescore). These include our newest journal, [BMJ Medicine](#).
11. **The combined effects of the covid pandemic with a small change in the calculation method have led to the soaring impact factors for many journals**. McVeigh. M | *Journal Citation Reports 2022: A preview* | Blog | <https://clarivate.com/blog/journal-citation-reports-2022-a-preview/>
12. Analysis of most cited publishers ranked by total citations in 2019, 2020, 2021, Broad Research Areas, Dimensions 2022
13. In 2014, BMJ launched [the patient partnership strategy](#), incorporating patient perspectives throughout *The BMJ*. This included embedding patient peer review in research, inviting patient authored content, and asking authors to seek patient input in their articles, as well as documenting their input—also known as co-production.
14. Elwyn. G, Nelson. E, and Hager. A. et al. **Co-production: when users define quality** | *BMJ Quality & Safety*. 2020. Available from: <https://qualitysafety.bmj.com/content/29/9/711>
15. Price. A, Clarke. M, Staniszewska. S, Chu. L, Tembo. D, and Kirkpatrick M. et al. **Patient and Public Involvement in research: A journey to co-production** | *Patient Education and Counselling*. July 2021. Available from: <https://doi.org/10.1016/j.pec.2021.07.021>
16. Sustersic. M, Tissot. M, and Tyrant. J. et al. **Impact of patient information leaflets on doctor–patient communication in the context of acute conditions: a prospective, controlled, before–after study in two French emergency departments** | *BMJ Open*. February 2019. Available from: <https://bmjopen.bmj.com/content/9/2/e024184>
17. Birkeland. S, Bismark. M, and Barry. MJ. et al. **Greater patient involvement associated with higher satisfaction? Experimental evidence from a vignette survey** | *BMJ Quality & Safety*. January 2022. Available from: <https://qualitysafety.bmj.com/content/31/2/86>
18. By June 2022, we achieved our target of having 90% of our BMJ Best Practice patient leaflets reviewed by patients.
19. *BMJ Medicine* is committed to partnering with patients across its content. This includes promoting the co-production of research and commissioned articles and conducting patient review alongside traditional peer review. <https://bmjmedicine.bmj.com/pages/about/>
20. Johansson. MA, Reich. NG, Meyers. LA, and Lipsitch M. et al. **Preprints: An underutilized mechanism to accelerate outbreak science** | *The Public Library of Science (PLOS)*. April 2018. Available from: <https://doi.org/10.1371/journal.pmed.1002549>
21. Dimensions. 2022
22. Mentions of all open access articles published by BMJ (Altmetric. 2022)
23. Google Analytics. 2022
24. The average for non-transfers is one citation and a 6 Altmetric score. (InCites 2022).
25. **Creating a culture of publication integrity together** | COPE. Available from: <https://publicationethics.org/>
26. **Diversity, equity and inclusion in scholarly research and publishing** | Diversity, equity and inclusion COPE webinar. May 2021. Available from: <https://publicationethics.org/resources/webinar-diversity-equity-inclusion>
27. The ACS Publications e-learning course is currently provided for ACS editors only.
28. Ladher. N, et al. **Trustworthy and living guidance for covid-19: time to join forces in the evidence ecosystem** | *The BMJ Opinion*. September 2020. Available from: <https://blogs.bmj.com/bmj/2020/09/04/trustworthy-and-living-guidance-for-covid-19-time-to-join-forces-in-the-evidence-ecosystem/>
29. Lamontagne. F, MacDonald. H, et al. **A living WHO guideline on drugs to prevent covid-19** | *The BMJ Rapid Recommendations* | *The BMJ*. March 2021. Available from: <https://doi.org/10.1136/bmj.n526> (Accessed 27 May 2022)

30. Meta-analysis gives us the insight to know whether treatments work and if so, gives the various and best options available.
31. Siemieniuk. R. **Drug treatments for covid-19: living systematic review and network meta-analysis.** *The BMJ*. April 2021. Available from: <https://www.bmj.com/content/373/bmj.n967>
32. Hanganu-Bresch. C. **CFP: Contribute to BMJ's Medical Humanities Journal!** | *Medical Humanities*. January 2022. Available from: <https://blogs.bmj.com/medical-humanities/2022/01/05/cfp-contribute-to-bmjs-medical-humanities-journal/>
33. In a recent user survey of BMJ Best Practice, more than 70% of users scored it 'above average' or 'excellent' across the board. It scored particularly well for 'ease of use/navigation' and 'quality of content', with more than 85% of users scoring it 'above average' or 'excellent' for these attributes.
34. Asia-Pacific (APAC) Asia-Pacific (APAC) user survey 2021. 300 users
35. Rest of World (ROW) user survey 2021. 140 users
36. APAC user survey 2021. 300 users
37. APAC user survey 2021. 300 users
38. In an independent survey, BMJ asked a group of junior doctors in the United Kingdom, Scandinavia, and Northern Europe to use BMJ Best Practice Comorbidities in their clinical practice.
39. **Health Education England renews partnership with BMJ Best Practice.** BMJ corporate announcement. April 2022. Available from: <https://www.bmj.com/company/newsroom/health-education-england-renews-partnership-with-bmj-best-practice/>
40. Twelve medical students in their final and penultimate years took part in the simulated scenarios. Each student took part in two scenarios and each scenario lasted 20 minutes.
41. BMJ India's specialist educational courses are devised by leading experts to help health professionals have the most up to date information and skills to treat the diseases most prevalent in India and South Asia. <https://www.bmj.com/company/bmj-india-2022/>
42. Behind the success of our BMJ India courses lies the trust and reputation of the brands: BMJ, Fortis CDOC, The Indian Association of Palliative Care (IAPC), and the Royal College of Physicians, London.
43. 44. 45. Independent studies on the outcomes of the diabetes courses and webinars run by BMJ India.
46. Frieden. J. **FDA Chief Lists Six Steps to Improve Health Outcomes — Evidence development and the public health data system are on Califf's fix-it list** | *Medpage*. April 2022. Available from: <https://www.medpagetoday.com/publichealthpolicy/fdageneral/98032>
47. **Health2047 Launches RecoverX to Empower Physicians with Evidence-Based Augmented Intelligence** | Health 2047. Press release. September 2021. Available from: [https://health2047.com/press\\_releases/health2047-launches-recoverx-to-empower-physicians-with-evidence-based-augmented-intelligence/](https://health2047.com/press_releases/health2047-launches-recoverx-to-empower-physicians-with-evidence-based-augmented-intelligence/)
48. Cohen. K. **Use of Evidence and Technology to Improve Quality and Eliminate Low-Value Care** | *The American Journal of Managed Care*. June 2021. Available from: <https://www.ajmc.com/view/use-of-evidence-and-technology-to-improve-quality-and-eliminate-low-value-care>
49. RecoverX is a healthcare evidence-based AI deployment and research company based in San Francisco, creating computational evidence technologies
50. 21 of our 28 podcast feeds have a 3-star or higher rating on Apple Pod casts
51. Shipton. H, Armstrong. C, and West. M. et al. **The impact of leadership and quality climate on hospital performance** | *International Journal for Quality in Health Care*. September 2008. Available from: <https://academic.oup.com/intqhc/article/20/6/439/1790748>
52. Firth-Cozens. J and Mowbray. D. et al. **Leadership and the quality of care** | *BMJ Quality & Safety*. 2001. Available from: [https://qualitysafety.bmj.com/content/10/suppl\\_2/ii3](https://qualitysafety.bmj.com/content/10/suppl_2/ii3)
53. Kline. R. **Leadership in the NHS** | *BMJ Leader*. September 2019. Available from: <https://bmjleader.bmj.com/content/3/4/129>
54. Ludo Waltman. L, Pinfield .S, Rzayeva. N, Oliveira Henriques. S, Fang. Z, Brumberg. J, Greaves. S, Hurst. P, Collins. A, et al. **Scholarly communication in times of crisis: The response of the scholarly communication system to the COVID-19 pandemic** | Research on Research Institute (RoRI). December 2021. Available from: <https://doi.org/10.6084/m9.figshare.17125394>
55. WHO online consultation meeting to discuss global principles for identifying credible sources of health information on social media | Meeting report of an online consultation hosted by the WHO digital channels team, in close collaboration with the NAM, and facilitated by BMJ | December 2021. Available from: <https://www.who.int/publications/m/item/who-online-consultation-meeting-to-discuss-global-principles-for-identifying-credible-sources-of-health-information-on-social-media>
56. Kington. R, S. Arnesen. W-Y, Chou. S, Curry. D, and Villarruel. A et al. **Identifying Credible Sources of Health Information in Social Media: Principles and Attributes** | *NAM Perspectives* | Discussion paper | National Academy of Medicine. 2021. Available from: <https://doi.org/10.31478/202107a>
57. The story gained media attention in the Latin America region, appealing to health professionals across Latin America, Spain, Portugal, and the Spanish speaking US. **The WHO and NAM seek to apply global principles to identify reliable sources of information, E Health Reporter Latin America**, 10 March 2022, [Intranet] <https://ehealthreporter.com/la-oms-y-nam-buscan-aplicar-principios-globales-para-identificar-fuentes-confiables-de-informacion/>
58. **NHS Vacancy Statistics England April 2015 – September 2021** Experimental Statistics | Experimental statistics, Official statistics, Available from: <https://digital.nhs.uk/data-and-information/publications/statistical/nhs-vacancies-survey/april-2015---september-2021-experimental-statistics>



© BMJ Publishing Group Ltd. 2022

Registered office:

BMJ  
BMA House  
Tavistock Square  
London WC1H 9JR  
United Kingdom  
[bmj.com/company](http://bmj.com/company)

Registered in England No. 3102371  
VAT registered No. GB 674 7384 91

The logo for BMJ, consisting of the letters 'BMJ' in a bold, white, sans-serif font. The letter 'J' is stylized with a curved bottom and a short horizontal bar at the end.