EDITORIALS

Editorials are usually commissioned. We are, however, happy to consider and peer review unsolicited editorials

bmj.com at 20 years

The end of the beginning

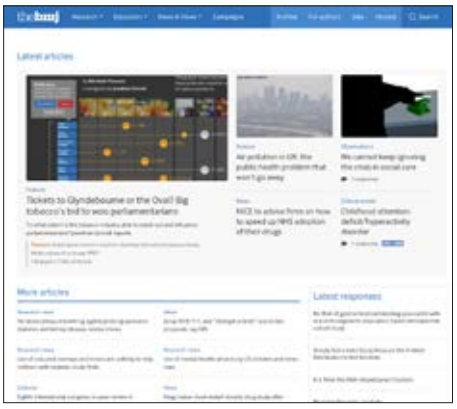
David Payne digital editor, *The BMJ*, London WC1H 9JR, UK
Tony Delamothe deputy editor, *The BMJ*, London WC1H 9JR, UK tdelamothe@bmj.com

When we registered the URL "bmj.com" there were fewer than 20 000 websites in the world. Now there are nearly one billion. When we launched the website, to become the world's first general medical journal to have a substantial web presence, 30 million users could access the world wide web.[1] Now over three billion people—40% of the world's population—can. The arrival of the web was one of the biggest things that happened in the past few decades; it was certainly the biggest thing that happened to this journal.

We embraced it so enthusiastically because it provided an almost miraculous escape from the limitations of print publication. Our frustrations included the length of time the print journal took to reach non-UK recipients and word limits that restricted how much authors could say. In those days, "interactivity" meant seeing your letter to the editor published five to six months after submission (if you were lucky). By contrast, the web allowed us to get all our content on to the desktops of a whole new international audience, from the moment of publication, and to provide an easy conduit for feedback.

Initially, we provided only a taster of the print journal's content online, but users quickly demanded the journal's full text, which we have provided since 1998. This entailed moving our web operation to HighWire Press at Stanford University, California, which was just beginning to publish online journals for academic publishers.[2] In the beginning, all journal content was free. While original research articles are still free, other content from the print journal has been behind a pay wall since 2005. We are now formally an "open access" journal, with a Creative Commons licence and publishing charges to defray the costs of keeping research articles free.[3]

Early on, we succumbed to the temptation of posting much more content online than in the print journal. Whereas the online journal had begun as a subset of the print journal, soon it was the other way around, and now this is even more the case. In 1999, we began publishing shortened versions of research articles in the print journal,[4] which now run to a single page.[5] Meanwhile, the full version is available online, along with its prepublication history (comprising original submissions, the comments of peer reviewers and the journal's editorial committee, and all related correspondence), fulfilling our long held commitment to open peer review.[6] We moved to continuous online publication in 2008, severing any link between an article's publication date in print and online (and necessitating the adoption of unique article identifiers, which omit page numbers).[7]



The way we are now

> Many of the changes we've made to the website over the years have been in direct response to users' questions, criticisms, and advice

An act of stupendous generosity

Part of the extra content online was made up of rapid responses submitted to previously published articles—some 100 000 responses to date, all freely accessible. We've stuck to our original pledge to post all but the libellous, gratuitously rude, trivial, irrelevant, or incomprehensible or those that disclose patients' details without their consent.[8] Further content came in the form of our digitised back archive—all the way back to 1840—provided to us at no cost by the US National Library of Medicine in an act of stupendous generosity.

More recent online-only content has included blogs, videos, and podcasts, which can attract as much or more interest than traditional journal articles.[9] Short, user generated video abstracts, podcast interviews with authors, and infographics tailored to the web—all shared through social media—provide alternative entry points into the journal's content.

Not just new forms of online content but platforms for accessing it have been rapidly evolving. Four years ago we launched a version of the journal for the iPad, making *The BMJ* the first general medical journal to appear in the iTunes store. A version for Android tablets will be launched this week. Access to thebmj.com was optimised for mobile phone use last year, and now combined mobile and tablet use comprises one quarter of the traffic online.

The journal's website has undergone multiple redesigns over the past 20 years, mostly to "declutter"—an omnipresent challenge in a world of proliferating content. While all content on thebmj.com is still available to all users, we have three "country windows"—for the UK, US, and India—and an international window for the rest of the world; these "surface" relevant content for the different territories. Social media is becoming increasingly important in directing readers to the journal, with Twitter and Facebook featuring among the top 10 sites referring visitors to us.

It's a far cry from 20 years ago, when we could only speculate what readers, subscribers, and advertisers wanted, and whether they would follow us online. Now we know: the site receives about 1.3 million user sessions a month (compared with *The BMJ*'s weekly print run of 120 000). Currently, some 70% of the journal's subscription comes from online access only, or includes online access, and 27% of the journal's advertising revenue (excluding adverts for jobs and courses) comes from online.

If in its early years the status of the journal's website within the publishing group was akin to that of Pluto in our solar system, it now finds itself lodged firmly at the centre. In the process, it's undergone a name change—from bmj.com to thebmj.com—to match the journal's rebranding as *The BMJ* last year.[10] Many of the changes we've made to the website over the years have been in direct response to users' questions, criticisms, and advice. We feel that we've already come a long way together, but we know that the journey has only just begun.

Cite this as: *BMJ* 2015;350:h2821

FEATURE, p 13

thebmj.com

- Evidence and rhetoric about access to UK primary care (*BMJ* 2015;350:h1513)
- All emergency departments should include GP staff, say experts (*BMJ* 2014;349:g4654)
- Should general practices open for longer? (*BMJ* 2013;347:f6832)

It is of particular concern that about a third of adults have either not heard of NHS 111 or have heard of it but do not know what it is for

Satisfaction with out of hours primary care

Time to stop writing reports and start taking action

Nicola Walker clinical research fellow
Richard Baker professor, Department of Health Sciences, University of Leicester, Leicester LE1 6TP, UK
rb14@leicester.ac.uk

In November 2014, the House of Commons Committee of Public Accounts concluded that patients' experience of primary care out of hours in England varies considerably and unacceptably across the country, as does the cost.[1] The committee criticised NHS England for its failure to provide effective oversight and, among other recommendations, urged NHS England to develop its understanding of reasons for the variations in experience and costs. In the July 2014 GP Patient Survey, 66% of respondents rated their overall experience of out of hours care as "very good" or "good," but the trend is downwards, the respective ratings being 68% in December 2013 and 71% in December 2012.[2] Providing evidence that NHS England will find helpful, a linked paper by Warren and colleagues analyses results of the national GP Patient Survey and describes factors associated with poor patient experience of out of hours services.[3]

PETER SCHOLEY/ALAMY

And for the rest of the time?

In recent years various steps have been taken to improve out of hours care. In 2006 the Department of Health published several National Quality Requirements that out of hours providers are obliged to meet.[4] In 2010, after a series of high profile cases of substandard out of hours care, further recommendations were suggested after a ministerial review.[5] Since 2012 the Care Quality Commission (CQC) has regulated the quality and safety of out of hours services. An overview of the initial inspections of out of hours care by the CQC identified many examples of good practice but also highlighted areas for improvement.[6]

Over the past decade, out of hours primary care in England has changed substantially. In 2004 an estimated 90% of GPs opted to transfer responsibility for providing such care to the Primary Care Organisations the NHS had at that time. Today, in areas where GPs have "opted out" of providing out of hours care, most care is provided by social enterprises that are generally not for profit organisations led or run by general practitioners. Common alternative providers include commercial services or other NHS run services such as walk-in centres. For any one individual patient there can be many ways to access care out of hours, which can leave people confused about where to get help.

The NHS 111 number was intended to provide a single entry point for patients needing urgent but not emergency care. It is therefore of particular concern that about a third of adults have either not heard of NHS 111 or have heard of it but do not know what it is for. Not only that, 26% of people have not heard of out of hours GP services.[7] To complicate matters, presentations to in hours and out of hours general practice have become more challenging. The growing numbers of older people and those with multimorbidity can often require the assistance of the out of hours service, but they can find it confusing to navigate. They need greater continuity and integration of care during in hours care now more than ever.

Poor show

Warren and colleagues investigated associations between individual patient characteristics (including ethnicity and the ability to take time away from work to attend a healthcare consultation), the provider of out of hours care (NHS, not for profit, or commercial), and the patient's experience of clinical care (timeliness, confidence and trust in the out of hours clinician, and overall experience of the service).[3] Commercial provider organisations were associated with reports of poorer patient satisfaction across all three outcomes they investigated. The explanation for this finding is unclear; it is possible that commercial providers are located in areas with more complex population needs, but it is also possible that patient experience is genuinely poorer. If confidence in commercial providers is to be preserved, further work is urgently required to understand the reasons for this finding.

Some ethnic minorities, particularly Asian,[8] reported a poorer experience, especially when asked about timeliness of care. Poorer experience among ethnic minority groups has also been found for in hours GP care. Although higher expectations and communication issues could partly explain these findings, further qualitative investigation could help to account for potential inequalities in care and finally lead to approaches to delivering care that meet expectations and improve experience.

Although more research might be helpful, however, action to change matters should not be delayed any further. In 2008 a Department of Health report concluded that many patients from minority ethnic groups are unable to exert real influence on improving local services and that communication and trust between the local NHS and ethnic minority patients needed urgent improvement.[9]

Warren and colleagues also found that patients in work who were unable to access their own GP reported lower satisfaction with out of hours care.[3] People in work tend to report greater difficulty in accessing their preferred general practitioner in hours,[10] and proposals have been announced to introduce seven day access to general practices. The practicality of this idea, however, is open to question, as GPs are already struggling to cope with current demand. In a recent survey of GPs conducted by British Medical Association, only 2% of respondents supported seven day working from their own practices.[11]

The case for bringing practices together into federations or other organisational forms to enable the scheduling of access beyond usual opening hours—as well as to create other efficiencies—is becoming urgent. The GP contract should be reviewed to promote federations. Although we need more research to better understand the experience of some patients and how we should respond, further reports are not needed; it is time for action that makes a real difference.

Cite this as: *BMJ* 2015;350:h2185

RESEARCH, p 9

The current study's size and design enabled the authors to analyse risks of venous thromboembolism in important subsets of women

Links between newer contraceptive pills and thromboembolism

Fresh evidence confirms higher risks

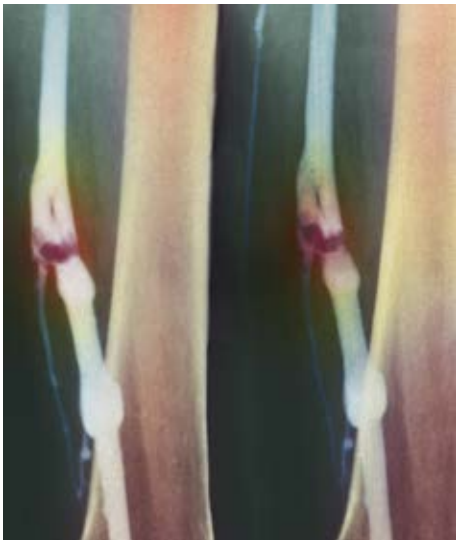
Susan S Jick professor of epidemiology, Boston Collaborative Drug Surveillance Program, Boston University School of Public Health, Lexington, MA 02421, USA sjick@bu.edu

In this week's issue of *The BMJ*, Vinogradova and colleagues report the results of a large study on the effects of combined oral contraceptives on the risk of venous thromboembolism, conducted in two large United Kingdom databases. The authors identified over 10 500 cases of VTE in women aged 15-49 years and around 42 000 matched controls to address the inconsistencies and limitations of earlier studies. Older oral contraceptives (those containing levonorgestrel or norethisterone) showed results consistent with previously published findings: current users of oral contraceptives are at increased risk of venous thromboembolism compared with non-users of similar age and health status. Relative to non-users, risks were increased by around 2.5-fold for users of older oral contraceptives.

Notably, Vinogradova and colleagues also looked at the newer oral contraceptives, such as those containing desogestrel, gestodene, and cyproterone, as well as the newest pill containing drospirenone, where data have been limited and the magnitude of effects on the risks of venous thromboembolism remains controversial. They found that the newer contraceptives increased risks by around 3.6- to 4.3-fold compared with non-use, and by around twofold compared with oral contraceptives containing levonorgestrel, norethisterone, or norgestimate. Combined, the results provide compelling evidence that these newer oral contraceptives are associated with a higher risk of venous thromboembolism than older options.

Previously divergent results

There is controversy surrounding the association between different oral contraceptives and risk of venous thromboembolism, which is due to the variability of case definition and inclusion criteria, and has led to divergent results.[1] Vinogradova and colleagues tried to address differences within previous study designs to help explain the range of results. The current study's size and design enabled the authors to analyse risks of venous thromboembolism in important subsets of women: those treated with anticoagulants (about 52% of cases) and their controls, and those with idiopathic venous thromboembolism (about 52% of cases) and their controls (39% of eligible controls).



ST BARTHOLOMEW'S HOSPITAL/SPL

Compelling evidence

Odds ratios for each newer oral contraceptive compared with non-use were higher in analyses confined to women treated with anticoagulants, ranging from 6.0 for pills containing cyproterone to 6.5 for pills containing gestodene. These results are similar to those of a large study conducted by Lidegaard and colleagues in 2011,[2] where anticoagulation treatment was part of the case definition of venous thromboembolism. It is likely that the treated subset of women contained a higher proportion of true cases compared with the full set since anticoagulation is essential in the treatment of venous thromboembolism. The higher odds ratios in the treated groups are likely to be closer to the true effect because random case misclassification results in bias to the null.

Similarly, the higher risk estimates in analyses confined to idiopathic cases (that is, those with no other proximate cause such as recent surgery or lower limb injury) suggest that the effect associated with oral contraceptives is higher among women without strong risk factors or other causes of venous thromboembolism. Again, inclusion of cases with other proximate causes results in bias towards the null; therefore, the higher odds ratios are likely to be closer to the true effect.

This result is also consistent with findings of earlier studies where venous thromboembolism was restricted to idiopathic cases. In these restricted analyses in the current study, the odds ratio for current oral contraceptive use ranged from 4.0 in pills containing gestodene to 4.7 in pills containing cyproterone.

Perhaps of most importance to women and to prescribers is the relative risk of venous thromboembolism in users of the various oral contraceptives currently available. Vinogradova and colleagues compared the risks of venous thromboembolism in women taking newer pills relative to older pills containing levonorgestrel. In subanalyses of women treated with anticoagulants, the risks associated with the newer oral contraceptives were around twofold higher than the risks associated with the older levonorgestrel pills. In subanalyses of idiopathic cases, the risks varied from about 1.4 to 1.9 for current use of the newer oral contraceptives compared with the levonorgestrel contraceptives.

Are risks of venous thromboembolism higher in the first few weeks of treatment? The Vinogradova and colleagues study did not find differences in risk between short and long term users of the newer oral contraceptive preparations, although there was a suggestion of a differential effect in women taking pills containing levonorgestrel. These findings are consistent with those of Lidegaard and colleagues,[2] suggesting that new users of oral contraceptives are not, in general, at a materially increased risk of venous thromboembolism compared with longer duration users.

Vinogradova and colleagues' comprehensive study addresses important questions about the risk of venous thromboembolism in women taking oral contraceptives, concluding that the risk associated with newer pills is around twofold higher than the risk associated with older contraceptives. The risk varies according to case definition of venous thromboembolism, and does not seem to be materially higher for new users of oral contraceptives. These results, combined with those published in a similar study by Lidegaard and colleagues,[2] clarify inconsistencies in earlier studies and provide important guidance for the safe prescribing of oral contraceptives.

Cite this as: *BMJ* 2015;350:h2422

RESEARCH, p 10

thebmj.com

- US panel proposes new name and diagnostic criteria for chronic fatigue syndrome (*BMJ* 2015;350:h775)
- Chronic fatigue syndrome (*BMJ* 2000;320:292)
- Professional and popular views of chronic fatigue syndrome (*BMJ* 1994;308:776)

The long wait for a breakthrough in chronic fatigue syndrome

Not over yet

Andrew R Lloyd professor, Inflammation and Infection Research Centre, University of New South Wales, Sydney 2052, Australia a.lloyd@unsw.edu.au
Jos W M van der Meer professor, Department of Medicine, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands

There hasn't been much good news for patients with the prevalent but enigmatic disorder chronic fatigue syndrome (also referred to as myalgic encephalomyelitis). Over decades, research into the pathophysiology has failed to find convincing evidence of either persistent infection or immunological, endocrine, or metabolic change, and has rejected simplistic notions of depression (typical or atypical) or primary sleep disorder. Several notable "breakthroughs" have failed independent replication.[1] Similarly, an exhaustive array of randomised controlled trials seeking curative outcomes from antiviral, immunological, hormonal, antidepressant, and many other therapies have failed to show any benefit over placebo, or failed the replication test.

Where then is the progress? Firstly, there is reproducible evidence implicating certain infections as a trigger.[2] Secondly, there is clear evidence that a substantial proportion of patients have a coexisting mood disorder, and sometimes a sleep-wake disorder, and that these conditions may exacerbate or perpetuate the illness.[3] Thirdly, imaging studies have identified alterations in the brains of patients with chronic fatigue syndrome, implicating the central nervous system as the site of pathophysiology.[4] Fourthly, there is solid evidence from multiple controlled studies that patients can gain control of symptoms and functional improvement through multidisciplinary interventions incorporating graded exercise therapy and cognitive behavioural therapy.

These interventions have clearly positive outcomes in systematic reviews and meta-analyses.[5-7] For instance, the recent Cochrane review of graded exercise therapy[5] states that "patients with CFS [chronic fatigue syndrome] may generally benefit and feel less fatigued following exercise therapy, and no evidence suggests that exercise therapy may worsen outcomes. A positive effect with respect to sleep, physical function and self-perceived general health has been observed."

DAVID J GREEN-LIFESTYLE/ALAMY

The unrefreshed

How therapy might work

Plausibly, graded exercise may reverse a perpetuator in the form of physical deconditioning. However, there is little evidence for loss of aerobic fitness in patients with chronic fatigue syndrome, and limited evidence for improved physical performance after successful graded exercise therapy.[8] Instead, graded exercise has been proposed to act by desensitising an exaggerated central nervous system response to the physiological signals associated with exercise.[9] In psychological terms, patients may avoid activity because of the prolonged exacerbation of symptoms that follows minor physical activity; this leads to an understandable conclusion that exercise is harmful or to a conditioned fear of such activity.[10]

The evidence for graded exercise and cognitive behavioural therapy is already clear, so this treatment should be made widely available

In this respect, the recent mediation analysis of the outcomes of the PACE trial is of interest.[11] This trial concluded that both cognitive behavioural and graded exercise therapy were more effective at reducing fatigue and improving physical disability than standard care or adaptive pacing.[12] The mediation analysis suggested that both cognitive behavioural therapy and graded exercise worked by reducing avoidance of activity.

This is broadly consistent with findings by others,[13] although whether the effect simply relates to the behavioural change itself (that is, exercise) or reconditioning of the associated fear of activity remains unclear. In addition, a substantial proportion of patients do not avoid activity but have repeated boom-bust cycles of overactivity when feeling relatively well (the boom) followed by reduced activity when symptoms are exacerbated thereafter (the bust). These data argue for a personalised approach to both therapies.

Cognitive behavioural therapy is based on the premise that inappropriate cognitive attributions (thinking patterns) and behaviours help perpetuate symptoms. It seeks to alter these attributions and modify the associated behaviour, targeting activity patterns and sleep-wake behaviours. For example, although primary sleep disorders do not explain chronic fatigue syndrome,[14] patients typically report that their night-time sleep is unrefreshing, and as fatigue is the dominant symptom, patients may consider that increased sleep will relieve symptoms and aid recovery. This idea commonly leads to frequent daytime naps and a delayed sleep-wake cycle.

There has been recent contention about the possibility of cure after graded exercise and cognitive behavioural therapy. An analysis of the PACE trial suggested cure was possible, but recovery outcomes were defined post hoc using population norms with generous thresholds.[15] This analysis was criticised because of the limited assessments and less than full restoration of health,[16] leading to a recommendation that trials use more accurate outcomes (such as clinically relevant improvement) defined in advance and capturing a broad based return to health with assessments of fatigue and function. Trialists must also consider patients' perceptions of their recovery.[17] Even with the unduly liberal designation of recovery, less than one quarter of patients "recovered" in the PACE trial.

What then of the long awaited breakthrough? As is often the case in research, progress is made in modest increments not breakthroughs. The evidence for graded exercise and cognitive behavioural therapy is already clear, so this treatment should be made widely available. The next increments are to find ways to increase the symptom relief and functional improvement achieved by these treatments and to identify factors predicting clinically relevant improvement and non-response in order to increase the proportion of patients who benefit.

Cite this as: *BMJ* 2015;350:h2087