INTRODUCTION
In June 2011 Thomson-Reuters’ Journal Citation Reports® — Science Edition service published the Impact Factors of all peer reviewed academic journals. Fourteen of the thousands of publications analysed are now grouped in a single subject area called Primary Health Care. With a 2010 Impact Factor (IF) of 2.070 the British Journal of General Practice (BJGP) remains the world’s second most highly-cited journal of general practice and primary health care.

The 2010 IF is a figure representing the mean number of times peer-reviewed papers published in a journal in 2008 and 2009 are cited in other journals, or are self-cited in the journal of origin, during 2010. The total number of research papers published in the BJGP in 2008–2009 was 185 and the total number of cites in 2010 was 383, giving the IF of 2.070. In common with a number of other general medical and primary care journals, the BJGP’s IF has fallen since last year. Table 1 also shows the 5-year IF, which is calculated in the same way for the 2010 citations of papers published in the preceding 5 years (2.664).

In this article we examine the significance of IFs and other bibliometric indices for authors, publishers, and research funders and have tried to identify the characteristics of highly-cited articles. We are particularly interested in the possible effects on bibliometrics of our recently-introduced paper short-web long publishing strategy and re-organised journal content.

BIBLIOMETRICS
Journal Citation Reports
The Journal Citation Reports (JCR) provide a set of bibliometric indices, including:

- The previous year’s and 5-year journal IFs, calculated as described above.
- The Immediacy Index, calculated by dividing the number of cites to 2010 articles (184) by the number of articles published in 2010 [99] = 1.859 for the BJGP.
- The Journal Cited Half-Life, which is the median age of the BJGP’s items cited in the current JCR year (7.2 years), and the cited journal graph which shows the year-by-year distribution of citations to the journal. Cited information is most relevant to our IF, that is, how our journal content is cited by others and self-cited by us and our authors.
- The Journal Citing Half-Life, which is the median age of items cited by the BJGP in the current JCR year (5.7 years), and the citing journal graph shows the year-by-year distribution of citations by the journal. Citing information tells us about the currency of references that we’re publishing in our own journal.

Eigenfactor
Thomson Reuters [Scientific] also support the Eigenfactor™ [http://www.eigenfactor.org]. The Eigenfactor score is ‘a measure of the overall value provided by all of the articles published in a given journal in a year’ and the Article Influence™ score is ‘a measure of a journal’s prestige based on per article citations and is comparable to IF’. The BJGP ranking in this system is similar to its position in the IF tables. The BJGP Eigenfactor and Article Influence scores for 2010 were 0.00872645 and 0.797143 respectively. The site also allows graphical ‘mapping’ of journal citations to the subject areas of citing journals.

SCImago Journal Ranking
An alternative set of journal metrics is published by SCImago, using information contained in Elsevier’s Scopus® database [http://www.scimagojr.com]. The SCImago Journal Rank (SJR) is an indicator ‘that expresses the number of connections (that is, citations) that a journal receives through the citation of its documents, divided between the total of documents published in the year selected by the publication, weighted according to the amount of incoming and outgoing connections of the sources’. In other words, the citation assessment is weighted according to the influence, based on their citation rates, of the citing journals.

Google Scholar
Google Scholar [http://scholar.google.com/] can be used to capture citation rates and to calculate impact factors, which are reasonably well-correlated with those published in other bibliometric sites.

PUBLISHING IN THE BJGP
The BJGP receives around 500 original articles for consideration of publication as original research annually, and this number rises every year. Publishing around 120 original papers annually means that the BJGP’s acceptance rate is around 24%. About a quarter of papers are rejected on editorial screening on the basis of relevance.

<table>
<thead>
<tr>
<th>Title</th>
<th>Articles</th>
<th>Total cites</th>
<th>Impact Factor</th>
<th>5-year Impact Factor</th>
<th>immediacy index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ann Fam Physician</td>
<td>107</td>
<td>3914</td>
<td>1.547</td>
<td>2.007</td>
<td>0.421</td>
</tr>
<tr>
<td>BMJ Fam Pract</td>
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<td>1.467</td>
<td>-</td>
<td>0.172</td>
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<tr>
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<td>1517</td>
<td>1.403</td>
<td>1.565</td>
<td>1.447</td>
</tr>
<tr>
<td>Fam Med</td>
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<td>1489</td>
<td>1.408</td>
<td>1.667</td>
<td>0.389</td>
</tr>
<tr>
<td>Primary Care</td>
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<td>490</td>
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</tr>
<tr>
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<td>1.000</td>
<td>-</td>
</tr>
<tr>
<td>Aust Fam Physician</td>
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<td>925</td>
<td>0.547</td>
<td>-</td>
<td>0.161</td>
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<tr>
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<td>0.619</td>
<td>-</td>
<td>0.206</td>
</tr>
<tr>
<td>Aust J Prim Health</td>
<td>51</td>
<td>163</td>
<td>0.408</td>
<td>-</td>
<td>0.627</td>
</tr>
</tbody>
</table>

Table 1. 2010 Journal Citation Reports — Science Edition, a Thomson Reuters product: Primary Health Care subject category
"We were interested to know which factors contribute to a higher citation rate ... of the various research methods used in published studies, systematic reviews and meta-analyses were most highly cited..."
‘The volume of information generated by medical research is likely to go on increasing and there will be a continuing need for effective methods of pre- and perhaps post-publication review.’

about the over-use of IFs in research assessment. Although desirable, capturing the broader ‘societal’ impact of research remains a considerable challenge. It will be interesting to see how ‘impact’ is operationalised in the UK’s forthcoming Research Excellence Framework (REF), the successor to the Research Assessment Exercise, in the assessment of higher education institutions. Recent guidance indicates that REF sub-panels will assess the ‘reach’ and ‘significance’ of impacts on the economy, society, and/or culture and that impact will contribute 20% of the score for REF units of assessment.

The increasing use of web technology is likely to have a major impact on the way in which scientific research is published and accessed in the future. Open access systems, with publishing costs built into research grants, will become more common and are likely to be associated with faster publication and probably higher citation rates. The place of print publication will be gradually eroded as tablets and apps become more widely used, and this will improve our ability to disseminate research widely and to make papers available in resource-poor locations. The volume of information generated by medical research is likely to go on increasing and there will be a continuing need for effective methods of pre- and perhaps post-publication review. Research into the effectiveness of review methodologies, the best approaches to dissemination and, critically, the assessment of the clinical and societal impacts of research outputs will continue to be essential.

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Competing interests
All authors have an interesting in promoting the quality of research published in the BJGP. Catharine Hull, Erika Niesner and Roger Jones are employed by the Royal College of General Practitioners and Peter Schofield is a statistical advisor for the BJGP.

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