



# Introducing Volume 9 of the *Journal of Comparative Effectiveness Research*

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Journal of **Comparative Effectiveness Research**

“I would like to thank all our readers, authors and Editorial Board members who contributed to the journal in 2019”

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Welcome to the ninth volume of the *Journal of Comparative Effectiveness Research (CER)*. Each year we review the content of the previous volume of the journal to see what the key topics of interest have been. Read on to find out more about some of the content highlights from 2019, along with a round-up of some of the great content within this issue.

## In this issue

The first issue of 2020 starts with a network meta-analysis by Petrovič and Locatelli, designed to study the efficacy of drug therapies specific for treatment of pulmonary arterial hypertension in treatment-naïve patients [1]. The authors examined the effect of drug therapies on 6-min walking distance and mortality in pulmonary arterial hypertension patients, along with discontinuation due to adverse events.

In the second paper of the issue, Serena *et al.* conducted a randomized controlled trial to assess the effectiveness of hypothermically stored amniotic membrane versus standard of care in diabetic foot ulcers [2]. Over a million individuals suffer from nonhealing diabetic foot ulcers each year in the USA; new treatments such as cellular- or tissue-based products are therefore of great interest to study.

The remainder of the issue includes a range of surgically related research. In their paper, Li *et al.* compare lateral and medial approaches of total knee arthroplasty (TKA) in the valgus knee, a deformity found in around 10–15% of TKA patients [3]. Ni *et al.* also compare surgical techniques; in their paper they look at the comparative clinical and radiographic outcomes of two types of minimally invasive surgery for degenerative spondylolisthesis: transforaminal lumbar interbody fusion and oblique lumbar interbody fusion [4].

The final two papers in the issue focus on gynecological surgery; the first, from Schuttringer and Beleche, examines the impact of new risk information about a surgical device on surgery and patient outcomes for hysterectomy in the in-patient setting, using a difference-in-differences regression approach with a nationally representative sample of hospital discharges [5]. Finally, Miller *et al.* analyze insurance claims data to estimate direct and indirect costs of different types of surgical treatment for abnormal uterine bleeding – global endometrial ablation, outpatient hysterectomy and in-patient hysterectomy [6].

## Content highlights of 2019

In previous years, I have focused this section of the Foreword on content that has received the highest readership, which is of course still a clear indicator of highlights within the journal. However, there are now many ways to assess ‘top’ content, from social media attention to readership and citations. This year I am highlighting past content using a variety of these measures, as they can all reveal interesting information regarding the status of the field.

Starting with our most read 2019 content, [Table 1](#) shows the broad range of topics that are of interest to the readers of *CER*. The most read article of 2019 (as of 29 October 2019) is by Osorio *et al.*, who developed a decision tree model to estimate 1-year hospital costs associated with an index and potential repeat paroxysmal atrial fibrillation ablation procedure using two generations of radiofrequency ablation catheters, along with a second-generation cryoballoon catheter [7].

Table 1. Top *Journal of Comparative Effectiveness Research* 2019 articles by readership<sup>†</sup>.

| Rank | Full-text downloads | Article type     | Title  | Study   | Volume (issue) | Altmetric score | Dimensions score | Ref. |
|------|---------------------|------------------|--|---|----------------|-----------------|------------------|------|
| 1    | 2838                | Research Article | Cost minimization analysis of catheter ablation for paroxysmal atrial fibrillation by catheter technology  | Osorio J, Imhoff RJ, Mallow PJ <i>et al.</i>                      | 8(4)           | 5               | 0                | [7]  |
| 2    | 2025                | Research Article | Comparative effectiveness of teriflunomide and dimethyl fumarate in patients with relapsing forms of MS in the retrospective real-world Teri-RADAR study | Zivadinov R, Kresa-Reahl K, Weinstock-Guttman B <i>et al.</i>     | 8(5)           | 6               | 3                | [8]  |
| 3    | 1738                | Research Article | Cost-effectiveness of elagolix versus leuprolide acetate for treating moderate-to-severe endometriosis pain in the USA                                   | Wang S-T, Johnson SJ, Mitchell D, Soliman AM, Vora JB, Agarwal SK | 8(5)           | 2               | 0                | [9]  |
| 4    | 1629                | Research Article | A 90-day episode-of-care cost analysis of robotic-arm assisted total knee arthroplasty   | Cool CL, Jacofsky DJ, Seeger KA, Sodhi N, Mont MA                 | 8(5)           | 2               | 3                | [10] |
| 5    | 1345                | Research Article | Persistence and adherence of biologics in US patients with psoriatic arthritis: analyses from a claims database  | Oelke KR, Chambenoit O, Majjhoo AQ, Gray S, Higgins K, Hur P      | 8(8)           | 1               | 1                | [11] |

<sup>†</sup>As of 29 October 2019.  
MS: Multiple sclerosis.

In their Research Article that appeared in the April 2019 issue, Zivadinov *et al.* compared the real-world effectiveness of teriflunomide versus dimethyl fumarate in patients with relapsing forms of multiple sclerosis (MS), using data collected across several MS centers in the USA [8].

Another US study, and the third most read article of 2019, comes from Wang *et al.*, who assessed the cost-effectiveness of elagolix versus leuprolide acetate in women with moderate-to-severe endometriosis pain; a condition that has been estimated to affect between 4 and 10% of women in their reproductive years [9].

In another highly read article relating to surgical techniques, Cool *et al.* evaluated 90-day episode-of-care costs associated with robotic-arm assisted TKA versus manual TKA [10], finding savings associated with robotic surgery driven by fewer re-admissions and an economically beneficial discharge destination (i.e., being discharged to home health aid or home with self-care).

The final article to highlight in this section comes from Oelke *et al.* who evaluated the persistence and adherence of subcutaneous biologics in patients with psoriatic arthritis [11]. The authors identified an unmet need to characterize persistence with and adherence to newer biologics with different mechanisms of action in clinical practice, particularly in the USA, because high rates of discontinuation or switching and/or lower rates of adherence may suggest suboptimal treatment.

Citations remain a key metric to assess the impact of a paper, by looking at subsequent works that build upon it. A new addition to the Future Science Group (FSG) journals in 2019, including *CER*, is the inclusions of Dimensions citation data alongside each article [12]. This provides information on the number of citations an article has received, and links through to the Dimensions website with details on the citing publications, how the publication's citation number compares with others in the same field, and more.

Looking at these data provides further information on impactful papers, and Table 2 lists the top content from 2018 onward when ranked by citation number. This highlights a broader spread of article types than the most-read content mentioned above (which is generally dominated by Research Articles); when considering citations, the list also includes White Papers, Systematic Reviews and a Perspective article, alongside original work. Hot topics include Health Economics and Outcomes Research issues surrounding gene therapy; the role of real-world evidence in coverage decisions; methodology issues when conducting comparative effectiveness evaluations; and learning healthcare systems/communities. Papers comparing treatments and adherence patterns in various clinical settings have also been well cited.

Citation data take time to accrue in the months and years following publication. For a more immediate indicator of impact, the FSG journals are integrated with Altmetric [21], with each article receiving a score reflecting the

**Table 2. Top *Journal of Comparative Effectiveness Research* 2018–19 articles by citations<sup>†</sup>.**

| Rank | Citations | Article type      | Title  | Study  | Volume (issue) | Altmetric score | Ref. |
|------|-----------|-------------------|--|--|----------------|-----------------|------|
| 1    | 18        | White Paper       | Gene therapy: evidence, value and affordability in the US healthcare system  | Hampson G, Towse A, Pearson SD, Dreitlein WB, Henshall C                 | 7(1)           | 34              | [13] |
| 2    | 13        | Systematic Review | Treatment of tardive dyskinesia with tetrabenazine or valbenazine: a systematic review   | Caroff SN, Aggarwal S, Yonan C   | 7(2)           | 3               | [14] |
| 3    | 10        | Research Article  | Treatment patterns of biologics in US patients with ankylosing spondylitis: descriptive analyses from a claims database  | Walsh JA, Adejoro O, Chastek B, Park Y                                   | 7(4)           | 1               | [15] |
| 4    | 7         | White Paper       | Real-world evidence for coverage decisions: opportunities and challenges   | Hampson G, Towse A, Dreitlein WB, Henshall C, Pearson SD                 | 7(12)          | 8               | [16] |
| –    | 7         | Perspective       | Transitioning from learning healthcare systems to learning healthcare communities  | Mullins CD, Wingate LT, Edwards HA, Tofade T, Wutoh A                    | 7(6)           | 4               | [17] |
| –    | 7         | Research Article  | Real-world adherence and economic outcomes associated with paliperidone palmitate versus oral atypical antipsychotics in schizophrenia patients with substance-related disorders using Medicaid benefits | Joshi K, Lafeuille M-H, Kamstra R <i>et al.</i>                          | 7(2)           | 3               | [18] |
| 5    | 6         | Research Article  | Evaluation of antihypertensive adherence and its determinants at primary healthcare facilities in rural South Africa   | Rampamba EM, Meyer JC, Godman B, Kurdi A, Helberg E                      | 7(7)           | 1               | [19] |
| –    | 6         | Systematic Review | Handling missing data in propensity score estimation in comparative effectiveness evaluations: a systematic review   | Malla L, Perera-Salazar R, McFadden E, Ogero M, Stepniewska K, English M | 7(3)           | 3               | [20] |

<sup>†</sup> As of 29 October 2019.

quantity and reach of the attention it has received (i.e., on social media, in policy/patent documents, and in news, blogs and other sources). See [Table 3](#) for the top 2019 content ranked by Altmetric score. Compared with citation data, Altmetric score accrues earlier in a paper's lifecycle, so is an earlier indicator of content that is attracting attention.

All the metrics mentioned above provide an interesting window on the reception and impact of published content. Indicators such as social media attention tend to occur shortly after publication, whereas readership and citations build up over a longer period. We now have an abundance of data available following publication of an article, and it will be interesting to track this over time and ultimately see the impact of published content in the real world.

## The Evidence Base

In 2019, we were pleased to introduce a new product from FSG, which *CER* now works alongside – a brand new website called The Evidence Base [30]. The Evidence Base is a free-to-join community site covering the latest news, opinion and insight into the collection and application of real-world data to real-world problems. The Evidence Base covers hot topics in real-world evidence, health economics, comparative effectiveness research, patient-centered decision making and much more. The website officially launched at ISPOR 2019 in New Orleans, and now has over 1100 members. Visit the site to find out more! You can also find a monthly feature on the site highlighting top content from that month's issues of *CER*.

## Real-world evidence event

Building on the successful launch of our community website, we are excited to be planning our first event in 2020 focusing on real-world evidence. The 2-day event (1–2 April, London, UK) will focus on 'Exploring the practical applications of Real-World Evidence in Rare Diseases and Innovative Therapies' and will bring together all the key stakeholders for learning and collaboration. Visit the event website to keep up to date with speakers as they join the program [31]!

Table 3. Top *Journal of Comparative Effectiveness Research* 2019 articles by Altmetric score<sup>†</sup>.

| Rank | Altmetric score | Article type     | Title  | Authors  | Volume (issue) | Ref. |
|------|-----------------|------------------|--|--|----------------|------|
| 1    | 95              | Research Article | Ataluren use in patients with nonsense mutation Duchenne muscular dystrophy: patient demographics and characteristics from the STRIDE Registry   | Muntoni F, Desguerre I, Guglieri M <i>et al.</i>                 | 8(14)          | [22] |
| 2    | 24              | Perspective      | Patients' early engagement in research proposal development (PEER-PD): patients guiding the proposal writing   | Natafji N, Tsahai Tafari A, Chauhan C, Bekelman JE, & Mullins CD | 8(6)           | [23] |
| 3    | 13              | Research Article | Facing real-life with direct oral anticoagulants in patients with nonvalvular atrial fibrillation: outcomes from the first observational and prospective study in a Spanish population | Cerdá M, Cerezo-Manchado JJ, Johansson E <i>et al.</i>           | 8(3)           | [24] |
| 4    | 12              | Research Article | Economic impact of atrial fibrillation ablation with radiofrequency contact force catheter versus cryoballoon catheter   | Pollak SJ, Goldstein L, Daskiran M, Kalsekar I, Khanna R         | 8(4)           | [25] |
| 5    | 10              | Commentary       | If we recognize heterogeneity of treatment effect can we lessen waste?   | Segal JB, Varadhan R   | 8(14)          | [26] |
| –    | 10              | Research Article | Evolution of functional class, biochemical and echocardiographic parameters and clinical outcomes after sacubitril/valsartan initiation in daily practice                              | Morillas-Climent H, Seller-Moya J, Vicedo-López A <i>et al.</i>  | 8(9)           | [27] |
| –    | 10              | Research Article | Multi-gene assays: effect on chemotherapy use, toxicity and cost in estrogen receptor-positive early stage breast cancer   | Hochheiser L, Hornberger J, Turner M, Lyman GH                   | 8(5)           | [28] |
| –    | 10              | Research Article | Cost-effectiveness of overactive bladder treatments: from the US payer perspective   | Murray B, Hessami SH, Gultyaev D <i>et al.</i>                   | 8(1)           | [29] |

<sup>†</sup>As of 29 October 2019.

## Conclusion

In conclusion, I would like to thank all our readers, authors and Editorial Board members who contributed to the journal in 2019, and I look forward to working with them across *CER*, The Evidence Base and our real-world evidence event in 2020.

## Financial & competing interests disclosure

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