



## Journals on legal and forensic medicine in Web of Science Core Collection: focus on *Forensic Sciences Research*

Legal and Forensic Medicine is the application of medical knowledge and methodology for the resolution of legal questions and problems for individuals and society [1]. In the *Categories & Collections Scope Notes on Web of Science Core Collection* in the Web of Science (WoS) Master Journal List, the category “Medicine, Legal” is described as “covering resources on all aspects of medical legal issues, including government regulations and policies, malpractice, toxicological and pharmacological regulations, clinical therapeutic patents and other critical legal issues at the interface of law, medicine, and health-care”. This also “covers resources dealing with the various branches of forensic science” [2]. In this study, we aimed to illustrate those journals included in the category of “Medicine, Legal” in the WoS Core Collection, and to assess the rapid development of the journal *Forensic Sciences Research (FSR)* by comparing it with other related journals to determine whether *FSR* can fill a gap in the category “Medicine, Legal” of Science Citation Index Expanded (SCIE) in the WoS Core Collection.

We searched the Clarivate Analytics’ 2020 InCite Journal Citation Report (JCR) [3] and extracted data on journals in the category “Medicine, Legal” of SCIE. We also searched the Web of Science Master Journal List [4] using the keyword “Medicine, Legal” to identify journals in the WoS Core Collection of Emerging Sources Citation (ESCI). General journal information is listed in Table 1, including the journal title, publisher, country, continent, language, launch year, WoS indexation, 2019 impact factor (IF), and 2020 mock IF.

In total, 22 journals are indexed in the WoS Core Collection, including 16 titles in SCIE and six titles in ESCI. Most SCIE-indexed journals are from North America and Europe, including the United States (US: 7; 44%), United Kingdom (UK: 4; 25%), and Germany (2; 13%) (Figure 1). There are 15 (94%) journals published in English and only one in German. With regard to the launch year, most journals were inaugurated before 2000, with the earliest nearly a century ago (*International Journal of Legal Medicine*, 1922). In addition, four journals are indexed not only in “Medicine, Legal” in ESCI but also in the Social Science Citation Index (SSCI), more specifically, the sub-category “Law” and/or “Ethics”. The 2019 WoS IFs range from 0.488 (*Romanian Journal of Legal Medicine*) to 2.652 (*Regulatory Toxicology and*

*Pharmacology*) (mean = 1.447, median = 1.372). The six ESCI-indexed journals are from geographically and socio-economically diverse countries, namely, Canada, Egypt, China, Iran, France, and Poland.

In accessing the WoS Core Collection database, we input the titles of the 22 journals and collected the number of citable articles in these journals in 2018 and 2019 (A) and the number of citations of journal articles from 2018 and 2019 in the WoS Core Collection database during 2020 (B). According to its definition, the IF of a journal is calculated by dividing the number of current year citations by the source items published in that journal during the previous 2 years [5]. We therefore manually calculated the real-time 2020 mock IF as B/A (accessed on January 4, 2021). Here the value of B includes the citations generated from articles at Early Access stage in 2020; Clarivate Analytics announced that the 2021 edition of the JCR will include Early Access content, which will be reflected in the Journal Impact Factor (JIF) [6, 7].

For the 16 SCIE-indexed journals, the ranking of real-time 2020 mock IFs are generally positively correlated to those of the 2019 IFs; the *Journal of Law and the Biosciences* ranks first (2.944) and the *Romanian Journal of Legal Medicine* ranks last (0.261) (Table 1). The six ESCI-indexed journals have lower real-time 2020 mock IFs, with one exception: *Forensic Sciences Research (FSR)* (2.821), which ranks second among the SCIE journals, overtaking traditionally top-ranked journals, such as the *International Journal of Legal Medicine* (2.115) and *Forensic Science International* (1.987).

*FSR* is a journal open to all the forensic community, and also the official journal of the Academy of Forensic Science, China, with the aim to offer an academic communication platform for all forensic scholars, in the era of globalization, to publish and exchange interesting, challenging, and innovative research findings across various disciplines related to collecting, preserving and analysing scientific evidence during the course of a forensic investigation. *FSR* was launched in December 2016 as an Open Access journal. The journal is published on a quarterly basis with articles in English accepted through a process of double-blind peer review. As of time of writing, *FSR* has been indexed by Directory of Open Access Journals (DOAJ), ProQuest, Scopus, PubMed Central (PMC), HeinOnline, Chinese Science Citation Database (CSCD), and ESCI.

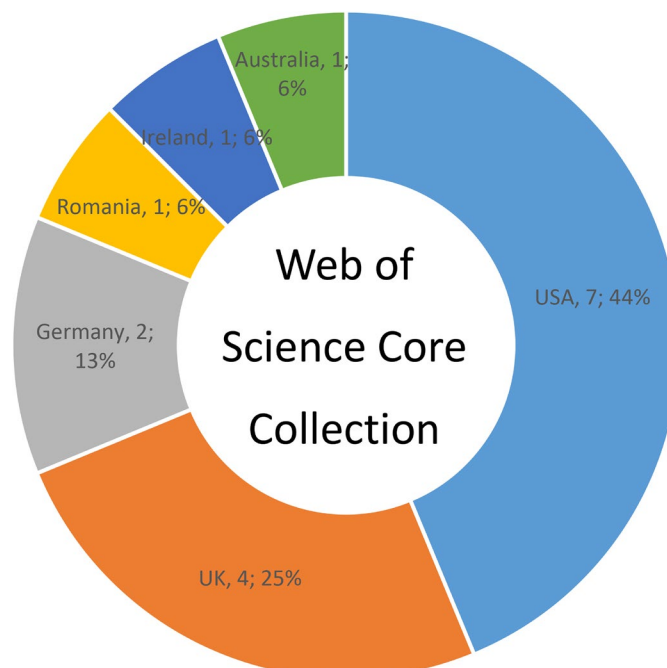
**Table 1.** General information of the 22 journals on Legal and Forensic Medicine in the Web of Science Core Collection.

WoS index	Journal title	Continent	Country/territory	Publisher	Language	Launch year	2019 IF <sup>a</sup>	2020 Mock IF <sup>b</sup>
SCIE	American Journal of Forensic Medicine and Pathology	North America	USA	Lippincott Williams & Wilkins	English	1980	0.785	<b>0.850</b>
SCIE	Australian Journal of Forensic Sciences	Oceania	Australia	Taylor & Francis Ltd	English	1968	1.188	<b>0.726</b>
SCIE	Forensic Science International	Europe	Ireland	Elsevier Ireland Ltd	English	1970	2.108	<b>1.987</b>
SCIE	Forensic Science Medicine and Pathology	North America	USA	Humana Press Inc	English	2005	1.611	<b>1.559</b>
SCIE	International Journal of Legal Medicine	Europe	Germany	Springer	English	1922	2.222	<b>2.115</b>
SCIE	Journal of Forensic and Legal Medicine	Europe	UK	Elsevier Sci Ltd	English	1994	1.302	<b>1.355</b>
SCIE	Journal of Forensic Sciences	North America	USA	Wiley	English	1956	1.441	<b>1.410</b>
SCIE, SSCI	Journal of Law and the Biosciences	North America	USA	Oxford Univ Press	English	2014	2.275	<b>2.944</b>
SCIE, SSCI	Journal of Law Medicine & Ethics	North America	USA	Sage Publications Inc	English	1973	1.085	<b>1.383</b>
SCIE	Legal Medicine	North America	USA	Elsevier Ireland Ltd	English	1999	1.195	<b>1.150</b>
SCIE, SSCI	Medical Law Review	Europe	UK	Oxford Univ Press	English	1993	1.46	<b>1.051</b>
SCIE, SSCI	Medicine Science and the Law	Europe	UK	Sage Publications Inc	English	1960	0.676	<b>0.829</b>
SCIE	Rechtsmedizin	Europe	Germany	Springer	German	1991	0.592	<b>0.513</b>
SCIE	Regulatory Toxicology and Pharmacology	North America	USA	Academic Press Inc Elsevier Science	English	1981	2.652	<b>2.767</b>
SCIE	Romanian Journal of Legal Medicine	Europe	Romania	Romanian Legal Med Soc	English	2007	0.488	<b>0.261</b>
SCIE	Science & Justice	Europe	UK	Elsevier Sci Ltd	English	1960	2.075	<b>1.775</b>
ESCI	Canadian Society of Forensic Science Journal	North America	Canada	Taylor & Francis Ltd	English	1968	NA	<b>0.474</b>
ESCI	Egyptian Journal of Forensic Sciences	Africa	Egypt	Springer	English	2011	NA	<b>0.630</b>
<b>ESCI</b>	<b>Forensic Sciences Research</b>	<b>Asia</b>	<b>China</b>	<b>Taylor &amp; Francis Ltd</b>	<b>English</b>	<b>2016</b>	<b>NA</b>	<b>2.821</b>
ESCI	International Journal of Medical Toxicology and Forensic Medicine	Asia	Iran	Shaheed Beheshti Medical Univ	English	2011	NA	<b>0.194</b>
ESCI	Medecine & Droit	Europe	France	Elsevier Masson	French	1993	NA	<b>0.100</b>
ESCI	Scandinavian Journal of Forensic Science	Europe	Poland	Sciendo	English	1995	NA	<b>0.714</b>

WoS: Web of Science; IF: impact factor; SCIE: Science Citation Index Expanded; SSCI: Social Science Citation Index; ESCI: Emerging Sources Citation Index; NA: not available.

<sup>a</sup>From Clarivate Analytics' 2020 InCite Journal Citation Report. ESIC indexed journals have no 2019 IF because they are not included in this InCite Journal Citation Report.

<sup>b</sup>Real-time values, based on citation reports in Web of Science Core Collection, with articles in Early Access stage included; accessed on January 4, 2021.



**Figure 1.** Geographic distribution of 16 journals indexed in the category "Medicine, Legal" in Science Citation Index Expanded (SCIE) of Web of Science Core Collection.

The rapid growth of *FSR* is not only revealed by the WoS mock IFs (2018: 0.553, 2019: 1.548, real-time 2020: 2.821) but also by the multinationality of editorial board members and authors, as well as the geographic distribution of citing authors. The *FSR* Editorial Board includes 57 members from 24 countries, with 50 (88%) members outside China. The authors are from 39 countries and regions, with 75% from outside of China, including the US, Australia, France, Switzerland, Portugal, the Netherlands, and the UK, among others. *FSR* was cited by authors hailing from 64 countries, with the leading five being the US, China, UK, Italy, and Australia. Moreover, most of these citing papers are published in top journals such as *Forensic Science International*, *Forensic Science Medicine and Pathology*, and *International Journal of Legal Medicine*. Together, these reflect the rapid elevation of *FSR* to a high-level international journal, and its possibility to be included in SCIE.

During previous decades, Chinese forensic scientists have communicated a multitude of scholarly works to researchers in many countries and have made strong contributions to legal and forensic medicine worldwide, publishing increasingly more papers in SCIE journals [8]. The lack of journals on legal and forensic medicine published in China in the WoS SCIE database does not match the country's population of over 1.3 billion, nor the rapid development of this powerhouse in science and technology, indicating the need to include *FSR*, a new and rising international journal published in China, into SCIE.

In conclusion, *FSR* has achieved greater discoverability for sources under evaluation after being included in ESCI. With the rapid and prosperous growth of the journal, we are confident that it is sufficiently qualified to pass the rigorous journal selection process for inclusion in SCIE. *FSR* reflects the tremendous progress made by Chinese forensic scientists in recent years and fills a gap in the geographic distribution of first-level journals worldwide.

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## Authors' contributions

Hui Zhang collected and analyzed the data, and wrote the first draft. Duarte Nuno Vieira conceived the idea. Min Shen revised the manuscript. All authors contributed to the final text and approved it.

## Compliance with ethical standards

This article does not contain any studies with human participants or animals.

## Disclosure statement

The authors report no conflict of interest.

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## References

- [1] European Council of Legal Medicine. Description of legal and forensic medicine as a medical specialty in the EU. Aims and objectives for specialist training. 2011. Available from: [http://development.fullscreen.pt/eclm/client/files/0000000001/eclmuemsdocumentapprove-declmga140911\\_106.pdf](http://development.fullscreen.pt/eclm/client/files/0000000001/eclmuemsdocumentapprove-declmga140911_106.pdf)
- [2] Web of Science Master Journal List. Categories & collections (scope notes), web of science core collection. Available from: <https://mjl.clarivate.com/help-center>
- [3] Clarivate Analytics. Incites journal citation reports. Available from: <http://help.incites.clarivate.com/incitesLiveJCR/JCRGroup/jcrOverview.html>
- [4] Web of Science Master Journal List. Available from: <https://mjl.clarivate.com/home>
- [5] Clarivate Analytics. The Thomson Reuter's impact factor. London: Clarivate Analytics. <https://clarivate.com/webofsciencegroup/essays/impact-factor/>
- [6] Quaderi N. The JCR Reload and a look ahead to the introduction of early access content in 2021. Available from: <https://clarivate.com/webofsciencegroup/article/the-jcr-reload-and-a-look-ahead-to-the-introduction-of-early-access-content-in-2021/>
- [7] Hubbard S. What's next for JCR: defining 'Early Access'. Available from: <https://clarivate.com/webofsciencegroup/article/whats-next-for-jcr-defining-early-access/>
- [8] Shen M, Vieira DN. Forensic science: defending justice. *Forensic Sci Res*. 2016;1:1–2.


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