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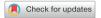Journal of Periodontal & Implant Science

Editorial

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PubMed's revamped management system is paying off

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Maintained by the National Library of Medicine (NLM) in the United States, PubMed is one of the largest biomedical and life science research databases encompassing over 27 million citations. Thousands of new citations are added to PubMed every day.

NLM previously utilized two separate systems, the PubMed system and the Data Creation and Maintenance System (DCMS), for data management of PubMed citations. The PubMed system was managed by the National Center for Biotechnology Information (NCBI) with the purpose of storage and indexing of citation data for PubMed search. The role of the DCMS was then to facilitate data reviews and indexing of citations by topics for MEDLINE, though not all citations were destined for it.

The traditional process would start with NLM receiving XML submissions from the data providers and be finalized by exporting updated citations after the indexing work of NLM for MEDLINE. Unfortunately, there was a discrepancy in the pace between the systems and this processing. This ultimately brought about multiple issues—data asynchronicity, loss, and corruption; onerous correction procedures; inconsistent public data sets—during the data management of PubMed citations.

To overcome these challenges, efforts have been made by the PubMed team at NCBI and the Indexing Section team at NLM Library Operations to drastically renovate the current faulty systems with the objective of creating a more effective workflow that would streamline the process of adding and modifying citations. Before long, the PubMed Data Management (PMDM) system was introduced that allowed minimized manual data corrections during the process of receiving, managing, and exporting citation data. Data providers were previously not able to submit most publication types, grant information, databank and clinical trial numbers, or the links between associated citations. Upon the implementation of the PMDM, these data types can now be included when submitted to PubMed. All the information that they provide during their submissions to PubMed are contained within the data as soon as it goes live in PubMed, which eliminates the need for NLM Data Review to manually review and add the data to these citations. This effectively motivates them to not only just submit their work to PubMed, but also follow best practices, as established by the International Committee of Medical Journal Editors.

The outcome has been as ideal as expected since the PMDM was put in use by both NLM Data Review and PubMed data providers and publishers. As of mid-March 2017, over 12,100

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citations have been edited by 175 external PubMed data providers. Given that the revamped system has been running for only six months, all the changes that have occurred so far seem very encouraging.

At JATS-Con 2017 held in Bethesda this month, I was highly inspired by the presentations that Kathleen Gollner and Kathi Canese from the NCBI gave on this topic. As the Chairman of Information Management Committee of Korean Association of Medical Journal Editors, one of the significant data providers for PubMed, I would like to say that they deserve to earn high praise for their efforts. I am more than convinced that all these endeavors will tremendously help PubMed offer more timely and accurate citation data to its users.