

EDITORIAL

Aggregating case reports: a way for the future of evidence-based health care?

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The role of case reports in increasing our understanding of health care is growing. To date, case reports have mainly been used as a singular entity: to describe individual cases or cases managed by an individual practitioner. The feature of these reports has also been quite singular: usually to either identify a unique symptom, presentation, or adverse event. At *Clinical Case Reports*, we also have an interest in emphasizing best practice in addressing frequently occurring clinical events, and particularly drawing attention to the clinical use of published systematic reviews or clinical guidelines [1]. Case reports have a unique value and represent an enormous potential reservoir of knowledge that is largely untapped at the present time.

Case reports provide a detailed and contextualized account of an event or illness trajectory that captures events including the presentation, diagnostic dilemma, diagnosis, initial treatment and treatment over time, and rationale for and response to any changes to treatment. Case reports capture the detailed nuance of the trajectory of an illness, that can include a single presentation event or an event with multiple and repeated presentations. Furthermore, the existence of comorbid conditions and how they interplay with the presenting problem (or evolution of a problem) can be teased out and made visible in ways that others can learn from. The initial encounter or reason for presentation may not have been as neat as a single presenting problem. As text, case reports are constructed in retrospect and so the detailed events of an illness or event can be reconstructed.

Consequently comprehensive, well-constructed case reports can have significant heuristic potential for novice to expert clinicians and educators. Analysis of reports can also take account of treatment delivery patterns, relative efficacy, and any relationship to best practice or where they exist, evidence-based guidelines for care. These reports can also serve as a catalyst for generation of new evidence to support new or novel approaches to clinical care.

However, despite the fact that case reports usually contain a detailed description of the sequencing and ongoing

care of patients in the real world, very little attention has been paid to the way this information can be used. Case reports represent a potential rich source of primary data. They provide important and detailed information about individuals, which is often lost or labeled confounding in larger studies [1, 2]. It is the very detail available in case reports that can provide crucial insight into the illness trajectory and allow the common patterns arising over the course of an illness or condition, as well as unusual events and occurrences to become visible. Significant epidemiological and clinical data, including patient responses to treatment, adverse events, and details of the eventual outcome are available in published case reports.

With the current renaissance in case reports resulting in increasing numbers of case reports journals and more and more case reports making it into the literature, the possibility of using case reports in a more aggregated fashion is becoming a reality. Tentative beginnings in the arena of aggregation have occurred in the description of unusual treatment combinations or responses. For example, in 2004 Treon et al. [3] reported an unusual response to sildenafil in Waldenström's macroglobulinemia. Although aggregated case reports do not replace well-designed meta-analyses nor provide a statistically significant cross-sectional view of medicine, they can enhance our knowledge of certain areas of clinical medicine and health care practice – especially where complexity is a key feature. Examples of these areas include those chronic and complex problems where cure is not the endpoint (such as the long term management of diabetes or hypertension), diagnosis and management of diseases which can significantly worsen within short intervals (such as many cancers), and the rise of personalized medicine and companion diagnostics (such as companion diagnostic testing) [4].

While case reports have long been a part of the medical and wider health literature, many of the traditional databases do not include all case reports, particularly those that are not peer reviewed. This makes systematic search-

ing for cases difficult and aggregating them even more difficult. Some journals and publishers are beginning to develop case reports databases. However, without some consistent methodology with which to analyze this rich and important data source, the databases may not be of practical use.

This is where the CARE Guidelines for Case Reports and the associated checklist (<http://www.care-statement.org/care-checklist>) are invaluable in helping to ensure thorough and consistent reporting of information, which potentially makes aggregation of case reports easier. As we have highlighted, the detail of the case makes them particularly rich and potentially amenable to aggregation. But the questions of how to aggregate them in ways that are meaningful remain. There is a clear role for aggregated case reports to increase our understanding of the trajectories of care in individual patients as well as overall

trends in patient care in complex and rare conditions. Robust methodology and consistent reporting is required to underpin this process and optimize the value of this rich data source.

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