

Quality in medicine and the importance of data collection and audit

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When I was requested to write an editorial for this edition of PJM, I was sent a list of articles to be published, which was quite impressive in the breadth of topics that were covered. However, one topic which was missing was a manuscript which had outcomes after interventions and quality of results compared to national and international benchmarks.

‘Quality’ as defined by the Merriam-Webster dictionary, if chosen in the context of medicine is ‘how good or bad something is’ and ‘a high level of value or excellence’. The measure of quality of an intervention or treatment, or indeed of a health service is based on a set of chosen ‘key quality indicators’ or ‘quality performance measures’. For example, in the United States of America, in my field of cardiac surgery, the Society of Thoracic Surgeons has developed a set of adult cardiac surgery measures which include mortality, length of hospital stay, post-operative complications such as renal failure, stroke, deep sternal wound infections to name a few. They also have ‘process measures’ such as use of internal mammary artery in coronary artery bypass grafting, anti-lipid treatment at discharge, anti-platelet treatment at discharge⁽¹⁾. Every hospital’s performance is measured against national or international benchmarks and their quality is assessed. The benchmark (Merriam-Webster dictionary definition: Something that can be used as a way to judge the quality or level of other, similar things) is set by committees and consensus documents after an assessment of all available national and international data on outcomes.

Every individual physician or surgeon, hospital and indeed, every healthcare service should aspire to meet these established benchmarks. Some may not be achievable due to deficiencies in infrastructure, but the goal should be the same. The primary requirement for this is to establish a system to collect accurate data regarding each patient episode, which should include patient demographics, procedural data and key outcomes relevant to that form of treatment or intervention. This is the basic failing of a number of institutions. This is because it requires time and a drive to improve quality. In many countries, establishing and maintaining such databases is mandatory, and hence gets done. For example, in the United Kingdom, data regarding every cardiac surgical operation done in the country has to be uploaded to a national database and the National Institute of Cardiovascular Research Outcomes (NICOR)⁽²⁾ publishes the outcomes annually.

The outcomes are not only published by hospital but by surgeon, and all this information is in the public domain⁽³⁾.

Another drive to maintain accurate databases is to be able to publish institutional outcomes in peer reviewed journals. Manuscripts just detailing experience in a particular operation or procedure is rarely accepted in reputed journals. This has to be backed up with data regarding outcome measures. The accuracy of the data has to be guaranteed, and the authors have to provide undertakings regarding this. In order to start making attempts at publishing in international peer reviewed journals, the first step is to start maintaining databases of prospectively collected data. Prospective collection is absolutely essential, as any retrospective collection of data is incomplete, random, and inaccurate and may not include data on the key variables which are required. A minimum dataset should be agreed upon by the institution or practice and should be strictly adhered to.

There is a lot of volume of excellent clinical work in India, and the experience available is immense. However, recording this experience systematically is something which almost always seems to be of low, or no priority. With the volume and spectrum of work that is done in India, the international journals could potentially be swamped with high quality manuscripts. However, this is not the case and the Indian experience still accounts for a very small proportion of publications in international peer reviewed journals.

The majority of publications in Indian medical journals are retrospective studies, with the additional drawback of inadequate standard of statistical analyses of the data when available⁽⁴⁾. The trend to improve this can be started in a small way. Start maintaining databases. If your own case load is low, join forces with sister institutions to have multicentre databases. Once enough data accumulates to attain some statistical significance, analyse the data and quality of outcomes in your own institution, using suitable statistical tools and audit it against national and international benchmarks. This in itself could be a suitable manuscript for publication in at least national journals.

The additional benefit of this process to the patients cannot be emphasized enough. Auditing our results against international benchmarks makes us aware of the gap between our outcomes and the benchmarks, and quantifies the scope for improvement.

This is the first stage in making attempts to improve the quality of services and care that is provided to patients.

References

1. <http://www.sts.org/quality-research-patient-safety/quality/quality-performance-measures>.
2. <https://www.ucl.ac.uk/nicor>
3. <http://www.scts.org/patients/default.aspx>
4. Hassan S, Yellur R, Subramani P. Research design and statistical methods in Indian Medical Journals: A Retrospective Survey. Marinazzo D, ed. PLoS ONE. 2015;10(4):e0121268. doi:10.1371/journal.pone.0121268.