

Title: The Need for Traditional Chinese Medicine Morbidity Research

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Abstract

Traditional Chinese Medicine (TCM) has long justified its practice on empirical phenomenology. Questions remain however, as to the legitimacy of this approach and its relevance to TCM practice and educational developments in the 21st century. General Medical Practice (GMP) has used practice-based data collected over the past 25 years to develop relevant medical curriculum and enhance patient care. As TCM becomes ever more incorporated into Western educational and health systems, it too must concern itself with providing a solid evidence base to be used in enhancing patient care and educational curriculum. Computer generated data related to patient problems or problem complexes abstracted from TCM clinical records can provide the basis for practitioner development and the enhancement of training programs that will lead to improvements in patient care. Such locally valid and representative data can also be used to inform research programs, public policy and evidence-based commissioning. The key to developing such systems is standardising TCM terminology and data collection protocols.

The Need for Traditional Chinese Medicine Morbidity Research

Traditional Chinese medicine (TCM) has a history that dates back thousands of years. While it has always legitimised its practice on claims of empirical science, what exactly does TCM treat in the twenty first century? Should current TCM curriculum development be based solely on historical precedent or data that reflect the morbidity seen within current communities? If TCM is a legitimate practice, on what evidence should it be integrated with existing Western health care systems? Practice data research, is one field that may answer such questions.

Practice data research has its roots in epidemiology. The reporting of morbidity data has a long tradition in Western medicine with the first prominent epidemiological study being that of John Snow in 1849. He observed that the London cholera epidemic occurred chiefly in regions served by the Broad St pump. As epidemiology developed, it moved beyond solely infectious disease, encompassing health demographics such as age, gender and general morbidity. It was not until the development of socialised medical systems and associated fiscal accountability however, that the importance of developing systems for the recording and access of patient demographics became apparent.

In the 1970s, the systemisation of general medicine practice (GMP) knowledge began to be formalised within tertiary educational institutions. In 1976, Marsland¹ advocated using data related to patient problems or problem complexes abstracted from clinical records. These data could be used to develop research hypotheses and prospective studies to confirm or deny these hypotheses. He proposed indexing patient encounters, thereby allowing practitioners to know their patients by diagnosis. Individual practice information could then serve as a focal point for longitudinal audit, board recertification and continuing education. They could also act as a reference point for prospective studies that would lead to the development of curriculum and new patient care systems, as well as a new understanding of the natural presentation of disease within a community.

Marsland's international contemporaries echoed these sentiments. Levinson² in 1978 advocated the use of computer database systems to manage patient encounter information. Boyle³ in 1979 stated that medical faculties, administrators and researchers had a clear responsibility to manage patient information to gain insight into health affairs. GMP was eventually acknowledged as an independent academic discipline within medicine and it was from the pioneering work of researchers such as Marsland, Levison and Boyle that GMP morbidity emerged as a separate field of research.

Over the last decade, TCM has become an academic discipline within Western tertiary educational systems. With the development of TCM education and research and increased use of TCM within Western societies, there is a need to develop the field of TCM morbidity research. Until TCM is widely accepted within orthodox Western medical systems and can generate large data banks equivalent to hospital based morbidity studies, the individual practice or clinical audit must form the basis of TCM morbidity research.

Both GMP and TCM share the purpose of providing patient care. Consequently, practice morbidity research within each field share common goals. These goals relate to augmenting the primary areas of evidenced based commissioning, practitioner development, education, research and public policy. Through the process of achieving these aims, generated clinical data from practice research can be used to enhance patient care.

Evidenced-based commissioning

In 1971, Weed⁴ noted that only through the study of well-organised, problem-oriented records, could practitioners accurately recollect and refine medical judgments. Subsequently, Levinson² claimed that many diagnostic and therapeutic decisions would be more effective if they were based on computer-generated algorithms and broadly based statistical probabilities gained from morbidity data, rather than on intuition. These were the first

expressions of evidenced-based medicine, which has now culminated in the commissioning of GMP guidelines and critical pathways of care.

Related concepts of evidence-based medicine are now being advocated within the fields of complementary medicine. For example, in 1995, the United States National Institutes of Health (NIH), Office of Alternative Medicine (OAM)⁵, identified the important potential benefits for the development of practice guidelines in Complementary and Alternative Medicine (CAM). The NIH, OAM provided funding for demographic based CAM studies to be used in the development of CAM practice guidelines.

While TCM maintains a unique treatment approach and professional identity born from its philosophical background, if it is to integrate and be commissioned within Western health care systems, it must adopt an evidenced based approach. Even if the integration of TCM into orthodox systems of health care or the development of TCM practice guidelines are not goals of the profession, TCM cannot afford to rely on a history of empirical phenomenology as its sole claim to validity of practice. An evidence-based approach is necessary to help legitimise the practice and identify those areas of health care where TCM can most effectively contribute.

According to Pearson et al⁶, locally valid and representative morbidity data are imperative for evidence based commissioning. The systematic review of clinical practices is fundamental to the development of treatment therapies and models of patient care, or what can be loosely referred to as an evidence-based approach. Hence as in GMP studies, morbidity data gained from TCM clinical audits would be critical in identifying those areas of TCM practice where research should be concentrated, evidence gathered and pathways for TCM care developed. This would ultimately assist in the integration of TCM into orthodox Western systems of health care.

Practitioner development

Levinson² was among the first authors to show that continuing education programs and self-study activities were most beneficial if correlated with the characteristics of a clinician's practice as reflected in computer derived practice profiles and audit data. Coulter et al⁷ later confirmed this, noting that computerisation of practice morbidity allowed the general medical practitioner to organise preventive programs, monitor the health of their practice population and to audit and review their clinical practice.

A number of countries such as the Netherlands⁸ and Iceland⁹ have used government subsidised, national systems of GMP-based patient data collection for the past 25 years. Other countries including the USA, UK and Australia while advocating national systems have developed several

independent mechanisms by which these data are collected. In either case, it is common practice for general medical practitioners to use computerised relational databases to store patient information. These data are primarily used by agencies for purposes of national morbidity study. Many systems however, allow practitioners to analyse their individual practice data in areas ranging from patient demographics to morbidity and reasons for presentation, treatment protocols and prescribing habits, patient lifestyle factors as well as simple marketing information.

Kidd and Mazza¹⁰, Payne¹¹, and Weekley et al¹² also advocated the development of computer based GMP guidelines and patient reminders based on practice data. These systems would provide a method of supporting practitioner decision-making and reducing workloads. Such decision-making support systems, founded on practice-based/evidence-based research are now being developed as a part of the research field of health informatics.

Critical issues for TCM

Computer databases and related decision-making support systems are not commonplace in TCM, let alone nationally consistent or government subsidised. The development of such systems however, would result in the same benefits for TCM practitioners that general medical practitioners who

use these systems enjoy. Data from a TCM database would allow TCM practitioners to critically examine their practice through longitudinal review and to develop plans to enhance their practitioner skills and patient care. It would direct them to areas of continuing education and prompt them to undertake relevant research in their areas of practice. Data from these systems could be used to develop TCM practice guidelines where appropriate, as well as act as a delivery mechanism for notification of Western drug/Chinese herb interactions or patient history complications. Even on the most basic level, for a practitioner just to be aware of the most common conditions they treated, the protocols they most frequently used and their related effectiveness, would impact positively on patient care. Ideally the creation of such systems should be nationally, and even internationally consistent, based on standardised terminologies.

Education

The 1966 Millis Report on *Public Policy for Medical Education and its Financing in the United States* as reported by Wood et al¹³ identified the need to develop health care systems that met the general medical needs of the US population. To create these systems, data regarding GMP were required to construct relevant curricula. Kirkwood et al¹⁴ stated that optimally, a curriculum for instruction in GMP should be devised from data that were accurate, comprehensive and sensitive to the influences of geography and demographics. Reaching this goal in part depends on an accurate assessment of the diagnostic content of GMP. The importance of

morbidity data in relation to the development of relevant educational curriculum is a widely accepted principle that equally applies to TCM.

Data from TCM morbidity databases could be used to develop relevant curricula. A prime example can be seen at the University of Technology, Sydney (UTS). Since 1998, practice data relating to the UTS Acupuncture Clinic has been collected via a computerised relational database. A list of the most frequently used acupuncture points was employed in developing point location exams. Patient demographics and disease prevalence rates inform the clinical management subjects and clinical marketing strategies. Student practitioner activity reports are used for reflective practice subjects. Potential applications of reason for encounter (RFE) and symptom for encounter (SFE) data were also identified for subjects dealing with clinical features of disease and disease states.

The possible applications of practice-based data in informing curriculum development clearly indicate the importance of having data systems in place that reflect the morbidity common to a geographic area that will allow the development of relevant syllabi and specialist courses.

Research

Anderson¹⁵, Njalsson and McAuley⁹, and Rice et al¹⁶ identified the value of morbidity data in sign posting fruitful areas of research. As a considerable

part of health care takes place at the primary health level, clinical/practice based morbidity data would prove invaluable in guiding research questions and helping prioritise research areas and funding.

Again, turning to the UTS database as an example, the UTS acupuncture morbidity data showed that musculoskeletal problems were the most common disorders or RFE reported. Of those RFE, back problems were the most frequently reported SFE. To run a clinical trial on back pain it may be useful to know the most common diagnosis associated with this SFE, the likelihood of any correlating signs and symptoms or patterns of co-morbidity, the most common set of acupoints used to treat the condition, how often and on which acupoints moxa was used, and the outcomes of those interventions. This information could guide the development of relevant research models, sampling frames and treatment protocols to test the effectiveness of acupuncture in a clinical trial on back pain. Funding could be sought from bodies such as Workcover or the National Health & Medical Research Council (NHMRC) arguing that the preliminary TCM morbidity data indicated that acupuncture was effective in the treatment of back pain, and thus warranted further research. These principles could be applied to any area of clinical research.

Public policy

GMP morbidity data have been used for the development of public health policy over the last two decades. Mant and Tullock¹⁷ and Coulter et al⁷ identified the importance of morbidity data for assessing practitioner workloads, drug monitoring and management of chronic disease registers. Stevens and Gabbay¹⁸ pointed out the need to assess resource allocation in relation to community morbidity patterns. At the same time, Tierney et al¹⁹ showed how 20 years of collated practice data could reduce outpatient costs, while Pearson et al⁶ argued that geographically localised morbidity data allowed for primary-care-led purchases of health services relevant to a particular population. All of these studies indicated that morbidity data have a clear role to play in the development of various aspects of public health policy ranging from the identification of resources through to their distribution.

TCM in Australia is not yet funded by the public health system with the exception of an acupuncture Medicare rebate for general medical practitioners. Recent changes to Workcover, an Australian insurance scheme for workers compensation, has seen an increased demand from insurance companies for TCM morbidity data and related costs. As TCM develops and becomes integrated within western public health systems around the world, government authorities will be required to develop relevant policies. As policies develop, the need for TCM morbidity data

will become more acute. Data from TCM databases may serve as a valuable resource for the development of TCM related policies.

Conclusion

Over the past 25 years, a community of Western medicine academics and practitioners have defined and developed a research field founded upon the statistical analysis of GMP patient encounter data. The benefits to patient care, practitioner development, and medical education indicate the need for the creation of similar systems of practice research in TCM. Such systems will provide data to inform government policy in relation to TCM and help with the integration of TCM into Western public health systems.

As TCM is now an academic discipline within a growing number of Western universities and private tertiary institutions, it must concern itself with advancing those aspects of TCM peculiar to the TCM practitioner. The development of TCM practice databases is one such advancement. Computerised data derived from practice profiles and clinical audits can be used to assess the effectiveness of TCM practices, identify relevant areas for TCM research and inform research protocols, identify morbidity patterns peculiar to TCM and thereby educate the public and other health professions as to the effectiveness/applicability of the modality for particular conditions,

One of the most important steps in developing these data systems is the standardisation of terminology and data collection protocols. This will avoid many of the problems seen in GMP research where the use of incompatible data collection systems has limited the amount of useful cross study comparison that can be undertaken.

Until such time as TCM is integrated within hospital systems where large data banks can be generated, the individual practice audit must remain as the main source of TCM morbidity data. In this respect, standardisation of data collection systems is even more imperative. Over time however, it is envisaged that TCM morbidity data research will ultimately raise the professional standing of TCM practitioners and most importantly provide a foundation for the development of evidence-based approaches that will wean TCM of its historical reliance on empirical phenomenology as a method of validating its practice.

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