

Evidence-based practice in Malaysia: where are we and what more can be done?

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As a young family medicine trainee in the early 1990s and like many other colleagues, I was quite excited by the intense debate on the role of evidence-based medicine in the BMJ and the Lancet,¹⁻³ and closely followed publications from the ACP Journal Club, BMJ's Evidence-Based Medicine journal and

the JAMA's Rational Clinical Examination series. Two decades later, evidence-based practice is now firmly entrenched in clinical medicine and is widely believed to be an important component of quality medical care. Many government funded agencies work with professional bodies to create evidence-

Table 1. Selected clinical indicators and their search terms and clinical evidence

Clinical indicators	Search terms	Clinical evidence	Reference
Use of reperfusion therapy in acute myocardial infarction	Thrombolytic therapy, coronary balloon angioplasty, myocardial infarction	Reperfusion therapy with either primary PCI or fibrinolytic therapy reduces mortality and is useful in patients presenting within 12 hours from the onset of symptoms.	[6]
Use of angiotensin-converting enzyme inhibitor or angiotensin receptor blocker in hypertensive with diabetes	Angiotensin-converting enzyme inhibitors, angiotensin receptor antagonists, hypertension, diabetes mellitus	ARBs or ACEIs are the agents of choice for patients with diabetes and hypertension.	[6]
Use of HMG-coA reductase inhibitor in diabetes	Hydroxymethylglutaryl-coA reductase inhibitors, diabetes mellitus	All patients without overt CVD >40 years of age should be treated with a statin regardless of baseline LDL cholesterol levels.	[7]
Antibiotic prescription for upper respiratory tract infections	Anti-bacterial agents, penicillin V, respiratory tract infections, pharyngitis	A no antibiotic prescribing strategy or a delayed antibiotic prescribing strategy should be agreed for patients with acute sore throat/acute pharyngitis/acute tonsillitis, common cold, acute rhinosinusitis, and acute cough/acute bronchitis. Patients in the following subgroups can also be considered for an immediate antibiotic prescribing strategy (in addition to a no antibiotic or a delayed antibiotic prescribing strategy): acute sore throat/acute pharyngitis/acute tonsillitis when three or more Centor criteria. The recommended first-line treatment for bacterial pharyngitis or tonsillitis is a 10-day course of penicillin V.	[8,9]
Use of corticosteroids for premature labour	Glucocorticoids, premature obstetric labour, premature birth	A single course of corticosteroids is recommended for pregnant women between 24 and 34 weeks of gestation who are at risk of preterm delivery within 7 days.	[10]

based clinical practice guidelines. However, adoption of these clinical practice guidelines by healthcare practitioners remains patchy.

In Malaysia, clinical practice guidelines initially included more of consensus statements. With time, the Ministry of Health and relevant professional bodies (notably the Academy of Medicine) collaborated to create evidenced-based clinical practice guidelines and health technology assessments.^{4,5} Although regular quality assurance activities have been initiated in hospitals and primary care clinics, there is insufficient documentation of the effectiveness of such activities. Hospital-based clinical activities with very different ease of performance and unit cost and yet have contrasting adherence levels. To illustrate the evidence-based clinical practice (if any) in Malaysia, I have identified a list of clinical indicators based on the availability of clinical evidence and their perceived importance (Table 1). Multi-centre studies documenting doctor's clinical practice patterns (i.e., actual evaluation of clinical records rather than patient or physician reports) are preferentially included. Multinational studies were also included if Malaysian data can be

extracted. Only studies published in the past 10 years were used (presumably they reflect "current" clinical practice).

The practice patterns of physicians for the selected clinical indicators are shown in Table 2. There appear to be a higher level of guideline adherence in hospitals compared to primary care clinics, especially for prescription of angiotensin-converting enzyme inhibitors or angiotensin receptor blockers (ACEI/ARB) in hypertension with diabetes and prescription of statins in diabetes. In the case of prescription of ACEI/ARB in hypertension with diabetes, there is an obvious increase in appropriate prescribing; clearly, making the drug easily available in publicly funded primary care clinics is a boon to patients. As for upper respiratory tract infection (URTI), in appropriate antibiotic use is more common in the private primary care clinics compared to the public ones. However, in both the settings, there is underuse of penicillin V. Use of reperfusion therapy in acute myocardial infarction and use of corticosteroids for premature labour are hospital-based clinical activities with very different ease of performance and unit cost and yet have contrasting adherence levels.

Table 2. Study characteristics and physician's practice patterns for selected clinical indicators

Publication year	Subjects and settings	Findings	Reference
Use of reperfusion therapy in acute myocardial infarction			
2013	4562 patients with ST-segment elevation myocardial infarctions from 16 hospitals	83% of patients received reperfusion therapy	[11]
Use of angiotensin-converting enzyme inhibitor or angiotensin receptor blocker in hypertension with diabetes			
2005	11 public primary care clinics (350 patients with diabetes and hypertension)	18.6% of patients were prescribed ACEI/ARB	[12]
2005	49 private clinics (438 diabetic patients)	11.9% of hypertensive diabetics were prescribed ACEI/ARB	[13]
2008	1 hospital medical clinic (200 diabetic patients)	91.8% of patients were taking ACEI/ARB	[14]
2011	303 centres (hospital and clinics; 70,889 diabetic patients)	68.6% of hypertensives were taking ACEI/ARB	[15]
2012	79 public primary care clinics (3753 patients) and 33 private clinics (323 patients)	90.4% of patients were prescribed ACEI/ARB (hypertensives with diabetes and proteinuria)	[16]

Publication year	Subjects and settings	Findings	Reference
Use of HMG-coA reductase inhibitors (statins) in diabetes			
2005	49 private clinics (438 diabetic patients)	10.9% of patients were taking statins	[13]
2007	1 public primary care clinic (1031 diabetic patients)	32.3% of patients were taking statins	[17]
2008	1 hospital medical clinic (200 diabetic patients)	81.5% of patients were taking statins (if LDL > 2.6 mmol/L)	[14]
2011	303 centres (hospital and clinics; 70,889 diabetic patients)	37.4% taking statins	[15]
Antibiotic prescription for upper respiratory tract infections			
2003	7 public primary care clinics	Antibiotic prescribing rate was 28.7%	[18]
2011	1142 patient records (788 public, 364 private) from 78 public and 30 private primary care clinics	Antibiotic prescribing rate was 33.8% (private 46.7%; public 27.8%), of which penicillin V had a prescribing rate of only 1%	[19]
Use of corticosteroids for premature labour			
2011	2379 women from two hospitals	55% of women who gave birth at <34 weeks were given corticosteroids	[20]

Table 2 merely provides a glimpse of the extent of evidence-based practice in Malaysia using a limited set of clinical indicators. More clinical audit using explicit criteria at both public and private health care facilities nationwide is clearly needed. On the other hand, assessing health professional performance is an anxiety-provoking situation for both the assessors and the assesseees.²¹ This is especially so if the data suggest suboptimal performance, with possible implication on patient safety. I suspect this may explain the reluctance of health care practitioners to conduct clinical audit and publish the results.

Moving forward, multiple methods of data collection appear necessary, which may involve surveys, use of simulated consultation, video-taping, and disease and device registries. The clinical indicators included in the measurement should definitely be supported by credible clinical evidence. Importantly, data collection and its subsequent dissemination should take into account the need to ensure

confidentiality of the health professionals and the health facilities. Strategies to improve the quality of care need to be planned in tandem with data collection; two local examples of how this was done are available.^{22,23} Understanding the barriers to guideline implementation at patient, practitioner and health system levels is as important as the characteristics of recommendations that are likely to be used.²⁴ Despite being fully aware of the need of performance data for the purpose of accountability, many health care practitioners are wary that information collected will be used for decision-making without taking casemix and payment system into account. Printed or electronic guidelines should not be used alone, instead they should be part of a multifaceted strategy that includes the use of opinion leader, clinical audit with feedback, academic detailing and various forms of reminders.²⁵ Support from policy makers and funders is needed to ensure the successful implementation of evidence-based practice.

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The Cochrane Collaboration and organisations under its umbrella

A systematic review involves gathering and assessment of all the relevant evidence on a health care-related question and then collation of the results of individual studies into a summary estimate. Cochrane Database of Systematic Reviews under the Cochrane Collaboration houses a large collection of systematic reviews that are updated regularly. The Cochrane reviews are widely regarded as reference standards of clinical information for health care decision-makers and clinical researchers since the inception of the Cochrane Collaboration in 1992.¹

Cochrane reviews are developed, maintained and updated on a voluntary basis by review authors who are mostly health care practitioners, with editorial support from the Cochrane review groups. Currently, there are 53 review groups focussing on different areas of health problems. In addition to the review groups, there are other organisations within the Cochrane Collaboration that provide

additional support of different nature. This includes the Cochrane Centres, networks and nodes providing administrative support and Cochrane fields focussing on making Cochrane reviews of the relevant areas accessible and useful to health care practitioners and consumers.

Cochrane journal club

Another valuable resource of Cochrane is the Cochrane journal club. A relatively new project started in 2011, the Cochrane journal club provides health care practitioners a convenient way of being up to date using recently published Cochrane reviews. It is a monthly publication that contains a clinical summary of the Cochrane review and the actual review presented as abstract, references, plain language summary and conclusions under separate tabs to improve clarity. It also contains an accompanying podcast and a downloadable presentation, as well as dedicated space for the readers to post questions to the review authors and the authors' responses. The Cochrane journal club can be accessed free via the following link: <http://www.cochranejournalclub.com>.

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