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ORIGINAL RESEARCH ARTICLE

CME credit systems in three developing countries: China, India and Indonesia

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Abstract

Introduction. Two of the largest countries in the world, still developing nations, China and Indonesia, have now created national credit systems for continuing medical education (CME). A third, India, has tried but succeeded only on a state-by-state basis. This study tracks the development of CME/continuing professional development (CPD) credit systems in these three major Asian countries, analyses the related administrative backgrounds and points to strengths and weaknesses of each system in terms of serving the goals of CME/CPD in impacting medical care systems. Methods. The authors researched national- and state-level government records to identify legal and regulatory data affecting CME in China, India and Indonesia. Information on current and future activities was gained from media reports. Results. In all three countries, CME/CPD systems evaluate physician continuing competence by counting credits or credit hours. Central health authorities in China and Indonesia have established national systems applying to all health professionals. In Indonesia, CME/CPD is mandatory for re-licensure; in China, it is necessary for career advancement and re-registration. An effort to develop mandatory CME requirements in India, for physicians only, failed because the central agency underwent a major overhaul. Nevertheless, 9 of 28 states in India have developed systems, all tied to re-registration. Discussion. A comparison of systems in the three countries shows that little attention has been paid to physician performance improvement or improved patient health outcomes. Needs assessments and outcomes measures are not regularly carried out. We did not find any evidence of programmes to train administrators or faculty in CME/CPD principles, with the possible exception of Indonesia. Suggestions are offered to CME system leaders and providers to help their counterparts in developing nations.

Keywords: continuing medical education, continuing professional development, mandatory credit requirements, needs assessment, programme planning, performance improvement, outcomes measures, China CME, India CME, Indonesia CPD

Introduction

Although the medical profession has grappled with the need for continuous learning for physicians since ancient times, formal credit systems for continuing medical education (CME) began first in North America and then extended to Europe. Only recently did attention focus on principles of lifelong learning for physicians and other health professionals for the purpose of enhancing the ability to provide up-to-date care to their patients. Systems of continuing education for health professionals (CEHP) with mandates for participation now exist widely in

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the Western world. How is this concept spreading to the developing nations that are home to the largest populations in the world?

The terms CME and continuing professional development (CPD) are used according to country preference in this article. An early definition of CME from the American Medical Association stated:

"CME consists of educational activities to maintain, develop, or increase the knowledge, skills and professional performance and relationships that a physician uses to provide services for patients, the public or the profession."[1]

In the past 20 years, a number of medical organisations around the world have felt that the term CME is too limiting, and that CPD more accurately describes efforts to enable physicians to continuously pursue "personal and professional development resulting in the transformation of the health-care system towards the delivery of patient-centered, humanistic, cost-effective health care."[2]

Organised medicine (medical professional organisations and national/state health ministries) has been known to use both terms to fit any system of continuing education. In the case of China and India, CME is generally favoured; in Indonesia, CPD is preferred. But as we shall see, the terms are defined in each country's requirements rather than in codified definitions.

One significant element of consistency in the systems described in China, India and Indonesia, not reflected in formal CME or CPD definitions, is the role of commercial interests, specifically pharmaceutical and medical device companies. In all three countries, such entities are not permitted to be providers of CME or CPD and providers have a responsibility to limit perception of commercial bias in content (though without stringent review or enforcement).

Organised medicine leaders in other developing countries may find this information of value as they seek to develop national or local CME credit systems. CME leaders in North America and Europe, perhaps working through organised medicine, may find the information useful for future networking. CME professionals may also find opportunities to collaborate with providers in these developing countries to provide content, delivery and measurement systems. Table 1 provides a list of publicly available contacts in CME administration in the three countries for those who wish to engage their international colleagues.

Methods

The research methodology for this article was not based on existing criteria for measurement of effectiveness of a CME system. No data are available in the three countries for this form of measurement. Instead, the authors obtained official documents from national and organisational websites in each country to identify legal and regulatory objectives and requirements for continuing education of health professionals. The authors particularly focused on the goals of the CME systems, the mandatory requirements, penalties for non-compliance, the responsible agencies and providers, the details of the process (e.g. needs assessment, programme planning, delivery and evaluation) and funding.

In addition, medical societies and regional medical authorities were queried to determine current levels of activity and implementation of standards such as accreditation of programmes and/or providers, independence from bias and benefits to participating health professionals. Each author (except for Miller), referred to as "colleague" in the text that follows, is involved in producing CME programmes in one or more of the three countries, and his/her comments reflect knowledge of legal and organisational requirements as well as cultural differences in these countries.

Table 1. List of contacts in CME administration in China, India and Indonesia (2015).

Country/state	Institute name	Contact/address	Tel/e-mail
China	China National CME Commission	NO.1, Xizhimen Wai south road, west district, Beijing, 100044	+86 010 68792114
India/Goa	Goa Medical College	Dr. Jayant Bhandare, Pres.	+91 0832 2458723 goamedcouncil@rediffmail.com
India/Gujarat	Gujarat Medical Council	Dr. Nitin Vora, Pres.	+91 079 22680534 mail@gmcgujarat.org
India/Karnataka	State Medical Council	Dr. Chikkananjappa	+91 080 26620293 Kar.medi_council@yahoo.co.in
India/Kerala	T.C. Medical Council	Dr. Rema M. N., Pres.	+91 0471 2302756 vemamenong@yahoo.com http://www.medicalcouncil.kerala.gov.in
India/Maharashtra	Maharashtra Medical Council	Dr. Kishir Taori, Admin.	Off. 0647 2402847 maharashtramcouncil@gmail.com
India/Punjab	Punjab Medical Council	Dr. Manmohan Singh, Pres.	+91 0172 2266913, 2265104 pmc_chd@yahoo.com
India/Rajasthan	Rajasthan Medical Council	Dr. O. P. Gupta, Pres.	rajmedcouncil@yahoo.co.in
India/Tamil Nadu	State Medical Council	Dr. M. S. Ashaf, Pres.	+91 044 26265678 tnmc@vsnl.net
India/Uttar Pradesh	Uttar Pradesh Medical Council	Dr. M. C. Sharma, Pres.	+91 0522 2387653 upsmflucknow@yahoino.co.in
Indonesia	Indonesia Medical Council	Dr. Ihsan Oetama (International Relations)	+62 818 834466 oetama@rad.net

Results

Based on the methodology described above, the authors examined recent efforts in three major developing Asian countries, China, India and Indonesia, to establish their CME credit systems in the 21st century – and where applicable, extension of requirements to other health professionals. (For a comparison of the demographics of the three countries, see Table 2.)

The time frame to establish national systems was compressed into a relatively short period in China and Indonesia, where these systems are up and running: starting in 1996 in China (but not truly implemented until 2001) and starting in 2006 in Indonesia. In India, the concept of a national CME system was introduced in 2002 but is still a work in progress. At the time of this writing, the Indian system is developing along state lines, because of the failure of a national impetus by the Medical Council of India (MCI) to form a mandatory CME system.

The Chinese and Indonesian systems established legal and accreditation requirements on a national-government-controlled basis. Clearly, the shortened time frame for system development and implementation has led to unresolved issues of quality and compliance that will be explored further in this paper.

For comparison purposes, tabulated below are the results we found in the seven principal areas we reviewed.

Goals of the CME systems

China

According to the National Health and Family Planning Commission (formerly Ministry of Health) of the People's Republic of China, the goals of the CME system are[3]:

- To keep the high professional morals of physicians
- To improve their practice skills
- To upgrade the quality of health-care service
- To meet the needs of the development of public health and disease management

India

A national system does not exist. But since nine states have moved to legislate requirements, we will focus on one such state in an effort to provide some information about the thinking in India. According to the Maharashtra Medical Council, the stated purpose of instituting a mandatory CME credit system is[4]:

- Tremendous advances are taking place in the field of medical sciences, continuously changing the concept, approach to management and the outcome of several diseases. The rapid pace of these advances makes it mandatory for doctors to keep themselves updated so that they may apply this information to their practice and thus fortify their competence and knowledge by keeping abreast with the latest developments in the field. Importance of credit hours and updating the knowledge of doctors have been globally accepted and have also been approved by all the state medical councils in February 2012, and have already been endorsed by MCI.

Indonesia

According to the Indonesia Medical Association, the objectives of CPD are[5]:

- To maintain and promote the professionalism of doctors, upholding quality and ethics, according to global standards of competence
- To guarantee the existence of quality medical services through a programme of certification of doctors

Additional goals specified for general practitioners (GPs) are:

- To improve GP professionalism by a self-assessment programme based on accumulation of a minimum number of CPD credits
- To improve GP professional performance
- To improve GP knowledge and skills
- To ensure ethical conduct in providing medical services and care

Mandatory requirements

Each of the three countries expresses its requirements differently in terms of credits or credit hours. No equivalency exists between the two terms across the countries.

China

A national mandate requires physicians to have 25 CE credits per year[6,7]:

- 5–10 credits must be Category 1 credits achieved by attending CE programmes approved by a national-, provincial- or municipal-level agency.
- Physicians can achieve 1 CME credit by attending a learning course of 2–3 hours.
- The balance, 15–20 Category II credits, may be achieved by self-learning, archives study, a research project or hospital-based learning activities.

Nurses must also earn 25 credits per year. Pharmacists are required to have 15 credits per year.

Table 2. Demographics of China, India, Indonesia.

	China	India	Indonesia
Population	1,390,000,000[a]	1,246,587,584[b]	237,641,326[c]
Physicians	1,866,630[a]	840,130[b]	118,207[d]
CME start	1996–2001	April 2011	December 2006

[a]World Health Organization. Global Health Indicators. Section 6: Health workforce, infrastructure and essential medicines. 2010. Available at: http://www.who.int/whosis/whostat/EN_WHS10_Part2.pdf, accessed June 16, 2014.
[b]Government of India Ministry of Home Affairs. Our Census, Our Future. 2011. Available at: http://censusindia.gov.in/, accessed June 16, 2014.
[c]Badan Pusat Statistik – Statistics Indonesia. 2010. Available at: http://www.bps.go.id/eng/tab_sub/view.php?kat=1&tabel=1&daftar=1&id_subyek=12&notab=1, accessed June 16, 2014.
[d]Indonesia Medical Council. http://www.kki.go.id

India

The Medical Council of India, a quasi-government body, was unsuccessful in promoting national legislation for mandatory CME but proposed in 2011 that all physicians be required to have 30 hours of CME every 5 years, to be enacted through state medical councils, which are formed through MCI by election. To date, 9 of 28 state medical councils have made re-registration of the licence to practise mandatory, based on reporting CME credit hours. The trend for adoption of the MCI recommendation has moved swiftly in the past year; more states are expected to adopt similar measures in the next 3 years. While seven of the nine state councils followed the MCI recommendations, two declined, to increase to 50 and 150 hours. No reasons for the difference have been stated publicly – nor did the MCI provide a rationale for the 30 credit-hour recommendation.

- Goa Medical Council: 30 credit hours every 5 years[8]
- Gujarat Medical Council: 30 credit hours per year for a total of 150 credit hours every 5 years[9]
- Karnataka Medical Council: 30 credit hours every 5 years[10]
- Kerala Medical Council: 30 credit hours every 5 years[11]
- Maharashtra Medical Council: 30 credit hours every 5 years[4]
- Punjab Medical Council: 50 credit hours every 5 years (10 per year)[12]
- Rajasthan Medical Council: 30 credit hours every 5 years[13]
- Tamil Nadu Medical Council: 30 credit hours every 5 years[14]
- Uttar Pradesh: 30 credit hours every 5 years[15]

A tenth state council, Delhi, is planning to act this year on a similar mandate. Neither nurses nor pharmacists will have any mandatory CE requirements, although the Delhi Nursing Council recommends re-registration for nurses in the state of Delhi every 5 years with 150 credit hours.

Indonesia

A mandatory national requirement for CPD is in place.[3,16] Every physician in practice must complete 250 credits every 5 years to achieve a certificate of competence and must pass a competency test to have his/her license renewed.[17]

Nurses must also have a certificate of competence renewed every 5 years with a minimum of 25 CPD credits. Pharmacists must also renew their certificate of competence with CPD credits, the number varying by the determination of individual branches of the Indonesian Pharmacists Association, in general from 150–200 credits every 5 years.

Penalties for non-compliance

While the penalties for non-compliance are spelled out in regulations in each country or state, and vary considerably, it remains to be seen how effectively they will be enforced. Health ministries in many Western countries face the same problem, and have not yet resolved it with any consistency. In China, failure to comply can mean that the career path of a physician (or pharmacist or nurse) is limited. In India and Indonesia, the threat is loss of licence to practise. Is that too strong a punishment for a physician who fails to accumulate or record enough CME credits – especially when CME is not related to performance?

China

Completion of CE requirements serves as evidence for annual performance review and is a prerequisite for credentialing and promotions. For example, if an assistant chief physician fails to complete the CE requirements, he/she will not be promoted as the chief physician.

India

While regulations specify that failure to meet mandatory credit requirements can lead to cancellation of registration (licensure) for practice, this has not yet been enforced, but may be enforced in 2015. There is a minor monetary penalty in each of the nine state councils for delay in completing requirements.

Indonesia

The competence of a doctor is measured in terms of credit units earned after completing 1 hour of activity recognised as an education activity in a CPD scheme. However, the value of these credits depends on the various formats of CPD activities. (Table 3 shows the percentages expected to be derived from various formats.) Physicians who fail to accumulate 250 credits every 5 years, of which 10% must originate from non-clinical activities, for example, education, research and community service, will not be able to renew their certificate of competence and hence their licence to practise.

Responsible agencies

China

The National CME Commission and CME commissions in each province are responsible for guidance, coordination and quality control of CME activities.

Table 3. CPD Learning Categories in Indonesia.

Category	Points proportion (%)
Learning	40–45
Professional performance	40–45
Community/professional dedication	5–10
Scientific publication	0–5
Science and education	0–4

The Indonesian CPD Technical Guide recommends that CPD credits be earned from different categories in the above-mentioned proportion.
The following are examples of online CPD programmes:
a. http://www.idicmeonline.org, by IMA
b. http://www.kalbemed.com/CME, by IMA and medical journal *Cermin Dunia Kedokteran*.
The following are examples of CPD activities organised by academic institutions:
a. University of Indonesia: http://cme.fk.ui.ac.id/?page_id=470
b. Trisakti University: http://cpdfkusakti.com/

India
The state medical councils in the nine states that mandate CME are responsible for oversight.

Indonesia
The Indonesian Medical Association and its district agencies are responsible for managing and monitoring CME programmes.

Providers of CME

China
Providers are medical associations/societies, hospitals and other CME agencies approved by the National Health and Family Planning Commission.[18]

India
The following providers can organise CME activities:

- All recognised medical colleges
- Indian Medical Association and its state chapters
- National Academy of Medical Sciences
- National or state chapters of medical specialty associations
- All recognised postgraduate medical institutions
- Central, state and district government hospitals and training centres
- International conferences of professional bodies
- Professional bodies of repute at a district, city or state level

Indonesia
CPD programmes can be organised by:

- Indonesian Medical Association (IMA)
- The Association of Specialist Doctors
- The Association of Primary Services of Medical Doctors
- Other organisations accredited by IMA, including:
  - Ministry of Health and its directorate of specialist medical services
  - Academic institutions, including faculties of medicine
  - Hospitals and other service providers
  - CPD organisers
  - Insurance companies

Process

Needs assessment

China. CME facilities, including government agencies, determine the needs, in some cases based on problems in clinical practice as identified by the course organisers. Most providers do not follow a needs assessment process, either based on healthcare data or on perceived needs of practitioners.

India. There is no structured needs assessment process. Needs assessment is performed by governing bodies, department heads in institutions and scientific committees, which organise conferences based on their perception of the needs of the target audience.

Indonesia. Learning needs can be identified through formal tests, evaluation by superiors and colleagues, medical audit and self-reflection, according to the CPD implementation manual of the IMA. The individual physician then draws up a personal development plan.

Programmes planning and delivery

China. CME providers select the topics and develop the courses, according to the experts' experience and identified clinical problems. Large lectures are the primary delivery method, followed by hospital lectures, small training classes, print and CD materials. Online courses are increasing, but still account only for a small part of CME activities. Recognising the gap in health-care in underdeveloped, rural regions, the National Health and Family Planning Commission has put considerable effort into developing online education programmes.

India. For the most part, professional societies plan and develop live CME, the only format recognised for credit. By far the most common delivery method is the lecture. For example, the General Practitioners Association, Greater Bombay, arranges six or seven accredited CME sessions of 3 hours each per week. So far, efforts to accredit print or online courses have been unsuccessful.

Indonesia. Programme planning and delivery is highly organised. Credits can be earned through three types of CPD activities:

1. Personal education activities: individual activities performed by one person alone, giving him/her additional scientific knowledge and skill
2. Internal education activities: activities performed jointly with fellow workers, that is, being structured activities in the workplace
3. External education activities: activities performed by some other group outside the workplace concerned – local/regional, national as well as international

From the professional point of view, the activities can be divided into five types, as shown in Table 3:

1. Learning activities, namely activities that allow a person to learn a theme:
   - reading a journal article
   - tracking information/evidence-based medicine
   - partaking in a training exercise
2. Professional activities performed in connection with a person's position as a medical doctor and giving him/her an opportunity to study:
   - handling of patients
   - presentation of paper
   - instructing in workshops
   - moderating seminars
3. Community-centred activities intended as a service to the general public or professional community:
   - offering health-care information
   - partaking in disaster relief operations

- sitting as a member in a professional organisation
- sitting in the management of medical doctors professional organisation

4. Publication activities:
   - publishing a paper
   - writing a book (with ISBN reference)
   - translating a book in one's scientific discipline (with ISBN reference)
   - writing a book review published in an accredited journal
5. Scientific and education development activities relating to developments in the sector or a person's discipline:
   - conducting research in his/her scientific discipline
   - educating/teaching
   - drawing up tests
   - supervising or providing guidance in his/her scientific discipline

Evaluation

China. CME programmes are not evaluated by outcome measures such as physician performance, patient care or population health. National providers are evaluated and reaccredited every 3 years, though the process of evaluation is not carried out on a regular basis. Each provincial department of health and CME commission can determine its own policy in terms of provider performance review.

India. There is no standard practice of evaluation of CME programmes by providers or regulators related to outcome measures such as physician performance, patient care or population health. In some cases, organisers ask participants for feedback on the quality of the programmes and their outcomes. State councils set their own policies regarding review of providers.

Indonesia. To evaluate the effectiveness of a CPD activity, organisers may use pre- and post-tests to measure changes in the knowledge and skills of the participants. Questionnaires are given out to participants after each programme to enable feedback about the organisation of the CPD activity and to gather suggestions for improving future CPD activities. But so far no effort has been initiated to relate CME to physician performance or patient health status.

Funding

China

According to recommendations of the Ministry of Health (released before the ministry name change), funding of CME programmes should be a combination of provider budgeting, programme registration fees and other appropriate sponsorships. No breakdown of data are available, but it is estimated that a majority of funding comes from industry sponsorship. Pharmaceutical and medical devices companies may not be providers; education is supposed to be free of commercial bias. There are, however, no detailed regulations on commercial support. Parenthetically, a large proportion of physician registration fees comes indirectly from industry, because many physicians receive rebates from industry for their prescribing volume. This practice is currently undergoing change as the government intends to reduce corruption.

India

For physician education, most funding comes from industry. Pharmaceutical and device companies cannot provide accredited programmes, nor can they use funds to promote their products directly in CME content. Grants to professional societies may not influence choice of topics or faculty. The MCI, concerned about complaints of unethical practice, has issued new restrictions on physicians. These prohibit acceptance of cash or gifts from industry or its representatives, and of hotel or travel funds to attend courses in or outside of India.[19]

Indonesia

The operational and administrative costs for conducting CPD programmes are covered by individual medical professional associations, which derive their funds from membership fees. Industry provides substantial support through grants to associations. As with China and India, there appear to be no clear regulations governing elimination of commercial bias.

Discussion

Variations and progress towards goals

All three developing nations stress the importance of maintaining the professionalism of physicians, as well as improving their practice skills. China and Indonesia desire to maintain or upgrade the quality of health-care services, while India seeks to have its CME system lead to improved patient care. These goals, while compatible, are not identical. What is lacking is a clear definition of quality of service related to public health. Is the end goal improved care of patients, improved patient outcomes in terms of longevity and quality of life and/or improved population health?

Both China and Indonesia also address high physician morals or ethics as important objectives, particularly interesting in light of recent corruption scandals in China in which pharmaceutical companies were accused of bribing physicians and hospitals. India, which has also addressed issues of eliminating bribery by industry, fails to mention this as a goal for funding of CME systems.

Finally, there is little or no effort to evaluate the CME systems in India and China in relation to the goals. As our Indian co-author notes, "Indian CME is in a very primitive stage. This will change only when Indian CME gets synchronised with International CME standards." One Chinese co-author adds, "Now there is no specific way to progress toward the goals. Particularly there is no CME evaluation system based on outcome measures such as changes in patient care or population health." Is China's decision to limit a physician's career path due to failure to comply with CME requirements a sufficient incentive? Our

co-author reports on Indonesia, however, that the "Indonesian Medical Association is working toward setting up a web-based centralised system to track CPD performances. Now participants are required to submit their self-assessment forms and personal development plans either online or manually to their respective medical professional associations."

Variations in mandatory credit systems

Clearly, no relationship exists between the goals of the three countries for CME and their credit requirements, nor is there any clear basis for the number of credits required.

How does one explain the wide variation from country to country? In Indonesia, physicians are required to complete 250 credits (usually one credit equals 1 hour) in 5 years; in China, 25 credits (usually one credit equals 2–3 hours) per year (or 125 in 5 years); and in India, 30 credit hours in 5 years, except in Gujarat, where the requirement is 30 credit hours per year or 150 credit hours in 5 years, and Punjab, where it is 50 credit hours in 5 years.

India and Indonesia put their professional societies in charge of the systems, working through state or regional agencies. In China, the system is under the control of a national government commission working through provincial agencies. All three nations propose that noncompliance will lead to loss of licence or credentialing. Since all systems are relatively new, no data are available to indicate the extent to which this mandate is being carried out.

Variations in providers and programmes

The three countries agree in principle that CME providers should be legitimate professional schools or organisations, and do not permit providers from industry. The accreditation process in each country appears to be more or less automatic, with little review of how providers carry out the CME process.

Indonesia has the only system that makes an effort to assess needs from learners. China and India rely on the perceptions of programme organisers or health-care authorities. Indonesia is also the only country in which physicians have their personal development plans on which to base a selection of CME programming, which includes a wide variety of activities going beyond organised lectures or online presentations. Live lectures are the primary mode of education in China and India, in fact, the only source of accredited CME in India. Online learning is growing slowly.

Once again, only the CME system of Indonesia makes a strong effort to evaluate effectiveness of activities, through pre and post-tests of knowledge. However, none of the three nations has embarked on outcomes measures such as physician performance, patient health and population health.

One of the major gaps in the CME systems in all three countries is the lack of professionals in the field of CME. No formal training programmes exist for administrators or educators. Presenters are expected to be experts in their fields and free of conflicts of interest, and they often lack the tools to engage learners in effective education.

Opportunities for assistance

The CME organisations in China, India and Indonesia are all eager for help from Western organisations with more experience and expertise. Our Chinese colleague notes: "International CME expertise is welcome in China to build CME guidelines and standards, provide new learning models, provide online support and help set up evaluation systems." Our Indian colleague adds: "Established CME players from the Western world can help the Indian CME ecosystem take shape quickly by collaborating with Indian medical associations and CME providers." Our Indonesian colleague urges creation of "a taskforce to develop CPD curricula which can be translated, reproduced or adapted to regional/local needs" and also suggests that international CME professionals can "organise conferences and workshops for CPD educators."

A list of current contacts appears in Table 1.

Finally, the pharmaceutical and device companies that are the primary source of CME funding (theoretically limited to funding without influencing content or speakers) can encourage improved methods of needs assessment, programme planning and evaluation by making funds available for these specific purposes.

A word of caution: Cultural, social, ethical and economic differences may limit the opportunities to help CME leaders in developing nations. It is important to take a low-key collegial approach to sharing and learning from one another, and to recognise that no CME/CPD system has yet achieved perfection, much less proof of widespread improvement in health-care outcomes.

Conclusion

Three of the largest countries in the world – all still considered developing countries – deserve credit for the speed with which they have set up viable systems of CME, in two cases including education of all health professionals. While there is still far to go, especially in India, governments and medical associations have taken seriously the responsibility for helping doctors maintain and improve knowledge and skills consistent with professional behaviour and the health-care needs of their countries.

The CME system in Indonesia, in particular, stands out for its clarity of vision, standards of learning and efforts to evaluate results. China, with the force of national planning behind its CME system, recognises the need to rapidly upgrade the health services in underserved rural areas, and the role of CME in accomplishing this objective. India, meanwhile, struggles with the same problems that the United States once had, being forced to move state by state rather than on a national level.

We would encourage leaders of organised CME in North America and Europe to offer consultation and assistance to help leaders in China, India, Indonesia and other

developing countries build and improve their national or regional systems.

Disclosures

The authors report none.

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