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Scaling-up of Training and Education for Health Workers

The greatest share of the global burden of disease, disability, and death is present among the poor and underprivileged populations, which often do not have access to health systems in their countries (1). Most of this burden could potentially be avoided through the application of the existing simple and cost-effective interventions developed more than 30 years ago (2). However, the existing interventions are not being adequately implemented to reach the populations that need them most – and the reasons for this are highly complex (3). Generally, strategies that offer the greatest promise for control of disease burden in developing countries include the reduction of environmental risks, such as household conditions, water sanitation, and indoor air pollution; overall improvement in nutrition status, starting from improved breastfeeding practices to micronutrient supplementation and eventually improved overall nutrition; vaccination against major microbial pathogens; and finally, expanded implementation of management of sick persons, primarily by antibiotic treatment against infections, but also by hospital-level care and treatment for all other diseases (4).

Historic evidence (5) from western countries shows that the most effective way to reduce the burden of disease in the population is overall improvement in living conditions in the households and environment, along with improved nutrition. This was already present long before the introduction of antibiotics or vaccines. However, we cannot realistically expect similar

reductions in disease burden in the developing world in the foreseeable future. The situation in many countries is actually worsening because of continuing population growth and many other political, economic, cultural, social, and medical factors (6). Because of this, a much needed progress in global health depends on supporting the two remaining but rather conflicting strategies – vaccination and implementation of case management. The former includes massive vaccinations, which would entirely bypass the need to rely on inefficient health systems and infrastructure in developing countries. The latter, advocated mainly by the World Health Organization (WHO), promotes management of sick individuals in developing countries and a push for strengthening of the local health systems (7).

Unfortunately, both strategies have recently begun to face serious shortcomings. The enormous investments in vaccine development against scourges such as HIV and malaria have not yet delivered safe and effective vaccines that could be feasible to implement anywhere, let alone in the developing countries (8). Furthermore, because the etiological spectrum of disease burden in developing countries is not well understood, very expensive implementation of some existing vaccines may not lead to expected reductions in hospitalizations and deaths from the diseases prevalent in these countries (9).

This implies that strengthening the national health systems and enabling them to achieve greater population coverage with the existing in-

terventions is the most realistic way for achieving progress in the reduction of global burden of disease anytime soon. However, the evaluation of the implementation of some of the case management strategies has already begun to reach some embarrassing conclusions. Trained health workers, who are in the best position to administer the existing cheap and cost-effective interventions to the segment of the population that needs them most, usually serve only as a point of triage under the existing guidelines. The reasons for their low-key role under the existing guidelines are highly complex, but in view of the overall context, it is potentially questionable whether they are valid. Many of the guidelines failed to foresee that the referral to hospital, suggested by attending health workers, may never occur because of a variety of sad realities in developing country settings (10).

Therefore, scaling-up of training and education for health workers and substantial expansion of their role in delivering the existing cost-effective interventions could eventually lead to improved first-level facility care, but also to the promotion and development of community case management in areas with poor access to first level facilities. This is perhaps the most realistic strategy to achieve a notable reduction of global burden of disease in a foreseeable future, and this area therefore requires increased attention and focus of investors on health care and health research (11,12).

In 2006, WHO reported that the lack of health workforce was one of the obstacles to their implementation of Millennium Goals Declaration (13). In attempt to raise awareness on this problem, WHO and the journal Human Resources for Health called journals to join the global thematic issue on "Towards scaling-up of training and education for health workers." In response to this call, the *Croatian Medical Journal* (CMJ) presents the thematic

issue on "Scaling-up of training and education for health workers."

The *CMJ* has a long tradition of promoting editors of scientific journals as key figures in providing education in science communication (14). We have also tried to make the journal a source of information needed for improvement of health care, but also of education. One of these attempts at improvement of medical education as an important part of academic medicine was the publication of number of articles about the crisis of academic medicine (15).

To show the strong and weak sides of the current medical education in different settings, we decided to publish the articles on the most significant issues common for all transitional countries, but also important for many developed and developing countries.

Article by Kukulja et al (16) showed the benefits of online courses as a means of achieving students' mobility. Although this mobility is only virtual, online courses offer a broader range of approaches than the curriculum of a single university. Kukulja et al argue that virtual mobility might have the same advantages as real mobility but with a lower cost. The other positive aspect of online courses is that they facilitate communication between teachers and students.

The lack of health workers is not always absolute. Bagat et al (17) reported on unequal distribution of medical doctors in the territory of Croatia. While some Croatian regions have a surplus of medical doctors, others struggle to provide high quality health care due to a lack of this profession. Gmajnić et al (18) and Peltzer et al (19) reported that education of health workers could contribute to solving the problem of the lack of highly educated professionals. Gmajnić et al (18) reported how educating family physicians to perform minor surgical procedures increased the number of services offered in primary health care and also helped

to reduce the pressure and overload of secondary and tertiary health care institutions. Peltzer et al (19) described how training of nurses in South Africa enabled them to assist physicians in screening of patients with drinking problems. Nurses were taught to recognize the patients with lower risk and educate them on adverse effects of drinking alcohol, while referring to physicians only those patients who needed physicians' intervention most. The article showed the importance of good cooperation between nurses and medical doctors. On the other hand, Skela Savić and Pagon (20) reported that cooperation between nurses and physicians did not always go smoothly, emphasizing that the education of both nurses and physicians should be more teamwork-oriented.

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