Executive summary

Problem statement

One hundred years ago, a series of studies about the education of health professionals, led by the 1910 Flexner report, sparked groundbreaking reforms. Through integration of modern science into the curricula at university-based schools, the reforms equipped health professionals with the knowledge that contributed to the doubling of life span during the 20th century.

By the beginning of the 21st century, however, all is not well. Glaring gaps and inequities in health persist both within and between countries, underscoring our collective failure to share the dramatic health advances equitably. At the same time, fresh health challenges loom. New infectious, environmental, and behavioural risks, at a time of rapid demographic and epidemiological transitions, threaten health security of all. Health systems worldwide are struggling to keep up, as they become more complex and costly, placing additional demands on health workers.

Professional education has not kept pace with these challenges, largely because of fragmented, outdated, and static curricula that produce ill-equipped graduates. The problems are systemic: mismatch of competencies to patient and population needs; poor teamwork; persistent gender stratification of professional status; narrow technical focus without broader contextual understanding; episodic encounters rather than continuous care; predominant hospital orientation at the expense of primary care; quantitative and qualitative imbalances in the professional labour market; and weak leadership to improve health-system performance. Laudable efforts to address these deficiencies have mostly floundered, partly because of the so-called tribalism of the professions—ie, the tendency of the various professions to act in isolation from or even in competition with each other.

Redesign of professional health education is necessary and timely, in view of the opportunities for mutual learning and joint solutions offered by global interdependence due to acceleration of flows of knowledge, technologies, and financing across borders, and the migration of both professionals and patients. What is clearly needed is a thorough and

authoritative re-examination of health professional education, matching the ambitious work of a century ago.

That is why this Commission, consisting of 20 professional and academic leaders from diverse countries, came together to develop a shared vision and a common strategy for postsecondary education in medicine, nursing, and public health that reaches beyond the confines of national borders and the silos of individual professions. The Commission adopted a global outlook, a multiprofessional perspective, and a systems approach. This comprehensive framework considers the connections between education and health systems. It is centred on people as co-producers and as drivers of needs and demands in both systems. By interaction through the labour market, the provision of educational services generates the supply of an educated workforce to meet the demand for professionals to work in the health system. To have a positive effect on health outcomes, the professional education subsystem must design new instructional and institutional strategies.

Major findings

Worldwide, 2420 medical schools, 467 schools or departments of public health, and an indeterminate number of postsecondary nursing educational institutions train about 1 million new doctors, nurses, midwives, and public health professionals every year. Severe institutional shortages are exacerbated by maldistribution, both between and within countries. Four countries (China, India, Brazil, and USA) each have more than 150 medical schools, whereas 36 countries have no medical schools at all. 26 countries in sub-Saharan Africa have one or no medical schools. In view of these imbalances, that medical school numbers do not align well with either country population size or national burden of disease is not surprising.

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The total global expenditure for health professional education is about US$100 billion per year, again with great disparities between countries. This amount is less than 2% of health expenditures worldwide, which is pitifully modest for a labour-intensive and talent-driven industry. The average cost per graduate is $113 000 for medical students and $46 000 for nurses, with unit costs highest in North America and lowest in China. Stewardship, accreditation, and learning systems are weak and unevenly practised around the world. Our analysis has shown the scarcity of information and research about health professional education. Although many educational institutions in all regions have launched innovative initiatives, little robust evidence is available about the effectiveness of such reforms.

Reforms for a second century

Three generations of educational reforms characterise progress during the past century. The first generation, launched at the beginning of the 20th century, taught a science-based curriculum. Around the mid-century, the second generation introduced problem-based instructional innovations. A third generation is now needed that should be systems based to improve the performance of health systems by adapting core professional competencies to specific contexts, while drawing on global knowledge.

To advance third-generation reforms, the Commission puts forward a vision: all health professionals in all countries should be educated to mobilise knowledge and to engage in critical

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reasoning and ethical conduct so that they are competent to participate in patient and population-centred health systems as members of locally responsive and globally connected teams. The ultimate purpose is to assure universal coverage of the high-quality comprehensive services that are essential to advance opportunity for health equity within and between countries.

Realisation of this vision will require a series of instructional and institutional reforms, which should be guided by two proposed outcomes: transformative learning and interdependence in education. We regard transformative learning as the highest of three successive levels, moving from informative to formative to transformative learning. Informative learning is about acquiring knowledge and skills; its purpose is to produce experts. Formative learning is about socialising students around values; its purpose is to produce professionals. Transformative learning is about developing leadership attributes; its purpose is to produce enlightened change agents. Effective education builds each level on the previous one. As a valued outcome, transformative learning involves three fundamental shifts: from fact memorisation to searching, analysis, and synthesis of information for decision making; from seeking professional credentials to achieving core competencies for effective teamwork in health systems; and from non-critical adoption of educational models to creative adaptation of global resources to address local priorities.

Interdependence is a key element in a systems approach because it underscores the ways in which various components interact with each other. As a desirable outcome, interdependence in education also involves three fundamental shifts: from isolated to harmonised education and health systems; from stand-alone institutions to networks, alliances, and consortia; and from inward-looking institutional preoccupations to harnessing global flows of educational content, teaching resources, and innovations.

Transformative learning is the proposed outcome of instructional reforms; interdependence in education should result from institutional reforms. On the basis of these core notions, the Commission offers a series of specific recommendations to improve systems performance. Instructional reforms should: adopt competency-driven approaches to instructional design; adapt these competencies to rapidly changing local conditions drawing on global resources; promote interprofessional and transprofessional education that breaks down professional silos while enhancing collaborative and non-hierarchical relationships in effective teams; exploit the power of information technology for learning; strengthen educational resources, with special emphasis on faculty development; and promote a new professionalism that uses competencies as objective criteria for classification of health professionals and that develops a common set of values around social accountability. Institutional reforms should: establish in every country joint education and health planning mechanisms that take into account crucial dimensions, such as social origin, age distribution, and gender composition, of the health workforce; expand academic centres to academic systems encompassing networks of hospitals and primary care units; link together through global networks, alliances, and consortia; and nurture a culture of critical inquiry.

Pursuit of these reforms will encounter many barriers. Our recommendations, therefore, require a

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series of enabling actions. First, the broad engagement of leaders at all levels—local, national, and global—will be crucial to achieve the proposed reforms and outcomes. Leadership has to come from within the academic and professional communities, but it must be backed by political leaders in government and society. Second, present funding deficiencies must be overcome with a substantial expansion of investments in health professional education from all sources: public, private, development aid, and foundations. Third, stewardship mechanisms, including socially accountable accreditation, should be strengthened to assure best possible results for any given level of funding. Lastly, shared learning by supporting metrics, evaluation, and research should be strengthened to build up the knowledge base about which innovations work under which circumstances.

Health professionals have made enormous contributions to health and development over the past century, but complacency will only perpetuate the ineffective application of 20th century educational strategies that are unfit to tackle 21st century challenges. Therefore, we call for a global social movement of all stakeholders—educators, students and young health workers, professional bodies, universities, non-governmental organisations, international agencies, donors, and foundations—that can propel action on this vision and these recommendations to promote a new century of transformative professional education. The result will be more equitable and better performing health systems than at present, with consequent benefits for patients and populations everywhere in our interdependent world.