Five barriers to physician workforce development in Uzbekistan

Zukhra Karimova and Gary L. Filerman

Summary: The 1998–2005 health system reform in Uzbekistan aimed to increase efficiency, self-financing mechanisms and develop the private sector. However, the reform process has also had implications for the physician workforce, including the low number of medical school graduates employed as physicians. This article identifies five key barriers that contributed to the poor alignment between the number of medical graduates in the country and the number of working physicians. It presents recommendations for improving the health resource planning process in the country.

Keywords: health care reform, physician supply and demand, education, health workforce planning, Uzbekistan

The Uzbek health system has undergone significant change since the country became independent in 1991. Following independence, health system reforms were introduced with the aim of adapting to the challenges of the new social, political and economic environment. The reforms placed an emphasis on increased efficiency, self-financing mechanisms and private sector development.

The Uzbek health system includes public, private and other non-public entities. The voluntary National Health Insurance Programme provides support for both public and private services. Private practices and clinics have rapidly been set up in an effort to mobilise additional resources, increase efficiency and improve quality. Since 1994 1,075 health care entities, including hospitals, ambulatory clinics and solo practices, have been privatised. In 2004, there were 1,165 hospitals with a bed capacity of 142,900; of these the private sector accounted for 141 hospitals (12.1%) with a bed capacity of 3,000 (2.1%).1 However, a higher proportion of ambulatory clinics are under private control – 1,220 of 5,536 clinics (22%).

Medical education and graduates

In Uzbekistan, as in many other countries, aligning the development of the physician workforce to match the needs of the emerging health care system is a complex challenge. A substantial portion of medical graduates are not employed in the profession. Even though legislation requires five years of practice in the public sector before a physician can enter private practice, of the 2,571 graduates of medical schools in 2005, only 895 (36%) entered medical practice in the public sector1 (Figure 1). While a small number of graduates went to work for the pharmaceutical industry, the majority of graduates entered other professions, emigrated or ended up being unemployed. This loss of expensively educated medical professionals is a major issue for human resource development in the country.

The cost to the individual of a medical education is therefore about $1,200 per year. The opportunity cost of a medical education is therefore

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$14,175 (5,775 in tuition fees plus foregone income of 8,400 over seven years). This is a conservative calculation and does not include other expenditure that must be incurred by students.

According to the United National Development Programme (UNDP), 69% and 75% of all university students study on a fee paying basis at Bachelor’s and Master’s level respectively. Here, we assume that the proportion of medical students who must pay tuition fees is similar. Estimates of public expenditure on education vary substantially. According to one UNICEF survey Uzbekistan reportedly spent about 12% of Gross Domestic Product (GDP) on education, which is the highest percentage in the sub-region and region.

According to the 2001 Resolution of the Cabinet of Ministers of the Republic of Uzbekistan, any income derived from students’ fees should not decrease the amount of financing from the state budget, which still can be used entirely for the needs of the educational institution. To the extent that graduating physicians do not practice in the country, a substantial portion of government investment is being wasted. Thus, the question is: why do students who have invested on average over $14,000 not work in the health sector? In this article, we identify five factors that contribute to the poor match between the number of medical school graduates and levels of employment in the profession.

1. Lack of financial incentives
The annual incomes of state employees in general, and in the public health sector in particular, are substantially less than the incomes of professionals in the private sector, such as for construction, retail and the service industries. On average, the basic monthly salaries of physicians in the public sector range from US$80 to US$150. In some cases these salaries are lower than the middle class standard of living. These salary levels are based on professional category and calculated by multiplying the size of the official minimal wage by some coefficient (from 2 to 7). Starting from 1 August 2009, the minimum wage was set at 33,645 soums per month (around US$24).

Medical degrees are awarded on a graduated basis, with the level of degree increasing over time based on experience and acquisition of additional qualifications.

In January 2009, the official exchange rate was US$1 = 1,396 soums, but on the black market the rate climbs to 1,700 soums.

All new graduates are awarded a third level degree. Physicians can then be promoted to a second level degree after completing five years’ working in the public sector and successfully passing the National Centre for Licensing and Accreditation Test. Subsequently working for another five years and completing 288 hours of continuing education is required before a physician can apply for a first degree. The highest level of degree (the higher) requires an additional five years’ experience and passing an exam in front of an expert panel. The data presented in Table 1 reflect the situation in 2005, before the requirement to apply for advancement every five years became mandatory in 2009.

The financial rewards gained for improved professional status are small, thus they provide little incentive for physicians to increase their knowledge and skills. This clear lack of motivation to gain new knowledge further contributes to the generally low numbers of practising physicians. It is estimated that approximately 27% of physicians had not completed any advanced training after fifteen years of practice.

As Figure 2 shows the low levels of financial remuneration lead to a poor social status for physicians, as well as limited services and other quality issues for patients. There is a dependence on

Figure 1: Demand and supply of new medical graduates in Uzbekistan

Figure 2: The consequences of low physicians salaries’ in the public sector

Table 1: Proportion of medical graduates by level of degree obtained in 2005

<table>
<thead>
<tr>
<th>Level of Degree</th>
<th>Proportion of graduates</th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest Degree</td>
<td>17.8%</td>
<td>6,168</td>
</tr>
<tr>
<td>First Degree</td>
<td>30.4%</td>
<td>10,535</td>
</tr>
<tr>
<td>Second Degree</td>
<td>3%</td>
<td>1,040</td>
</tr>
<tr>
<td>Third Degree</td>
<td>48.8%</td>
<td>34,654</td>
</tr>
</tbody>
</table>

Source: 1
informal payments that flow from patients directly to physicians and hospitals. There are no data on the magnitude of these payments but they are clearly substantial. These funds are not used for improving working conditions, expanding technology, purchasing equipment or developing facilities. Rather, they set a tone in the relationship between patients and providers that demeans the status of health professionals in the community.

2. High rate of emigration of medical professionals
Most migrants are seeking better living standards, better access to education for their children and higher quality health care. According to the UNDP, Uzbekistan has an emigration rate of 8.5%. Other sources estimate the number of emigrants to vary between 250,000 and 1.5 million in 2008. Russia accounts for 70% of migrants and Kazakhstan perhaps a further 10–15%.8

One way of measuring the magnitude of emigration is by the increase in the annual inflow of official remittance. According to the Central Bank of Uzbekistan, over the 2002–2006 period the annual inflow of official remittances to the country increased five-fold, reaching almost US$1.4 billion or 8.2% of GDP in 2006. Unfortunately, the data do not reveal the professions of those sending money to Uzbekistan.

Citizens of Uzbekistan speak Russian and the Uzbek medical diploma is recognised in Russia and Kazakhstan. In an attempt to reduce shortages of medical staff in its own rural regions, Russia encourages the immigration process by providing significant start up financial capital to newcomers. The salaries of medical staff in Russia and Kazakhstan, which are several times greater than those in Uzbekistan, are another attraction.

3. High level of unemployment
New physicians enter a difficult employment market. Job creation in the general labour market has been slow: just 2.1% between 2000–2004 compared with an average annual growth in the working-age population of 3.2%.9 While the official unemployment rate was just 0.9% in 2009, unofficial sources report that unemployment and underemployment are very high at 8% and 25% respectively,10 but reliable figures are difficult to obtain, as no recent credible surveying has been done.

4. Inadequate working conditions
According to a recent sociological survey, health workers in Uzbekistan are not content with their working conditions because of the lack of equipment and supplies, lack of proper recognition for their work, and limited opportunities to improve their knowledge.1 According to statistical reports, in any one year only 14% of mid-level health workers have an opportunity to update their knowledge at least once in five years.7 Moreover, many health care facilities are in need of renovation, better cold and hot water supplies and telephone lines. The problem is most severe in rural areas. Thus, the majority of health care institutions are in need of technical upgrades.7

5. Weak health care workforce planning and management
The Department of Human Resources and Science, Medical Education Institutions and the Ministry of Health are responsible for forecasting the requirements for health personnel and for planning human resources development. Two mechanisms are used to regulate the supply of health professionals: enrolment in universities and professional colleges, and the licensing framework for the private sector.7 The number of undergraduate and postgraduate medical student positions is established by the Cabinet of Ministers, based on the recommendations of the Ministry of Health. A perceived surplus of physicians in the early years of independence resulted in cutbacks in enrolment in medical schools. The number of graduates of medical schools decreased from a peak of 5,156 in 1996 to 3,020 in 2004.

The total population of Uzbekistan in 2004 was 25.6 million people with population growth of 1.9%. In 2010, the population is 28 million with population growth at a slightly lower level of 1.7%.11 The ratio of physicians to the population has decreased steadily over the period from 1991 to 2010 (Figure 3). It decreased from 3.7 physicians per 1,000 population in 2001 to 2.9 and 2.66 (2010) per 1,000 population in 2005 and 2010 respectively.12 This compares unfavourably with ratios elsewhere, including in the Central Asian Republics and Kazakhstan (CARK) and the Commonwealth of Independent States (CIS) (Table 2). If policies are left unchanged, based on these data, economic factors previously discussed and the current level of medical student enrolment, it is estimated that Uzbekistan faces a continuing under-supply of 23,520 physicians compared to the Eurasian average.

Despite the observed shortage of physicians, there is actually a surplus of medical graduates. In 2009, while there was a shortage of 1,635 physicians there were more than 2,500 graduates from medical school.13 As noted, many new professionals choose not to work in the health sector for financial and career development reasons. A further deterrent is that most medical schools are located in Tashkent and other cities. After graduation, the majority of young doctors do not want to work in rural areas but cannot find a job within their specialty in the cities, thus, they seek employment in other professions (see Table 3).1 Additionally, based on Table 3, it is evident that the supply of doctors and beds is concentrated in the cities. Other factors that contribute to the problem of effective planning include traditional customs, such as women leaving

Figure 3: Number of physicians per 1,000 population 1990–2007

Source: 13
their jobs after marriage, widespread gender stereotyping issues and the influence of Muslim traditions.

Conclusion
The important factors that contribute to the imbalance between the supply and demand for physicians in Uzbekistan include: the lack of financial incentives; the high emigration rate of medical professionals; the high rate of general unemployment; inadequate working conditions; and inadequate workforce planning and management. Of these, the last is the most important.

Uzbekistan currently has 2.66 physicians per 1,000 population. Although the number of medical graduates is more than the Uzbek population requires, many medical graduates are taking up work in other professions or moving abroad. Therefore, it appears that the health sector is clearly under financed, with a total health care expenditure of only 2.4% of GDP in 2005.

A substantial reform of the health workforce planning process is required, with more realistic links to general economic conditions and the structure of medical practice. It appears that improving remuneration is key to improving retention rates, as well as working conditions. Performance-based remuneration schemes should be considered as well as steps to expand private practice.

### Table 2: Number of physicians per 1,000 population

<table>
<thead>
<tr>
<th>Country</th>
<th>Physicians per 1,000 population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uzbekistan</td>
<td>2.66</td>
</tr>
<tr>
<td>CARK</td>
<td>2.82</td>
</tr>
<tr>
<td>European region</td>
<td>3.39</td>
</tr>
<tr>
<td>CIS</td>
<td>3.76</td>
</tr>
</tbody>
</table>

Source: 14

### Table 3: Number of population per doctor, nurse and bed in various areas

<table>
<thead>
<tr>
<th>Area</th>
<th>Per doctor</th>
<th>Per nurse</th>
<th>Per bed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nationwide</td>
<td>334</td>
<td>98</td>
<td>182</td>
</tr>
<tr>
<td>Djizzak Region</td>
<td>474</td>
<td>111</td>
<td>209</td>
</tr>
<tr>
<td>Surkhandarya</td>
<td>451</td>
<td>106</td>
<td>224</td>
</tr>
<tr>
<td>Tashkent City</td>
<td>131</td>
<td>77</td>
<td>118</td>
</tr>
</tbody>
</table>

Source: 1

### REFERENCES

### CONFEREE ANNCOUNCEMENT

**Improving health gain orientation in all services: Better cooperation for continuity in care**

The 19th International Conference on Health Promoting Hospitals and Health Services (HPH) will take place in Turku, Finland 1–3 June 2011.

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Main conference topics will include:
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- How can health gain orientation within hospitals/health services be improved?
- How can better health gain be improved by strengthening continuity of care in healthcare systems?
- How can cooperation between health services and other settings contribute to better health gain? And what can be the contribution to ecological sustainability and environmental friendliness?