

Private production of human resources for health: geographic distribution, students intake and course fees

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Abstract

Introduction: After 1990 change of government in Nepal, private sector's role in health care system became increasingly prominent. However, in absence of scientific evidence doldrums and conundrums characterised major debates around the perceived and projected roles of the sector. This work reflects on the findings of a research commissioned by the Ministry of Health and Population as part of the private health sector assessment. Here three aspects of the private sector's role in production of human resources for health - geographic distribution, students intake and course fees are reported.

Methods: A stratified random sample of 44 out of 122 private Health Science Institutes was taken for inclusion in the study. Telephone contact with the principals and administrative chiefs of the selected Institutes was followed by data collection using structured interviews based on questionnaires developed through a consultative process. Guided conversation with officials of professional councils and policy makers in the Ministry of Health and Population was conducted. Data were quantitatively analysed to calculate summary measures and distribution.

Results: A third (36.89%) of Institutes was in Kathmandu valley, with 23.77% within Kathmandu city area of the valley, excluding parts of Bhaktapur and Lalitpur. Next was Parsa and Chitwan (15.57%), followed by Morang (9.02%) and Kaski (7.38%). Rest of the country had less than a third of total Institutes (31.14%). More than a half (59.84%) were in central region, 17.21% in eastern region, 13.11% in western region, 7.38 in far western region and 2.46% in mid western region.

A dominant fraction of the Institutes fed on fees by domestic students only (79.55%), with only a fifth (20.45%) of the Institutes having domestic as well as foreign students. Among this fifth of the Institutes foreign students were enrolled only in Bachelor of Medicine and Bachelor of Surgery and Bachelor of Homeopathic Medicine and Surgery.

Tuition fees among the Institutes had two-fold gap between the lowest and the highest for the same degree programmes ranging from auxiliary to masters levels.

Conclusions: We urge the government to utilise scientific evidence coming from this work and previous local and international examples in prioritising the revision of existing policies, plans and regulations regarding private sector's role in the development of human resources for health. We also recommend further research to contest, verify or extend the knowledge coming from this work.

Key words: health profession education; health policy and systems research; Low and middle income countries (LMIC); private sector; public health education; public private partnership.

Introduction

After 1990 and till date, the role of private sector became prominent in the health sector by becoming involved in several ways one of which was in the production of human resources for health^{1,2}. There are numerous health care delivery institutions such as hospitals, nursing homes, clinics, pharmacies/medicine shops operating in different locations all over the country. Likewise medical colleges, colleges of allied health sciences and vocational training institutes have been producing human resources ranging from auxiliaries to master level graduates. Pharmaceutical industries have been producing drug to meet a portion of the total domestic demand^{3,4}. However, their role in balancing the demand and supply of human resources for health is inadequately understood, compounded by a dearth of scientific evidence and thus leading to assumptions, unfounded opinions, positions and conclusions.

In order to constantly refine policy actions and develop strategies to address the changing contexts, the Ministry of Health and Population (MoHP) required detailed and updated information on the roles of the private sector in health development. This work was carried out as a major part of the Private Health Sector Assessment (PHSA - which encompassed survey of private health care providers, household health care utilisation survey, stewardship study, and survey of pharmaceutical companies in addition to this study) to meet such need for information about the private sector's role in production of health cadres of a varied sort. All of the five component studies complement each other to produce a body of knowledge that would facilitate comprehension of the present performance of the private sector and its limitations so as to guide policy options in quest of health by all Nepali people.

This research aimed to identify the composition (type of practice, system of medicine, level of qualification), production and distribution of key human resources (doctors, nurses, midwives, laboratory technicians, and pharmacists etc.), and to assess incentive systems that drive behaviors of key human resources in the private sector, and various levers that could influence the behaviors of health personnel positively to achieve the health sector goals.

This paper reports three aspects of the study - geographic distribution of private HSIs in Nepal, their annual student intake, and their tuition fees.

Methods

A list of the Health Science Institutes (HSI) involved in the production of human resources for health was obtained from the respective professional councils viz. Nepal Medical Council (NMC), Nepal Nursing Council (NNC) and Nepal Health Professional Council (NHPC). A list of technical and vocational training institutes was taken from the Council for Technical Education and Vocational Training. Additional HSIs were identified by in consultation with other members of the PHSA team. A total of 122 HSIs were listed, out of which 44 were selected by stratified random technique to represent the diversity of educational programmes and the geographical distribution of such institutes throughout the country.

Structured interview based on a questionnaire was the main method of data collection. The principal investigator in consultation with other members of PHSA team prepared the questionnaire which was then oriented to the data collectors prior to field visit. Comments by the research analyst and others were incorporated for finalization of the tool. Besides, guided conversation was held among the members and staff of the professional councils – NMC, NNC and NHPC and policy makers in the MoHP.

The selected HSIs were contacted by telephone and the respondents (mostly principals and administration chiefs of the institutes) for each institute were identified. Following this, data collectors made field visit to these institutes where they interviewed the key respondents.

In some health science institutes (mostly located within the Kathmandu valley), the principal investigator made personal visits to interview the respondents. During such interaction, the objective and potential impact of the study was explained to the respondents.

Databases were prepared in MS Word and Statistical Package for Social Sciences version 13.0 (SPSS) software. Completed questionnaires were reviewed to ensure completeness and consistence of the data, and thereafter entered manually into the databases. Data were analyzed to produce summary measures and distributions across variables.

Results

HSIs involved in production of human resources for health were identified to be 122 across the country.

Among the 16 survey districts, more than one-fifth (23.77%) are located in Kathmandu district. Next to Kathmandu, Parsa (9.83%), Morang (9.02%), Kaski (7.38%), and Bhaktapur, Lalitpur and Dhanusa (6.56%) have highest concentrations of HSIs.

Table 1: Distribution of HSI by district

District	No. of HSI
Kathmandu	29
Bhaktapur	8
Lalitpur	8
Makwanpur	1
Chitwan	7
Parsa	12
Dhanusha	8
Kaski	9
Rupandehi	7
Banke	3
Kanchanpur	5
Kailali	4
Jhapa	2
Morang	11
Sunsari	3
Saptari	5
Total	122

Regional distribution of HSIs depicts a heavy agglomeration in central and eastern development regions (59.84% and 17.21% respectively) while low concentration is observed in western, mid-western and far-western regions.

Table 2: Distribution of HSI by development region

Development region	No. of HSI	%of total HSI
CDR	73	59.84
EDR	21	17.21
WDR	16	13.11
MWDR	3	2.46
FWDR	9	7.38
Total	122	100.00

HSIs included in this study

Among the above listed HSIs, 44 were selected in this study. The selected HSIs their locations are summarized

in the following two tables which depict district and region-wise distribution.

Table 3: District-wise distribution of study HSIs

District	No. of HSI
Kathmandu	8
Bhaktapur	3
Lalitpur	2
Makwanpur	1
Chitwan	4
Parsa	1
Dhanusha	1
Kaski	2
Rupandehi	6
Banke	2
Kanchanpur	4
Kailali	3
Jhapa	2
Morang	4
Sunsari	1
Total	44

Table 4: Regional distribution of study HSIs

Development region	No. of HSI	% of total HSI
CDR	20	45.45
EDR	7	15.91
WDR	8	18.18
MWDR	2	4.55
FWDR	7	15.91
Total	44	100.00

Source of students and annual intake

Most of the HSIs (79.55%) had domestic students only while a few (20.45%) had both domestic and international students. International students were found in MBBS and BHMS programmes only. Most of the international students were nationals of South Asian countries.

Average annual intake of students varied widely across academic disciplines, levels of education and HSIs. Level-wise distribution depicted in Table 5 shows least student intake in master level programmes and highest intake in certificate and TSLC levels. Across

disciplines, medicine has highest intake while ayurved had the least.

Table 5: Annual intake of students by level

Academic level	Annual intake of students		
	Range	Mean	Standard Deviation
Master	17-37	24.67	10.786
Bachelor	20-165	95	53.697
Certificate	40-180	71	41.282
<i>TSLC</i>	40-180	83.80	34.245

Table 6: Annual intake of students by academic discipline

Academic discipline	Annual intake of students		
	Range	Mean	Standard deviation
Medicine	25-280	78.04	63.65
Nursing	20-160	45.89	29.09
Public health	40-60	46.67	11.55
Pharmacy	40-40	40	N/A
Ayurved	19-19	19	N/A
<i>Lab sciences</i>	20-40	32.17	8.95

Data on the output of graduates from the HSIs was not available from the respective HSIs. Many of them did not have such records and some of them had just begun courses and the students are yet to pass out.

Fee structure

The fees charged against academic courses offered were analysed according to the academic programmes at different HSIs. A summary value of the fees are presented below:

Table 7: Fee structure of courses offered

Academic programme(s)	No. of HSI	Tuition fee (NRs)		Mean	Std. Deviation
		Minimum	Maximum		
Medicine					
Bachelor level (MBBS, BDS)	5	1750000.00	3200000.00	2190000.00	592030.40
Certificate level (HA)	8	198000.00	245000.00	217437.50	16770.38
TSLC level (CMA)	11	21500.00	41500.00	29545.90	6585.323
Nursing					
Bachelor level (BSc, BN)	6	464000.00	750000.00	568333.30	110268.16
Certificate level (PCL Nursing)	8	160430.00	392000.00	236653.80	77398.73
TSLC level (ANM)	10	25350.00	42500.00	33185.50	6850.62
Public health					
Master level (MPH)	1	242000.00	242000.00	242000.00	
Bachelor level	3	255000.00	400000.00	305333.30	82038.61
Pharmacy					
Certificate level (certificate/Diploma in Pharmacy)	5	145000.00	173000.00	161000.00	10793.52
Laboratory sciences					
TSLC level	4	28000.00	38000.00	33500.00	4795.83
Ayurved					
TSLC level	1	31000.00	31000.00	31000.00	-
Homeopathy					
Bachelor level (BHMS)	1	373500.00	373500.00	373500.00	-

Discussion

The study identified a total of 122 HSIs populated during fieldwork. Of these a third (36.89%) were located in Kathmandu valley, with 23.77% within the Kathmandu city area of the valley, excluding parts of Bhaktapur and Lalitpur. Next was Parsa and Chitwan, where 15.57%, followed by Morang with 9.02% and Kaski with 7.38% of total HSIs. The rest of the country had less than a third of total HSIs (31.14%). Regional distribution also followed the district spread. More than a half (59.84%) were in the central region, 17.21% in the eastern region, 13.11 % in the western region, 7.38 in far western region and 2.46% in mid western region.

These clearly illustrate a heavy urban agglomeration of the HSIs and thus a dubious role of the private sector in contributing to a mismatch between rural and urban, and central versus peripheral supply as has been observed or hypothesised elsewhere^{5,6}. The HSIs sampled in this study (36.07% of total HSIs) also showed a similar distribution pattern across districts and regions.

One of the assumptions (or in cases, proclamations of the private sector's involvement in health sector) was that it would attract foreign monies and would serve the domestic population from the dividend or fringe benefits coming from foreign payments for service. However, this study reveals that dominant fraction of the HSIs feed on fees by domestic students only (79.55%), with only a fifth (20.45%) of the HSIs having domestic as well as foreign students. Among this fifth of the HSIs foreign students were enrolled only in Bachelor of Medicine and Bachelor of Surgery (MBBS) and Bachelor of Homeopathic Medicine and Surgery. Furthermore, in these two academic programmes, foreign students were a handful among thousands of students, thus constituting a negligible fraction.

Another justification for the introduction of private sector in health was that it would act as a filler in the gaps where the governmental supply system could not or would not reach for some known and some unknown reasons. But, the statistics presented above show that of all students enrolled currently in the private HSIs, two-thirds (63.65) were MBBS students and close to a third were intermediate or bachelor level nursing students (29.09%) and less than a tenth (7.26%) were students at all levels (auxiliaries to masters) in the all 11 (of the total 14) degree programmes. If medicine degrees at auxiliary level, viz: community medical assistant, is removed from the remainder of the 11 programmes, the

distribution becomes even more skewed. This shows a clear traction of the private sector to the most profitable programmes (medicine and nursing programmes, in this case of the production of human resources for health), with feeble attention to less profitable programmes.

The final aspect of private health sector assessment in terms of human resources development presented in this paper was the fees charged against the formal classroom teaching. The tuition fees structure as reported by the principals or administrative chiefs of the study HSIs depict a minimal of two-fold gap between the lowest and the highest charging HSIs for the same programmes, and this holds true for academic degree programmes from auxiliary to masters levels. This does not support the claim that private sector creates a competitive market thus clustering the prices very close to the mean, median and modal values. This connotes to a fragile regulatory function of the government and professional councils.

Moreover, the fees discussed here are only the tuition fees. The other charges, including laboratory fees, field costs, dress, stationary, laboratory and clinical equipment, occasional and regular services and amenities fees, and the several other hidden charges and unrefundable payments, which are very close or comparable to the tuition fees and in cases exceeding formally declared tuition fees were not disclosed by the HSIs. Indeed some respondents (who were employees only without holding ownership or shares in the HSIs) reported on strict conditions of anonymity that their positional roles would not allow them to reveal sensitive information including undeclared fees and charges. And the guidance from the MoHP and professional councils to the principal and co-investigators and the data collectors constrained any further inquiry into it.

Conclusions

Findings and their interpretations in perspective against the perceived or proclaimed assumptions versus the findings of the study were, (a) private sector was found to have concentrated in the urban and central regions, thus widening as contrasted to the claim of converging the gap already coming from the mal-distributive actions of the government sector. (b) the sector was feeding up predominantly on domestic students hence dismissing promises for foreign drawn income into the country. (c) private HSIs' formally declared and reported charges show a big discrepancy between the HSIs.

Knowledge that comes out of this work is that the private sector, while occupying a substantive share in human resource production for the health care delivery system, has not lived up to the expectation in geographic and economic and monetary terms. This is consistent with existing knowledge coming from other countries in some dimensions, while is a new finding in some other dimensions. Besides, the private sector's role in other aspects of human resources production in the field of health is not captured in this report. These components will be reported in the future.

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