



Human Resources Division
National Health Systems Resource Centre
National Rural Health Mission,
Ministry of Health and Family Welfare
Government of India

Study Report

Nursing Services in

Uttarakhand

Current situation, requirements and measures to address shortages



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Section -I Background and Methodology

1.1. Demographic, socio-economic and health profile of Uttarakhand

Uttarakhand, also called the “Abode of Gods” borders Himachal Pradesh in the north-west and Uttar Pradesh in the South and has international borders with Nepal and China. The State is rich in natural resources. Uttarakhand is the 27th state of the Republic of India and was carved out of Uttar Pradesh on 9th November 2000. Uttarakhand is spread over an area of 55,845 sq. km. It has two divisions (Garhwal and Kumaon), 13 districts, 16,826 inhabited villages and 86 small towns. There are only five cities with population over one lakh. It is a land of hill stations, wildlife sanctuaries and pilgrim centers. A large part of the State is hilly (93 percent) and covered with forests (63 percent). The state has thousands of small villages and hamlets in the hills with 89 % of the villages having less than 500 people. The undulating hills, tall trees filled with a variety of birdlife, and gushing streams draw tourists all the year round.

Table 1 gives some details of the State’s social and demographic indicators. Uttarakhand is a small state in terms of population with only 8.5 million people. The average density of 158 persons per sq km. is much lower than in the rest of India. However, the population density varies from 612 in Haridwar and 414 in Dehradun districts to as low as 37 in Uttarkashi and 48 in Chamoli districts. Uttarkhand is ahead of the country as a whole on several socio-economic and health indicators. The crude birth and death rates are lower than the national average. TFR in the State, according to NFHS-III, is almost on the same level as the national average. Infant mortality is lower than the national figure. But, MMR, a highly sensitive indicator of social development and span of health services is much higher MMR (440) in Uttarakhand compared to the rest of the Country. The proportion of childbirths taking place in institutions is slightly lower in the State (32.6%) compared to the national average. On the positive side, the sex ratio and female literacy rate of the State are much better than the Country’s figure indicating a more favorable social climate for women.

Table 1. Demographic, social and health profile of Uttarakhand State compared to India

Sl. No.	Indicator	Uttarakhand	India
1.	Total population (Census 2001) (in million)	8.5	1028.61
2.	Rural population (% Census 2001)	74	72.12
3.	Population density	158	312
4.	Decadal Growth (% Census 2001)	NA	21.54
5.	Crude Birth Rate (SRS 2007)	20.4	23.1
6.	Crude Death Rate (SRS 2007)	6.8	7.4
7.	Total Fertility Rate (NFHS-III)	2.6	2.7
8.	Institutional deliveries (% of total -NFHS III)	32.6	38.3
9.	Infant Mortality Rate (SRS 2007)	48	55
10.	Maternal Mortality Ratio (SRS 2004 - 2006)	440	254
11.	Sex Ratio (Census 2001)	962	933
12.	Contraceptive Prevalence Rate among currently married women (%NFHS- III)	59.3	56
13.	Schedule Caste population (% Census 2001)	17.9	16.2
14.	Schedule Tribe population (% Census 2001)	3.0	8.2
15.	Female Literacy Rate (% Census 2001)	59.6	53.7

Availability of health facilities and human resources are critical to the delivery of health services. Health facilities should not only be present but should be functional. Health personnel must not only be available but must have adequate technical knowledge, appropriate mix of skills and inherent sensitivity to provide high quality health services to communities in need. Table 2 presents data on availability of health care infrastructure and human resources for delivering health services at three levels in rural areas: Sub centres (SCs), primary health centres (PHCs) and community health centres (CHCs). Uttarakhand currently has 1765 SCs, 239 PHCs and 55 CHCs. There is an excess of SCs, PHCs and CHCs in the state compared to the number required. However, Uttarakhand does not have adequate number of key frontline health care providers and specialists, especially for maternal and child health services. There is a shortfall of 101 ANMs and 1149 male health workers. Contrary to this, there appear to be a

surplus of female supervisory personnel and doctors at PHC level. While there are 239 PHCs, there are 866 doctors giving a surplus of 627 doctors at PHC level.

The nurse midwife is critical to providing round-the –clock service to women in childbirth and to their newborn babies at PHCs and CHCs. However, not even half of the staff nurses required are available against in the State (only 292 available against 624 required). Only a third of the specialists required at CHCs are actually available - only 30 obstetricians, 4 physicians, 18 paediatricians are in position- a total of 67 specialists against 220 required. The shortfall of laboratory technicians is also high (only 132 out of 294 are available). These staff shortfalls affect the coverage and quality of health services at the periphery.

Table 2. Health infrastructure and human resources in Uttarakhand

Particulars	Required	In position	Shortfall
Sub-centre	1294	1765	-
Primary Health Centre	214	239	-
Community Health Centre	53	55	-
Multipurpose worker (Female)/ANM at Sub Centres & PHCs	2004	1903	101
Health Worker (Male) MPW(M) at Sub Centres	1765	616	1149
Health Assistant (Female)/LHV at PHCs	239	340	-
Health Assistant (Male) at PHCs	239	417	-
Doctor at PHCs	239	866	-
Obstetricians & Gynaecologists at CHCs	55	30	25
Physicians at CHCs	55	4	51
Paediatricians at CHCs	55	18	37
Total specialists at CHCs	220	67	153
Radiographers	55	30	20
Pharmacist	294	294	-
Laboratory Technicians	294	132	162
Nurse/Midwife	624	292	332

(Source: RHS Bulletin, March 2008, Ministry of Health & F.W., GOI). The State gave a figure of 2044 ANMs at SHC, PHC, CHC and other hospitals up to district level.

The present study was undertaken by the research wing of the ANSWERS (Academy for Nursing Studies and Women’s Empowerment Research Studies) on behalf of the National Health Systems Resource Centre, NRHM, Government of India, with the active participation of the State Government with the overall objective of identifying gaps in nursing workforce in Uttarakhand and recommending alternative measures for addressing deficiencies of frontline service providers as well as nursing supervisors and teachers. The specific objectives of the Study are given below.

1.2. Objectives of study

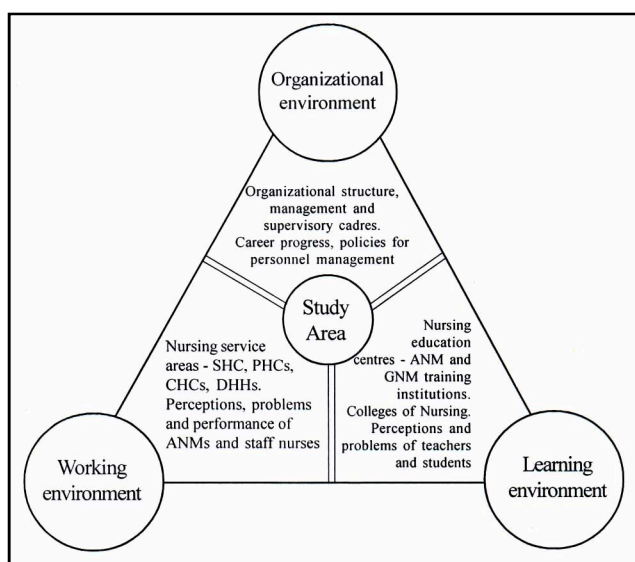
- a. To review the organization of nursing and midwifery services in the state public health system.
- b. To review the workforce management policies in place in the state public health system as relates to nursing and midwifery, including issues of career progression, their working conditions in government as compared to that in private sectors, their reasons for discontinuing the profession where this is the case.
- c. To compare workforce management policies between contractual staff and regular staff and see the differing experience and utilization between them.
- d. To assess the workforce performance and assess how it relates to workforce conditions and to skills of the workforce.
- e. To conduct situation analysis of nursing and midwifery services requirements of health centers and hospitals both in public and private sectors, their current availability in the state, within the system and in the open market.
- f. To assess the current capacities (public and private sectors) of training institutions and feasibilities within the state to meet the shortfall of nurses, ANMs and LHVs for the immediate needs as well as midterm and long term requirements, to also assess the requirements in terms of faculty development programmes, and quality assurance measures to ensure quality in nursing education.

- g. To evaluate the different options available for expanding nursing and ANM and LHV education and the necessary conditions that would be needed to ensure that a substantial part of those trained in these institutions become available to serve within the public system or outside it in rural areas. This includes the important issue of the availability of faculty for running these schools.
- h. To draw up a detailed project report for starting up ANM and nursing schools in some (about 20 such schools within one year) tribal blocks/districts such that educated women resident in the tribal blocks/districts are able to access ANM and nursing education.

1.3 Methodology of study

The study used a comprehensive methodology that included both qualitative and quantitative techniques. Several brain-storming sessions were held to clarify the thematic issues to be studied in order to fulfill the objectives. These sessions resulted in three broad issues that formed the conceptual background for the study- working environment, learning environment and organizational environment of nursing personnel in Uttarakhand. The entire nursing workforce of the state of Uttarakhand became the focus of study. This included clinical nursing as well as public health areas; all levels of teaching institutions; teachers and students; primary care providers - ANMs and staff nurses and their supervisors. Figure 1 depicts the framework on which the methodology of the study was developed.

Figure1. Diagram of major themes and sub themes included in the study



1.3.1. Sites and sample included in the Study

The sample included four levels: Service providers (ANMs and staff nurses), health care facilities, training institutions and, state and district level officers. Table 3 gives the details of the sites and sample. Three districts were selected for assessment of health facilities and interviews with ANMs and staff nurses: Pauri Garhwal, Almora and Pithoragarh. The criteria for selection of districts were geographical location, size, and availability of health facilities and training institutions.

Within each district, DHs, CHCs, PHCs and subcentres were selected for study. In total three district hospitals, five CHCs, 12 PHCs and 29 subcentres were assessed. Nursing personnel interviewed comprised 45 staff nurses and 50 ANMs. Observations were made in four ANM training centers, one private college of nursing (one government college of nursing under renovation was also visited). Study of the training institutions also helped in assessing the capacity of nursing educational institutions and gaining insights from students and teachers. Within these training institutions, 42 students and 12 teachers were interviewed. Interviews were also conducted with five state level officers and other key stakeholders.

Table 3. Sample of facilities and personnel included in the study

Category	Number included
Facilities	
District hospitals	3
Community health centers	5
Primary health centres	12
Sub centres	29
GNM school	1
ANM training centres – throughout state	4
Private college of nursing	1
Personnel interviewed	
Staff nurses	45
ANMs	50
Nursing students	42
Nursing teachers	12
Officials and stakeholders- state level	05
Participants in focus group discussions-State level FGD	12

1.3.2. Tools and techniques used in data collection

Semi structured interview schedules and observation checklists formed the two main methods for primary data collection. Guidelines were prepared for conducting focus group discussions with different categories and for interviews with key stakeholders and officers. Series of workshops was conducted with experts at MyTRI Institute (training centre of ANSWERS) for conceptualization, tool development, revision of tools, and development of data analysis and reporting plans. Table 4 lists the tools used for data collection with different groups and for different facilities.

Table 4. List of tools used for data collection

S. No.	Category	Tools used
1	State and district level officials	Semi structured interview schedule for data on personnel, number and type of institutions, different policies related to nursing personnel administration.
2	Training Institutes	Semi structured interview schedule for head of institute and observation checklist for collecting information on physical facilities, teaching facilities and living conditions of students.
3	Health care facility sub centre to district hospital level	Observation checklist and brief questionnaire for quality of facilities, availability of amenities, equipment, drugs, supplies; assessment of working conditions of nurses at different levels.
4	Service providers – ANMs and staff nurses	Interview schedules to assess working environment, conditions of work, performance, and problems.
5	Teachers and students	Interview schedules for obtaining information on syllabus, teaching, learning, and perceptions of students and teachers in different institutions.
6	Nursing personnel	Focus group discussion guideline for ANMs, staff nurses and teachers on workforce related issues.

Besides the above, secondary data were collected throughout the study on workforce policies and programmes, changes in rules and regulations, posts and cadres and historical and social context of nursing in Uttarakhand. Relevant documents were obtained and reviewed. The following state level officials and key stakeholders were interviewed: Upper Director, Administration/Hospital care; Director General Health and Family Welfare; Additional Director Medical Care; Assistant Director, Paramedical; and Ex-Registrar, Nursing Council. At the district level Chief Medical Officers and Nursing Superintendents were interviewed.

1.3.3. Research Team: The Research Team consisted of one resource person and five research assistants. The resource person was a senior nurse with expertise in research and knowledge of the State- having conducted an analysis of nursing in Uttarakhand five years earlier. The research assistants were B.Sc nursing candidates who conducted the quantitative study in the three districts and selected training institutions. They also conducted focus group discussions and interviews with state level officers, senior nurses, and key stakeholders and focused on the organizational environment. Besides the above one coordinator and senior consultant were actively involved in planning and conducting the study.

1.3.4. Brief description of data collection process: Primary data collection was done over a period of six weeks between June and July, 2009. Secondary data were reviewed throughout the study period.

Data collection at training institutions: Training institutions were selected based on the number available in the entire state. Three types of tools were used in each institution: an observation checklist for information about the institution, an interview schedule for teachers and an interview schedule for students. Only final year or last semester students were selected for interview because they would have completed most of the learning activities. The institutional assessment checklist assessed adequacy of teachers (student-teacher ratio), intake of students in each course per year, facilities for conducting the training programs, accommodation, syllabus related to midwifery teaching, availability of community field for practical experience, availability of student welfare programmes. Observations were focused on the building, midwifery and newborn skill lab, classrooms, hostel and student facilities. Students were questioned about their awareness of rotation plan, clinical posting, supervision and guidance, case book maintenance, adequacy of clinical teaching, and satisfaction with teaching. Teachers were asked questions on their profile, in-service education, teaching style and quality, clinical teaching, evaluation methods used and satisfaction with teaching.

Data collection in health facilities: Data were collected from facilities as well as from personnel within the selected districts. The tools assessed details regarding the residence and mode of transport to work, working conditions and working environment. Some questions were framed to identify issues related to availability of drugs, articles and health teaching aids and availability of forms/charts and registers and their regular maintenance and supply. Questions were framed to identify satisfaction about pay and allowances, facilities such as electricity and water supply and the functioning of labour room and operation theatre. Special emphasis was laid on maintenance of universal precautions for infection prevention.

1.3.5. Data management, analysis, and plan of report: A core team consisting of senior consultant, coordinator, data manager and research assistant analyzed the data and helped in report writing. Data were entered into the computer using Statistical Package for Social Sciences (SPSS). Qualitative information was analyzed on the basis of major themes and sub themes. A structure was prepared for reporting findings and this was discussed at different levels, revised and refined to provide a comprehensive picture of nursing, midwifery and public health nursing in Uttarakhand. The findings were discussed with key stakeholders in the state before finalizing the report for presentation to state policy makers and programme managers.

Section - II

Nursing Personnel: Availability, requirements and shortfall

Nursing personnel in India work in two broad fields – public health facilities and hospitals. Norms for nursing personnel that are accepted nationally and internationally are available to ensure quality of services. It is important for health facilities to meet these norms. One set of norms may not fit all settings since the needs, workloads, and working conditions differ. This report therefore uses three sets of norms: Indian Public Health Standards, 2007; Indian Nursing Council Guidelines, 2002 based on Bajaj Committee recommendations; and Government of India Guidelines, 2006. Where ever applicable recommendation of the High Power Committee on Nursing (Govt of India, 1989) were also referred. Tables 5 and 6 present norms prescribed by IPHS and INC respectively for different health centres and hospitals.

Table 5. Norms for nursing personnel at different facilities (IPHS 2006, 2007)

S.No	Type of Hospital	ANMs	LHVs	Staff Nurses	PHN	Ward In Charge	Assistant Matron	Matron
1	SHC	2	-	-	-	-	-	-
2	PHC	1	1	3	-	-	-	-
3	CHC	1	-	7	1	-	-	-
4	SDH 31-50 Beds	-	-	21	-	-	-	1
5	SDH 51-100 Beds	-	-	51	-	5	1	1
6	DHH 101-200 Beds	6	-	88-113	-	-	2	1
7	DHH 201-300 Beds	4	-	115	-	-	-	7
8	DHH 301-500 Beds	4	-	214-264	-	-	-	9

It is important to observe that the IPHS does not mention the DPHNO or District Public Health Nursing Officer. There are other gaps, discrepancies and paradoxes. For example the head nurse / ward in charge is mentioned (five required as the norm) for hospitals with 51-100 beds but does not mention this post for district hospitals with 101-200, 201-300 and 301-500 beds. In such cases the norms mentioned for the lower hospital are extrapolated or the norms recommended by INC are used.

Table 6. Norms for nursing personnel in teaching hospitals (INC, 2002)

S. No	Categories	Requirements
1.	Nursing Superintendents	1:200 beds
2.	Dy. Nursing Superintendents	1:300 beds
3.	Departmental Nursing Supervisors /Sisters	7:1000 +1 for every addl.100 beds
4.	Ward Nursing Supervisors/Sisters	8:200 + 30 % leave reserve
5.	Staff Nurses for wards	1:3 (or 1:9 each shift) +30% leave reserve
6.	Staff Nurse for OPD, Blood Bank, X-Ray, Diabetic Clinics, CSR etc	1:100 outpatient + 30% leave reserve
7.	Staff Nurses for Intensive Care Unit (8 beds ICU/200 beds)	1:1 (or 1:3 for each shift)+ 30% leave reserve
8.	Staff Nurses for specialized departments and clinics such as OT, Labour Room	8:200 + 30% leave reserve

This paper was prepared with some delimitations since some aspects could not be covered through the scope of this study. For example, the 30 percent leave reserve that should be considered while working out numbers required has not been included. A further delimitation in this paper is that only current number of health facilities in government sector have been considered for calculating requirements. The number of health facilities may increase due to increasing population, changes in health problems and life styles or changes in health policies. The paper does not give calculation for requirement in private hospitals. In short, the actual requirement for nursing personnel will be much higher since the current calculations give only those required to address immediate or current problems.

2.1. Auxiliary Nurse Midwives or Multipurpose Health Workers (F): According to Indian Public Health Standards each sub-health centre must have two ANMs. Further, there should be one ANM at PHC and one at CHC.

There should be six ANMs at district hospitals with 101-200 beds and four each at district hospitals with 201-300 beds and 301-500 beds. Based on this norm, Uttarakhand requires a total of 3892 ANMs. The existing number of ANMs in Uttarakhand is 1903 according to RHS Bulletin March 2008. The shortfall is 1989 ANMs or 51%. Table 7 presents the calculation of requirement in different facilities.

Table 7. ANMs available and additional ANMs required (IPHS)

S. No	Health care institution	Existing	ANMs required as per IPHS	Total ANMs required	Existing ANMS	Shortfall
1.	Sub health centres	1765	2x1765 = 3530	3892	1903	1989 51 %
2.	PHCs	239	1x239 = 239			
3.	CHCs	55	1x55 = 55			
4.	DHHs- 101-200 beds	10	6x10 = 60			
5.	DHH- 201-300 beds	1	4x1 = 4			
6.	DHH- 301-500 beds	1	4x1 = 4			

2.2 Lady Health Visitors (Female Health Supervisors): The IPHS recommend one LHV or Female Health Supervisor for every PHC. Uttarakhand has an excess of LHVs (340 available against 239 required) and so two LHVs are posted in some PHCs. There is an excess of 101 LHVs in the State.

Table 8. Availability of health supervisors

Health care institution	Required No. of LHVs as per IPHS	Existing LHVs	Shortfall
PHC	239	340	Nil (101 excess)

2.3. Public Health Nurses (PHNs): The IPHS recommend one PHN in every CHC and one in regional training centre. This means Uttarakhand requires atleast 55 PHNs, but currently there are only 11 PHNs in position in the entire state and all of them are in the ANM training centre. This means there are no PHN in the community and the shortfall is therefore 100%. The absence of the PHN creates a big gap in supervision and guidance to peripheral health service providers and needs to be addressed immediately.

Table 9. Shortfall of PHNs

Health care institution	Existing CHCs	Required PHNs (IPHS norms)	Existing PHNs at CHCs	Shortfall
CHC	55	55	Nil	55 100%

2.4 District Public Health Nursing Officers (DPHNOs): The IPHS do not mention the DPHNO- a key post that was created in every district with support from GOI in 1983. The presence of the DPHNO is essential to supervise and guide PHNs, LHVs and ANMs to render quality services for maternal and child health and to monitor services related to reproductive health and family welfare. The state requires 26 DPHNOs at the rate of two per district. There are no DPHNOs in Uttarakhand. The shortfall is 100%.

Table 10. Requirements and shortfall of DPHNOs

	Number	DPHNOs Required as per HPC and GOI (2006)	Total	Existing number of DPHNOs	Shortfall
Districts	13	26	26	Nil	26 100%

2.5. Requirements and shortfall of staff nurses: According to the IPHS Uttarakhand needs 3418 staff nurses at PHCs, CHCs, sub-divisional and district hospitals combined together. Currently there are only 675 staff nurses and the shortfall is 2743 or 80%. In addition 166 staff nurses are required for the medical college hospital that has 300 beds.

At present there are 61 staff nurses in the hospital and the shortfall is 105 staff nurses (63%) for the teaching hospital. The overall shortfall of staff nurses in the State is 2848 (79%).

Table 11. Shortfall of staff nurses working in health centres and hospitals in Uttarakhand

S.No	Category of hospital or health centre	Staff nurses required	Total required	Existing staff nurses	Shortfall
1	PHCs - 239	3x239 = 717	3418	675	2743 80%
2	CHCs - 55	7x55 = 385			
3	SDHs - 31-50 beds - 9	21x9 = 189			
4	SDHs - 51-100 beds - 18	51x18 = 918			
5	DHHs - 101-200 beds - 10	88x10 = 880			
6	DHHs - 201-300 beds - 1	115x1 = 115			
7	DHHs -301-500 beds - 1	214x1 = 214			
8	Srinagar Medical College Hospital - 1 - 300 beds	166x1 = 166	166	61	105 63%
	Total		3584	736	2848 79%

Note: The number of existing staff nurses in table 11 is based on data obtained from the office of Director General Medical Health and Family Welfare on 16.6.09. The hospitals are grouped based on their bed strength in order to calculate the requirements according to IPHS standards.

2.6. Shortfall of head nurses: Uttarakhand has nine sub-divisional hospitals with 31-50 beds, 18 sub divisional hospitals with 51-100 beds, 10 district hospitals with 101-200 beds and one district hospital each with 201-300 beds and 301-500 beds respectively. The number of head nurses required for these facilities is 220 whereas 168 are available giving a shortfall of 24%. The State also has one teaching hospital – Srinagar Medical College Hospital with about 300 beds. The number of head nurses required for this hospital is 16 but 30 are available indicating no shortfall but excess. Currently 200 head nurses are available in the State. In the medical college hospital there are 30 head nurses against the required 16. On the whole the state has a shortfall of 38 head nurses (16%).

Table 12. Shortfall of nursing sisters at SDH and DHH as per as IPHS Norms

S. No	Category of hospitals	Head nurses required (IPHS Norms)	Total required	Existing head nurses	Shortfall
1.	SDHs - 31-50 beds - 9	2x9 =18	220	168	52 24%
2.	SDHs - 51-100 beds - 18	5x18 =90			
3.	DHHs - 101-200 beds - 10	8x10 =80			
4.	DHHs - 201-300 beds - 1	12x1 =12			
5.	DHHs -301-500 beds - 1	20x1 =20			
6.	Srinagar Medical College hospital-300 beds - 1	16x1 =16	16	30	Nil
	Total		236	198 +2 at CHC = 200	38 16%

The 168 head nurses are distributed in the different hospitals in an uneven manner. Some of them were also posted at CHCs. For example two head nurses were posted at Baajpur CHC in Udham Singh Nagar. The issue appears to be more a matter of posting rather than inadequacy.

2.7. Shortfall of Assistant Matrons: At present there are 19 assistant matrons in the entire State. As per IPHS norms one post of assistant matron is proposed in SDH with 51-100 beds and two for DHH with 101-200 beds. The IPHS does not mention the post of Assistant Matrons at hospital with 31-50 beds (instead a post of matron is mentioned). The IPHS as well as INC norms had to be used for calculating requirement for Assistant Matrons. According to INC two Assistant Matrons are required in teaching hospitals with 300 beds. Based on these calculations 43 Assistant Matrons are required for non teaching hospitals and two are required for the teaching hospital giving a total of 45

Assistant Matrons for Uttarakhand. Currently, only 17 posts are available giving a shortfall of 28 assistant matrons or 62 %.

Table 13. Shortfall of Assistant Matrons

S.No	Institution (Beds)	Number of institutions	Required as per IPHS	Total required	Existing No. of Asst. Matrons	Shortfall
1.	SDHs - 51-100 beds	18	1x18=18	43	16	27 63%
2.	DHHs - 101-200 beds	10	2x10=20			
3.	DHHs - 201-300 beds	1	2x1=2			
4.	DHHs -301-500 beds	1	3x1=3			
5.	Srinagar medical college hospital-300 beds	1	2x1=2	2	1	1 50%
	Total			45	17	28 62%

2.8 Shortfall of Deputy Nursing Superintendents: As per INC norms, one deputy nursing superintendent is required for 300 bedded teaching hospitals. At present the state does not have this post.

Table 14. Shortfall of Deputy Nursing Superintendents

Health care institution	Bed strength	Required as per INC norms	Total required	Existing	Shortfall
Srinagar medical college hospital	300	1	1	0	100%

2.9 Shortfall of Matrons or Nursing Superintendents: IPHS recommend one matron for hospitals with 31-50 beds, 51-100 beds and 101-200 beds; seven matrons for 201-300 bedded hospitals and nine matrons for 301 to 500 bedded hospitals. The total required based on calculations in table 15 is 53 whereas only three are available giving a huge shortfall of 50 or 94%.

Table 15. Shortfall of Matrons and Chief Matrons

S.No	Category of hospitals	Number	Required	Existing	Shortfall
1	SDHs - 31-50 beds	1x9 = 9	53	3	50 94%
2	SDH - 51-100 beds	1x18 = 18			
3	DHH - 101-200 beds	1x10 = 10			
4	DHH - 201-300 beds	7x1 = 7			
5	DHH -301-500 beds	9x1 = 9			
6	Srinagar medical college hospital-300 beds	1x1 = 1	1	0	1 100%
	Total	54	54	3	51 94%

The INC recommends one post of Chief Nursing officer for a teaching hospital. Uttarakhand has one teaching hospital but no post of CNO. Overall, 54 posts of matrons including one CNO are required for Uttarakhand but only 3 are available leading to a shortfall of 51 posts or 94%.

2.10. Shortfall of nursing faculty: Table 16 presents the overall shortage of nursing teachers in Uttarakhand based on the existing number of training schools in the State. In the current situation, there are five schools but no post of Principal. Overall there is a shortfall of tutors even in the present time when very few schools are actually functioning.

Uttarakhand has to reopen the ANM and GNM schools and also establish new ones to overcome the shortage of frontline nursing personnel – ANMs and staff nurses. The need for teaching faculty will go up.

Table 16. Shortfall of nursing teachers for ANM training centres

S. No	Category	Required number	Existing number	Shortfall
1	Principal Nursing Officers	5	Nil	5
2	Public Health Nursing tutors	10	11	-
3	Nursing Tutors	10	6	4

Summary:

The overall shortfall of nursing personnel in different levels in Uttarakhand is enormous considering the small size and the few training institutions. The State needs 1989 ANMs, 55 PHNs, and 26 DPHNOs to fill current shortages in the public health facilities. The State also needs 2848 staff nurses, 52 head nurses, 45 assistant matrons, one deputy nursing superintendent and 51 matrons for inpatient services at different levels. The current shortfall of teaching faculty is 9 at 5 ANM training centres. The shortfall is more acute at the senior level. Not a single senior faculty or principal posts are filled – these jobs are handled by persons who are placed incharge of the post. This leaves a huge gap in planning and monitoring nursing services and education.

Section - III

Nursing workforce policies and working environment: Analysis of the situation in Uttarakhand

This section deals with a range of issues related to nursing workforce policies and working environment: Cadres and posts, recruitment, career progression, organization and management, and the working environment of nursing personnel that affects their performance. The data and analysis are based on primary and secondary sources and review of government documents at different levels. Information collected with different tools using both quantitative and qualitative techniques has been triangulated to cull out the themes related to nursing work force in Uttarakhand. In depth interviews with a range of personnel and focus group discussions with key nursing groups helped in identifying the issues. Interaction with stakeholders and key nursing personnel helped in clarifying problems and assessing need for improvement. The section is organized into the following subsections.

- 3.1 Nursing workforce: Organization and administration
- 3.2 Career pathways and opportunities for professional growth
- 3.3 Working environment of nurses: Facilities available at different levels of work
- 3.4 Workforce policies and work related problems: Findings from the study
- 3.5 Nursing in private sector

3.1 Nursing workforce: Organization and administration

3.1a. Nursing cadres, posts and recruitment including contractual recruitment: Government posts, including nursing posts, are organized into four different classes in Uttarakhand. The number of posts in class I and II categories indicates that the profession has a higher status. Higher level posts help in the growth of the profession and involve nurses in decisions related to patient care and career development. In the long term this yields results in terms of a strong human resource as well as improved quality of care.

A quick glance at the figures in table 17 shows that nursing in Uttarakhand occupies a low level in the departments' hierarchy giving it lower status. It is clear that there is only one post in class I category – that of Registrar, Nursing Council - Uttarakhand. Since the formation of the State in 2000 till May 2009, the post was occupied by a senior doctor. The post of registrar is vacant from 1st June 2009 and at present Director General, President Uttarakhand Nursing Council is the acting registrar. There is one post in Class II category –Deputy Director, Nursing. This post was created in 2008 after repeated demands from Nursing Union of Uttarakhand. Although a person has been deputed for the post of deputy director of nursing, the post is yet to be filled.

Table 17. Existing nursing personnel and their status in Uttarakhand

Class	Director of Medical and Health	Director General- Divisional Additional Director	Total
Class I	Registrar Nursing Council-1	Nil	1
Class II	Deputy Director of Nursing-1	Nil	1
Class III	956 (staff nurse- 736, ward sister- 200, assistant matron- 17, matron-3)	17 (PHN- 11, , sister tutor- 6)	973
Class IV	Nil	2243 (ANM- 1903, LHV- 340)	2243
Total			3218

Note: Data for the above table was collected from the state health directorates.

Most of the nurses in Uttarakhand fall into class III category. In this category one finds a range of nursing posts from PHNs to matrons indicating dumping down of all posts into lower levels irrespective of experience and job functions. Clearly, there is a need for reviewing, analyzing, regrouping the posts according to qualification, service and job responsibilities. Review of documents and interactions at the state level showed that no development has taken place for increasing the number posts or upgrading existing posts since the formation of the State in 2000.

3.1b. Recruitment: Recruitment of nurses in Uttarakhand is done on the same principles as other categories: Registration in nursing council, required educational qualification, years of experience and reservation of seats for SC/ST. Minimum age for recruitment of staff nurses is 21 years and maximum is 40 years whereas in the case of ANMs the minimum age is 18 years and maximum age limit is 35 years. Reservation is ST- 4%, SC-19% OBC – 14%. In addition there is also 30% reservation for women. Department of Medical Health and Family Welfare follows

rules for regulating recruitment and conditions of service of persons appointed to the Uttarakhand Nursing Service under, “Uttaranchal (Uttar Pradesh Nursing (Gazetted) Service Rules, 1996) Adaptation and Modification order, 2002.”

3.1c. Nurses on contract: The government of Uttarakhand started appointment of staff nurses and ANMs on contract from 2008 onwards with consolidated pay of Rs. 10,000 in plain area, Rs. 14,000 in hilly area and Rs. 18,000 in most interior area. No other allowances are given. The contractual staff nurses are recruited under Chief Medical Officer for 11 months after which the contract will be renewed if suitable.

During interviews contractual staff nurses said they were not sure when they would become regular staff. They were eligible for casual leave of 14 days/annum and four days off in a month. There were no major differences between regular and contractual staff in Uttarakhand in terms of work. They were given equal shifts but contractual staff nurses were assigned direct patient care functions whereas regular staff took up management, recording and supervisory functions. In terms of knowledge and skill, contractual staff had fresh information but on the other hand regular staff was skilled, especially in specific tasks. Contractual staff said that they did not have adequate skills since there were gaps in their basic training.

Contractual staff did not have any opportunities for in service education. One common comment of the contractual nurses was that though the state had deficits, nurses were being taken on contract rather than on regular appointment. Contractual staff felt they were discriminated against, had to obey seniors and face delays in salary payments.

3.1d. Organization and administration of nursing services: The total nursing workforce in Uttarakhand is 3218 (nursing personnel working in public health centres and hospitals combined). However, although there is only one administrative post for nurses in the Directorate of Medical Health and Family Welfare, it is at a low level and is currently vacant. The existing organization of nursing in Uttarakhand indicates the low position of nurses in administrative and policy matters. Analysis of the management structure of nursing at state level reveals three main problems

1. Large frontline workers with only one position at the top which is vacant.
2. Distributed in different departments.
3. Low capacity and inadequate professional growth.

Top too weak: Strong and capable nursing administration at the state headquarters would guide and support nursing personnel in the entire state and ensure professional development. This is not the case with nursing in Uttarakhand. There is no one from the profession to undertake management, leadership and monitoring functions for and on behalf of nurses. The whole profession is therefore very often poorly represented in policy matters related to their career and even related to nursing care procedures.

The post of Deputy Director of Nursing is yet to be filled. The nurse whom the government nominated for this post has a GNM diploma. Without higher education she may not be confident to carry key administrative functions. At present the Registrar Nursing Council is the Director General Health who is busy with many other administrative responsibilities.

Logically, human resource development requires that nurses, just like other professionals, be given the opportunity to gain qualification and experience required to occupy higher posts. If personnel policies do not facilitate professional growth, there will always be lack of qualified personnel to take senior posts. Hence even if posts are created, no one will be available to occupy them. After some time, since qualified persons are not available, the post is discontinued, downgraded, converted or occupied by others. This vicious cycle is responsible for keeping nursing at a sub profession level. This type of organizational climate will not nurture professional growth and autonomy. This result in paternalistic working atmosphere even at the state headquarters where nursing personnel become passive participant habituated to doctors deciding for them and representing them.

Due to weak top layer, senior posts are kept vacant for a long time. In the meantime, someone is posted as “acting or incharge” giving the occupants very little administrative decision-making power or opportunity for representation in policy making. The result is low level of leadership and capacity at the top with inadequate technical guidance and monitoring of services. There is very little opportunity for capacity development through training and attending workshops because they are always kept overworked or busy.

Nursing posts are scattered in different departments: Nursing personnel are distributed in two different departments resulting in low level of professional sharing and interaction. Clinical nursing personnel from staff nurses to matron are under the control of Director of Medical and Health. All nursing personnel working in public health areas including the staff in ANM training centres are under the control of Chief Medical Officer at the district level under divisional additional director who reports to the Director General.

Being in two different departments, development is sometimes faster in one department compared to another. There is usually faster growth and facilities for nurses working under DMH compared to those working under the DG. The lack of opportunities and unequal access to promotions raises mistrust and conflict among nurses in different departments. This pitting the lower cadres one against the other is another factor that hinders cooperation, sharing and professional growth. Unifying nursing services under one technical head of nursing services would ensure that nursing services are organized and administered and foster career development. This would also ensure uniform access to opportunities and professional growth.

Low management capacity: The educational preparation and work atmosphere of nurses does not prepare them to tackle administrative issues and participate in policy discussions. For example, they have very little opportunity for higher education, to attend national and international conferences and organize professional meetings. Humble social backgrounds and lower position in the health system hierarchy do not enable them to lead, formulate policies or design programmes. They hesitate to interact with officials and policy makers. They even hesitate to mediate on behalf of patients under their care. They work as team members and subordinates, not as team leaders or managers. Consequently, even when they reach positions of leadership they lag behind and do not actively represent nurses for improving their working conditions and their professional development.

In short there are many management issues that need to be sorted out at the state administrative level before nursing can be strengthened and nurses can contribute effectively to providing quality health services. Management capacity has to be developed for nurses to become administrators and actively participate in administration. A systematic plan has to be prepared to develop capacity among nurses for taking up administrative and leadership positions.

3.2 Career pathways and opportunities for professional growth

Qualified nursing personnel enter into government health services at two entry points in nursing. These are ANM/MPHW (F) in public health side and the staff nurse in clinical side. One basic principal of career progression is that personnel entering into a job stream should steadily progress up the stream through a series of administrative steps that enable them to acquire skills and qualifications required for the higher posts. The career ladder for nursing personnel in Uttarakhand has too few steps spread out too far apart to enable career progression. The ANM can climb one step, the staff nurse, perhaps two steps, in their entire service spanning nearly 40 years. A staff nurse however has opportunity to become a tutor if she completes post basic BSc (Nursing) or Diploma in PHN. Such opportunities are not available to the ANM leading to career stagnation. The following paragraphs and graphs demonstrate the stagnation in the career of nursing personnel in Uttarakhand.

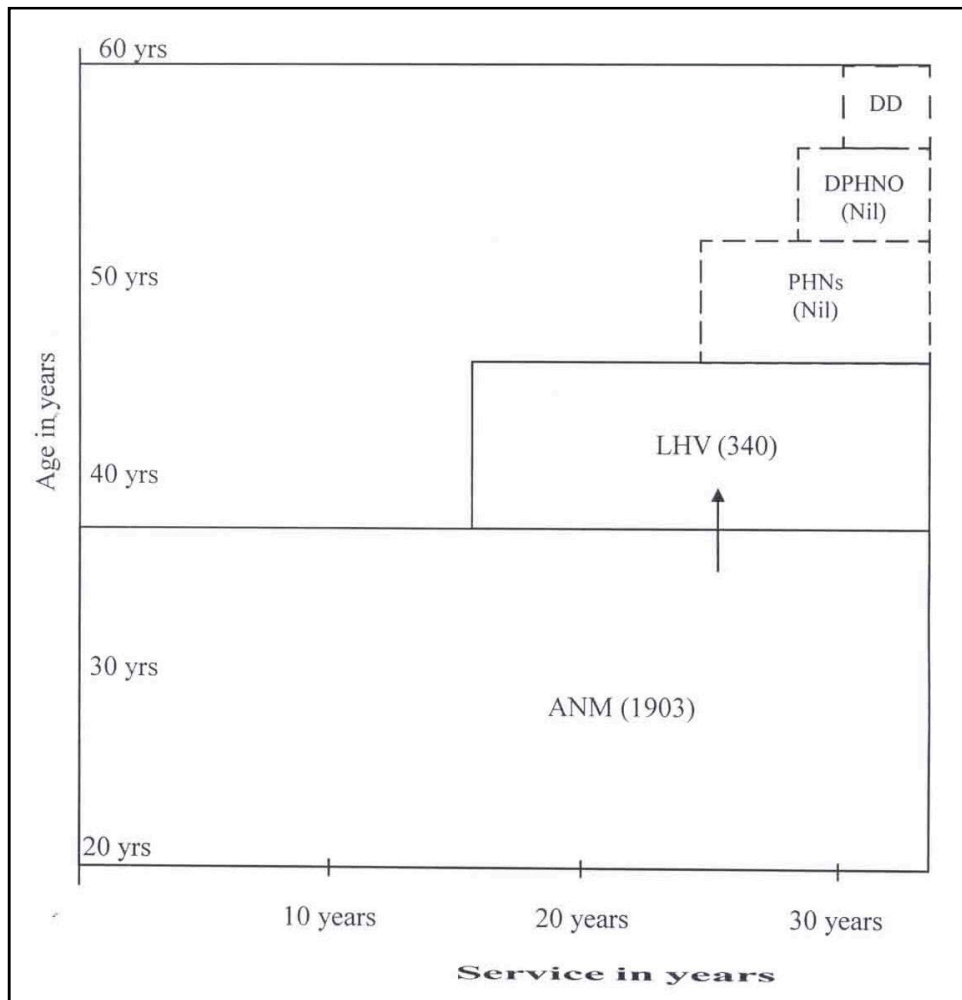
3.2a. Existing career pathway for ANMs:

There are 1903 ANMs and 340 posts of LHV in Uttarakhand at the time of this report. This means only 18 % ANMs had the chance to become LHVs provided they completed LHV course and promoted without administrative delays. Since the state has no LHV training centre the ANMs are being promoted to LHVs on the basis of seniority. Within six months of promotion, the new incumbents are expected to be deputed for LHV training in the nearby state so that they can become full-fledged LHVs. But this has not been put into action.

The next post after LHV is PHN. But Uttarakhand currently has no PHNs. The ANM is therefore deprived of the opportunity to move up the career ladder because there is no further step. She does not have anything beyond LHV to aspire. Almost all LHVs retire as LHVs.

The highest post for public health nursing personnel at district level is DPHNO. But Uttarakhand does not have posts of DPHNOs. The door to DPHNO is closed to the ANM since it is almost impossible for her to undergo additional training courses during her service. PHN tutor and sister tutor are eligible for the post of DPHNO if they complete B.Sc nursing. Public health nursing tutors are now working in training centres. Overall the career path of an ANM in Uttarakhand looks dismal. She can move forward only once - as an LHV.

Figure 2. Existing career ladder for ANMs of Uttarakhand



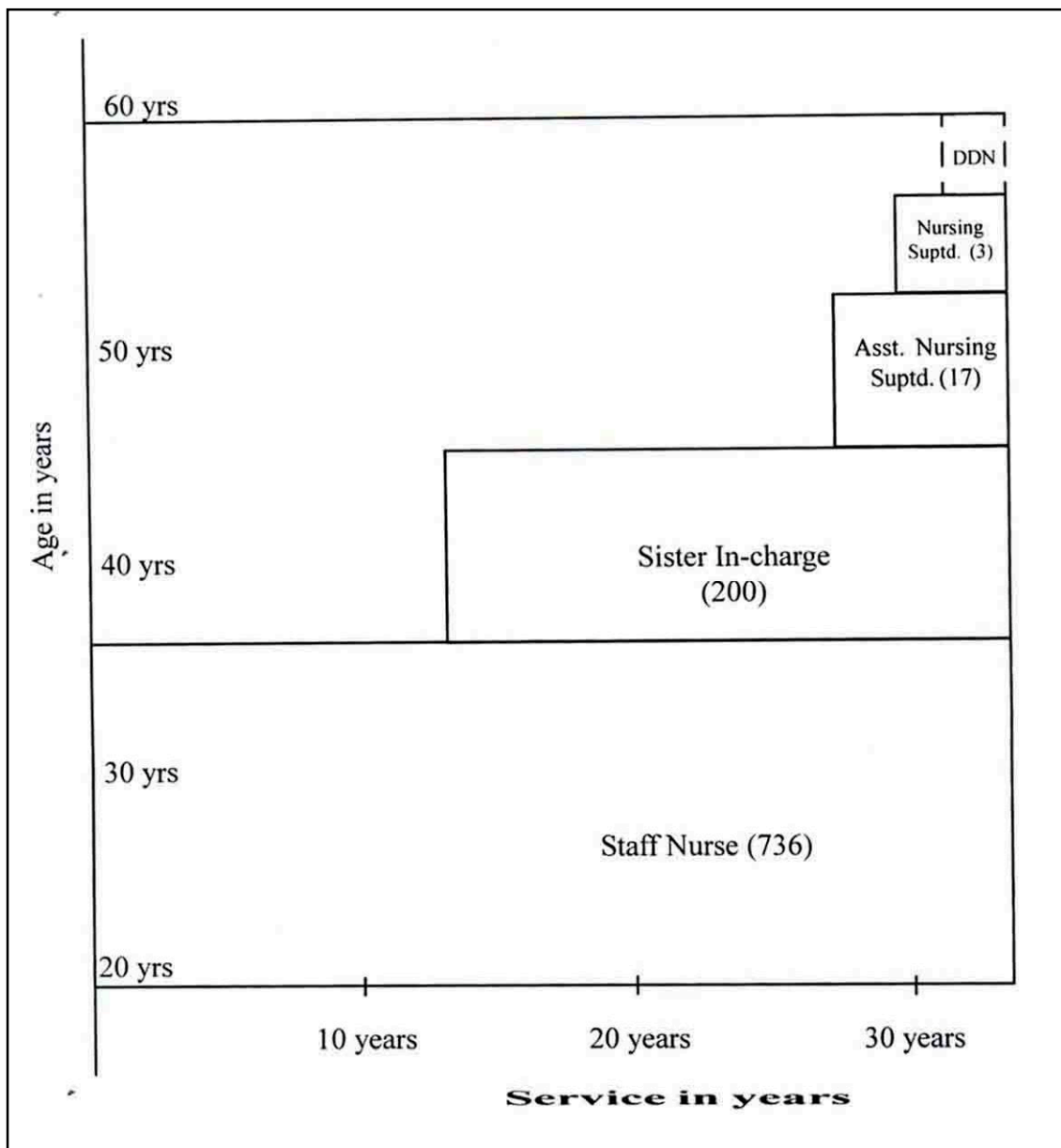
The DPHNO post is critical to providing public health nursing leadership and guidance to ANMs, LHV's and PHNs in the district. The DPHNO is the professional role model for the ANMs and LHV's to whom they look for professional support and leadership. With a well constructed career pathway, the ANM can one day aspire to become the DPHNO of her district. It is essential that the post be created and the potential of the DPHNOs used for achieving health goals.

If the posts of PHN and DPHNO are revived, a small percent of ANMs will be able to reach this higher technical and administrative post at the district level provided they are enabled to obtain the necessary qualification. Above the district level, too it is necessary to provide for atleast three steps of promotion as assistant director, deputy director and joint director. Currently these posts do not exist in Uttarakhand in public health nursing side. The findings of this study clearly reveal the need for detailed assessment and formulation of policies for creation of a public health nursing cadre in the State starting from ANMs in sub health centres to director of public health nursing at the state level.

3.2b. Existing career pathway for staff nurses in Uttarakhand:

The staff nurse enters training after completing class 12. She goes through three years of training and does six months internship to get a diploma in general nursing and midwifery. The minimum age for entry into the training is 17 years. Assuming they are employed immediately after passing the GNM training they are likely to enter service at the age of 21 years.

Figure 3. Existing career ladder for staff nurses in Uttarakhand



The first promotion post for a staff nurse is nursing sister/ward sister/head nurse/ward in charge. The existing number of nursing sisters is 200 (refer table 12) which is only 27% of nurses. Currently only 38 posts of head nurses are vacant. Most staff nurses in Uttarakhand get this post after 12-15 years of experience. No additional qualification is required. The main problem here is the shortage of personnel at the bottom.

The next step on the career ladder is Assistant Nursing Superintendent/ Assistant Matron- there are only 17 posts in the entire state. The promotions are given on the basis of seniority and availability of post. The next post is Deputy Nursing Superintendent which is not available in Uttarakhand even though there is one teaching hospital. The post of Matron is the next higher level and there are only three such posts in the State. The post of Chief Nursing Officer recommended in a teaching hospital is also not available in Uttarakhand.

The lack of educational programmes and inservice packages results in senior staff nurses becoming head nurses and then matrons (if posts are vacant) without any professional improvement. Lack of specialization also pushes them into the only stream available – ward management and nursing administration as they become senior. Career pathways need to be drawn up for the nursing cadre from the first step as staff nurses. The next step should provide two options – either to specialize in a specific area of nursing and continue to work in the clinical field or move towards ward management and supervision.

3.3 Working environment of nurses: Facilities available at different levels of work

The research team visited three districts for in-depth understanding of the working environment of nursing personnel at the periphery as well as in clinical areas in different hospitals. They observed health facilities, interacted

with nursing personnel and conducted discussions with related officers. Details of facilities, equipment and supplies and the services provided in these centres are presented in table 18 and discussed separately for the four levels. Data in table 18 show that infrastructure and facilities were a problem at sub centres and PHCs. For example, buildings needed repair, facilities for staff were not available, water and electricity were not present round-the-clock.

Table 18. Availability of physical facilities in different work places

Sno	Physical facilities	SC (n=29)	PHC (n=12)	CHC (n=5)	DH (n=3)
1	Building available	23	12	5	3
2	Separate labour room	5	10*	5	3
3	Toilet facility	17	12	5	3
4	Quarters for residence of nursing personnel	13	10	4	2
5	Electricity - regular	16	11	4	3
6	Water supply - 24 hours	10	7	4	3
7	Safety and security	25	12	4	3
8	Separate laboratory	NA	6	2	1
9	Operation theatre	NA	3	5	3
10	Separate baby resuscitation room	NA	3	3	2
11	Generator as back-up	NA	10	5	2
12	Phone	-	-	-	-
13	Ambulance / hired vehicles	NA	4	3	3
14	Separate nursing station	NA	3	2	3
15	Nurses' rest room / changing room available	NA	3	2	2

** In 2 PHCs, OT tables were used as labour tables*

Table 19. Human Resources in different levels of care

	Human Resources	SC (n=29)	PHC (n=12)	CHC (n=5)	DH (n=3)
1	ANM available for 24 hours	19	10	2	3
2	Doctor available for 24 hours	NA	6	5	3
3	Staff nurses available for 24 hours	NA	9	4	3
4	Pharmacist available	NA	11	5	2
5	Laboratory technician available	NA	NA	3	1
6	Counsellor available	NA	NA	2	2
7	Obstetrician available	NA	NA	3	3
8	Pediatrician available	NA	NA	3	2
9	Anesthetist available	NA	NA	1	2
10	Surgeon available	NA	NA	1	2

3.3a. Facilities and services at sub-health centres:

Outreach health services are provided through 1765 sub-health centres that cover 16,826 villages, hamlets and remote hilly areas of the State. An ANM is expected to reside in the sub-health centre and provide service to about 3000 population in the hilly areas considering the difficult terrain and unfavorable living conditions. Physical facilities and amenities are critical for her security and performance. The research team visited 29 sub-health centres in three districts – ten each in Almora and Pithoragarh and nine in Pauri Garwal. Direct observations in each of the 29 subcentres showed many gaps in facilities.

Physical facilities and amenities: Twenty-three of the 29 sub-health centres had buildings, mostly located in the village but almost all of them were private rented buildings hired for a sum of about Rs 200 per month. The typical sub health centre had a small room where articles were kept in a disorderly manner due to lack of shelf space. There was no space for immunization, ante natal check up, IUD insertions and other activities that were the major functions of the sub health centres. They lacked basic needs like toilets and running water making them unfavourable to the ANMs to work even during the day. Only half of the centres had electricity and a third had water supply. On the positive side, almost all centre had secure environment for ANMs to stay at night.

Facilities for MCH services: Furniture was not adequate - 22 out of the 29 centers had labor tables but these remained unutilized. Most of the sub centers had adult weighing machine and blood pressure apparatus but one third did not have general care equipment like fetoscope, stethoscope, thermometer and child weighing scale. Many did not have critical life saving equipment. For example, only one third of the centers had ambu bag and baby resuscitation kit, mucus sucker was found only in half of the centers, and only 17 had 100 watt lamp for keeping the baby warm.

Drugs and supplies: Drugs like misoprostol, methergin, magnesium sulphate are crucial in the management of emergency maternity conditions. Only 21 out of 29 centres had methergin. I.V. fluids were found in only three sub health centres. Drugs for minor ailments, iron and folic acid tablets and Inj.TT were available in most of the subcentres. Vaccine carriers were available almost in all sub health centres reflecting that facilities for antenatal assessment and immunization services were nearly adequate.

- Infection control: Sterilizer or autoclave machine was found in 16 centres. Color coded bins for bio medical waste management were available in only seven centres and even these were not correctly used. This indicates that biomedical safety was not followed. Lack of these facilities is a hazard to the ANM as well as the public.
- Facilities for childbirth services: Nearly one third of the Sub-health centres had delivery sets and were conducting home deliveries. But none of them used partograph.
- Health teaching materials were found only in one third of the centres. Immunization cards and registers were found in all Sub health centres.

Sub Centre Patani in Pauri Garhwal District

The sub centre covers a population of 4000 over 19 villages and hamlets. It is a government building and has only one small room which is for service delivery as well as store. The building not have water supply. The room is too small to around. The ANM provides immunization services the building to prevent suffocation. Chairs are on the labour table. If antenatal examination or delivery services are required, the chairs and other furniture are put outside the building to make additional space. About 15 to 20 deliveries are conducted in this room space. Water is brought the nearby brook. The dai is given Rs.15 to clean centre after each delivery.



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Overall, ANMs were providing basic maternal and child health services in the sub-health centres even though facilities, furniture, equipment and supplies were inadequate. Nearly all were conducting antenatal clinics and immunization sessions and registering vital events. They were referring high risk cases. Lack of adequate facilities; irregular monitoring and absence of supportive supervision were the major factors contributing to poor performance in sub-health centres according to responses in FGDs and interviews.

3.3b Facilities and services at Primary Health Centres:

Twelve PHCs were visited in the three districts. All the 12 had building with electricity supply and 10 had generator facility. Round the clock water supply was available in seven PHCs. Only half of the centres had functioning toilet facility for staff as well as patients and relatives. Telephone was available in only seven PHCs. Separate labour room was available at 10 PHCs, laboratory was available in six PHCs and operation theatre in 10 PHCs.

It was observed that 10 out of 12 PHCs had labour table but the quality was poor. Eleven PHCs had adequate number of delivery sets. Thermometer, blood pressure apparatus and adult weighing machine were available in all PHCs. Foetoscope was available in 10 PHCs and foetal Doppler was available in only 3 PHCs. Essential items such as 100 watt lamp were available at nine PHCs, mucus sucker and oxygen cylinder with key in 10 PHCs, Ambu in eight PHCs, baby intubation set and Boyles apparatus only three PHCs.

Instruments for IUD insertion were available in PHCs. But instruments for tubectomy were found in two PHCs though suturing material was found in 11 centers. Drugs for minor ailments, I.V. fluids, Iron and Folic Acid tablets and injection TT were available in almost all PHCs. Drugs like misoprostol, methergin and magnesium sulphate were available in 10 centers. Vaccines were available in all the PHCs. PEP (Post Exposure Prophylaxis of HIV) drugs were available in only one PHC. All the PHCs visited had adequate supply of immunization articles like vaccine carrier, disposable syringes, ice packs and deep freezer. Immunization cards and registers were available in all the centers. Health teaching material in the form of posters, flash cards were found in 10 out of 12 PHCs.

Biomedical waste management was a major problem in PHCs. Though all the centers visited had adequate disinfectants and sterilizer, colour coded bins for bio medical waste management were available in only six PHCs. Adequate number of mackintoshes, gloves and linen were available in 10 PHCs.

Only nine PHCs were providing round the clock services. Beds were available in only eight PHCs. Doctors were available in only six PHCs round the clock. All the centers were conducting antenatal, postnatal, immunization clinics and performing IUD insertion.

Personnel position in PHCs	
Category	Number (n=12)
Medical Officers	11
Staff Nurses	9
ANMs	20
LHVs	15

Note: Nine PHCs had two ANMs and one LHV each. Three PHCs had two LHVs. Staff Nurse was not available in three PHCs but ANMs and LHVs carried-on the work.

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Additional PHC Dolaghat in Almora.

Dolaghat PHC provides an example of good facilities but lack of key technical staff to provide health services to the community. The PHC covers a population of 21 gram shabas, each gram shabha having a population of about 1000. The PHC does not have a medical officer and a staff nurse. There are two ANMs who go for field visits and stay in the PHC only till 2 pm. The only health personnel available for 24 hours in the PHC is the Pharmacist as a quarter has been provided. Although facilities are present they have not been maintained properly. The PHC has two ILRs, when the research team inspected the ILR it was found that the vaccines were immersed in orange colour fluid and ice packs were floating. When asked, the pharmacist said that they are not in working condition and are not cleaned as there is no sweeper. Around 20 to 25 patients visit every day for minor ailments and other conditions. The pharmacist provides drugs for minor ailments and all the other cases are referred. No patients are admitted in the PHC. About 10 to 12 general cases and 6 to 8 maternity cases are referred every month. The mothers are just referred as there are no qualified health personnel round the clock. The number of deliveries conducted last month in the PHC was just one - by the ANM. The dai who comes with the woman cleans the labour room after delivery.



3.3c. Facilities and services at Community Health Centres:

The research team visited five CHCs in three districts. All the CHCs had buildings. Most of them had electricity and round the clock water supply. Most of the CHCs had residential quarters in the hospital complex safety and security. Toilet was available in the ward for clients and separate arrangement was made for hospital staff. Generator and telephone facility were available in all the CHCs.

Operation theatre was present in all five CHCs. Centralized oxygen supply was not available in any of the CHCs. They were using oxygen cylinder with key. Boyles apparatus was available in all the CHCs. Open radiant warmer was available in only two CHCs. Separate baby resuscitation room was available in three CHCs. Basic articles like BP apparatus, stethoscope, adult weighing machine and child weighing machine were available in all the CHCs. Fetal Doppler was available in three out of five CHCs. Injection tetanus toxoid was available in all CHCs. But PEP drugs were present only in one CHC.

MCH service facilities: All CHCs had separate labor rooms and adequate number of normal delivery sets, episiotomy suturing material and IUD insertion sets. Only two CHCs had instruments for tubectomy and only one had instruments for LUCS and two had forceps delivery set. Only one CHC had vacuum extractor. All the CHCs had adequate supply of drugs for treatment of emergency conditions and minor ailments. CHCs had equipments like ice packs, ILR/deep freezer, syringes for conducting immunization clinics and also had adequate vaccines. All the five CHCs had adequate disinfectant supply. Almost all the CHCs that were visited had supply of linen and gloves.

All the CHCs provided 24 hour services. Obstetrician and pediatrician were available in three CHCs only. Physicians were available in all five CHCs but anesthetist was available in only one CHC. Adequate staff nurses for 24/7 services were available in four CHCs. Lab technician was available only in three CHCs though round the clock laboratory was present in two CHCs. Temperature chart was available only in one CHC. Four CHCs had health teaching material and AV aids. None of the CHC had television facility for displaying health related information.

Infection control: All the five CHCs had color coded bins for biomedical waste management. Sterilizer for autoclaving was also available in all the CHCs.

Childbirth services: All CHCs were conducting normal deliveries, antenatal and postnatal clinics and immunization clinic. But partograph was not maintained in any of the CHCs. All the CHCs were performing IUD insertion for eligible couples.

3.3d. Facilities and services at district hospitals:

The research team visited three district hospitals in Pauri Garhwal, Almora and Pithoragarh. The district hospitals in Uttarakhand had two separate blocks for male and female. As part of this study only the female district hospitals or FDHs were visited.

Infrastructure: All the three hospitals had separate labour room, AN ward, PN ward, post operative ward, OT and casualty. Baby resuscitation room was available only in two hospitals. FW ward and eclampsia room were available only in one hospital. In the other hospitals they were not separate but merged with either AN ward or PN ward. Premature baby ward was not available in any of the hospitals visited. Laboratory was available but was not functioning round the clock.

According to staff nurses in one hospital (Almora) water flowed into the building during monsoon and patients had to be shifted to a higher level. Centralized O₂ suction system was not available. Extinguishers were available in two district hospitals. Sewage treatment plant was present in 2 district hospitals. Television was available in only two district hospital.

CSSD was available in all the hospitals in the operation theatre. In two district hospitals, laundry was given outside where as in hospital the washing area was situated far away. Canteen facility was available outside the district hospitals.

Ambulance (108) service was present in all the district hospitals.. Electrical supply was available round the clock only in two district hospitals. Generator was present but not working in one district hospital. AC plant was available in OT. Round the clock pharmacy was not available. Telephone was available in all the district hospitals. Telephone booth was not available inside the hospital campus in any of the hospitals. Intercom facility was available in only one district hospital. Lift was not available in any district hospital. Police outpost was not available

Equipments drugs and supplies: Open radiant warmer was present in all three hospitals but it is not in working condition in one of the district hospitals. Baby Ambu bags, resuscitation sets, intubation sets, mucus extractors and 100 watts lamps were available in the three hospitals. Oxygen cylinders with key were available in all the three hospitals. Labour cots, tables, chairs, saline stands, IV fluids, BP apparatus, stethoscope, foetoscope, weighing machine, infantometer were available in all three hospitals.

Blood and packed cells were also available in three district hospitals but in the male block. USG was present only in two district hospitals. CT scan was present only in one district hospital. Foetal Doppler was available but not working in one district hospital. Partograph was present only in one district hospital. Cots with railings for babies were available in two district hospitals. Trays, bins, trolleys, delivery sets, suturing material, linen, and instruments for IUD were available in adequate in only two hospitals. Instruments for PV examination and for conducting MTP were available in all the three hospitals. Forceps extractors and vacuum extractor were not available in one hospital. Instruments for LUCS, tubectomy and episiotomy articles were adequate in all the hospitals. Disposable syringes were available in adequate number. Vaccine carriers, ice packs, ILR and vaccines were present. Emergency drugs, drugs for minor ailments, Inj.T.T, Tab IFA were available in all the hospitals. HIV test kits were available but PEP drugs were not available in any hospital.

Infection control: Colour coded bio medical management system, disinfectants, articles to follow universal work precaution and needle cutters were available in all the hospitals. The staff nurses said that they followed universal work precautions.

Records and reports: Temperature chart was available in only two hospitals. Records and registers were available but all were not well maintained. Referral cards were not available in one hospital. Partograph was not monitored in any of the hospitals. AV aids for projecting health information were available in only one hospital.

Human Resources: Physicians and surgeons were adequate in two hospitals. Obstetricians were available in all the three hospitals. Pediatricians and anesthetists were also available. Staff nurses and ANMs were not adequate. Total nursing staff in a hospital with a bed strength of 60 to 115 ranged from 10 to 15 of various cadres. Nursing supervisors were available in all the hospitals. Laboratory technician was available in one district hospital. Counselor

was available in two hospitals. Hospital workers were available in all hospitals. AC operator was not available in any hospital. Electrician was available in only one hospital. RMO was present in all the three hospitals. Store keeper and pharmacist were available in two hospitals. Theatre technician was available in only one hospital.

Services provided: Round the clock services were available in all three hospitals. Number of deliveries per month ranged from 80 to 190. Number of LUCS per month ranged from 10- 14. No LUCS were conducted in Pauri Garhwal Female District Hospital as the cases were referred to Sri Nagar Medical College Hospital. The number of cases referred was between 4 to 10. Number of IUD insertions per month ranged from 15 to 40.

All the district hospitals conducted AN/PN clinic, assisted normal delivery, checked and recorded baby's birth weight and inserted IUD for eligible couples. Birth companion is not allowed in any of the three district hospitals. The staff nurses said that they conducted deliveries on rotation.

3.4. Workforce policies and work related problems: Findings from the study

The following section is based on two sources of data. Firstly, interviews were conducted with 50 ANMs and 45 staff nurses in the three districts. Secondly, information was gained through FGDs with seven staff nurses and 10 ANMs. In addition, interviews were held with five state level officers to gain understanding of workforce policies, status of cadres and postings, benefits and allowances to staff. Findings from all the three sources were integrated and are briefly presented below.

3.4a. Profile of staff nurses and ANMs: The average age of the staff nurses was much lower than that of ANMs in the study. The mean age of staff nurses was 32 years and the mean age of ANMs was 44 years. Majority of the ANMs and staff nurses were married. Few not only fulfilled basic educational qualification but had higher education. All the ANMs fulfilled the educational requirement of class X and half of them (25 out of 50) completed intermediate education. Six staff nurses and eight ANMs had completed graduation. Out of these one ANM and three staff nurses were post graduates.

Table 20. Age, marital status, and educational status of sample ANMs and Staff Nurses

Category	Characteristics	ANM (n=50)	SN (n=45)
Age	Less than 35 years	4	34
	36-45 years	21	7
	More than 45 years	25	4
Marital status	Married	45	32
	Unmarried	5	13
General education	10 th class	17	0
	Intermediate	25	39
	Graduate or higher	8	6

3.4b. Perceptions related to job: Staff nurses and ANMs were requested to comment on their job, workload and factors that influenced their performance. Majority (45 out of 50 ANMs and 42 out of 45 staff nurses) said that they knew about written job description but had not received any written job description on appointment or later. Only 18 ANMs and 37 staff nurses were aware of their duty roster. Very few (6 out of 50 ANMs and 5 out of 45 staff nurses) said that they had written protocols for managing emergency maternal conditions in the absence of doctors or in emergency situations. They asked for clear cut job description for each level with clear delegation of administrative and financial powers. They wanted clearly demarcated technical rules and responsibilities.

The staff nurses said they needed well defined cadres and cadre management - good human resource policy urgently. They wanted creation of posts like Director of Nursing, Additional Director of Nursing, Joint Director of Nursing in the State and Chief Nursing Officers at big hospitals.

Staff nurses felt that their allowance was very meager. They are getting Rs.50 towards washing allowance, Rs.115 towards diet allowance and Rs.1450 towards uniform. The allowances will not be paid if there is shortage of budget. Only 20 out of 50 ANMs and 18 out of 45 staff nurses expressed their satisfaction with present pay and allowances.

Staff nurses felt that they were heavily burdened and sometimes the nurse patient ratio was one nurse to 60 or more patients. They wanted nurses' station and rest room in the hospital.

In-service education and higher education: Most of the ANMs received in-service education through RCH II and NRHM. Compared to this less than half (18 out of 45) staff nurses were getting in-service education for their professional development. Nurses said that in service training and continuing education should be provided at every level of promotion. They felt that they should be given opportunities to attend seminars and conferences. ANMs expressed interest and need for in service training programmes for improving their knowledge and skill. They also expressed that LHV training institutes must be opened in their districts or atleast in the State.

Majority (44 ANMs and 43 staff nurses) said they are getting adequate supply of equipments and articles. However, most ANMs said that were not in working condition. Supply of essential drugs was a problem for ANMs. Only 38 ANMs said that the supply of essential drugs was adequate in amount. ANMs and the staff nurses said they were getting adequate recording materials for documentation of their services but they were not scientific.

Accommodation, safety and security in the workplace

Most of them (37 staff nurses and 42 ANMs) expressed that the working environment was safe, but there was a shortage of facilities and amenities. ANMs said that the location of the sub centre is remote and reaching villages is difficult. They felt threatened to reach remote areas due to risk of attack of wild animals. One ANM said that she shifted her residence as there was an arrack shop near the sub centre and drunkards started causing problems. ANMs said that the sub centre building should be located within the village and there should be supply of electricity and water.

Of the 29 sub centres visited only 13 ANMs were residing in the places of posting. In a few sub centres there is one room for providing service and another for living. There is no regular electricity and water supply. Since they found it difficult to live in the single room with family most ANMs are living in private houses. In one of the district hospitals, there was no separate hostel for staff nurses where as in the others there was a hostel and each room was furnished with cot, dressing table, cupboard, almirah, table and chair, attached toilet and bathroom in a very poor condition. There was no kitchen facility and no water supply.



The hostel building allotted to staff nurses in Pauri Garhwal district hospital was in a condemned state with very scare water supply.



A large crevice inside the hostel building which may anytime fall apart.

Nurses felt that they were neglected in terms of accommodation and hostels though they were working in essential services. They wanted a time bound program to provide good accommodation to all nurses. ANMs said they

faced problem for communicating since land phone was not available in the field. The government provides Rs.200 every month for recharge of the mobile phones. But ANMs said that there was no coverage in interior and hilly areas.

Problems related to universal precautions and bio medical waste management: Staff nurses working in the district hospitals were having more workload and hence it was difficult to maintain quality. Their working environment was very dirty and stale due to inadequate number of class IV workers. Dust bins were provided in each and every ward to maintain bio-medical waste management but there were not used. Staff threw their waste like used syringes, needles, used cotton gauze in a corner inside the duty room. This reflects lack of monitoring supervision.

In the sub centres scissors and forceps were used for all patients without sterilization. Though dust bin was available cotton balls and cover of disposable syringes were found on the floor. There was no facility for disposing the used syringes; they are simply dumped on the side.



and

hill

Hospital waste being dumped on the hill side in Sarauli subcentre in Almora district

Pay, allowances and accounting:

- The ANMs were unsatisfied over their salary and allowances since they felt that their field work is hectic. They were incharge of the subcentre and so had to shoulder many responsibilities like procuring drugs, vaccines and essential articles, maintaining accounts of the untied funds. They said they do not get their salary on time. Sometimes it is delayed up to five months. They felt that the delay is due to the complicated process of the amount passing through three different authorities like: Family Planning In-charge, Medical Officer and the Panchayat Pradhan.
- ANMs expressed that they met several problems during the auditing of the untied funds. Since it is a joint account with the Pradhan there is a problem in accessing the funds during needs. Some even said that this responsibility should be taken away from the ANMs due to the problems they face.
- The staff nurses expressed the need to be paid according to the central pay scale.
- The contractual staff nurses also expressed that their salary was not provided on time. No allowances were given to the contractual staff. One of the staff nurses made a complaint to the medical officer regarding irregular payment. The doctor just said that there is no budget and once he gets it he would pay the salary.

Transport and referral: Though ambulances are available, due to inaccessibility the people used private vehicles for transporting patients. When patients are referred from remote sub centres, they are carried in cloth-made stretchers to the PHCs or CHCs.

- ANMs said that usually there is poor co-ordination with the higher referral centres like PHCs and CHCs which further adds to their problems. Only sub centres which have mobile network are provided with mobile phones. Others have to report to the CHC in person.
- **Services provided:** The ANMs also added that they provide a delivery kit to every ante natal mother who comes for the checkup during the last trimester, since most of the times ANMs are unable to attend the case due to poor transport or communication facilities. Nearby dais attend the women and conduct home deliveries. They said that having dais assist in delivery helped to maintain basic five cleans and to reduce maternal and infant morbidity and mortality.

Grievances and conflict resolution: Some of the staff nurses interviewed were not aware of their rights and did not know how to express their problems. There is no separate day allotted as grievance day. If they want to express their problems the nurses fix a day and meet the concerned authority. There is a grievance committee in the state which seems to function when there is any grievance (as in nurses and other medical strikes). Member of the committee seems to be Principal Health Secretary, Director General and Additional Director (Health and Administration).

Problems are usually dealt at the work level that is in the hospital either matron or medical superintendent. At the district level it seems that medical officer deals with the grievance. There is no committee for addressing harassment issues. They said that sexual harassment cases were dealt as per central guidelines. There is a committee at the samaj kalian vibag (department) which has NGO, social workers on the committee. Any nurses' issues of this nature are referred to this committee.

3.5 Nursing in the Private Sector

The research team visited two private hospitals one in Almora and the other in Pithoragarh (there are no private hospitals in Pauri Garhwal) and requested hospital authorities to permit the research team to interview nursing personnel and observe facilities for nursing care including working conditions. One of the hospital authorities refused to allow the research team to interact with the nurses. Permission was obtained from only one hospital for detailed observation of the hospital and interaction with staff.

One hospital had 50 beds and the other had 80 beds. There were no registered nursing staff in either hospital. A brief description of the hospitals is given below.

Hospital A: Young girls were recruited after class 12 and given on-the-job training by retired nursing and medical personnel from the army. The syllabus is not based on any regulatory bodies. The doctor incharge said, 'We are not charging any fees for the course and the students do not get any certificate but they are getting a job.' The doctor declined to comment on the staffing position, their pay scale and denied permission to interview the staff. When asked about their job responsibilities the doctor's response was, "They monitor vital signs, administer injections and IV fluids and do transfer of patients. Deliveries are conducted by doctors."

Hospital B: Pharmacists are recruited and assigned nursing duties. The Executive Director of the hospital said that they had to recruit pharmacists because they did not get qualified nurses. The staffing position of the hospital was 36. Out of this six were doctors, five were pharmacists working as nurses and the remaining were assistants. When asked about the job responsibility of the pharmacist-nurse the comment was "All the technical parts are taken care of by doctors as three emergency medical doctors are always present." When the research team visited the ward the pharmacists were seen calling the doctor for almost all problems. They were paid Rs.5,000/- and nursing assistants were paid Rs.3,500.

In summary, the findings in this section indicate the urgent need to initiate measures for strengthening nursing services in the state in the interest of equity as well as positive outcome for health. An unhappy and frustrated workforce stagnant in their career; inadequately equipped with knowledge and skill; hampered by shortage of supplies, equipment and facilities; neglected by officials and policy makers cannot be expected to demonstrate enthusiasm and commitment for high quality care. This will result in poor quality care to patients and in turn reduce the expectation for care from public.

Section - IV

Nursing education in Uttarakhand: Availability, capacity and quality

4.1 Nursing education programmes

When the state was carved out in 2000, there were no training centres for nursing. Six ANM training centres and two GNM training centres that were part of the combined Uttar Pradesh state had been closed down before the reconstitution of the state as additional ANMs were not needed, and there were no vacancies. After the division of the State the five ANMTCs were reopened but did not run regularly.

Uttarakhand Nursing Council came into existence on 7th November 2002 on the same lines as the UP Nursing Council. The new council re-registered the trained nurses from other parts of India who were working in the State at the time of division. The state is now following the rules framed by the U.P. state government under sub-section (2) of section 33 of the nurses, midwives, assistant midwives (Auxiliary Nurse Midwives) and health visitors Registration Act, 1934 (U.P. ACT XV of 1934) adapted and modified in 2002.

At present, Uttarakhand has proportionately lesser number of nursing educational institutions compared to many other states in India. The latest INC data (August 2009) reveal that there are four ANMTCs, three Schools of Nursing, one Post Basic B.Sc. (N) college, five B.Sc (N) college and two M.Sc. Nursing colleges in Uttarakhand. Table 21 provides some details of the institutions. (Note: When assessing the number of training centres one should take into consideration that there are some discrepancies between the list published by the Indian Nursing Council on its website and the list available at the directorate in the state. The Assistant Director, Paramedical gave a figure of five ANMTCs, two GNM Training Centre in the government sector, four colleges of nursing with B.Sc. course and one college of nursing with M.Sc. course in the private sector. There is no Post Basic B.Sc. in the state).

Table 21: Availability of nursing educational programmes in Uttarakhand and India as per INC

S.no	Course	Government	Private	Total	Total in India according to INC website (2009)
1	ANM or MPHWF training	4	-	4	606
2	GNM training centres	-	3	3	1916
3	B.Sc. Nursing training	-	5	5	1167
4	Post Basic B.Sc.	-	1	1	226
5	M.Sc. Nursing	-	2	2	247

ANM Training: Discussions and direct observations revealed that there are six ANM training centres in the government sector but only five are working. There are no ANM training centres in the private sector in Uttarakhand. The ANMTC at Pauri Garhwal and Almora were opened in 2005 and the other three ANMTCs at Dehradun, Udham Singh Nagar and Pithoragarh were opened in 2008.

GNM Training: According to the government there is only one GNMTC - Himalayan Institute, Dehradun - in the private sector. This was started in 1996 with an intake of 20. The current intake is 45. There are two schools in the government sector (in Gopeshwar and Nanital) which are not functioning at present. The Government School of Nursing at Nanital is under renovation.

Collegiate Nursing: Collegiate nursing programme in Uttarakhand started in 2004 with the Combined (PG) Institute of Medical Sciences, College of Nursing. According to the government there are four private colleges of nursing - Himalayan college of nursing, Combined (PG) Institute of Medical Sciences, Shri Guru Ram Rai Institute of Medical and Health Sciences, College of nursing in Dehradun and Nainity College of Nursing in Nainital. The Government College of Nursing is under construction in the directorate campus in Dehradun.

Post Basic B.Sc. Nursing: The government states that there is no Post Basic B.Sc. Nursing course in government sector. In the private sector there is one college - Shri Guru Ram Rai Institute of Medical and Health Sciences, College Of Nursing.

M.Sc. Nursing: M.Sc. Nursing was started at Combined (PG) Institute of Medical Sciences, College of Nursing in 2008 with an intake of 13 per year. (The INC website indicates one private M.Sc. Nursing programme is being conducted at Shri Guru Ram Rai Institute of Medical and Health Sciences with intake of 12 since 2009).

4.2. Facilities in nursing institutions: Findings from study of institutions

The research team visited eight institutions to observe facilities and to interact with teachers and students. The number visited included four ANM training centers, one private college of nursing and one government school of nursing under renovation. One private college of nursing refused to provide any information and another private college of nursing was closed at the time of the visit.

Government ANM training centers

Building: Of the four ANM training centres under government, one ANM training centre was in a leased building and a new building is under construction for the centre, while the other training centers had own building.

Class room: The class rooms were adequate spacious. Electricity was present. Tables and chairs were adequate.

Library: One small room was allotted for library. Registers were maintained by the teachers and there was no separate librarian. sitting arrangement for students was not adequate. Almirahs were available for books. Books available in the library were old editions. There were very few old journals available in the library.

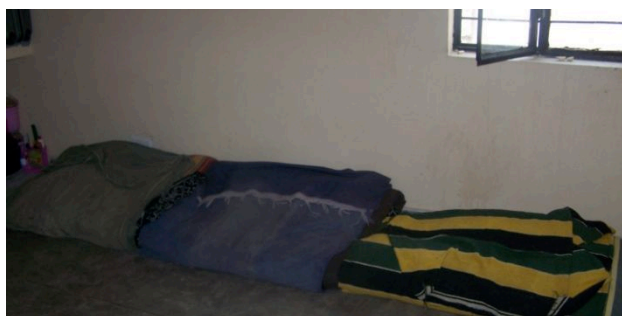


Library in Health Worker (Mahila) Training Centre, Dehradun

Skill Lab: The same room was used for both theory and practical classes. There was no separate skill lab for midwifery practical demonstration. Only a few models were available in most of the training centres.

Teaching facilities: Only few charts were available. Electronic AV aids – OHP, LCD, and computers - were not available. Regular classes were taken by teachers but without AV aids.

Hostel: Hostel accommodation was available in the of the training centre. The rooms in ANM Training were not sufficient for all the students. Each room furnished with cots which were placed very close together with very little space for walking. There no tables or chairs and cupboards for the students. were inadequate. In some of the hostels there were water facilities.



In Health Worker (Mahila) Training Centre, Dehradun, one batch of students were sleeping on the ground as cots were not adequate.

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Private College of Nursing

Class room: Class rooms were adequate, spacious and free from noise and pollution. Rooms were well ventilated. Electricity was available. Tables and chairs were adequate.

Library: Library facility was good. Separate hall was allotted and sitting arrangement was adequate. Librarian was available. Latest editions of books and journals were available. Computer lab was attached to the library and the students utilized the facility.

Skill lab: Separate skill lab was not available for midwifery practice. It was clubbed with fundamentals lab. Female dummy, organs and models were available.

Teaching facilities: Electronic AV like OHP, LCD Projectors and computers were available and were utilized by teachers for taking classes.



Library in the private nursing college, Dehradun

aids

Hostel: Hostel accommodation was available within the college campus. All the facilities like toilet, tables, chairs, cupboard and safe drinking water were adequately available in the hostel.

4.3. Profiles, perceptions and practices of teachers:

Twelve teachers from four ANM training centres in the government sector and one private college of nursing were interviewed. Teachers involved in teaching midwifery, community health and child health were included for interview. Out of 12 teachers, one was a LHV, four had PHN qualification, five had B.Sc nursing qualification and two had M.Sc nursing qualification with specialization in OBG nursing and pediatrics respectively.

Seven out of 12 teachers had more than 15 years of experience in teaching. Only 5 out of 12 had chance for in-service education related to midwifery though they were teaching the subject. None of the teachers had attended and participated in national conferences related to the subject they were teaching. It was observed that only one teacher conducted delivery regularly to demonstrate to students posted in the labour room. Almost all (9 out of 12) teachers said that they supervised the students in the labour room. Supervision in the antenatal and postnatal units was not as regular as that in labour room according to teachers. Almost all teachers participated in clinical teaching regularly.

Class test was the most frequently used method of evaluation of students. In addition to the class test, nine out of 12 teachers used return demonstration and case presentation as methods for evaluation of students. Seminar and panel discussion methods were rarely used by the teachers for evaluation. Very few teachers used case study method to assess students' understanding of the condition and the care provided to patients.

4.4. Perceptions and problems expressed by students:

The research team interviewed 41 students from various institutes- 35 students from ANM training centers and six students from college of nursing. The students were selected from final year or final semester of the programme so that they were aware of midwifery subjects.

In the ANM school only 25 students received clinical posting and completed experience in labour room, antenatal clinic, postnatal ward and family planning unit. All the students in the college of nursing who were interviewed also fulfilled the requirement of clinical posting at labour room, ANC clinic, postnatal ward, newborn ICU, antenatal ward and family planning unit.

The data in table 21 show that students in different programmes were given experience according to the syllabus.

Table 22. Students' performance in MCH care

S.No	Learning area in syllabus	ANM (n=35)		CON (n=6)	
		Under supervision	Independently	Under supervision	Independently
1	Conducting delivery	15	5	5	0
2	Antenatal examination	14	14	4	5
3	Postnatal care	20	19	5	3
4	Newborn resuscitation	14	0	6	0
5	Prevention of hyperthermia	13	7	5	5
6	Immunization	21	9	5	2
7	IUD insertion	12	5	5	1

Though most of the students completed witnessing key components of maternal and child health, there were gaps in actually practicing the skills. Only one third of the students of ANM training completed the required number in terms of delivery. In case of college of nursing students, none of them had completed conducting delivery independently. Large number of students witnessed deliveries compared to actually assisting during child birth. Few performed episiotomy suturing (13), neonatal resuscitation (20) and IUD insertion (17) under supervision.

Antenatal care experiences showed less gaps compared to postnatal or intra-natal. Students did not get enough opportunity to practice resuscitation of newborn and hypothermia prevention. Perhaps they need to make observations of abnormal or high risk cases and practice more on dummies and simulators. Reports of students also showed that most of them were able to complete experiences under supervision but they did not get opportunity to complete the number of cases independently.

Supervision and Guidance: Most of the students of both the categories expressed satisfaction with class room teaching. More than half of the students of both the categories said that they were supervised and guided regularly in the clinical area. Besides teachers, staff nurses, ward sisters and doctors guided students during their postings in the clinical area. All the students of ANM and College of Nursing expressed satisfaction with clinical supervision but few students were not satisfied with the clinical evaluation system.

In summary, nursing education in Uttarkhand is faced with a range of problems- poor facilities, inadequate teachers, incomplete practical experiences. Above all, students did not get adequate experience in independent performance of skills. Library is almost non-existent and teaching aids, books and material are out dated in the government sector. There is an urgent need to review the teaching methods and evaluation systems so that students have meaningful learning experiences.

Section - V

Recommendations for strengthening nursing in Uttarakhand

Nursing personnel are required in every sphere and level of the health care delivery system. Nursing personnel work in a wide range of situations from sub-health centres to medical college hospitals. Nurses are essential for health promotion and disease prevention in the periphery as well as to carry out sophisticated medical interventions in tertiary hospitals. Nurses are crucial to patient treatment and recovery because they provide continuity of care in hospitals due to their unbroken presence round the clock. Moreover, they are links in the continuum of care from preventive to rehabilitative, from community to hospital and back to community.

The scope of work of nursing personnel is enormous. Uttarakhand has 1765 sub-health centres, 239 primary health centres, 55 community health centres, 18 district hospitals and one medical college hospital. Besides the above, there are five ANM Training Centres. Nurses are required for the smooth functioning of each of these government health facilities and training institutions. Sufficient number of nurses with appropriate skills and knowledge are essential for achieving goals set by NRHM. In Uttarakhand, there are acute shortages in almost all categories of nursing personnel hampering the achievement of NRHM goals.

It is within this context that the assessment of nursing workforce in Uttarakhand was undertaken by the Academy for Nursing Studies in 2009 on behalf of the National Health Systems Resource Centre (NHSRC) with the approval of NRHM, Government of India and with the active participation of the government of Uttarakhand.

The findings of the situational analysis provide a framework for addressing shortages and preparing an action plan for strengthening nursing, midwifery and public health nursing in Uttarakhand. Urgent action is required to address shortfalls and meet immediate needs and also prepare concrete action plans for preventing shortages, reducing discrepancies and inequities.

In order of priority, the key issues to be addressed in Uttarakhand are:

1. Extremely few nursing educational institutions at all levels of training – ANM, GNM, B.Sc and higher
2. Weak nursing management at state and district level with absent or very few senior posts.
3. Inadequate promotional policies and negligible career opportunities
4. Acute shortages of nursing personnel in all cadres of nursing.
5. Inadequate and poor quality nursing education.
6. Negligible private health sector and absence of qualified nurses in private hospitals

Nursing workforce in Uttarakhand consists of personnel working in three distinct work areas: public health centres and communities; clinical areas such as hospitals and primary health centres; and, training institutions. Recommendations for strengthening nursing should focus on all these areas. This section provides some measures and recommendations for addressing urgent issues.

The recommendations are described in the following sections:

- 5.1 Addressing shortages of nursing personnel
- 5.2 Addressing shortages of nursing teachers
- 5.3. Designing career pathways for nursing
- 5.4 Strengthening nursing workforce management
- 5.5 Action plan for strengthening workforce in Uttarakhand

The government of India recognized that the availability of human resources in rural areas “is one of the serious challenges faced by the National Rural Health Mission” (Official Communication, GOI, 2006) and stated, “... a possible solution to this problem, would be to encourage the selection, recruitment, training and placement of nurses in a big way by the states. In fact, it would be desirable to constitute a Nursing Cadre by all States, so that their selection, training, placement, career progression etc. could be taken up in a systematic way.”

5.1. Proposals to address shortages in nursing personnel

The findings of the nursing situational assessment revealed huge shortfalls in frontline workers– ANMs – for delivery of public health services; and staff nurses and head nurses for hospital based services. The findings also revealed the absence of PHNs and DPHNOs in the State. In the teaching institution there is shortfall of tutors.

Data in table 23 show that the shortfall is greater for ANMs, staff nurses and matrons. There is no shortfall for LHVs and the shortfall for head nurses is very small. The critical fact here is that the training centres are negligible. Private sector is also not flourishing as in other states. Production of larger number of nursing personnel requires the establishment of training centre without delay. The present recommendations attempt at addressing these problems.

Table 23. Overall requirement of nursing personnel

Nursing personnel	Required	Shortfall	Teaching faculty		
			ANMTC	Required	Shortfall
ANMs	3892	1989	Principal Nursing Officers	5	5
LHVs	Nil	Nil	Public Health Nursing tutors	10	Nil
PHNs	55	55	Nursing Tutors	10	4
DPHNOs	26	26	Total	25	9
Staff nurses	3584	2848	College of Nursing under construction	As prescribed by INC after permission	
Head nurses	236	38			
Assistant matrons	45	28			
Deputy nursing superintendents	1	1			
Matrons	54	51			

5.1a. Proposals to increase the number of ANMs:

ANMs are vital frontline workers critical for implementing the several health programmes of the centre and state, providing technical services to mothers and children, giving first aid and treating minor ailments and gathering vital information. Most importantly they act as agents of change and promote health through education and information. Different options are presented here to increase number of ANMs in Uttarakhand.

- The first step for increasing number of ANMs is to enhance the capacity of the five existing ANM schools in the State. Currently, their admission capacity is 30 per batch (18 months). The Centres need strengthening in terms of hostel space, teachers and other facilities. If the intake is doubled and admissions are done once a year in these centres, 300 ANMs can be trained within 18 months from the date of admission. This will give 1200 ANMs by 2013.
- The government of Uttarakhand could start ANM training in the proposed seven sites - Uttarkashi, Haridwar, Haldwani (Nainital), Rudraprayag, Tehri, Champawat and Bageshwar. If these centres also admit 60 candidates each, then another 1260 ANMs will be available by 2013 taking the total ANMs to 2460. This will not only address the current shortages but also ensure some spare ANMs who can be recruited to fill new vacancies or new posts.

Table 24. Year wise plan to produce adequate number of ANMs as required

ANMTCs	Intake/ school (present) 2009	Intake/ school from 2010	Expected number of ANMs passed out in different years					Total
			2009	2010	2011	2012	2013	
Five existing government ANMTCs	30	60	150	150	300	300	300	1200
Seven new ANMTCs	-	60	-	-	420	420	420	1260
Total			150	150	720	720	720	2460

5.1b. Proposals to meet the shortfall of PHNs and DPHNOs:

PHNs: Uttarakhand does not have posts of PHNs and DPHNOs at present. The shortfall of PHNs and DPHNOs is 55 and 26 respectively. Currently, the PHN post is a promotional post in most states. Earlier, the PHN post was meant to be filled by either a nurse with an additional diploma in public health nursing or a nurse with graduation. Gradually,

the entry qualifications have been downgraded. The upward mobility of the LHV to PHN was closed many years back after the bridge course in general sick nursing was discontinued. At present, the option open to the government of Uttarakhand is to list all the senior LHVs, use some educational and experience criteria for shortlisting those who have additional qualifications and promote them as PHNs. The State has adequate number of LHVs to follow this plan. The selected LHVs require atleast a short crash training programme for one month to build capacity in planning and management.

DPHNOs: The qualification for DPHNOs is a diploma in Public Health Nursing or B.Sc (Nursing). The non functional ANM school in Chamoli could be activated for launching a Diploma in Public Health Nursing. If this is not feasible, one of the five schools mentioned above could be prepared to give public health nursing diploma. This diploma is essential both for PHNs and DPHNOs in the State. The admission capacity could be 30 per year. In the first year two batches could be admitted with six months gap in order to produce enough qualified persons to fill-up the vacant posts of PHNs and DPHNOs. The government could also depute candidates for DPHN course to other states to overcome the immediate shortfall.

5.1c. Proposals for addressing shortage of staff nurses:

Uttarakhand needs 2848 staff nurses in addition to those currently available. Immediate steps should be planned so that the current gaps are filled within a short period and future needs are met. With no GNM Training Centres under the government achieving the required number is a big challenge.

Option 1- Increasing intake in existing schools of nursing:

There is one private school of nursing in Uttarakhand having an admission capacity of 45. Discussions could be held with the authorities so that the seats are increased from 45 to 100. The Training Institute will need special help to fulfill requirements established by INC. If this step is taken, 435 qualified nurses will be available. The Government could enter into a contract with the Institute to provide some help to students and also to absorb them into service on completion of their studies.

Option 2- Opening of new GNM schools in the government sector:

There are two schools in the government sector (in Gopeshwar and Nanital) which are not functioning at present. Government of Uttarakhand could reopen the two schools as well as open two more schools of nursing with 100 intake per year. At the end of 2015, it is expected that 1200 students will be available from the four new schools in the government sector. Later the admission capacity could be reduced as required. Overall if all the measures are followed 1635 staff nurses will be available by 2015.

Table 25. Calculation of recruitment to meet shortfall of staff nurses at Uttarakhand

S. No	School of Nursing	Existing schools			Proposed intake/ yr In 2010	Candidates passing out after increasing intake						Total
		No	Intake	Total		2010	2011	2012	2013	2014	2015	
1	Enhancement of capacity in Himalayan Institute	1	45	45	100	45	45	45	100	100	100	435
2	New institutions	4	-	-	400 (100 x 4)	-	-	-	400	400	400	1200
	Total	5	45	45	500	45	45	45	500	500	500	1635

Option 3 – Immediate measures:

Staff nurses are required today, whereas the above measures will yield staff nurses only after nearly four years. The government could recruit qualified GNMs from the open market on a short-term contract ranging from three to five years on a consolidated monthly salary. There are many GNMs available in southern states.

Option 4 – Encouragement to new schools in private sector:

At present Uttarakhand has very few schools of nursing even in the private sector. Atleast eight schools of nursing may be encouraged and supported. With 60 intake per year the school will yield 1440 more staff nurses.

5.1d. Proposals to fill posts of head nurses and matrons:

Quality of supervision and guidance are essential in skill based professions. Uttarakhand needs 52 head nurses, 28 assistant matrons, one deputy nursing superintendent and 51matrons. All these are promotional posts. Administrative steps have to be initiated to prepare eligibility or seniority lists and promote them. This will of course create further vacancies of staff nurses that needed to be filled.

5.2. Addressing shortage of nursing teachers:

The most critical issue for increasing number of personnel is the very low availability of nursing teachers. Table 26 shows the overall shortfall of faculty for proposed (new and old) ANM Training Centres and new GNM Schools of nursing.

Table 26. Requirement for nursing teachers for proposed new and old ANM and GNM schools

Type of school	No. of schools	Total institutions	Required as per INC norms	Total	Existing	Shortfall
ANMTCs	Old- 5	12	7 x 12	84	17	67
	New- 7					
Schools of Nursing	Old- Nil	4	32 x 4	128	Nil	128
	New- 4					
Total		16		212	17	195 (92%)

There is a shortfall of 67 teachers who are needed to prepare 1989 ANMs through 12 ANM schools. Similarly another 128 nursing faculty are needed to prepare 2848 staff nurses through four proposed GNM schools in the government sector. Therefore an additional number of 195 nursing teachers are urgently required in Uttarakhand to prepare nursing personnel to fill gaps (ANMs and GNMs).

5.2a. Proposal for addressing shortfall of teachers at ANM and GNM training centres:

- Qualified candidates with B.Sc. Nursing from private sector can be recruited immediately.
- Willing staff nurses can be deputed for post-basic B.Sc. (N) to nearby states. (The state has selected 15 staff nurses for pursuing post-basic B.Sc. (N) under deputation but waiting for the approval from Government of India.)
- B.Sc. (N) graduates from states where there are many colleges may be recruited through open advertisement for a short period of 3-5 years.
- All B.Sc Nursing graduates in the state may be identified and posted as teachers.

Need for starting B.Sc Nursing Colleges

Uttarakhand needs at least two colleges of nursing to prepare graduates to take up teaching posts. One College of Nursing is already under construction in Dehra Dun and the other could be started with the medical college at Srinagar. These colleges should have both Basic and Post basic B.Sc (N) courses. One must remember that post basic B.Sc (N) programme will give candidates within two years.

At least one M.Sc Nursing institute should be started in the government sector but this may be started in the new college under construction. If the intake presented in table 26 is followed, there will be 280 nurses with B.Sc and 60 teachers with M.Sc by 2015.

Table 27. Year wise plan for increasing number of nursing teachers

Course	Proposed training centres	Proposed intake per year 2010	Candidates passing out			Total
			2013	2014	2015	
B.Sc (N)	2	50 x 2 = 100	-	-	100	100
PBBSc (N)	2	30 x 2 = 60	60	60	60	180
M.Sc (N)	1	20 x 1 = 20	20	20	20	60
Total			80	80	180	340

5.2b. Proposed plan for addressing shortfall of teachers for collegiate programmes:

- Depute willing candidates to other states for M.Sc. (N) course with either fellowship or through government deputation with assured promotion after completion of course.
- Recruit from the open market by advertising in national newspapers with attractive remuneration and benefits. There are hundreds of candidates with M.Sc. (N) available in southern states.
- Launch a faculty development programme so that skilled and committed teachers are attracted to remain in the state and those working outside the state return back.

Table 28. Shortfall of faculty for proposed colleges of nursing

Category	INC norms	Required faculty for 2 CON	Shortfall
Principals	1	1 x 2 = 2	2
Vice principals	1	1 x 2 = 2	2
Readers	5	5 x 2 = 10	10
Lecturers	7	7 x 2 = 14	14
Clinical instructors	18	18 x 2 = 36	36
Total	32	64	64

(INC norms – 1:10- one teacher to ten students – with annual intake of 50 or less in B.Sc. (N) and 30 or less in Post Basic B.Sc. (N) and 10 or less in M.Sc. (N).

5.3. Career pathways and progression

It is critical that the massive nursing workforce be nurtured so that their potential is used fully for health of communities. Nursing policies need to be reviewed and reorganized so that clear pathways are constructed and opportunities made available to those who wish to move up the career ladder. Unfortunately, career pathways have not been clearly defined or established and majority retire at the bottom or close to it.

The main problems are: the number of posts is far lower than required according to the norms; the number of steps on the career ladder are too few and far apart; the process and eligibility for upward mobility are too difficult or not available. Vacant posts have not been filled; new posts have not been created. On the other hand key posts have been left vacant for too long- so long that they are labeled as dying cadre. Training programmes for preparing nurses to take on teaching and supervisory responsibilities have not been established.

Career progression is built on the principal of fulfilling human aspirations for a higher and better life and self actualization in the chosen career. According to this:

- Employees must have equal opportunity to move upward in his/her cadre.
- Provision must be made for lateral mobility within the same career among different streams. This lateral movement helps to balance the different posts and the skills and experiences that staff have.
- Employees must have opportunity for climbing at least five steps on the career ladder during the entire period of service (30-35 years) if they chose to remain in the same profession or occupation.
- Equity principal should be followed- equal remuneration and opportunity for equal work and qualification but some form of encouragement for those who are at disadvantage.
- Those who do not attain the required higher skills or qualifications must also be facilitated to move on the career ladder and adjustment must be made for experience.

Career progress is crucial for satisfying the aspirations and needs of personnel. It also challenges individuals to achieve higher goals. If this does not take place at regular intervals, staff turnover will be high and staff performance will be low. The two primary care providers in nursing- ANMs and Staff Nurses- get very little opportunity to progress in their career spanning almost four decades. Career stagnation is one of the factors responsible for the poor situation in nursing workforce today.

Cadre clarity:

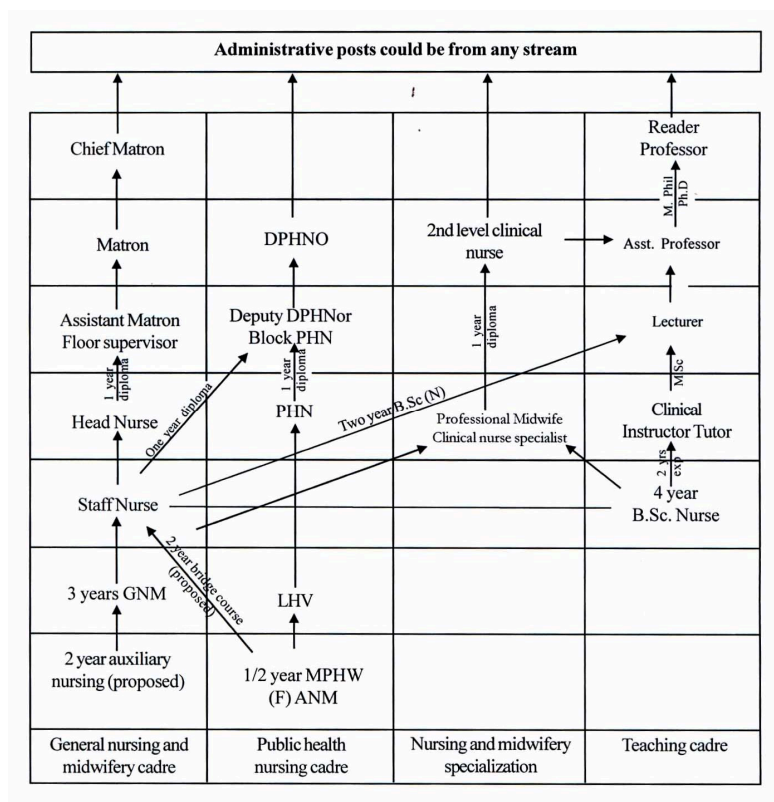
A detailed exercise is essential for formulating a career progression programme that clearly defines pathways for upward career mobility for each cadre. The first step in this direction is to define cadres. The study revealed ambiguity in understanding cadres and posts in Uttarakhand. Nursing is a service profession just as medicine or teaching or armed forces. Clarity is required as to what cadres are needed and how they should be structured and positioned, paid and rewarded. Based on extensive discussions and review of the situation in Uttarakhand today, and considering long term need, four cadres of nurses are recommended- general nursing cadre, public health nursing cadre, clinical nursing specialization and midwifery, and teaching cadre. Each cadre will have several posts.

It is proposed that staff nurses and ANMs- have three career options when they join government employment based on their interests, entry qualifications and additional education and experience:

1. Clinical nursing specialization and midwifery
2. Supervision and management
3. Teaching

The state will have to take strong measures with support from highest administrative and political levels to ensure that concrete and realistic plans are prepared and implemented. The career chart recommended here provides incremental capacity building with additional qualification and also study mobility – both vertical and lateral.

Recommended cadres and career pathways for nursing personnel



5.4 Strengthening nursing management

The senior most position at the state level is the Deputy Director of Nursing which is vacant at present. There is no directorate of nursing in Uttarakhand. It is essential that senior posts are available and that they are located at the state headquarter for obvious reasons. They provide a sense of identity and access to leadership to the lower cadres. These posts also help in assuring that nursing professionals not only provide inputs into decisions related to patient care but also take part in policies and plans involving nursing personnel. Above all senior posts help individual nursing personnel to higher professional achievement as these positions help in role modeling. As part of this study an attempt was made to organize nursing services into different levels according to qualifications, service seniority and posts.

Administration	Joint Director Nursing, Deputy Directors- DDN(PH), DDN(HN), Principal CON, Chief Matrons in Teaching Hospitals (TH)
Management level	AD Nursing CNE and quality, ADN (programmes), Principal - ANM, Principal- LHV, DPHNOs, ADN - GNM training; ADN - Nursing care quality and CNA; Principal - SON; Matrons of DHHs, Vice Principal - CON; Matrons of THs
Supervisory level	Nursing Tutors, clinical instructors, Community Health Officers or Block PHN, Head nurses
Service providers and field supervisors	Staff nurses, LHVs, PHNs, ANMs

At the state level, one Joint Director (JDN) will be the head of all nursing personnel and will be supported by three Deputy Directors of Nursing (DDNs). The GOI (2006) recommended to all states to establish posts of JD nursing, and where such person are not available to build capacity. One DDN will look after MCH services in public health and another DDN will look after nursing service in hospitals and third DDN will administer nursing education and ensure that quality is maintained. All the Chief Matrons or CNOs of the teaching hospital and the principal of the

college of nursing will report directly to the JDN. Most of the recommendations suggested here do not require additional posts to be created- some level of up gradation is required to lift up the nursing services in the state for achieving better quality performance.

In conclusion, this section has attempted to provide recommendation for preparing nursing personnel and teachers. Human resource development is however, not about numbers alone, but also about visualizing a career chart through which personnel are encouraged to give their best and achieve individual aspirations as well as organizational goals. If an efficient workforce is to be developed, a long term plan should be adopted.

5.5 Action Plan for strengthening nursing workforce in Uttarakhand

This action plan is a draft based on findings of the assessment of nursing situation in Uttarakhand carried out by Academy for Nursing Studies on behalf of NHSRC, Government of India. This is a short term (3 yrs) plan that will require regular monitoring and support.

	Year – 1		Year – 2		Year - 3	
1. Meeting requirements and addressing shortages						
1.1 Constitute state committee as a full time working group to plan and implement the Action Plan	x					
1.2 Prepare list of nursing personnel of all cadres required upto 2015	x					
1.3 Conduct detailed analysis of all available nursing educational institutions for gaps and action required for filling up the gaps including budget and time plan	x					
1.4 Prepare detailed proposals for the new institutions, etc including budget, work responsibility and detailed work plan (guidelines are available from INC).	x	x				
1.5 Allocate budget and start establishment of centres including INC permission, MOU	x	x				
2. Faculty procurement and development						
2.1 Immediate promotions for all available candidates with DNEA, DPHN, B.Sc (N), or M.Sc (N), including those who completed B.Sc (N) course through IGNOU.	x					
2.2 Deputation to study Diploma in nursing education and administration - 20 - Diploma in public health nursing - 20 - Post basic B.Sc. (N) – 60 candidates - M.Sc (N) – atleast 10 - Lists to be prepared and training centres to be identified	x	x	x	x	x	x
2.3 Strengthen capacity within state - Increase capacity in B.Sc and M.Sc. nursing courses specially post basic nursing. - Discuss with IGNOU for enhancing seats in Uttarakhand. - Encourage new institutions with PPP model	x	x				
2.4 Initiate plans for long term development – enhance M.Sc. seats, start two more M.Sc Nursing institutions in the private sector (based on institutional eligibility) Launch two more B.Sc. Nursing colleges with basic and post basic courses, initiate DNEA course		x	x	x	x	x
2.5 Recruit from open market - Within State: All candidates with qualification - Outside State: Nearly 100 on a temporary basis	x	x				
2.6 Faculty Development and Retention - Prepare a long term programme for faculty development with continuous inservice training,	x	x	x			

promotions and salaries, and opportunities for professional development with scope for attending conferences etc. - Plan for a cadre of nursing teachers specializing in nursing, midwifery and public health nursing						
2.7 Faculty induction course for fresh teachers for a period of three months with practical work	x					
3. Steps for strengthening management and administrative capacity						
3.1 Clarity in definitions of cadres, posts and responsibilities including a state nursing policy .	x					
3.2 Examine the management structure of nursing and prepare a plan for phased capacity development	x					
3.3 Design the organizational chart with different cadres for three different streams – clinical nursing, public health nursing, midwifery and specialization; and teaching.	x					
3.4 Prepare a career progression plan.	x					
3.5 Initiate nursing personnel information system	x					
4. Steps for strengthening nursing education						
4.1 Strengthen the state nursing council as an autonomous agency with budget and support personnel	x	x				
4.2 Institute autonomous accreditation system for examination and assessment of quality of teaching.		x				
4.3 Prepare procedures for clinical and field experience to ensure that students get adequate clinical experience		x				
4.4 Prepare an accreditation plan for accrediting training institutions to ensure high quality education	x	x				

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