Government of the People's Republic of Bangladesh
Ministry of Health and Family Welfare

Human Resources Report

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Directorate of Nursing Services

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In collaboration with
Human Resources for Health (HRH) in Bangladesh

Foreign Affairs, Trade and Development Canada | Affaires étrangères, Commerce et Développement Canada

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Editorial Board

Director (Acting)
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MESSAGE

I am delighted to present the Human Resources Report of Directorate of Nursing Services to our distinguished readers. This is second publication. This publication is a useful document for all in the nursing sector, ranging from policymakers and planners to the health managers and field workers. Our report presents the overall picture of the nursing human resources under the Directorate of Nursing Services and would provide useful information for the decision makers in the Nursing Sector.

The Directorate of Nursing Services, especially its DNS-PMIS Section has been continuously trying to collect accurate data from the field level and process these at the DNS headquarter. The accuracy of data has a direct impact on understanding of the actual situation, which, in turn, affects the decision-making process. Preparing this type of report is a first time experience of Directorate of Nursing Services. I hope quality of report will further improve in future with the help of PMIS team at DNS.

This is an enormous and difficult task but I am very happy that my colleagues at the DNS-PMIS team are doing their jobs efficiently, even with limited resources. I am grateful to the Department of Foreign Affairs, Trade and Development (DFATD) funded Human Resources for Health project for their constant support to and guidance for our activities.

There is some limitation in the accuracy and completion of the DNS-PMIS data however the DNS-PMIS team is working hard to improve the quality of data and this in turn improve the quality of the HR report in future. I want to extend my special thanks to Dr. Monira Parveen, Canadian Field Manager, Md. Mahbubur Rahman, IT Specialist, HRH Project, Salma Khatun, Project Officer, DNS-HQ and DNS PMIS team for their hard work in bringing out this useful report. I hope this report will be published by DNS-PMIS section in future.

Nasima Parvin

Table of Content

Section 1: Introduction and overview

Background:

DNS has a manual paper-based system, outdated equipment, and no web access, all of which result in a huge workload, poor productivity, and limits on access to data/information. The management of information was on an ad-hoc basis totally based on demand. To address this, Department for Foreign Affairs, Trade and Development (DFATD) funded Human Resources for Health project assist DNS to develop a web based Personnel Management Information System (PMIS) for the Directorate of Nursing Services under the Ministry of Health & Family Welfare. The process of development of such kind of web based PMIS happened through a number of consultative meetings/workshops with the participants of different professionals from the MoHFW, DGHS, DGFP, DNS, BNC and MoPA. The HRH project has taken all possible steps to make the system secured and sustainable. However, to make this web based system dependable to key users of MoHFW and DNS, some steps need to be taken on a priority basis. The final version of DNS-PMIS software has been presented at the MoHFW in presence of MoPA, DGHS and DGFP and was approved. The DNS-PMIS development process initiated in 2012 and officially inaugurated by honorable Minister, MoHFW in presence of Canadian High Commissioner on 31 December 2015. Currently the project is working with DNS to operationalize the DNS-PMIS software. This is a key task that is incorporated in the next Operation Plan (OP) of Nursing Directorate. The system of collecting necessary HR data, classifying them and processing for the proper operation of organization is main objective of this report. Human Resources management is itself a complicated job. Directorate of Nursing Services is planning to generate this type of PMIS report using limited resources and means for their further human resources development using the DNS PMIS software. This report is second publication. First publication has published in June 2016.

Current status of DNS PMIS:

DNS PMIS is now fully functional and operated by assigned new formed PMIS section. Having formed the current PMIS team, staff capabilities and demand of the information environment, the PMIS will accelerate more elements and greater opportunities to generate information that assists with workforce human resources management, including planning and evaluation. A total number of four DNS-HQ staff along with eight super users[1] of DNS PMIS software working for day to day PMIS operation. PMIS Executive Committee formed for further enhancement of DNS PMIS. 207 numbers of staff trained on DNS PMIS software to effective use of software.

Figure-1. Training session on DNS-PMIS software

[1] A super user refers to a user of a computer system with special knowledge and special privileges to maintain the system

Section 2: Data tables, Charts and Graphs

In this report only public sector nurses under the Directorate of Nursing Services are considered for analysis. Analysis of report was done based on data as of August 2016. Two types of workforce are working under Directorate of Nursing Services (DNS), Nurse and Non-nurse. Employees divided by four departments consists in Administration, Clinical Service, Teaching and Support staff.

Employee setup analysis:

Table-1: DNS Employees: Distribution by Division

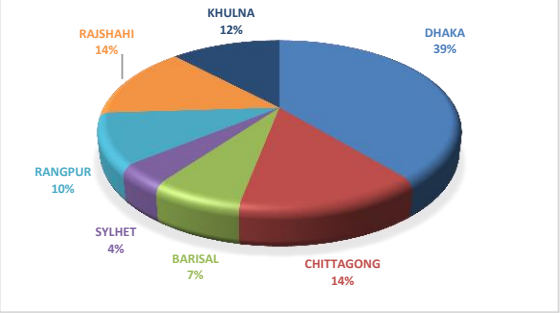
Divisions	Nurse[2]	Non-Nurse[3]	Total	Population	Pop:Nurse
DHAKA	6,998	351	7,350	46,729,000	6,677:1
CHITTAGONG	2,512	126	2,638	28,079,000	11,177:1
BARISAL	1,256	63	1,319	8,147,000	6,486:1
SYLHET	718	36	754	9,807,000	13,663:1
RANGPUR	1,794	90	1,885	15,665,000	8,730:1
RAJSHAHI	2,512	126	2,638	18,329,000	7,296:1
KHULNA	2,153	108	2,261	15,563,000	7,228:1
Total (Public)	**17,944**	**901**	**18,845**	***142,319,000**	7,931:1
Total (Public & Private Registered Nurse)			****41,894**		**3,397:1**

* Population and Housing Census-2011(Preliminary result), BBS, Published in July 2011[4].

**This number taken from BNC data sheet, August 2016[5].

In the above table-1 shows lowest number of nurse posted in Sylhet division which is 4% and highest number of nurse available in Dhaka division which is 39%. In Sylhet division Pop:Nurse ratio[6] is 13663:1 means 1 nurse per 13663 population in Sylhet division which is highest ratio among all divisions throughout the country in public sector. There is only 1 nurse for 7931 population in public sector whereas based on total registered nurse in public and private sector Pop:Nurse ratio is 1 nurse for 3397 population.

Figure-2. Percentage of nurse in different divisions



In bdnews24.com under opinion page; Shadab Mahmud, director of partnerships and fundraising, Good HEAL Trust; said "*There are around approx. 5 physicians and 2 nurses per 10,000 population, making the nurse-doctor ratio in Bangladesh only 0.4. This falls far short of the WHO standard of 3 nurses per doctor. In other words, there are 2.5 times more doctors than nurses in Bangladesh. Interestingly, the equal nurse-doctor ratio in Khulna and very low nurse-doctor ratio in Sylhet is also associated with better health indicators in Khulna and worse health indicators in Sylhet*[7]".

[2]Nurses are includes Senior Staff Nurse, Staff Nurse, District Public Health Nurse etc.

[3]Non-Nurses are includes Admin/Accounts Officer, Upper Division Assistant, Office Assist. etc.

[4]Ref. link: http://203.112.218.66/WebTestApplication/userfiles/Image/BBS/PHC2011Preliminary%20Result.pdf

[5]Ref. link: http://bnmc.gov.bd/cmsfiles/files/Total%20Registred%20Nurse-Midwife%2031%20July%202016.pdf

[6]Pop:Nurse ratio is population per nurse in Bangladesh

[7]Ref. link: http://opinion.bdnews24.com/2013/03/24/health-workforce-in-bangladesh/

Workforce demographic analysis:

Table-2: Yearly demographic trends:

Workforce Demographics	2011	2012	2013	2014	2015	2016
Male (%)	11	11	10	10	10	10
Female (%)	89	89	90	89	90	90
Average Age	**41**	**40**	**33**	**35**	**30**	**40**

Table-2 shows male employees were in 10% compared to female employees 90%. From 2015 and 2016 female and male employee ratio remains same. There are several reasons suggested for a low uptake of nursing by males; stereotypes of nursing, lack of male interest in the profession, low pay, nursing job titles such as Sister and Matron, and the perception that male nurses will have difficulty in the workplace carrying out their duties. Average age of employee is 40 years in 2016 which is increased from 30 years in 2015.

Figure-3. Percentage of nurses distribution by sex

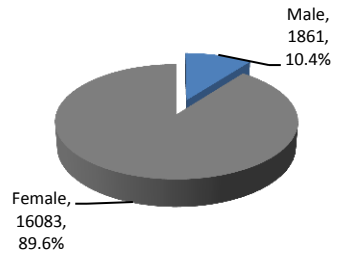


Table-3: Analysis by Age Group:

Age Group (AG)	# of Employee	% of AG
25-29	325	1.81%
30-34	2,928	16.32%
35-39	3,436	19.15%
40-44	3,856	21.49%
45-49	3,844	21.42%
50-54	2,198	12.25%
55-59	1,357	7.56%
TOTAL	**17,944**	

Figure-4. Percentage of nurse by Age Group

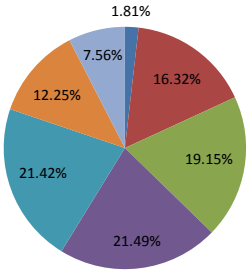


Table-3 shows highest number of nurse in age group “40-44” which is 21.49%. Lowest group is “25-29” which 1.81%.

Table-4: Department wise demographic analysis:

Departments	Total Staff	Male	Female	Average Age	% Total	% Male	% Female
Admin	365	123	239	49	1.94	33.98	66.02
Clinical Service	17,462	1,377	16,097	42	92.66	7.88	92.12
Teaching	502	58	444	48	2.66	11.55	88.45
Support Staff	516	325	181	45	2.74	64.23	35.77
Total	**18,845**	**1,885**	**16,961**				

DNS has four departments: **Administration** is refers to those employees who are involve with administrative and managerial work either nurse or non-nurse, **Clinical Service** is refer to those employees who are practicing nursing in the hospitals at different level. **Teaching** is refers to those employees who are Nurse instructor and Principal working into the Nursing Institutes or Colleges and **Support Staff** is refers to non-nurse staff like Driver, Cook, Mashalchi, Gardener etc.

Table-4 shows practicing nurse are highest in number which is 92.66 percent of total staffs. Male are highest in support staff category which is 64.23 percent and lowest in clinical service category which is 7.88 percent. Female are highest under clinical service which is 92.12 percent. Highest average age of employee is Administration which is 49.

Table-5: Department in class wise demographic analysis:

Departments	Total Employee	Class-I		Class-II		Class-III		Class-IV	
		Male	Female	Male	Female	Male	Female	Male	Female
Admin	365	0	89	32	174	0	0	71	0
Clinical Service	17,462	0	52	1,448	15,045	59	857	0	0
Teaching	502	0	0	89	413	0	0	0	0
Support Staff	516	0	0	0	0	0	0	59	457
Total	**18,845**	0	141	1,569	15,633	59	857	130	457
Total by Class		**141**		**17,202**		**915**		**587**	

There are four types of classes under Directorate of Nursing Services such as Class I, Class, II, Class III, Class IV

Table-5 shows lowest female are in clinical service category under Class-I which is 52. In clinical service under Class-III category 610 are midwifery position out of 857. Rest of 247 is non-nurse position. Under Directorate of Nursing Services there are 141 Class-I position, however these posts are filled up by deployment of nurses in additional charge, current charge and own pay and deputation. Table-6 shows 8,547 employees are not in original post which is 45 percent of total employees which is 18,845. In Clinical Service category 74 percent are deputed and 66 percent are own pay. Additional charge and attachment in different positions are in Clinic Service which is 97 percent.

Table-6: Department in different service status in percentage

Departments	Current Charge	Additional Charge	Own Pay	Deputation
Admin	1.06	1.75	7.24	2.23
Clinical Service	95.67	97.37	66.33	74.04
Support Staff	2.25	0.00	3.62	1.43
Teaching	1.01	0.88	22.81	22.29

Workforce vacancy analysis:

Table-6: Sanctioned, Filled and Vacant post by class:

Class	Sanctioned Post			Filled in Post			Vacant Post		
	Nurse	Non-Nurse	Total	Nurse	Non-Nurse	Total	Nurse	Non-Nurse	Total
Class I	345	1	**346**	141	0	**141**	204	1	**205**
Class II	30,216	22	**30,238**	17,193	9	**17,202**	13,023	13	**13,036**
Class III	610	379	**989**	610	305	**915**	0	74	**74**
Class IV		704	**704**	0	587	**587**	0	117	**117**
Total	**31,171**	**1,106**	**32,277**	**17,944**	**901**	**18,845**	**13,227**	**205**	**13,432**

Table-6 shows the total 13,432 posts are vacant. In nurse category 59 percent are vacant under Class-I and 43 percent vacant under Class-II. Among all the vacancies 98 percent vacant posts are in Class-II and 2 percent are in Class-I.

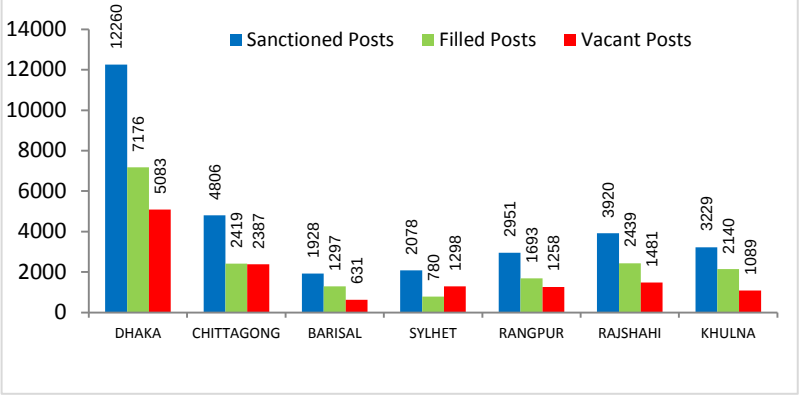
Table-7: Vacancy by division (Only Nurse):

Divisions	Sanctioned Posts	Filled Posts	Vacant Posts	% of sanctioned post
DHAKA	12,260	7,176	5,083	41.46
CHITTAGONG	4,806	2,419	2,387	49.66
BARISAL	1,928	1,297	631	32.71
SYLHET	2,078	780	1,298	62.47
RANGPUR	2,951	1,693	1,258	42.64
RAJSHAHI	3,920	2,439	1,481	37.78
KHULNA	3,229	2,140	1,089	33.72
Total	**31,171**	**17,944**	**13,227**	**42.43**

Table-7 shows the total nurse vacancy is 13,227 which are 42.43 percent of sanctioned post. 62.47 percent vacant in Sylhet division which is the highest. Vacant position is lowest in Barisal division which is 32.71 percent.

Figure-5 shows highest vacancy is at Dhaka division and lowest vacancy in Barisal division.

Figure-5. Bar chart in sanctioned, filled and vacant post by division



This vacant position as shown in Table-6, 7 and Figure-5 are not actually real vacancy because some of these positions are occupied by staffs who may be in current charge, additional charge, own pay or on deputation. Real vacancy should be higher than the shown figure.

Workforce retirement projections:

Table-8: Retirement projection nurse and non-nurse in next six years by division:

Divisions	Total Employees	Retirement in the next 6 years (2017-2022)	% of Retirement
DHAKA	7,350	774	4.11
CHITTAGONG	2,638	276	1.46
BARISAL	1,319	197	1.05
SYLHET	754	73	0.39
RANGPUR	1,885	158	0.84
RAJSHAHI	2,638	261	1.38
KHULNA	2,261	249	1.32
Total	**18,845**	**1,988**	**10.55**

A number of employees will be in Pre-retirement Leave (PRL) during next six years. Table-8 and Figure-6 shows in next six years 1,988 employees which is 10.55 percent of total employee will retire. Highest number of employees will be retried in Dhaka division which is 4.11 percent and lowest in Sylhet division which is 0. 39 percent.

Figure-6. Retirement projections of employee in next 6 years

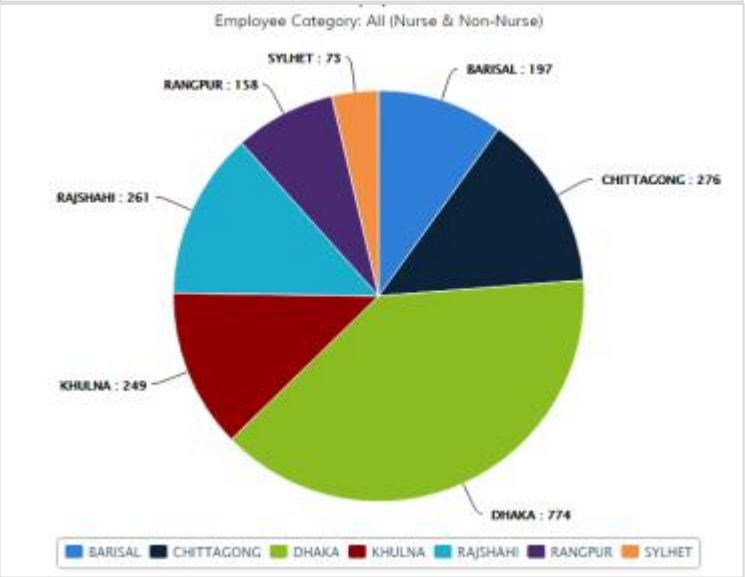


Table-9: Retirement projection only nurse in next six years by division:

Divisions	Total Nurses	Retirement in the next 6 years (2017-2022)	% of Retirement
DHAKA	6,998	737	4.11
CHITTAGONG	2,512	260	1.45
BARISAL	1,256	183	1.02
SYLHET	718	68	0.38
RANGPUR	1,794	148	0.82
RAJSHAHI	2,512	246	1.37
KHULNA	2,153	230	1.28
Total	**17,944**	**1,872**	**10.43**

Total 1,872 nurses will be on Pre-retirement Leave (PRL) in next six years. Table-9 and Figure-7 shows in next six years 10.43 percent of nurse employee will retire. Highest number of nurse will retire in Dhaka division which is 4.11 percent and lowest in Sylhet division which is 0.38 percent.

Figure-7. Retirement projections of nurses in next 6 years

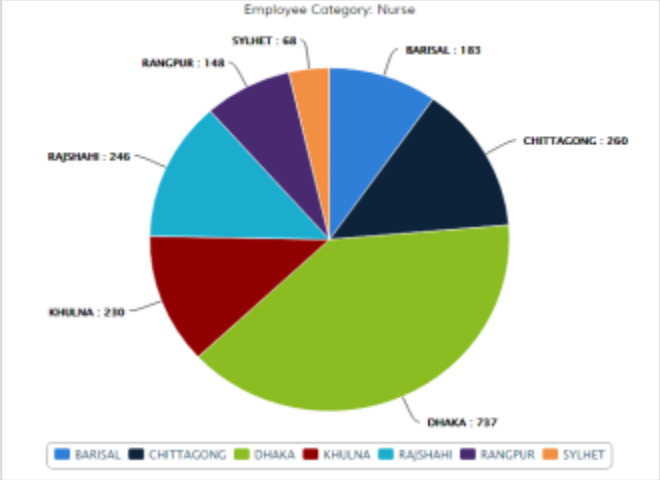
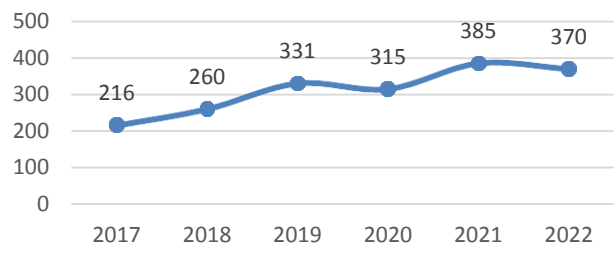


Table-10: Trends of nurse retirement projections, selected year

Division	Nurse Employees	2017	2018	2019	2020	2021	2022
DHAKA	6,998	75	105	137	127	158	145
CHITTAGONG	2,512	27	38	54	49	48	46
BARISAL	1,256	15	25	21	37	44	40
SYLHET	718	3	9	12	13	19	8
RANGPUR	1,794	24	15	30	23	23	33
RAJSHAHI	2,512	31	31	39	40	40	58
KHULNA	2,153	40	36	37	26	54	39
Total	**17,944**	**216**	**260**	**331**	**315**	**385**	**370**
Yearly retirement ratio against total nurse		**1.20**	**1.45**	**1.84**	**1.76**	**2.15**	**2.06**

Table-10 and Figure-8 shows nurses eligible for retirement from year 2017 to year 2022. In year 2021 the highest number of nurses will be in PRL which is 385.

Figure-8. Retirement Trends of employees in next six years



Bed ratio analysis:

Table-11: Bed ratio analysis of nurses in health facilities:

Health Facilities	Number of Facilities***	Number of Nurses	Number of Bed***	Bed:Nurse
Primary Health Care				
Up to Upazilla level	626	4,731	17,686	**4:1**
Secondary and Tertiary Health Care				
Secondary and Tertiary level (Chest hospital, Dental college hospital, District/general hospital, Hospital of alternative medicines Infectious disease hospital, Leprosy hospital, Other hospitals, Specialized hospital and Trauma center 50-bed hospital)	103	6,793	13,131	**2:1**
Medical College Hospital	18	4,310	12,963	**3:1**
Specialty-care postgraduate institute and hospital	13	1,247	3,184	**3:1**

***Source: Health Bulletin-2015, DGHS and DNS-PMIS software, DNS

Table-11 shows hospital bed per nurse in different health tire under Directorate of Nursing Services. In primary health care (Upazilla level) bed per nurse is 4:1 and secondary/tertiary health care bed per nurse is 3:1. This should be mentioned here that this picture only depicts for single shift only not covering the three shifts in 24 hours. In addition the bed occupancy rate is generally higher than the actual bed number.

Workforce education qualification:

Table-12: Education qualification for nurses under Directorate of Nursing Services

Education level	Education	Number of employee	% of Total nurse
Diploma	Diploma in Nursing	17,944	100.00
	Diploma in Midwifery (1 Year)	15,552	86.52
	Diploma in Orthopedic	1,685	9.37
	Diploma in Pediatric	60	0.33
	Diploma in Ophthalmic Nursing	31	0.17
	Diploma in Psychiatric Nurse	82	0.46
	Diploma in Other Specialist Course	242	1.35
	Diploma in Medical Technology	3	0.02
	Diploma in Advanced Nursing	10	0.06
	Diploma in Chest Disease Nursing	3	0.02
	Diploma in PHC	2	0.01
	Diploma in Cardiac Nursing	30	0.17
	Diploma in I.C.U Nursing	21	0.12
Graduate (Professional)	B.Sc in Nursing (Basic)	6	0.03
	B.Sc in Nursing (Post-basic)	1,836	10.21
	B.Sc in Public Health Nursing	968	5.39

Education level	Education	Number of employee	% of Total nurse
Post Graduate (Professional)	Masters in Business Administration	1	0.01
	Masters Community Health	6	0.03
	Masters in International Health	10	0.06
	Masters in Nursing	104	0.58
	Masters in Child Health	10	0.06
	Masters in Education for PHC	16	0.09
	Masters in Midwifery	70	0.39
	Masters in Public Health	1,062	5.91
	Others Masters	50	0.28
PhD	PhD in Public Health	17	0.09
	PhD in Community Medicine	1	0.01

Based on report of Bangladesh Nursing Council (June 2016[8]) registered 41,697 nurses are in public and private sector. Table-13 shows 17,974 are working in public sector that are obtained Diploma in Nursing and 15,552 are completed one year post midwifery course which is 86.52 percent. BS.c Nursing (Post-Basic)/Public Health Nursing 2804 and BS.c in Nursing (Basic) are only 6 against total number of nurses. 1062 Nurses obtained MPH and 18 Nurses obtained PhD.

Workforce capacity building:

Capacity building of nurses is a part of nursing operation plan (NESOP). Two types of trainings are organized for nurses in every year; one is locally arranged in-service training another one is foreign training arranged by enlisted training consultant firm as planned in NESOP.

In-service Training:

Figure-9. Training taken by employee in last six years

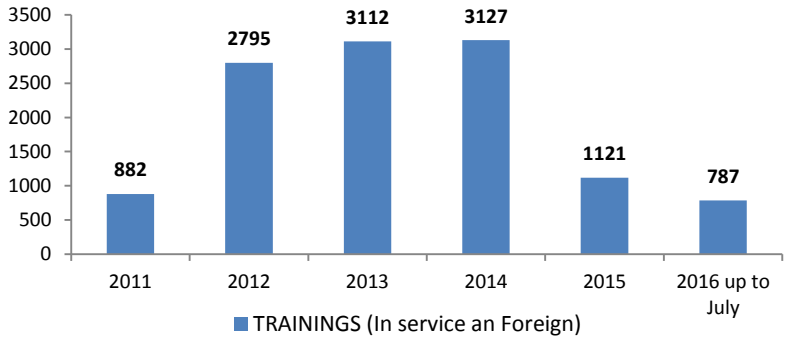


Figure-9 shows last six years training trends in DNS. Highest number of training conducted in 2014. Around 12,000 employees are obtained different types of training.

Table-13: Foreign Training as planned in operation plan of DNS and progress

[8]Ref link: http://bnmc.gov.bd/cmsfiles/files/Total%20Registred%20Nurse-Midwife%2031%20July%202016.pdf

Training Type	Total estimated plan (2011-16)	Cumulative Progress up to June 2015
Paediatric Nursing	30	30
Oncology Nursing	20	20
Trauma & Emergency Nursing	10	10
ICU	240	200
CCU	90	70
Nephrology Nursing	10	10
Respiratory Nursing	10	10
Adult Nursing	30	10
Paediatric Nursing	50	10
Orodental Nursing	10	10
Trauma and Emergency	30	30
Psychiatric and Mental Health	30	10
Geriatric Nursing	30	30
Ophthalmology	10	10
Nephrology	10	10
Respiratory	10	10
Midwifery	80	60
Policy formulation	20	10
Nursing Care Provision	10	10
Hospital Management	20	10
Disaster Management	30	30
Capacity Development and TOT in Sri Lanka	150	0
Study Tour	46	36
Total	**976**	**636**

Table-13 Shows 636 foreign training are done up to June 2015 as planned in operation Plan. This is against the target of 976 which is 65.16 percent.

The training plan should be need based for improving the service delivery and advancement of nursing career. The selection for training and deployment would be appropriately addressed for ensuring the quality of health services.

Limitations:

This report is prepared based on web-based PMIS software of Directorate of Nursing Services that is first time developed in nursing sector in Bangladesh. This has been a challenging process for last couple of years to collect HR data, its entry and validation work. Almost all Personal Data System (PDS) information has incorporated into DNS-PMIS software. DNS has a separate PMIS section and formed a team along with eight super users. PMIS team is working hard to get DNS-PMIS more functional with valid and reliable data. There may be some unintentional errors in this report which we expect reader's kind consideration. Hope this HR report will be published in future in a better informative way that helps the senior managers and policy makers.

DNS Canvas:

DNS canvas is for sharing the current activities of Directorate of Nursing Services on pictorial presentation.

A network meeting was held in 20 August 2016 for sharing current status of DNS in presence of nurse's representatives throughout the country.

Refresher training on DNS PMIS software was successfully completed in July 2016 at DNS-HQ.

A colorful nurse's day ceremony was held in 12 May 2016 in collaboration with HRH project in Bangladesh. Some moments of that day as below:

Project Steering Committee meeting was held on 03 May 2016 at conference room of MoHFW chaired by the Secretary of MoHFW. Some moments as below: