

9. The HSRP by the MOHP intends to improve national health outcomes, as well as the equity, efficiency, quality, and long-run financial sustainability of the health sector. It addresses underlying structural problems that require a complete overhaul of all aspects of the health system through a phased approach. The fragmented sector organization and management mechanisms had to be reformed to improve efficiency in financing and collaboration among various programs and between public and private sectors. Health service delivery systems need to be improved in efficiency and quality, as bed occupancy rates in many public hospitals are less than 50 percent, and PHC centers lack basic equipment and drugs. The first priority of the reform should be universal coverage with a basic package of PHC, including rationalization of the PHC delivery system, and reform of the HIO.

10. The HSRP also addresses issues of misallocation and low quality of health professionals, including nurses. Nursing education needs to be reformed, so that nurses can effectively play various roles from sophisticated curative care in hospitals to basic preventive care at the PHC level. As care providers of clients and their families and communities, nurses promote health, and prevent and treat diseases. Nurses could be managers and leaders both in service and in schools. Nurses play academic roles, including teachers and trainers of graduate and undergraduate nursing students, researchers at universities, and advisors and consultants in nursing for national and international agencies.

2. Nursing Education

11. Current nursing education programs are shown in Table 2. There are three different levels of nursing education programs in Egypt: (1) University (Faculty of Nursing); (2) Technical Institute (Nursing Branch); and (3) Secondary Technical Nursing School (STNS).

Table 2: Nursing Education Programs in Egypt

Admission Requirements	Duration	Certificate	Legislation
(1) University (Faculty of Nursing) Program			
(a) i) 12-year secondary level school education ii) Diploma of Technical Nursing with over 75 % of total graduation scores iii) Diploma of Secondary Technical Nursing with over 75 % of total graduation scores + Qualification examination (b) Personal interview (c) Medical examination	4 years + 1 year internship	Bachelor of Science in Nursing (BSN)	Licensed Professional Nurse
(2) Technical Institute (Nursing Branch) Program			
(a) i) 12-year secondary level school education ii) Diploma of Secondary Technical Nursing with over 75 % of total graduation scores (b) Personal interview (c) Medical examination	2 years	Diploma of Technical Nursing	Licensed Technical Nurse (TN)
(3) Secondary Technical Nursing School (STNS) Program			
(a) 9-year basic level school education (b) Medical examination	3 years	Diploma of Secondary Technical Nursing	Licensed Secondary Technical Nurse (STN)

(Source: MOHP)

12. **(1) University (Faculty of Nursing) program:** Applicants have to complete nine years basic education and three years secondary education. Applicants usually have over 92 percent graduation scores of secondary schools. The graduates are awarded Bachelor Degree in Nursing (BSN) after four years studies and one year internship. The curricula are designed to train practitioners who have managerial and teaching skills. There are 13 Faculties of Nursing in public universities: Alexandria, Cairo, Ain

Shams, Sohag, Asyut, Menia, Ismailia, Port Said, Benha, Tanta, Mansura, Dammanhur, and Dakahlia. In addition, Beni Suef University will open a new Faculty of Nursing in September, 2007. There are two private Faculties of Nursing: October Six University in Giza, and British University in Cairo. Faculties of Nursing of Alexandria, Cairo, and Ain Shams, which were established in 1950s, 60s, and 80s, accept about 300 students per year, while the rest of the above Faculties, established after the late 1990s, accept about 80 to 100 students per year. In total, about 3,000 BSN graduate every year.

13. About 40 percent of the students of Faculties of Alexandria, Cairo, the first year of Ain Shams, and Beni Suef are males, while the other Faculties accept only females. Cairo University Faculty of Nursing started to allow admission of male students in 2001. Increase of male nurses contributes to improve social status of nurses, and to increase number of nurses in service, as many female nurses take leaves for their life course events. In addition, male nurses are highly demanded in the Gulf countries, where they will be paid much better than in Egypt. Cairo University Faculty of Nursing also accepts about a dozen foreign students from Palestine, Iraq, Sudan, Djibouti, and Somalia. They have to pay higher school fee than Egyptian students, and usually half of the fee is covered by their government scholarship.

14. (2) Technical Institute (Nursing Branch) program: Applicants have to complete nine years basic education and three years secondary education or to graduate STNS with over 75 percent scores. The graduates are awarded Diploma of Technical Nursing after two years studies. There are 12 Technical Institute Nursing Branches under the Ministry of Higher Education and affiliated to the MOHP: Alexandria, Cairo/Giza (Imbaba), Ain Shams, Sohag, Asyut, Menia, Beni Suef, Fayoum, Suez, Menoufia, Tanta, and Mansura. There are another nine Technical Institute Nursing Branches affiliated to military, police, and universities. For example, Cairo University Faculty of Medicine has two Technical Institutes of Nursing: Kasr el Eini, and National Cancer Institute.

15. Most Technical Institutes accept about 24–29 students per year. Enrolled students are in total 700 to 800 per year and the majority are women, although Technical Institutes accept both male and female students. Most of the faculty members are females. Health Technical Institute (Imbaba) accepts about 200 students per year in the Nursing Branch, about 30–40 in the Midwifery Branch, about 15–30 in the Psychiatric Nursing Branch, and about 30–40 in the Emergency Service Branch. Most of the students in the Nursing Branch are graduates of STNS.

16. (3) Secondary Technical Nursing School (STNS) program: Admission is allowed after nine years of basic education. The graduates are awarded Diploma of Secondary Technical Nursing after three year studies. As listed in Appendix 3, there are 267 STNS in total: the MOHP runs 203 STNS at the central and governorate levels, the MOHP affiliations including HIO and CCO manage 38 STNS, and universities, Military, Police and non-governmental organizations (NGOs) own 26 STNS. All students attending on the MOHP-run STNS are provided with LE 10 per month stipend. Most STNS are in small scale, accepting less than 30 students each year. Enrolled students are in total 6,000 to 10,000 per year.

17. Although most STNS accept only female students, 15 MOHP-run STNS, a Military-affiliated STNS and a Police-affiliated STNS accept only male students, and seven MOHP-run STNS and three university-managed STNS accept both male and female students. Both male and female students learn the same curriculum during the first and the second year, then in the third year, female students learn midwifery and maternal care, and male students learn emergency care.

18. Table 3 shows various postgraduate nursing education programs. Most Faculties of Nursing provide with postgraduate programs for university graduates, *i.e.*, Master and Doctor Degrees and Diploma courses in various specialties. There are no Specialty Diploma courses for which the graduates of

Technical Institutes can apply. The graduates of STNS can enroll one year Specialty Diploma courses after two years practical experience.

19. There are various postgraduate in-service training programs that provide nurses with specific knowledge and skills, sponsored by the MOHP and donor agencies. The lengths of courses vary from a week to six weeks, depending on the subjects and targets. The National Training Institute of the MOHP in Abaseya, Cairo, hosts a variety of in-service training courses, including training courses for nursing school teachers from all over the country.

Table 3: Postgraduate Nursing Education Programs in Egypt

Certificate	Applicant	Duration	Roles of Graduates
Doctorate Degree in Nursing Science	Master	5 years	Graduates work mostly in nursing education institutions as faculty members, or in management position in health service institutions.
Master Degree in Nursing Specialties	BSN	Minimum 2 years	Graduates are required to work in specialized areas of practices, such as medicine, surgery, pediatrics, obstetrics, psychiatrics, community health, and administration.
Diploma in Nursing Specialties	BSN	1 year	Each university provides various Specialty Diploma courses, such as infection control, ICU, emergency, critical care, hospital management, psychiatrics, and midwifery.
Specialty Diploma in Nursing	STN + 2 year practice	1 year	There are Midwifery and Physiotherapy Diplomas. Oncology Diploma course started in 2000. STNS teachers are required to have a Specialty Diploma and an Education Diploma.

(Source: MOHP)

20. Majority of midwives have been educated in STNS. Some Secondary Nurse-Midwives have Midwifery Diploma obtained through a year postgraduate specialty education. There are nine Midwifery and Community Nursing branches at the Technical Institutes, which have been first established in 1997 in Cairo/Giza (Imbaba) and Alexandria. After two years study, the graduates are awarded Diploma of Midwifery Nursing and Community Nursing. The curricula are community oriented to address health problems at the community level. As of 2005, the graduates reached to 149. In addition, BSN may obtain Specialty Diploma or Master Degree in Obstetrics and Midwifery.

3. Career Paths of Nurses

21. When nursing students graduate STNS, Technical Institutes, or Faculties of Nursing, they register the Nursing Syndicate and are recognized as registered nurses. The Nursing Syndicate is a professional association, of which main roles are to provide its members with social safety-nets, such as inexpensive housing, disease compensation, and retirement benefits, etc. The Syndicate does not have academic and accreditation roles. STNS students have to pass a national standard examination before their graduation, while graduates of Technical Institutes and Faculties of Nursing take no national standard examinations.

22. Appendix 2 shows distribution of nurses of each qualification in each governorate. Urban governorates such as Cairo and Alexandria have more nurses and better qualified nurses than remote governorates such as Qena and Sohag. Most of the registered nurses enroll the MOHP and are deployed to the two year mandatory public services. The MOHP receives requests of posting nurses from each governorate, and prioritized wish lists of health facilities from the newly registered nurses. Then, the MOHP allocated the new nurses according to the designated ratios and criteria. This process is extremely complicated and often caused misallocation of nurses. The MOHP will start a computer matching system for deployment of nurses in 2007, so that nurses will be evenly distributed throughout the country.

23. Table 4 shows the numbers of registered nurses in the year 2006. The total number of nurses was 201,669, among which 6.2 percent were BSN, 0.9 percent were Technical Nurses (TN), 85 percent are Secondary Technical Nurses (STN), and 7.9 percent were other qualification including midwives. As shown in Figure 1, the numbers of nurses have been gradually increasing. However, only four nurses and 2.5 physicians are available for 1,000 patients in 2005. MOHP enrolled nurses were 149 per 100,000 population, while nurses in service were 134 per 100,000 population.

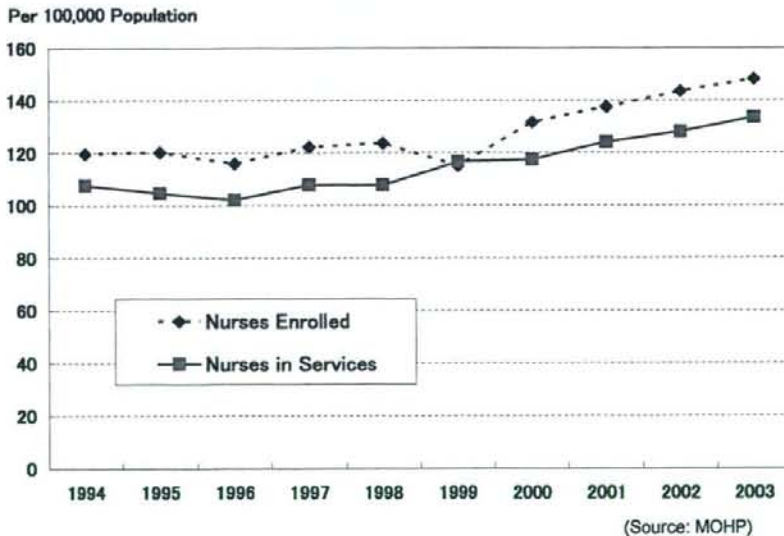
Table 4: Number of Nurses of Each Qualification (2006)

Qualification	In-Service			MOHP Enrolled			Syndicate Registered		
	Number	Ratio (%)	per 100,000 Population*	Number	Ratio (%)	per 100,000 Population	Number	Ratio (%)	per 100,000 Population
Professional Nurse (BSN)	2,555	2.8	3.8	3,022	3.0	4.5	12,503	6.2	18.5
Technical Nurse (TN)	1,455	1.6	2.2	1,551	1.5	2.3	1,815	0.9	2.7
Secondary Technical Nurse (STN)	82,340	90.7	121.8	91,409	90.8	135.2	171,419	85.0	253.6
Former 5-year Course Technical Nurse	348	0.4	0.5	ND	ND	ND	15,932	7.9	23.6
Midwives	ND**	ND	ND						
Nursing Aid	3,218	3.5	4.8						
Health Visitor	760	0.8	1.1						
Nurse with experience	140	0.2	0.2						
Total	90,816	100.0	134.3	100,671	100.0	148.9	201,669	100.0	298.3

*Total population: 67.6 million (see Appendix 2); **ND: no data available.

(Source: MOHP)

Figure 1: Nurses Enrolled and in Service



24. Among the registered nurses, 65 percent are employed by the MOHP general hospitals and PHC centers, 15 percent by the HIO hospitals, 12 percent by university hospitals, three percent by teaching hospitals, one percent by the CCO, and four percent by other institutions. The majority of nurses both in hospitals and PHC centers are STN. For example in Suez General Hospital, which had 540 beds with 30 percent occupancy, the posted nurses were nine BSN, five TN, 10 STN with Specialty Diploma, 247 STN, 47 male STN, and two part time nurses. Dar el Shefa Hospital in Cairo, which had 125 beds with 90 percent occupancy, had 25 BSN, 11 TN, four STN with Specialty Diploma, and 157 STN. Midwives usually work in the PHC centers or maternal and child health (MCH) centers, but do not work in delivery rooms or obstetric wards of hospitals, as most deliveries are attended by physicians who are mostly males.

25. About 10 to 20 top level graduates of Faculty of Nursing will be hired as clinical instructors of their Universities. Faculty of Nursing of a university can only hire the newly graduates of the same university, but cannot hire outside mid-career professionals, nor fire existing faculty members. After two years, the clinical instructors usually study in the master course, and then in the doctor course. Table 5 shows the numbers and degrees of faculty members in Cairo University and Ain Shams University. Junior faculties are willing to participate in research collaborations and teaching activities outside their universities, as this will contribute to their promotion.

Table 5: Number of University Faculty Members

Faculty Members	Degrees	Cairo University	Ain Shams University
Professor	Doctor	14	13
Associate Professor	Doctor	7	25
Lecturer	Doctor	16	67
Assistant Lecturer	Master	33	40
Clinical Instructor	BSN	48	40
Total		118	185 (about 60 on leave)

(Source: Faculties of Nursing, Cairo University and Ain Shams University)

26. The salary scales of public employees are fixed regardless of specialties and professional backgrounds, e.g., the monthly base salary of the graduates of universities is LE 125 and that of technical institutes is LE 45, regardless of their graduated faculties and qualifications. Benefits can be added as incentives, however, they are also in very low levels for nurses: e.g., LE 1 for a night shift, LE 3 for meals, and LE 2.5 for disease prevention. A BSN receives about LE 250 to 300 per month and an STN receives about LE 150 to 200 per month, net of tax, while a physician receives about LE 500 per month. This level of salary can cover only 10 to 30 percent of minimum monthly household expense.

27. Nurses in hospitals usually work in three shifts: 8:00-14:00; 14:00-20:00; and 20:00-8:00. Nurses in PHC centers work in the morning and afternoon shifts, but do not work at night. In addition, many PHC centers have donor assisted programs which provide with some incentives. Thus, PHC center positions are often more popular than hospital positions, and therefore many BSN work there. The MOHP decided to ban the assignment of BSN to PHC centers in 2007, so that they can be deployed to hospitals.

28. Female nurses can take full paid 15 days leave for marriage and three months for maternity. Then, they can take unpaid leaves up to two years for each child, or up to six years in total. They can also take unpaid leaves up to 10 years to accompany their husbands who work abroad. They can keep their graded positions during the long leaves. Employers can hire substitutes only at part-time contract basis, but are not allowed to hire anyone for the permanent positions even though the posted employees take very long leaves. However, nurses often quit jobs when they get married or give birth, mainly because their husbands, who usually work from 8:00 to 14:00, do not agree that their wives work in the three shifts.

29. Quite a few nurses are absent from their work. For example in Suez General Hospital, only 128 nurses out of total 320 posted attend on work. Most of the rest are absent for a while for working in private hospitals that pay nurses about LE 800 per month, and about 10 percent of absentees are taking long leaves. The number of posts in a hospital is usually decided by bed numbers, specialties, etc., even though the bed occupancy rate of the hospital is very low. In case of Suez General Hospital, only three patients were admitted in the 12 bed surgical ward. There were four nurses during the morning shift and two nurses each in the afternoon and night shifts. Both the supervisor and a patient were satisfied with the care provided by the nurses.

4. Strategy and Commitment for Strengthening Nursing Education

30. The Central Nursing Administration of the MOHP has prepared a strategic plan from 2007 to 2012 to upgrade and strengthen nursing education in Egypt. Under the plan, nursing education will be harmonized across institutions, curricula will be standard-based and accreditation mechanisms of nurses will be installed. The MOHP intends to upgrade STN, because they are not adequately trained and less regarded in the society. The strategy consists of the followings:

31. (1) Abolishing STN: Only two levels, *i.e.*, BSN and TN, will be retained instead of the existing three, thus 12 years of secondary school level education should be prerequisite for admission.

- In 2007, among the existing 200 STNS affiliated to the MOHP, 20 in six governorates (Alexandria, Cairo/Giza, Menia, Ismailia, Qaliubiya, and Sharkeia) are upgraded to become Technical Institutes. Faculty members of universities will participate in teaching and supervising the upgrading courses.
- The graduates of the pilot 20 STNS learn English intensively for six weeks in the newly started Bridging Course, and then will study for two more years to be the same level as the graduates of the Technical Institutes.
- In 2008, another 140 STNS will be upgraded to become Technical Institutes, after rationalized by merging and closing small schools.
- In 2009, the upgraded 160 STNS, the six week Bridging Course and two year upgrading courses will be evaluated. Then, the following issues will be decided: (a) to allow only secondary school graduates to enroll the Technical Institutes, or to keep the two year course after STNS (*i.e.*, five year nursing education after basic education); (b) to rationalize and upgrade all the rest of STNS, or to keep some of them.

32. (2) Improving quality of nursing education: The curricula will be upgraded, and accreditation and re-licensing mechanisms will be installed.

- In 2007, the MOHP has contracted with Northumbria University in the United Kingdom to improve quality of nursing education. The consultancy contract includes: (a) developing a strategic plan to improve quality and status of nurses; (b) preparing education materials in English for STNS teachers, the Bridging Course, and the upgrading course; (c) supervising training courses of teachers and other upgrading courses; (d) establishing Faculty of Nursing and a pilot Nursing Academy for continuing education in collaboration with Beni Suf University; and (d) developing the plan and curricula of training courses of the proposed Nursing Academies.
- In 2007, teachers training and STN upgrading courses in English are started.
- In 2007, the Nursing Supreme Committee accepted to establish the National Nursing Council, which is expected to play a role of accreditation and licensing of nurses. The members of the Council have not been chosen yet.
- Up to 2007, Quality and Performance Improvement teams have been established both in the MOHP and hospitals.

- After 2008, the mechanisms of accreditation of quality of nursing services, and re-licensing nurses every five years will be installed. The proposed Nursing Academy will play a role of accreditation and re-licensing.

33. (3) Deploying nurses properly: Nurses will be distributed properly between urban and rural areas, and hospitals and PHC centers.

- In 2007, benefits will be increased for incentives of nurses, although the base salary will be unchanged. For example, the increase of benefits will be: from LE 1 to LE 25 to 40 for a night shift; from LE 3 to LE 15 for meals; and from LE 2.5 to LE 10 for infection prevention.
- In 2007, a computer matching system will be started for deploying nurses.
- In 2006, BSN deployment to PHC centers was banned.

34. (4) Establishing Nursing Academies: It is proposed to build two Nursing Academies in Lower Egypt and one in Upper Egypt, in addition to the pilot Nursing Academy at Beni Suef University and the National Training Institute in Cairo. The Nursing Academies are expected to play roles of continuing education and accreditation of nurses and nursing training of unemployed graduates of other faculties.

- Providing nurses in-service with various short term specialty training;
- Accrediting and re-licensing of nurses;
- Providing science field university graduates with nursing education;
- Providing non-science field university graduates with medical administration training.

A part of running costs will be covered by the tuitions. Most of their instructors will be seconded from universities.

35. The MOHP expects the following support from the World Bank.

- Upgrade facilities and equipment of the new Technical Institutes converted from STNS: 20 STNS in 2007, and 140 in 2008.
- Rehabilitate and upgrade facilities and equipment of the existing 12 Technical Institutes.
- Evaluate the process of upgrading STNS to develop the next step strategies
- Review the curriculum of the Technical Institutes.
- Establish three Nursing Academies: one in Upper Egypt and two in Lower Egypt.

5. Activities of Other Donor Agencies

36. Currently few bilateral donors implement nursing education and training programs. Spain runs a health program entitled "Strengthening of Health Sector in Giza Governorate," which has a component of in-service clinical training of nurses in Giza. The three year project will be closed in December, 2007. USAID used to run "Health Workforce Development (HWD) Project," which aimed to improve nursing education and training, but the project was closed in June, 2006. Japan has assisted to establish Cairo University Faculty of Nursing, providing both the infrastructure and technical assistance. Japan also provided in-service training of Egyptian and African nurses in collaboration with the MOHP, and will start a new training course of African nurses in collaboration with Cairo University Faculty of Nursing.

III. STRENGTHS AND CHALLENGES

1. The Rationale of the MOHP Strategy

37. The overall direction of the MOHP strategy is appropriate to improve and strengthen nursing education; *i.e.*, to upgrade STN to the level of TN, and to establish accreditation mechanisms. The MOHP commit to implement the reform, and has started the first several steps of the strategy. As shown

in Appendix 3, about 90 percent of STNS are under the control of the MOHP, thus they can be rationalized and upgraded as intended by the MOHP. In addition, it would be feasible to educate all nurses after completing the secondary school education, since girls' secondary school enrollment rates are adequately high in most governorates, as shown in Appendix 2.

38. Improving quality of nursing education will require simultaneous efforts in various aspects, such as improvement of school infrastructure, capacity of teachers, curricula and teaching materials, and quality of primary and secondary education. The MOHP has started to train teachers and to develop teaching materials in English in collaboration with Northumbria University. Coordination with other ministries is also required, as responsibilities over universities, Technical Institutes, and the rest of STNS are shared among different ministries including the Ministry of Higher Education, and basic education is the responsibilities of the Ministry of Education. The collaboration with universities is working well. The MOHP counts on universities for dispatching their faculty members to instruct and coordinate the new upgrading courses.

2. Gaps and Challenges

39. Strengthening nursing education alone will not be sufficient to improve quality of health care in Egypt, and a broader strategy to reform human resource management and health service delivery systems will be required. Such a strategy should include a health workforce deployment plan at national and governorates levels, policy reforms defining adequate incentives for skilled health professionals to stay in the public sector and to accept posts in relatively remote areas, accreditation and evaluation mechanisms of health professionals, an analysis of the required skill mix for both the public and private sectors, and rationalization and quality improvement of public health facilities. The strategy also needs to be ensured in terms of financial feasibilities and sustainability, and political commitment.

40. It should be a priority to improve knowledge, skills and motivation of the existing STN, who are the majority of the Egyptian nurses. All the STN should be eventually upgraded to TN, although the current MOHP strategy mainly focuses on the upgrading courses for the newly graduated STN and short-term specialty training for nurses in-service. There is a continuous education plan that has already retrained 500 STNS and will continue to provide with training of trainers and managers in various specialties. Technical Institutes should play roles of upgrading the existing STN, but they need to improve their teaching staff capacity and facilities.

41. It is important to establish licensing and accreditation mechanisms of nurses. Standardized national examination for obtaining a nurse license should be installed. The newly established National Nursing Council may play such roles. The Nursing Syndicate may have a role in licensing and accreditation, although it has not played any academic and technical roles until now.

42. It should be also a priority to increase nurses in remote areas, where they are in absolute shortage. The efforts to increase in quantity need to be carefully balanced with those to improve quality. Number of nursing students in remote governorates should be increased, as it may be difficult to relocate nurses from urban areas to remote areas.

43. The MOHP criteria to allocate nurses do not necessarily meet the needs. For example, many nurses deployed to the MOHP hospitals according to the number of beds, although there are many vacant wards. In addition, many nurses are absent from work, taking leaves legally or illegally. It is needed to rationalize the size and number of public hospitals and PHC centers, so that these facilities would function efficiently, and optimum number of nurses can be allocated.

44. Improving nursing education and in-service training should be done based on concrete evidences. Quality and Performance Improvement teams are recently established at the MOHP and hospital levels, and play roles of controlling risks of poor performance of nurses. However, the mechanisms to collect risk cases without blaming nurses have not been established yet. Current teaching materials have been mostly adapted from international materials such as those of Northumbria University, which were reviewed by Faculties of Nursing of Cairo, Ain Shams and Alexandria Universities. It is needed to find out what knowledge and skills are in shortage among nurses in Egypt, and to develop suitable education and training modules based on the evidences in Egypt.

45. The MOHP plans to teach nursing students in English, so that the curricula would meet an "international standard." However, there is no established international standard of nursing education curricula, which may be defined by the World Health Organization (WHO) or International Council of Nurses (ICN). Therefore, this policy seems to intend to train English-speaking nurses who will be able to work abroad. It is not necessarily required to educate Egyptian nurses in English, as both students and teachers may not have sufficient language skills, and they may misunderstand important clinical knowledge. Instead, Arabic education materials should be developed, so that students can understand the contents well.

46. Establishing Nursing Academies should be delayed to a later phase, after a careful evaluation of the pilot program at Beni Suef University, as well as the activities of upgrading STNS. It is too ambitious to establish three new Nursing Academies for continuing specialized education of nurses and nursing education of other faculty graduates, while the ambitious activities to upgrade 160 STNS are on going. Training unemployed university graduates to pursue a nursing career is an innovative initiative, however, this may not be the priority for the current efforts of strengthening nursing education.

47. Midwifery education and status of midwives should be improved. The education levels and social status of majority of midwives are relatively lower than nurses, although midwives play important roles to provide women and newborns with comprehensive care, both curative and preventive. Secondary Midwives should be abolished: midwives should be upgraded to at least the postgraduate Specialty Diploma level.

48. It is necessary to assure appropriate career paths of nurses, along with their knowledge and skills are improved. Proper incentive mechanisms should be installed, so that providing upgraded nursing services can result in improved social status and incomes. The MOHP needs to secure budgets to provide with appropriate incentives.

49. It is urgently needed to install performance based evaluation and incentive mechanisms among public employees. Reforming the rigid public sector human resource policies is a most fundamental issue that needs to be addressed, although this might be beyond the authority of the MOHP. Nurses are guaranteed life-long public employment regardless of performance, and allowed to take long leaves while keeping their graded posts. The level of base salary is kept extremely low, thus many nurses are absent from their work for taking another job. This undermines professional morals and discipline. Low moral and lack of discipline seems to be more serious issues than the quality of nursing education for improving nursing services.

IV. RECOMMENDATIONS

1. Steps for Strengthening Nursing Education

50. Summarizing above described gaps and challenges, the followings are recommended to develop and implement a feasible and sustainable action plans in nursing education.

- The overall direction of the MOHP strategy is right, however, activities in the strategy need to be prioritized and done by step by step manner.
- Before upgrading, it is needed to map STNS and rationalize them.
- Nurses in remote areas should be increased through increasing the number of local nursing students.
- Existing STN need to be upgraded. Technical Institutes could be the places for their re-training.
- Existing and newly-upgraded Technical Institutes should be improved in terms of facility and equipment, as well as the capacity of teaching staff.
- The MOHP needs to secure budget to provide with proper incentives.
- Performance evaluation mechanisms should be introduced and linked to an incentive mechanism.
- Education curricula should be developed based on concrete evidences of clinical cases in Egypt.
- Arabic education materials should be developed.
- The status and education of midwives should be improved.
- Establishing Nursing Academies should be delayed to a later phase, after evaluating other activities.

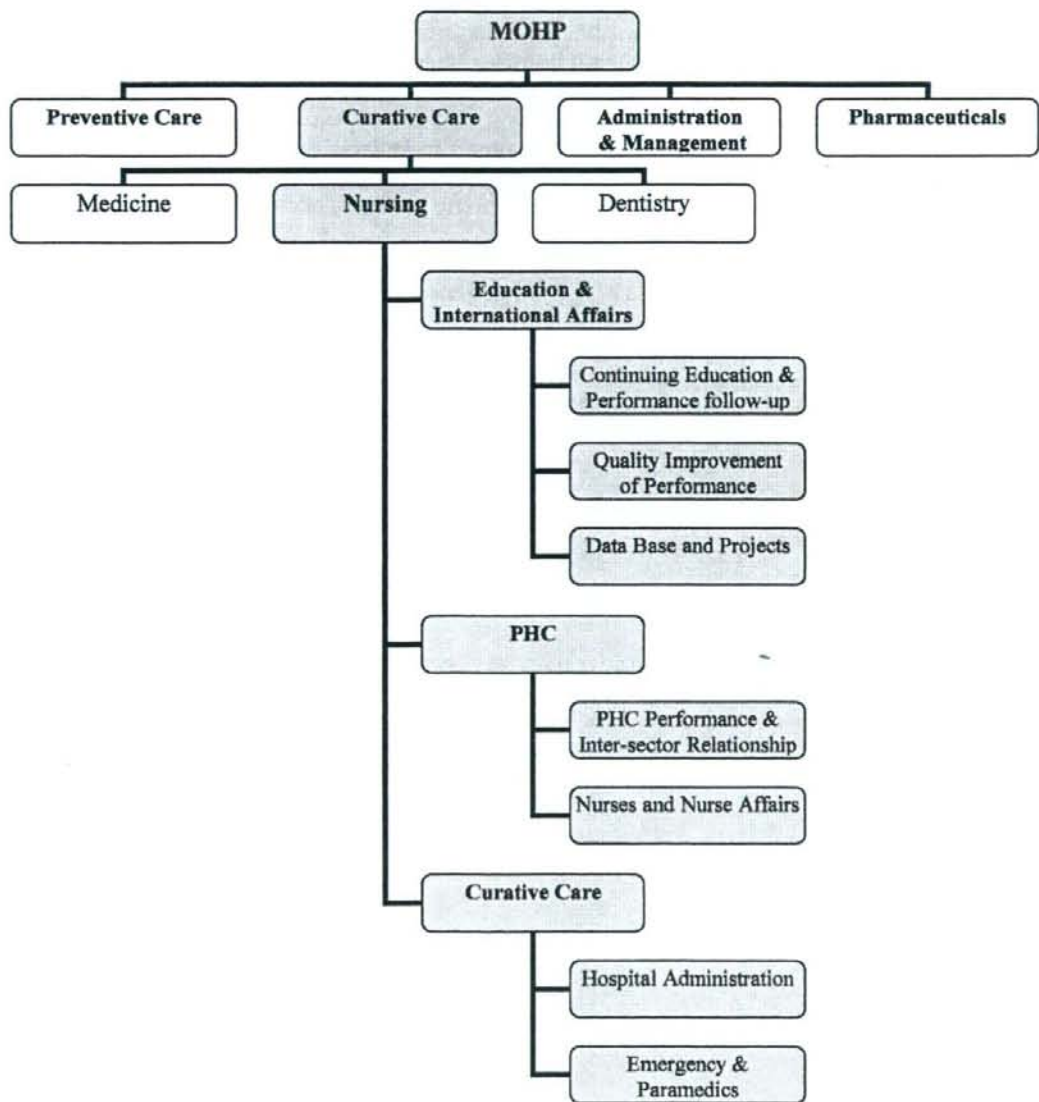
2. Expected Roles of the World Bank

51. The World Bank should continue to support the commitment of the MOHP to strengthen nursing education, improve quality of nursing services, and to develop efficient and effective health services.

Expected roles of the World Bank are as follows:

- Rehabilitate existing 12 Technical Institutes after examining the situation. Management training should be provided simultaneously, in collaboration with other donors or Northumbria University.
- Map the 241 MOHP affiliated STNS throughout the country and make a plan of merging, closing and rationalizing them.
- Upgrade the rationalized number of STNS to Technical Institutes and provide with facilities and equipment.
- Coordinate with other stakeholders, such as bilateral donors and WHO, to provide the MOHP with necessary technical assistance, including: development of curricula and teaching materials; evaluation of education quality as well as the upgrading activities; improving teachers' capacity; installing risk management mechanisms; and preparing licensing and accreditation systems.
- Continue to support the MOHP to reform and rationalize health services in the public sector and to define roles of the public and private sectors.
- Continue discussions with the Egyptian government regarding human resource management policies and budget allocation.

APPENDIX 1. ORGANIZATION STRUCTURE OF THE CENTRAL ADMINISTRATION OF NURSING



APPENDIX 2. BASIC INDICATORS AND DISTRIBUTION OF NURSES IN EACH GOVERNORATE

Governorate	Basic Indicators*				Nurses of Various Qualification**										Number of Nurses per 100,000 population				
	GDP per capita (LE)	Population (thousands)	Secondary school enrollment rate (%)	Under 5 mortality rate (per 1,000 live births)	BSN		TN		STN					Assistants		Ex-peri-ence	Total		
					Ms/PhD	Number of Beds	Nurse	Mid-wife	5 year	Specialty Diploma (+)	Specialty Diploma (-)	Nur	Mid-wife						
									F	M	F	M	F	M					
Cairo	10,543	7,497	88	39	1	116	35	47	4	802	35	3,941	159	35	61	10	5,246	70	
Alexandria	8,365	3,691	98	29	3	552	270	87	13	101	3	2,352	21	28	50	55	3,535	96	
Port Said	12,546	522	94	25	0	25	19	0	0	27	0	991	42	2	5	0	1,111	213	
Suez	9,495	469	95	24	0	1,137	0	7	0	39	1	791	126	5	0	0	986	210	
Ismailia	6,211	825	83	28	0	1,640	0	7	28	3	0	1,295	109	1	11	0	1,454	176	
Dormiata	6,482	1,035	91	18	2	2,066	0	69	18	0	0	4,752	484	0	65	0	5,388	521	
Dakahlia	4,535	4,746	89	24	2	4,478	2	493	93	58	1	311	3	6,006	51	49	160	0	
Sharkia	4,336	4,906	86	27	3	3,624	0	479	83	27	0	281	14	4,203	110	20	90	4	
Qaliubiya	5,591	3,732	69	23	2	2,858	1	97	44	38	0	259	35	3,753	243	10	86	5	
Kafr el Sheikh	5,223	2,492	89	19	2	2,846	0	416	109	12	0	111	0	3,828	145	0	50	0	
Gharbiya	5,511	3,791	89	23	3	3,688	7	1,300	372	28	1	692	6	8,645	156	29	74	17	
Menoufia	4,368	3,112	80	22	2	2,003	1	383	66	19	0	250	12	4,978	125	24	114	0	
Behera	4,846	4,515	70	19	2	2,440	0	539	374	87	0	174	0	7,200	168	85	56	129	
Giza	6,381	5,427	67	24	4	4,919	0	75	42	60	0	559	1	4,290	20	13	42	0	
Fayoum	3,746	2,321	66	34	2	2,091	0	29	37	5	0	81	0	2,803	120	17	10	0	
Beni Suef	3,454	2,162	59	41	1	1,865	0	11	16	14	0	117	8	2,583	96	62	141	0	
Menia	4,061	3,875	76	44	3	3,275	0	63	24	1	2	65	11	2,642	514	60	168	32	
Asyut	3,120	3,281	62	53	3	3,966	0	86	61	10	0	0	0	6,415	1,164	36	10	0	
Sohag	3,399	3,655	72	43	2	2,807	0	29	35	1	0	13	4	1,934	72	8	54	0	
Qena	4,075	2,820	84	38	2	2,005	0	10	7	0	0	19	0	1,565	219	0	36	2	
Aswan	4,957	1,077	97	35	1	1,618	0	15	22	0	0	0	0	1,456	376	2	11	0	
Matrouh	6,604	255	54	28	1	1,492	0	31	1	1	0	4	0	825	44	2	2	0	
Wadi el Jadid	5,886	163	96	25	6	651	0	13	8	3	0	36	19	672	314	0	4	0	
Red Sea	8,308	179	73	24	4	455	0	18	3	0	0	6	3	219	32	0	14	0	
North Sinai	6,490	295	70	34	4	485	0	33	0	0	0	10	0	771	269	0	5	0	
South Sinai	11,985	62	55	18	1	174	0	15	5	0	0	0	0	231	100	0	2	0	
Luxor City	3,971	407	93	36	5	565	0	6	1	0	0	1	0	354	28	0	12	0	
Total (Average)	5,742	67,604	78	31	61,176	15	4,927	1,780	501	21	3,958	155	78,980	5,307	488	1,333	254	98,331	145

(Source: *UNDP/The Institute of National Planning Egypt; **MOHP Human Development Report 2004; **MOHP 2006)

APPENDIX 3: SECONDARY TECHNICAL NURSING SCHOOLS IN EGYPT

Source: MOHP (2006 – 2007)

No.	Affiliation	Name of School	Total Number of Students		Number of Teachers with Specialty Diploma
			Female	Male	
1	MOHP	Nasser Institute	99	0	4
2		Haram	64	0	4
3		Sharq Elm Dina	71	0	7
4		Salaam City	73	0	6
5		Agoza	88	0	6
6		Dar el Shefa	50	0	3
		Total	445	0	30
7	Psychiatric Directorate	Abaseya 1 (boys)	0	134	2
8		Abaseya 2 (girls)	118	0	1
9		Khanka (boys)	0	149	10
10		Helwan (boys)	0	70	1
11		Mamora (Alexandria)	67	0	5
		Total	185	353	19
		MOHP (Central) Total	630	353	49
12	Governorate Cairo	Ahmed Maher	136	0	2
13		Manshyet el Bakry	73	0	2
14		Sadr el Abaseya	136	0	3
15		Homiat el Abaseya	157	0	5
16		The Italy	75	0	2
17		Khazendara	67	0	3
18		Monira	140	0	5
19		Dar el Salaam	63	0	2
20		Helwan el Aam	74	0	2
21		Shoubra el Aam	143	0	3
22		Khalifa	75	0	-
23		Bolaq el Aam	73	0	2
24		May 15	72	0	2
25		Zawia el Hamra	63	0	3
		Total	1,347	0	36
26	Alexandria	Dar Ismael	59	0	5
27		Raas el Teen	49	0	5
28		Amria	70	0	6
29		Agoza	77	0	5
30		Borg el Arab	58	0	4
31		Abou Qeer	67	0	6
		Total	380	0	31
32	Port Said	Port Said	143	0	5
33		Nasr	110	0	9
		Total	253	0	14
34	Suez	Suez (boys)	0	25	1
35		Suez (girls)	145	0	3
		Total	145	25	4
36	Ismailia	Ismailia (boys)	0	51	2
37		Ismailia (girls)	62	0	4
38		Tal el Keber	75	0	4
39		Fayed	67	0	1
40		Qantara West	70	0	7

		Total	274	51	18
41	Dommiata	Dommiata	74	0	3
42		Farascor	76	0	2
43		Kafir Saad	75	0	4
44		Zarqa	65	0	3
		Total	290	0	12
45	Dakahlia	Mansura	79	0	2
46		Talkha	77	0	2
47		Sherben	84	0	2
48		Belkas	75	0	1
49		Dakarnes	79	0	1
50		Senbelawen	83	0	1
51		Aga	77	0	3
52		Manzala	77	0	1
53		Matarya	77	0	5
54		Met Ghamr	75	0	2
55		Nabro	73	0	1
56		Menyet el Nasr	80	0	3
57		Ebed	82	0	3
58		Met Selsel	81	0	8
59		Gamalia	80	0	7
60		Mahalet Demna	77	0	6
61	Gamasa	60	0	3	
		Total	1,316	0	51
62	Sharkeia	Zaqazeq (boys)	0	74	-
63		Zaqazeq (girls)	75	0	1
64		Fefya	74	0	2
65		Menia el Qamh	76	0	-
66		Derb Negm	72	0	4
67		Belbes	76	0	-
68		Abou Hamad	76	0	1
69		Faqos	75	0	2
70		Kafir Saar	75	0	1
71		Hussenia	75	0	7
72		Qoren	73	0	10
73		Abou Kebeer	72	0	1
74	Ebrahymia	26	0	4	
		Total	845	74	33
75	Qaliubiya	Benha (boys)	0	24	2
76		Benha (girls)	75	0	3
77		Khanka (girls)	72	0	1
78		Kafir Shokr	73	0	2
79		Tokh	75	0	3
80		Qaliob	75	0	1
81		Shoubra el Khema	72	0	3
82		Kanater	74	0	2
83	Sheben el Kanater	73	0	1	
		Total	589	24	18
84	Kafir el Sheikh	Kafir el Sheikh (boys)	0	82	3
85		Kafir el Sheikh (girls)	163	0	3
86		Balteem	87	0	5
87		Ryad	59	0	3

88		Desooq	79	0	4
89		Bella	86	0	3
90	Kafr el	Sedy salem	84	0	2
91	Sheikh	Foh	83	0	5
		Total	641	82	28
92	Gharbiya	Tanta (boys)	0	82	3
93		Tanta (girls)	78	0	1
94		Mahala	80	0	6
95		Qotor	80	0	1
96		Samanod	80	0	4
97		Santa	78	0	1
98		Basyon	83	0	3
99		Zefta	80	0	1
100		Kafr el Zayat	78	0	1
		Total	637	82	21
101	Menoufia	Sheben el Kom (boys)	0	75	3
102		Sheben el Kom (girls)	75	0	3
103		Monof	75	0	4
104		Bagor	76	0	4
105		Shohada	77	0	2
106		Ashmon	74	0	4
107		Berket el Sbaa	78	0	3
108		Tala	77	0	1
			Total	532	75
109	Behera	Damanhur (boys)	0	75	6
110		Damanhur (girls)	75	0	6
111		Abou el Matamir	79	0	4
112		Delengat	79	0	6
113		Rashed	80	0	4
114		Tahrer	80	0	3
115		Etay el Baroud	75	0	-
116		Kafr el Dawar	74	0	1
117		Shoubra Khet	79	0	5
118		Kom Hamada	75	0	3
119		Abou Homos	80	0	5
120		Hosh Esa	80	0	5
121		Edko	79	0	6
122		Rahmania	75	0	5
123		Mahmodia	25	0	3
		Total	1,035	75	62
124	Giza	Giza (boys)	0	28	-
125		Om el Masreen	158	0	-
126		Bolaq	72	0	-
127		Embaba el Am	72	0	-
128		Homiat Imbaba	96	0	-
129		Hawamdia	80	0	-
130		Badrashen	83	0	-
131		Ayat	80	0	-
132		Oseem	77	0	-
133		Saaf	79	0	-
134		Atfeh	83	0	-
135		October 6 city	60	0	-

136		Wahat	25	0	-
		Total	965	28	-
137	Fayoum	Fayoum	160	0	-
138		Snors	80	0	1
139	Fayoum	Atsa	80	0	3
140		Abshoy	78	0	2
141		Tamia	78	0	4
		Total	476	0	10
142		Beni Suef	76	0	1
143		Wasta	75	0	1
144		Beba	75	0	3
145	Beni Suef	Fashn	76	0	2
146		Nasr	76	0	2
147		Samasta	76	0	1
148		Ahmasia	75	0	2
		Total	529	0	12
149		Menia (boys)	0	80	4
150		Menia (girls)	78	0	5
151		Maghagha	75	0	1
152	Menia	Ben Mazar	76	0	2
153		Samalot	72	0	3
154		Malawy	74	0	6
155		Fekria	76	0	3
156		Adwa	50	0	3
		Total	501	80	27
157		Asyut (boys)	0	82	4
158		Asyut (girls)	164	0	2
159		Dairot (boys)	0	82	2
160		Dairot (girls)	168	0	5
161		Qoseia	87	0	7
162	Asyut	Sadfa	140	0	4
163		Manfalot	167	0	3
164		Badary	83	0	8
165		Abou Teg	86	0	7
166		Abnob	87	0	4
167		Sahel Selim	84	0	7
168		Ghnayem	--	--	8
		Total	1,066	164	61
169		Sohag	95	0	2
170		Tama	47	0	2
171		Belbena	72	0	1
172		Tahta	68	0	3
173	Sohag	Saqalta	46	0	1
174		Monsha	62	0	1
175		Dar el Salaam	66	0	1
176		Gerga	25	0	-
177		Gohaina	--	--	-
		Total	481	0	11
178		Qena	176	25 (1st year)	1
179		Nagahamady	132	0	-
180		Armeny	84	0	-
181	Qena	Asna	82	0	-

182		Deshna	65	0	-
183		Farshot	76	0	-
184		Qos	131	0	-
185		Abou Tesht	41	0	-
186	Qena	Waqf	74	0	-
		Total	861	25	1
187		Aswan	67	0	-
188		Medical Centre	66	1 (2nd year)	1
189	Aswan	Nasr	72	0	-
190		Edfo	151	0	-
191		Qom Embo	43	0	1
192		Draw	52	0	-
		Total	451	1	2
193	Matrouh	Marsa Matrouh	263	0	5
194		Harnam	83	0	1
		Total	346	0	6
195	Wadi el Jadid	Kharga (co-education)	59	20	-
196		Dakhla (co-education)	50	26	3
		Total	109	46	3
197	The Red Sea	Gergada	196	0	3
		Total	196	0	3
198		Aresh	175	0	3
199	North Sinai	Bear el Abd	90	0	1
200		Shekh Zowayed	149	29 (3rd year)	2
		Total	414	29	6
201	South Sinai	Tor	118	2 (1st year)	4
		Total	118	2	4
202	Luxor City	Luxor	99	25 (1st year)	4
203		Molahaa Dawly	74	0	5
		Total	173	25	9
		MOHP (Governorate) Total	14,970	888	507
204		Nasr Helwan	100	0	
205		October 6 Hospital (Dokki)	70	0	
206		Shoubra Cairo	64	0	
207		Abou I Resh	62	0	
208		Islamic Researches	67	0	
209		Nasr City	78	0	
210		Sidnawy	54	0	
211		Sport Students	144	0	
212		Karmoz	72	0	
213		Gamal Abd el Naser	146	0	
214		Mwbaret Met Ghamr	25	0	
215		Almansora	46	0	
216		Mebaret el Zaqaq	51	0	
217	HIO	10th Ramadan	50	0	
218		Mebaret Tanta	50	0	
219		Mahala el Kobra	47	0	
220		The Nile Shoubra el Khema	78	0	
221		Mebaret Port Said	75	0	
222		Mebaret Suez	73	0	
223		Benha Qaliubiya	100	0	
224		Obor Kafr el Sheikh	100	0	

225		Mebaret el Fayoum	75	0	
226		Mebaret Asyute	72	0	
227		Mebaret el Moqatqm	65	0	
228		Aswan	63	0	
229	HIO	Mahala el Kobra	73	0	
230		The Nile Shoubra el Khema	50	0	
		Total	1,950	0	
231		Coptic	69	0	
232		Amr Ben Elas	95	0	
233	CCO	Heliopolis	120	0	
234		Mady	87	0	
235		Mebaret (Alexandria)	48	0	
		Total	419	0	
236		Mataria	130	0	
237		Sahel	67	0	
238	Teaching	Galaa	83	0	
239	Hospitals	Heart institute	101	0	
240		Poliomyelitis	106	0	
241		Sohag	77	0	
		Total	564	0	
		MOHP (Affiliates) Total	2,933	0	
		MOHP in Total	18,533	1,241	559
242		Haystep (boys)	0	187	
243	Military	Maady	375	0	
244		Mostafa Kamel (Alexandria)	104	0	
		Total	479	187	
245	Police	Moubarak (boys)	0	271	
246		Moubarak (girls)	211	0	
		Total	211	271	
247		Bab el Sharia	26 (1st year)	25 (3rd year)	
248		Cairo	157	0	
249		Kasr el Eini	140	0	
250		Ain Shams	242	0	
251		Ain Shams Specialty	208	0	
252		Azhar	121	0	
253	University	Zahraa I	123	0	
254	Faculty of	Hussein	440	0	
255	Medicine	Alexandria	--	--	
256		Suez Canal	452	50 (1st year)	
257		Alazhar (Dominated)	92	0	
258		Mansura	355	0	
259		Zaqazeq	250	0	
260		Benha	153	0	
261		Menoufia	--	--	
262		Menia (co-education)	95	59	
263		Asyut	--	--	
264		Sohag	228	0	
		Total	3,082	134	
265		New Women	71	0	
266	NGO	Arab Engineers	71	0	
267		Tioder Belhars	72	0	
		Total	214	0	

Non-MOHP in Total	3,986	592	
Total	22,519	1,833	
Average per Year	7,506	611	

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創立100周年記念】

21世紀の 人間と経済

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