

IAMR Report No. 3/1966

MANPOWER SURVEY
Health and Medical Manpower

STOCK OF NURSING PERSONNEL IN INDIA

INSTITUTE OF APPLIED MANPOWER RESEARCH
INDRAPRASTHA ESTATE, RING ROAD
NEW DELHI-1

and

NATIONAL INSTITUTE OF HEALTH ADMINISTRATION
AND EDUCATION, PATIALA HOUSE,
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FOREWORD

This Working Paper sets out the results of one of a series of studies forming part of the Health and Medical Manpower Survey. This survey is a major project in this Institute in collaboration with the National Institute of Health Administration and Education.

2. This paper was first issued as a draft working paper in November, 1965 to interested persons/agencies for soliciting their comments and suggestions. Useful comments were received from the Indian Nursing Council, Regional Office for South East Asia of World Health Organisation and Directorate of Manpower of Ministry of Home Affairs. The paper was further reviewed by a Programme Sub-Committee in its meeting held on 19th September, 1966 which made a number of important suggestions. The paper has been revised in the light of the discussions and comments received.

3. Estimates of the stock of 'Nursing Personnel' in India are not available from any one single source. There are many sources each of which gives a partial picture of the available nursing personnel. The object of this paper is to bring together all the available information on the number and distribution of nursing personnel and then to arrive at a firm estimate of the stock of nursing personnel at the end of 1964, together with their distribution by sex, age and state.

4. The results set out in this paper present the best estimates that can be formed by piecing together information from a number of sources each of which is affected by incompleteness in some particulars and deficiencies in others. It is believed, however, that they are good enough to be accepted as a working basis for the present.

5. The Institute is grateful to the Indian Nursing Council for facilities offered in studying their registration data and to Miss T. K. Adranvala, Secretary of the Council for useful suggestions regarding the study.

6. The paper has been prepared by Shri Y. L. Ahuja of the Institute under the guidance of Dr. S. Krishnaswami Rao, Adviser to Institute of Applied Manpower Research on the Health and Medical Manpower Survey and Professor of Public Health Administration, National Institute of Health Administration and Education. Shri R. Ramalinga Iyer,

a former Research Officer of the Institute also made valuable suggestions. S/Shri Rukan Singh and S. B. Lal Saxena assisted in the collection and tabulation of the data.

(P. K. Das)
Director

CONTENTS

| | | Page |
|--------------|---|-------|
| | Foreword | |
| Section I | Introduction and Summary of Findings. | 1-2 |
| Section II | Development of Nursing in India. | 3-8 |
| Section III | Definitions and Duties of Nursing Personnel. | 9-16 |
| Section IV | Census of India, 1961. | 17-23 |
| Section V | Information available with the Directorate General of Employment and Training. | 24-36 |
| Section VI | Registration of Qualified Nursing Personnel. | 37-45 |
| Section VII | Institutional Out-turn and Registration of Nursing Personnel. | 46-51 |
| Section VIII | Stock of Nurses with Post-Basic Training. | 52-55 |
| Section IX | Estimate of the stock of Nursing Personnel at the end of 1964 - Evaluation and Conclusion. | 56-66 |
| | Bibliography | 67 |

LIST OF TABLES

| <u>TABLE</u> | <u>Page</u> |
|---|-------------|
| 1. Number of applications received by nursing schools from 1959 to 1964. | 7 |
| 2. Educational Standard of students for General Nursing course. | 8 |
| 3. Nursing Personnel in India, 1961. | 19 |
| 4. Nursing Personnel in Urban-India, 1961. | 20 |
| 5. Nursing Personnel in Rural-India, 1961. | 21 |
| 6. Urban and Rural Distribution. | 21 |
| 7. Estimated stock of Nurses in 1964. | 22 |
| 8. Estimated stock of Midwives, Auxiliary Nurse-Midwives and Health Visitors in 1964. | 23 |
| 9. Nursing Personnel in Public Sector, 1962 and Private Sector, 1961. | 25 |
| 10. Estimated Number of Nursing Personnel in Public and Private Sectors. | 26 |
| 11. Distribution of Nursing Personnel by State in Public Sector, 1962. | 27 |
| 12. Distribution of Nursing Personnel by States in Private Sector, 1961. | 28 |
| 13. Industrial classification of Nursing Personnel in Public Sector, 1962. | 30 |
| 14. Industrial classification of Nursing Personnel in Private Sector, 1961. | 31 |

| | <u>Page</u> |
|--|-------------|
| 15. Distribution of Nursing Personnel by Sex in Public and Private Sector, 1964. | 32 |
| 16. Distribution of Nursing Personnel by States in Public and Private Sector, 1964. | 33-35 |
| 17. Distribution of Nursing Personnel in Public Sector, 1964, by type of organisation. | 36 |
| 18. Total Number of Registered Nursing Personnel upto the end of 1964. | 39 |
| 19. Coverage of Registration Councils. | 40 |
| 20. Council wise distribution of Registered Qualified Nursing Personnel as at the end of 1964. | 41 |
| 21. Estimated stock of Registered Qualified Nursing Personnel as at the end of 1964. | 42 |
| 22. Age-distribution of Registered Nursing Personnel. | 44 |
| 23. Age-distribution of Registered Male Nurses. | 45 |
| 24. Estimated Number of Nursing Personnel, 1964. | 48 |
| 25. Estimated available stock of Nursing Personnel, 1964. | 49 |
| 26. Age-distribution of Nursing Personnel. | 50 |
| 27. Age-distribution of Male Nurses. | 51 |
| 28. Institutional Out-turn of Nurses with Post-Basic Training. | 52-53 |
| 29. Speciality-wise distribution of Nurses with Post-Basic Training, 1964. | 54 |
| 30. Age-distribution of Active Nursing Personnel with Post-Basic Training. | 55 |

| | <u>Page</u> |
|---|-------------|
| 31. Estimate of Stock of Nursing Personnel in 1964 from four different sources. | 56 |
| 32. Estimated stock of Nursing Personnel, 1964. | 59 |
| 33. Distribution of Nursing Personnel in India by States as at the end of 1964. | 61 |
| 34. Number of Nurses and other Nursing Personnel per million population 1964. | 63 |
| 35. Nurse-Doctor Ratio, 1964. | 64 |
| 36. Age-distribution of Estimated stock of Nursing Personnel, 1964. | 65 |

STATISTICAL APPENDICES

Appendix

| | |
|---|-------|
| I Nursing Personnel in India, 1961. | 71 |
| II Nursing Personnel in Urban-India, 1961. | 72 |
| III Nursing Personnel in Rural-India, 1961. | 73 |
| IV Indian Nursing Council. | 74-76 |
| V Statewise Distribution of Nursing Personnel, 1964. | 77 |
| VI Out-turn of Qualified Nursing Personnel from different Nursing Courses in India, 1950 to 1964. | 78 |
| VII Out-turn of Nurses who qualified Post-Basic Nursing courses from 1943 to 1964. | 79 |

SECTION I

INTRODUCTION AND SUMMARY OF FINDINGS

Introduction

Nursing is recognised as an essential component of the total health programme and therefore, a study of the demand and supply of nursing personnel as also programmes for the development of the nursing profession is an integral part of any health plan.

2. The first step in the study of nursing personnel is the determination of the stock of such personnel at a given point of time. This paper attempts to bring together all available information on the number and distribution of all categories of nursing personnel, their distribution by specialisation, age, sex, sector of employment, state and urban/rural, as at the end of 1964.

Definition of the Term "Nursing Personnel"

3. In this paper, the term 'nursing personnel' includes four types of nursing personnel, namely, Nurses, Midwives, Auxiliary Nurse-Midwives and Health Visitors, each of whom must have completed a prescribed course of training and have been successful in the examination for that course conducted by an Examining Body recognised by the Indian Nursing Council.

4. In addition to nursing personnel who have completed a prescribed course of training recognised by the Indian Nursing Council, there is a large number of male nurses trained by the defence services during the war period as well as those trained during the recent national emergency. As their training is not recognised by an appropriate authority, such persons have not been included in this study although through an appropriate administrative action they might be mobilised for services in the Primary Health Centres and elsewhere. How many they are, to what extent their skills are sufficient and what efforts may be needed to improve their skills may require another study.

Coverage of the Study

5. The main sources of information which have been used in the preparation of this paper are:

- (i) Census of India, 1961;
- (ii) Occupational pattern studies of the Directorate General of Employment and Training;
- (iii) Registration data available with Indian Nursing Council and State Nursing Councils; and
- (iv) Out-turn of qualified candidates from Nursing Institutions.

6. In the following sections, the data available from each of these sources have been analysed and presented separately. In the last section, an attempt has been made to arrive at an acceptable estimate of the stock of nurses in 1964 pooling all the information from each of the sources.

Summary of Findings

7. The stock of nursing personnel as at the end of 1964 is estimated as 81,619 consisting of 45,387 nurses, 18,232 midwives, 14,509 auxiliary nurse-midwives and 3,491 health visitors. This stock is based on the registration data upto the end of 1949 and institutional out-turn from 1950-64. The stock of nurses includes 2,770 male nurses, and 2,601 nurses who have completed higher training in nursing. There were 95 nurses per million population in India in 1964, the most favourable condition being in Maharashtra. The number of other nursing personnel per million population in 1964 was 76, the most favourable position being in Madras. 44% of nurses, 50% of midwives, 91% of auxiliary nurse-midwives and 54% of health visitors are in the younger age-group namely 27 or less.

8. The estimated stock of nursing personnel is based largely on institutional out-turn. It is not known how many among them are actively engaged in the profession. It is common knowledge that there is considerable withdrawal from the profession due to changes in the marital status. It is also known that this manpower resource is more scarce than even allopathic doctors. A further depth study on resource utilisation in respect of this professional group may, therefore, be necessary.

SECTION II

DEVELOPMENT OF NURSING IN INDIA

9. Historical records stand testimony to the fact that nursing has been recognised as an essential part of medical treatment since time immemorial. Sushruta makes mention of the four feet of medicine, namely, the physician, the patient, the medicine and the nurse, upon which a cure must rest¹. Charaka also makes reference to the qualifications of a nurse who should, according to him, "possess knowledge of the manner of preparing drugs or of compounding them cleverness, devotedness to the patients, purity of mind and body"².

10. The profession of nursing as it exists today derives its inspiration mainly from the example set by Florence Nightingale³ famous as "The Lady with the Lamp" who distinguished herself by introducing several reforms in army nursing during the Crimean War in 1854 and thereby laid the foundation of modern nursing. Probably, the first steps to organise nursing service were taken in India in the year 1854 when a school for the training of midwives was opened at the Lying-in Hospital, Madras. However, this system of training was not found very satisfactory and was dropped. An attempt was made to reorganise the training of nurses. In the year 1859, a scheme for training nurses was sanctioned by the Government of Bengal and a training centre was opened at Calcutta. A similar training centre was established in Madras in 1871. In the succeeding years, Nursing Schools were established all over the country in collaboration with Government and private hospitals. These schools generally followed the system which was in use in the Western Countries at that time.

11. The first World War opened another field of demand for nursing, namely, the Indian Military Nursing. This, as well as the expanding role of nurses in the public health field, necessitated the setting up of Lady Reading Health School in Delhi in the year 1918.

1. Wilkinson A. : A Brief History of Nursing in India and Pakistan, 1958, pp. 1-5.
2. Annual Report of the Director General of Health Services, 1947-48, pp. 387-90.
3. Indian Medical Review, 1938, pp. 169-71.

Training for male nurses also commenced during the early years of this century:

12. The Trained Nurses Association of India which came into existence in the year 1908 published its first journal in the year 1910 thus providing an opportunity to nursing personnel to share and pool their views and experiences insofar as the nursing profession was concerned. In the year 1909, the Bombay Nursing Association was formed to ensure uniformity of standards in training schools, examinations, etc., and until the constitution of the Bombay Nursing Council in 1935, this Association was responsible for the inspection and recognition of training schools, prescribing curriculum, conduct of examinations and registration of nurses and midwives. In the year 1926, the first Nurses Registration Act was passed in Madras and by 1939, Nursing Councils were established in all the provinces of India except Assam.

13. The need for a post-certificate training course that would improve the standard of nursing and also prepare nurses for higher posts of responsibility in their profession had long been recognised. At the same time, in the context of the First World War, the demand for special preparation of Indian Nurses in the field of administration and teaching became urgent. To meet these special needs, the School of Nursing Administration was established in Delhi in the year 1943. Short intensive courses were given to personnel of the Indian Military Nursing Services and at the same time, a one-year course to prepare nursing teachers was also started. Hospitals in Delhi cooperated in providing facilities for practical work. Similar colleges for nursing teachers were also established in the Christian Medical College, Vellore in 1942 and the General Hospital, Madras in 1944.

14. Insofar as the development of nursing education at university level is concerned, the Health Survey and Development Committee (Bhore Committee) 1946, observed as follows:

"Degrees in nursing are given by certain Canadian and American Universities and London University awards a diploma in this subject. We consider it essential that such a degree course in nursing should be instituted as early as possible in India in order to provide leaders for the nursing profession from among the highly educated and cultured ladies. It is proposed that, as a first step, the School of

Nursing Administration at Delhi be transformed into a College of Nursing. It is hoped that eventually the three provinces of Madras, Bombay and Bengal and the larger provinces will similarly develop their own Nursing Colleges"⁴.

15. Following the recommendation of the Bhore Committee, the School of Nursing Administration was upgraded into a College of Nursing in the year 1946 for the purpose of offering a high level course in bedside and public health nursing leading to a degree of B.Sc. (Hons.) Nursing. This was the first step of its kind taken to develop a basic course in nursing at the University level. More colleges of Nursing were opened in subsequent years. At present there are 8 colleges which provide facilities for B.Sc. Nursing degree. The College of Nursing, Delhi, is also providing facilities for Master's Degree in Nursing.

16. The Bhore Committee also recommended the establishment of the Indian Nursing Council. The Indian Nursing Council Act was passed in 1947, with a view to establish an agency which would be responsible for uniformity in the standards of training of nursing personnel and co-ordination of the activities of provincial nursing councils. The Indian Nursing Council was accordingly established in 1949. The main functions of the Council were summarised in the inaugural address of the late Health Minister, Rajkumari Amrit Kaur at the first meeting of the Council in the year 1949 as follows:

"This Council has come into being as a result of a long-felt need, voiced by nurses themselves, for a body which will co-ordinate the activities of the Provincial Councils, lay down minimum standards, and safeguard their maintenance."⁵

17. In spite of the fact that a number of significant developments took place during the pre-Independence period, it can be regarded only as a transitional period in the history of nursing in India. The general conditions regarding nursing continued to be unsatisfactory and the number of available nurses remained far short of the demands of the country. The shortage of nurses at that time was largely due to the

4. Report of the Health Survey and Development Committee (Bhore Committee) 1946, Vol. II, p. 391.

5. McLeod, Helen: 'The Indian Nursing Council - First 15 years', The Nursing Journal of India, July, 1964.

growing demand of the nurses in military as well as civil hospitals. Another factor responsible for the shortage was the lack of accommodation and training facilities in hospitals. As a result, more nurses could not be trained even though candidates were available for training. The shortage of nurses became more acute in 1947 due to partition and this gave an unexpected stimulus to quantitative expansion of training programmes. Early in 1948, hundreds of girls were trained in nursing at the refugee camp in Kurukshetra.

Post-Independence Development:

18. Considerable developments took place after Independence. In the year 1948, when initial planning for the rapid expansion of health services was taking place, the World Health Organisation⁷ suggested a large programme of assistance for developing nursing education in the country. Since both the Government and the Organisation recognised the vital role of nursing personnel in the health services of the nation, priority was given to programmes which would improve the quality as well as increase the quantity of the nursing services. As a result of this and other subsequent efforts the ratio of nurses to population has increased from 1:30,000 in 1949 to 1:13,000 in 1962⁸.

19. Until recently, the profession of nursing was looked upon by the general public with considerable disfavour. There were traditional social barriers often reinforced by religious opinions which prevented women-folk from joining the profession. In the early years only Christian girls were joining the profession. The unpopularity of the profession which discouraged people from entering the field and remaining active in it may be attributed partly due to the continuing lags in the social and economic status of nurses. However, conditions are changing rapidly and the profession is gaining social status and prestige day by day. The fact that some of the social barriers attached to the profession of nursing are breaking down is supported not only by the increasing number of applicants offering themselves for training in

6. Indian Nursing Council: Note on the History and Development of Nursing Services in India.

7. Hall, C. Dorothy: 'International Assistance to Nursing in India - A brief Review of W. H. O. Assistance to Nursing in India', The Nursing Journal of India, July, 1964.

8. Ibid p.193.

nursing but also by improvement in the educational standards of applicants as can be seen from Tables 1 and 2.

TABLE 1
Number of Applications Received by Nursing
Schools from 1959 to 1964*

| Name of the course | 1959 | 1960 | 1961 | 1962 | 1963 | 1964 |
|---------------------------|--------|--------|--------|--------|--------|--------|
| General Nursing | 16,710 | 18,428 | 20,130 | 29,235 | 30,643 | 32,410 |
| Midwifery | 4,587 | 4,189 | 3,450 | 4,550 | 5,000 | 5,200 |
| Auxiliary Nurse-Midwifery | 8,564 | 9,070 | 10,063 | 16,330 | 18,500 | 20,493 |
| Health Visitors | 2,634 | 3,019 | 3,217 | 3,300 | 4,000 | 4,200 |

Source: Indian Nursing Council.

20. It is evident from Table 1 that the number of applications received by the Nursing Schools nearly doubled for General Nursing during 1959-64 from 17,000 in 1959 to 32,000 in 1964 and more than doubled for Auxiliary Nurse-Midwifery from 8,500 in 1959 to 20,500 in 1964. In other training courses also there were substantial increases.

21. Matriculation or its equivalent is the minimum educational requirement for training in General Nursing. It will be seen from Table 2 that 21% of the students in 1964 had qualifications higher than this as against 7% in 1959 and that the number below Matriculation standard decreased from 17% to 10% over the same period.

* These figures do not include information in respect of all the training schools.

TABLE 2

Educational Standard of Students for
General Nursing Course

(Figures in brackets are percentage to column total)

| Educational Standard | Year | | | | | |
|---|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | 1959 | 1960 | 1961 | 1962 | 1963 | 1964 |
| (i) Number of those who had passed Intermediate or higher examinations | 176 (1.8) | 219 (2.1) | 268 (2.3) | 473 (3.6) | 384 (2.5) | 634 (3.6) |
| (ii) Number of those who had passed Higher Secondary or Senior Cambridge Examinations | 516 (5.4) | 1,417 (13.8) | 1,279 (11.2) | 1,303 (9.9) | 1,660 (11.1) | 3,050 (17.2) |
| (iii) Number of those who had passed Matriculation or S. S. L. C. examination | 7,279 (75.9) | 7,158 (69.6) | 8,438 (73.8) | 9,699 (73.5) | 11,543 (76.5) | 12,271 (69.4) |
| (iv) Number of Non-Matriculates or Matric failed | 1,625 (16.9) | 1,496 (14.5) | 1,448 (12.7) | 1,721 (13.0) | 1,497 (9.9) | 1,739 (9.8) |
| Total number of students | 9,596 (100.0) | 10,290 (100.0) | 11,433 (100.0) | 13,196 (100.0) | 15,084 (100.0) | 17,694 (100.0) |

Source: Indian Nursing Council

SECTION III

DEFINITIONS AND DUTIES OF NURSING PERSONNEL

The definitions and duties of the different categories of nursing personnel are as follows:

22. NURSE - "A professional nurse is a person who ministers to the sick, assumes responsibility for creating a physical, social and spiritual environment which will be conducive to recovery and stresses the prevention of illness and promotion of health by teaching and example⁹. Service to mankind is the primary duty of nurses. A nurse renders health service to the individual, the family, and the community and co-ordinates their services with members of other health professions. The fundamental responsibility of the nurse is three-fold, to conserve life, to alleviate suffering and to promote health. Elsewhere the functions of a nurse have been specified¹⁰.

1. Giving skilled care to the sick and disabled;
2. Serving as a health teacher to patients and families;
3. Making accurate observations of physical and emotional situations and conditions and communicating these observations to other members of the health team;
4. Selecting, training and giving guidance to auxiliary personnel;
5. Participating with other members of the team in analysing needs, determining services needed and planning facilities and equipment to carry out these services effectively; and
6. Creating an environment which contributes to good health.

23. MIDWIFE - "A midwife is a person whose broad function relates to the prenatal education, supervision of the pregnant women,

9. 'International Code of Nursing Ethics' adopted at the Grand Council of Nurses, Brazil, July 1953, The Indian Nursing Council.

10. Lyman, Katharine: 'Basic Nursing Education Programmes - A Guide to their Planning', 1961, World Health Organisation, Geneva.

undertake normal delivery and the postnatal care of the mother and the child"¹¹. Her main duties are:

1. to give prenatal care to the mother, including the nutrition and emotional aspects;
2. to undertake the normal delivery;
3. to recognise under what circumstances (prenatal, natal and postnatal) medical aid must be sought, and the value of medical examinations in the prenatal and postnatal periods;
4. to carry out simple emergency measures in case of difficulty, pending the arrival of medical aid;
5. to give adequate postnatal care to the mother;
6. to give adequate care to the newborn; and
7. to maintain proper records.

24. AUXILIARY NURSE-MIDWIFE - "An Auxiliary Nurse-Midwife is a person who has been prepared by means of an approved educational programme to function as a member of the nursing team in the health services provided for the community"¹². The functions of an Auxiliary

- 11 Based on Report No. 93, 1955, WHO Expert Committee on Midwifery Training.

The Committee agreed that "with the increased recognition of the need for health services the functions of the midwife extend beyond the provision of service at the time of delivery. Her technical competence must include the knowledge, understanding and skill to give total care to mother and child during pregnancy, labour, and puerperium. She is also required to detect the abnormal and, more important still, the potentially abnormal. An appreciation of the emotional aspects of pregnancy and of the situations which are likely to be encountered is necessary if the midwife is to assist in providing emotional security."

- 12 'Auxiliary Nurse-Midwife Course, Syllabus and Regulations and Curriculum Guide', The Indian Nursing Council, 1963.

Nurse-Midwife are essentially of a practical nature and she is usually a field worker. Her duties¹³ may be classified as follows:-

(A) General

1. She will be directly responsible to the Medical Officer, Primary Health Centre. She will work under technical supervision of the Lady Health Visitor/Public Health Nurse. She will take particular care to create confidence amongst the people and to make friends with local dais and encourage them to come to the centre and train them in simple aseptic methods of conducting labour cases with minimum interference. She will keep a list of indigenous dais in her area.

2. She will carry out delegated responsibility for the supervision of local dais.

3. She will get all births promptly registered. She will get infants vaccinated as soon as possible after birth, particularly if smallpox is endemic in the area or a case has been reported in the village and in any case within four months.

(B) In the Centre and Sub-Centre

1. Will establish and conduct maternal and child health centre.
2. Will assist in the nursing or midwifery care of 'in-patients.'
3. Will assist in the medical clinics.
4. Will give first aid and minor ailment treatment according to standing orders.
5. Will assist the maintenance of cleanliness in the Centre/Sub-Centre.
6. Will be responsible for proper use, care and maintenance of supplies and equipment.

¹³ Dutt, R. R., 'Rural Health Services in India,' 1962, p. 152, Central Health Education Bureau, Directorate General of Health Services, New Delhi.

7. Will refer all sick and abnormal cases or cases with special problems to the Public Health Nurse, if any, and Medical Officer.

8. Will keep records of work done and submit returns and reports.

(C) In the Community

1. Will make ante-natal home visits with special reference to the preparation for delivery.

2. Will undertake normal deliveries about 100 a year.

3. Will give post-natal care to domiciliary cases according to the standing orders.

4. Will undertake supervision of healthy infants up to one year old. At least three spaced visits after post-partum period are desirable.

5. Will follow up health of pre-school children (at least one visit a year).

6. Will follow up sickly or physically handicapped children and mothers.

7. Will take part in a planned school health programme.

8. Will assist patients in securing medical assistance.

9. Will keep a list of physically handicapped children residing in her area.

25. HEALTH VISITOR - "A Health Visitor is a person whose work is to promote the health of the community with special emphasis on the health and welfare of the children."¹⁴ Thus, a health visitor instructs and assists women in promoting the health of the family and guides them in the care of their children, which in turn is useful in improving and maintaining mothers' health as well as that of the children. Her advice and guidance are

14 Based on "Guide to Careers - Health Visitor", The Directorate General of Employment and Training.

thus useful in reducing the incidence of disease and in raising the standard of family nutrition and hygiene. Her duties¹⁵ may be classified as under:

(a) General

1. She will be directly responsible to Medical Officer In-charge, Primary Health Centre and to the Public Health Nursing Supervisor, if any, for nursing activities.
2. Under the guidance and supervision of Medical Officer, she will develop M.C.H. services including school health services in the block and advise on family planning.
3. She will conduct ante-natal, baby, toddlers, mothers' clinics at the main centre and organise these clinics at sub-centres and conduct other clinics like school health clinic, T.B. clinic, gynaecology clinic, family planning clinic, etc.
4. She will provide direct public health nursing services within a defined area of about 5,000 population and supervision and limited assistance in the services at sub-centres.
5. She will carry out delegated responsibility for day-to-day supervision of the nursing and midwifery personnel in the area.
6. She will organise and participate in group teaching programme, mother-craft classes, home nursing classes.
7. She will help to establish and maintain standards of nursing and midwifery services.
8. She will assist in the control of communicable diseases by early recognition of the disease, making arrangement for early diagnosis and treatment by contacting, investigating and giving guidance and instructions regarding the prevention of a disease, care of the sick, isolation of a patient, etc., and by active participation in immunization programme.

15 Ibid, 150.

She will assist in

- (i) research or special study;
- (ii) proper collection and verification of vital statistics;
- (iii) other nursing personnel in planning their work; and
- (iv) co-ordination of services of various categories of health staff.

9. She will promote and supervise the proper use, care and maintenance of equipment and supplies.

10. She will maintain up-to-date and adequate records and reports.

11. She will respond to an urgent call from a midwife or dai.

12. She will arrange for the transportation of difficult cases of delivery to the hospital .

13. She will help in the training of Nursing personnel including dais.

14. She will see that adequate equipment is provided and maintained for M. C. H.

15. She will scrutinize and approve the indent for supplies and indent from midwives.

16. She will ensure that every expectant mother registered is examined by the medical officer at least once in the second and third trimester.

17. She will supervise distribution of milk to infant and expectant mothers.

(b) At the Health Centre

18. Will help the Medical Officer in providing sanitary and exemplary environment for both "in and out" patients.

19. Will arrange for and supervise the necessary nursing and mid-wifery care.

20. Will conduct ante-natal and other clinics and refer cases to Medical Officer requiring medical advice.

21. Will maintain follow up of the cases both at clinics and by home visits.

(c) In the Community

22. Will establish a system of follow up and home visits and guide and supervise auxiliary nurse midwives in home visiting work.

23. Will undertake herself home visits in difficult cases including ante-natal, post-natal and infant and child care cases. Will also undertake herself home visits to all types of people and all age-groups, well or sick or with special problems including referred cases by other health personnel for guidance and supervision.

24. Will, whenever indicated, assist patients in securing appropriate medical care.

25. Will maintain a list of local dais and maintain good relations with them.

26. Will take part in school health programme particularly in the medical examination of scholars, immunization programme, detection of defects and follow up of serious defects.

27. Will build up good relationships with the community, promote understanding and implementation of basic healthful practices.

28. Will maintain the closest co-operation and co-ordination with other health personnel of other governmental and voluntary agencies.

29. Will attend village health committees or any such meeting, will assist the Medical Officer in developing Community Organisation including parent-teachers association, mahila mandals, etc.

(d) At the Sub-Centre

30. Will visit each sub-centre at least once a week on a fixed day and at a given time; will help in the establishment of maternity and child health clinics.

31. Will help in the establishment of follow up of cases.

32. Will supervise the work of auxiliary nurse-midwives and midwives in clinics and home visits.

33. Will help in the establishment and conduct of regular scheduled medical clinics.

26. The World Health Organisation Committee on Midwifery Training observes as follows:-

" Included among the trained midwife group is a worker called 'health visitor' in some countries. She is basically a fully qualified midwife with the addition of public health training but without full nursing training. Sometimes this public health training is added to the midwifery training but the present trend is to integrate it throughout"*.

* The Health Visitor in the United Kingdom is a qualified nurse with maternity and public health training.

SECTION IV

CENSUS OF INDIA, 1961

Introduction

27. Among the sources of information on nursing personnel, census occupies a prominent place. The latest Census, 1961 was completed throughout the country on 5th March, 1961. The 1961 Census covered the entire country with the exception of portions of Jammu and Kashmir currently under the occupation of Pakistan and China. A census of the former Portuguese territories of Dadra and Nagar Haveli was taken with reference date 1st March, 1961. The Portuguese Government took a census of Goa, Daman and Diu on 15th December, 1960, the results of which have been accepted for incorporation in the count. A census of Pondicherry was taken along with the 1961 Census of India. Sikkim has been included in the present census as in previous years.

28. At the 1961 Census, the following three documents were prepared: (i) House List; (ii) Household Schedule; and (iii) Individual Slip. Information about each individual was collected through the Individual Slip. Besides other information, the Individual Slip gives information about the sex, age and educational qualification of each individual enumerated. These data have been tabulated in details for All-India and Urban population.

29. Based on the data collected through the Individual Slip, the Registrar General of India has prepared Table B. V. which gives 'Occupational Classification by Sex of Persons at Work other than Cultivation'. The basis of occupational classification is the "National Classification of Occupations" of the Directorate General of Employment and Training. According to this Classification, nursing personnel have been grouped in the digit group 04. The details of this group are given below:

| Group | Sub-group | |
|-------|-----------|--|
| 04 | | Nurses, Pharmacists and other Medical and Health Technicians |
| | 040 | Nurses |
| | 041 | Midwives, Auxiliary Nurse-Midwives and Health Visitors |
| | 042 | Nursing Attendants and Related Workers |

30. In the detailed code list, nursing personnel have been defined as follows:

- Nurses - Workers in this family provide nursing care to the sick, women in childbirth and perform other nursing tasks in hospitals, clinics, factories, etc., and assist physicians and surgeons and perform related nursing tasks.
- Midwives, Auxiliary Nurse-Midwives and Health Visitors Workers in this family conduct normal delivery cases, provide ante-natal and post-natal care and render health care at residences and health centres.

Limitations of Census data

31. Errors in population count might occur on account of several reasons depending upon the type of data collected. As such, Census data are subject to certain limitations. These limitations may be divided into two parts namely (i) general limitations, (ii) limitations applicable to nursing data. However, in view of the errors involved in the Census data, it is not possible to assess the degree of under-estimation or over-estimation. The limitations are given below:

a. General Limitations

(i) There may be some deficiencies in the Census data as census is an All-India Survey accomplished with the help of enumerators who may not be trained enough to go into the details of educational qualifications of the persons enumerated.

b. Limitations applicable to Nursing data

(ii) According to census instructions, persons under training as apprentices with or without stipend or wages are regarded as working. If so, student nurses, midwives, and others might have been taken as full-fledged nurses, midwives, and others thus leading to over-estimation.

(iii) In India, the rural population being larger, a large number of births are still conducted by indigenous dais who might have, however, declared themselves as Nurses or Midwives at the time of enumeration.

(iv) In tabulating data on midwives, auxiliary nurse-midwives and health visitors, they have been pooled together in one group and have not been categorised separately.

(v) In the tabulation of nursing qualifications, basic and post-basic qualifications have not been classified separately.

Nursing Personnel in India, 1961

32. According to census enumeration there were 107, 778 nursing personnel in India in March, 1961. Out of this total, 65, 916 were nurses and 41, 862 were midwives, auxiliary nurse-midwives and health visitors. The distribution of this number by sex is given in Table 3.

TABLE 3

Nursing Personnel in India, 1961*

| Category | Men | Women | Total |
|--|---------|---------|-----------|
| Nurses | 14, 655 | 51, 261 | 65, 916** |
| Midwives, Auxiliary Nurse-Midwives and Health Visitors | 3, 825 | 38, 037 | 41, 862 |
| Total | 18, 480 | 89, 298 | 107, 778 |

* Worked out in IAMR after making necessary adjustments.

** Includes dais/nurse dais also.

Nursing Personnel in Urban India - 1961

33. Since most of the hospitals are centred in urban areas, majority of the nurses are in urban areas. According to the 1961 census, there were about 55,000 nursing personnel in urban areas. Out of this total number 41,000 were nurses and 14,000 belonged to other three categories. Their distribution by sex is presented in Table 4.

TABLE 4Nursing Personnel in Urban India, 1961

| Category | Men | Women | Total |
|--|-------|--------|--------|
| Nurses | 5,686 | 35,064 | 40,750 |
| Midwives, Auxiliary Nurse-Midwives and Health Visitors | 1,942 | 12,134 | 14,076 |
| Total | 7,628 | 47,198 | 54,826 |

Nursing Personnel in Rural India, 1961:

34. In urban areas, the hospital is often the centre for screening of patients as well as treatment at all stages of illness but in rural areas these functions are carried out by the Primary Health Centres which are the vital organ in the health services of the community and the consequent need for qualified nursing personnel in rural India. According to 1961 Census, there were about 53,000 nursing personnel in rural India consisting of about 25,000 nurses and 28,000 midwives, auxiliary nurse-midwives and health visitors. The enumerated figures are given in Table 5.

TABLE 5
Nursing Personnel in Rural India, 1961

| Category | Men | Women | Total |
|---|--------|--------|--------|
| Nurses | 8,969 | 16,197 | 25,166 |
| Midwives, Auxiliary Nurse- Midwives and Health Visitors | 1,883 | 25,903 | 27,786 |
| Total | 10,852 | 42,100 | 52,952 |

Urban and Rural Ratio to Total

35. Table 6 shows that 62% of the nurses are in urban India and 38% in rural India. This is an indication of the fact that majority of the nurses are in urban areas. Thirty-four per cent of the midwives, auxiliary nurse-midwives and health visitors are in urban India and the rest of 66% are in rural India. The urban-rural ratio of midwives, auxiliary nurse-midwives and health visitors is just the reverse of urban-rural ratio of nurses. The high percentage of this category of nursing personnel in rural India may be attributed to the fact that mostly the auxiliary nurse-midwives have to work in the Primary Health Centres which are only in rural areas. The overall distribution of nursing personnel into urban and rural India is almost fifty-fifty

TABLE 6
Urban and Rural Distribution

| Category | Urban | Rural | All-India |
|--|-------|-------|-----------|
| Nurses | 61.8 | 38.2 | 100.0 |
| Midwives, Auxiliary Nurse- Midwives, and Health Visitors | 33.6 | 66.4 | 100.0 |
| Total | 50.9 | 49.1 | 100.0 |

Estimated Stock of Nursing Personnel in 1964

36. The stock of nursing personnel as at the end of 1964 can be estimated by adding the out-turn of qualified candidates from nursing institutions to the stock of nursing personnel as enumerated according to Census, 1961. For this purpose, the survival rates as obtained from the Modified Oriental Tables supplied by The Life Insurance Corporation of India have been used. Nursing personnel who are 58 years and above have also been excluded from the stock. Estimate of active nursing personnel arrived at on the above-mentioned lines is set out in the following tables. Table 7 gives the estimated stock of nurses whereas in Table 8 is given the estimated stock of other nursing personnel namely midwives, auxiliary nurse-midwives and health visitors.

TABLE 7Estimated Stock of Nurses in 1964

| | | |
|--|---|--------|
| 1. Nurses enumerated according to Census, 1961 | = | 65,916 |
| 2. Number of nurses available in 1964 out of the stock in 1961 | = | 59,812 |
| 3. Out-turn of qualified nurses from nursing institutions during 1961-64 | = | 12,895 |
| 4. Survivals in 1964 of qualified nurses (1961-64) | = | 12,819 |
| 5. Total estimated stock of nurses available in 1964 (Total of 2 and 4) | = | 72,631 |

TABLE 8Estimated Stock of Midwives, Auxiliary Nurse-
Midwives and Health Visitors in 1964

| | |
|---|----------|
| 1. Midwives, auxiliary nurse-midwives and health visitors enumerated according to Census, 1961 | = 41,862 |
| 2. Number available in 1964 out of the number enumerated in 1961 | = 37,985 |
| 3. Out-turn of qualified midwives, auxiliary nurse-midwives and health visitors during 1961-64 | = 13,551 |
| 4. Survivals in 1964 of qualified midwives, auxiliary nurse-midwives and health visitors | = 13,471 |
| 5. Total estimated stock of midwives, auxiliary nurse-midwives and health visitors available in 1964 (Total of 2 and 4) | = 51,456 |

SECTION V

INFORMATION AVAILABLE WITH THE DIRECTORATE GENERAL OF EMPLOYMENT AND TRAINING

Introduction

37. Another source of information on nursing personnel is the occupational pattern studies conducted by the Directorate General of Employment and Training to collect information on the occupational pattern of employees in the public and private sectors. The data are collected through biennial returns from the public and private sector establishments in alternate years. The first such survey in the public sector was as on 30th Sept., 1960. In the private sector, the first survey was conducted as on 30th Sept., 1961. The data from the private sector study of 1961 and public sector study of 1962, have been used here. In the tabulation of occupations, 'National Classification of Occupations' (NCO) of the Directorate General of Employment and Training have been used which has also been followed by the Census.*

Nursing Personnel in Public Sector, 1962 and Private Sector, 1961

38. The total number of nursing personnel as obtained from the survey of the public sector, 1962, is 38,489, consisting of 19,723 nurses and 18,766 midwives, auxiliary nurse-midwives and health visitors. In the private sector (Act Establishments), the total number is 6,607 consisting of 5,174 nurses and 1,433 midwives, auxiliary nurse-midwives and health visitors whereas in the private sector (Non-Act Establishments), 1961, this total is 1,057 out of which 770 are nurses and 287 are rest of the nursing personnel. The detailed break-up of

* For more details please see:

16. Directorate General of Employment and Training, Occupational Pattern in Public Sector, 1960 and 1962 (mimeographed).
17. Directorate General of Employment and Training, Occupational Pattern in Private Sector, 1961 and 1963 (mimeographed).

nursing personnel in public sector, (1962) and private sector, (1961) is presented in Table 9.

TABLE 9
Nursing Personnel in Public Sector (1962) and
Private Sector, (1961)

| Category | Public Sector, 1962 | Private Sector, 1961 | | Total |
|--|---------------------|----------------------|------------------------|--------------|
| | | Act-Establishments | Non-Act Establishments | |
| Nurses | 19,723 | 5,174 | 770 | 5,944 |
| Midwives, Auxiliary Nurse-Midwives and Health Visitors | 18,766 | 1,433 | 287 | 1,720 |
| Total | 38,489 | 6,607 | 1,057 | 7,664 |

39. It may be pointed out here that the distribution of nursing personnel presented in Table 9 does not depict the complete employment situation. It gives only the number of those employed in establishments who responded to the questionnaires issued by the Directorate General of Employment and Training. The methodology adopted for estimating the number of nursing personnel in all the public sector (1962) establishments and private sector (1961) establishments, is explained in the following paragraphs.

40. Only 82.2%¹⁸ of the total number of employees were covered in the survey in public sector, 1962. Similar figures for private sector, 1961 for Act Establishments and Non-Act Establishments are 93.3%¹⁹ and 87%¹⁹ respectively. By raising the estimate in the public and private

18 "Occupational Pattern in Public Sector", 1962, Directorate General of Employment and Training.

19 "Occupational Pattern in Private Sector", 1961, Directorate General of Employment and Training.

sectors to 100, the estimates of distribution of nursing personnel are obtained. These estimates are set out in Table 10.

TABLE 10
Estimated Number of Nursing Personnel
in Public and Private Sectors

| Category | Public Sector, 1962 | Private Sector, 1961 | | Total |
|--|------------------------|-------------------------|------------------------------|-------|
| | | Act Estab- lishments | Non-Act Es- tablissements | |
| Nurses | 23,994 | 5,552 | 885 | 6,437 |
| Midwives, Auxiliary Nurse-Midwives and Health Visitors | 22,830 | 1,537 | 330 | 1,867 |
| Total | 46,824 | 7,089 | 1,215 | 8,304 |

Distribution of Nursing Personnel by States
in Public Sector and Private Sector.

41. In the preceding paragraph, it has been estimated the number of nursing personnel in public sector in 1962 and private sector (Act and Non-Act Establishments) in 1961. However, it will be worthwhile to study the employment situation of nursing personnel as it varies from State to State. Tables 11 and 12 give the Statewise distribution of nursing personnel (estimated figures) separately for public and private sectors respectively.

TABLE 11

Distribution of Nursing Personnel
by State in Public Sector, 1962

| Name of the State | Nurses | Midwives, Auxiliary Nurse-Midwives and Health Visitors | Total |
|-----------------------|--------|--|--------|
| 1. Andhra Pradesh | 1,309 | 2,677 | 3,986 |
| 2. Assam | 220 | 552 | 772 |
| 3. Bihar | 1,140 | 2,035 | 3,175 |
| 4. Gujarat | 1,388 | 709 | 2,097 |
| 5. Kerala | 899 | 1,098 | 1,997 |
| 6. Madhya Pradesh | 1,926 | 1,864 | 3,790 |
| 7. Madras | 3,649 | 3,939 | 7,588 |
| 8. Maharashtra | 4,686 | 1,619 | 6,305 |
| 9. Mysore | 1,052 | 1,142 | 2,194 |
| 10. Orissa | 596 | 305 | 901 |
| 11. Punjab | 737 | 1,130 | 1,867 |
| 12. Rajasthan | 809 | 837 | 1,646 |
| 13. Uttar Pradesh | 2,173 | 3,816 | 5,989 |
| 14. West Bengal | 1,218 | 344 | 1,562 |
| 15. Union Territories | 2,192 | 763 | 2,955 |
| All-India | 23,994 | 22,830 | 46,824 |

TABLE 12

Distribution of Nursing Personnel by State in Private Sector, 1961

| Name of the State | ACT ESTABLISHMENTS | | | NON-ACT ESTABLISHMENTS | | | TOTAL | | |
|-----------------------|--------------------|---|-------|------------------------|---|-------|--------|---|-------|
| | Nurses | Midwives, Auxiliary Nurse- and Health Visitors | Total | Nurses | Midwives, Auxiliary Nurse- and Health Visitors | Total | Nurses | Midwives, Auxiliary Nurse- and Health Visitors | Total |
| 1. Andhra Pradesh | 449 | 55 | 504 | 69 | 25 | 94 | 518 | 80 | 598 |
| 2. Assam | 676 | 491 | 1,167 | N. A. | N. A. | N. A. | 676 | 491 | 1,167 |
| 3. Bihar | 538 | 46 | 584 | 7 | - | 7 | 545 | 46 | 591 |
| 4. Gujarat | 435 | 22 | 457 | 79 | 10 | 89 | 514 | 32 | 546 |
| 5. Kerala | 283 | 14 | 297 | 142 | 59 | 201 | 425 | 73 | 498 |
| 6. Madhya Pradesh | 151 | 32 | 183 | 50 | 22 | 72 | 201 | 54 | 255 |
| 7. Madras | 686 | 229 | 915 | 147 | 124 | 271 | 833 | 353 | 1,186 |
| 8. Maharashtra | 411 | 86 | 497 | 158 | 29 | 187 | 569 | 115 | 684 |
| 9. Mysore | 236 | 16 | 252 | 7 | 1 | 8 | 243 | 17 | 260 |
| 10. Orissa | 49 | 13 | 62 | 8 | 6 | 14 | 57 | 19 | 76 |
| 11. Punjab | 199 | 16 | 215 | 22 | 6 | 28 | 221 | 22 | 243 |
| 12. Rajasthan | 190 | 35 | 225 | 24 | 15 | 39 | 214 | 50 | 264 |
| 13. Uttar Pradesh | 438 | 87 | 525 | 105 | 31 | 136 | 543 | 118 | 661 |
| 14. West Bengal | 412 | 394 | 806 | 3 | 2 | 5 | 415 | 396 | 811 |
| 15. Union Territories | 398 | - | 398 | 62 | - | 62 | 461 | - | 461 |
| All-India | 5,552 | 1,537 | 7,089 | 885 | 330 | 1,215 | 6,437 | 1,867 | 8,304 |

TABLE 13

Industrial Classification of Nursing
Personnel in Public Sector, 1962

| Industrial Division | Nurses | % | Midwives, Auxil- iary Nurse-Mid- wives and Health Visitors | % | Total | % |
|---|--------|--------|---|--------|--------|--------|
| 2 and 3. Manufacturing | 300 | 1.25 | 81 | 0.36 | 381 | 0.82 |
| 7. Transport, Storage and Communication | 1,092 | 4.55 | 410 | 1.80 | 1,502 | 3.21 |
| 8. Services | 22,444 | 93.54 | 22,194 | 97.21 | 44,635 | 95.34 |
| Others | 158 | 0.66 | 145 | 0.63 | 301 | 0.63 |
| Total | 23,994 | 100.00 | 22,830 | 100.00 | 46,819 | 100.00 |

44. Table 14 gives the industrial classification of nursing personnel in the private sector, 1961. Seventy-seven per cent of the total nursing personnel, 81% of nurses and 65% of other nursing personnel are employed in Services. The percentage of employment in other industries is very small.

TABLE 14Industrial Classification of Nursing Personnel
in Private Sector (Act and Non-Act), 1961

| Industrial Division | Nurses | % | Midwives, Auxiliary Nurse-Midwives and Health Visitors | % | Total | % |
|-------------------------|--------|--------|--|--------|-------|--------|
| 1. Mining and Quarrying | 305 | 4.74 | 62 | 3.33 | 367 | 4.42 |
| 2 and 3. Manufacturing | 569 | 8.84 | 190 | 10.18 | 759 | 9.14 |
| 8. Services | 5,165 | 80.25 | 1,206 | 64.59 | 6,371 | 76.74 |
| Others | 396 | 6.17 | 409 | 21.90 | 805 | 9.70 |
| Total | 6,435 | 100.00 | 1,867 | 100.00 | 8,302 | 100.00 |

Estimates of Nursing Personnel in Public
and Private Sectors in 1964

45. To arrive at an estimate of nursing personnel in public and private sectors as at the end of 1964, the following methodology is adopted. The total number of employees in public sector as on 30th September, 1962 is estimated as 7,671,000 whereas in private sector (Act and Non-Act Establishments), the total employment was 4,524,000 as on 30th September, 1961. The total employment at the end of 1964 is estimated as 8,757,000 for public sector and 6,890,000 for private sector. Assuming that the employment of nursing personnel will expand in proportion to the total employment, the estimates for 1964 have been worked out in Table 15.

TABLE 15

Distribution of Nursing Personnel by Sex
in Public and Private Sectors, 1964

| Sector | Nurses | | | Midwives, Auxiliary Nurse Midwives and Health Visitors | | | Total | | |
|---|--------|--------|--------|--|--------|--------|--------|--------|--------|
| | Men | Women | Total | Men | Women | Total | Men | Women | Total |
| Public Sector | 3,905 | 23,486 | 27,391 | 4,311 | 21,751 | 26,062 | 8,216 | 45,237 | 53,453 |
| Private Sector (Act and Non-Act Establishments) | 1,501 | 8,302 | 9,803 | 420 | 2,423 | 2,843 | 1,921 | 10,725 | 12,646 |
| Total | 5,406 | 31,788 | 37,194 | 4,731 | 24,174 | 28,905 | 10,137 | 55,962 | 66,099 |

46. Distribution of Nursing Personnel by sex and state is given in Table 16.

TABLE 16

Distribution of Nursing Personnel by States in Public and Private Sectors, 1964

| State | Public Sector | | | | | | | | |
|-----------------------|---------------|--------|--------|--|--------|--------|-------|--------|--------|
| | Nurses | | | Midwives, Auxiliary Nurse-Midwives and Health Visitors | | | Total | | |
| | Men | Women | Total | Men | Women | Total | Men | Women | Total |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 1. Andhra Pradesh | 295 | 1,199 | 1,494 | 223 | 2,832 | 3,055 | 518 | 4,031 | 4,549 |
| 2. Assam | 85 | 166 | 251 | 348 | 282 | 630 | 433 | 448 | 881 |
| 3. Bihar | 146 | 1,155 | 1,301 | 139 | 2,185 | 2,324 | 285 | 3,340 | 3,625 |
| 4. Gujarat | 166 | 1,418 | 1,584 | 61 | 749 | 810 | 227 | 2,167 | 2,394 |
| 5. Kerala | 178 | 848 | 1,026 | 174 | 1,079 | 1,253 | 352 | 1,927 | 2,279 |
| 6. Madhya Pradesh | 268 | 1,930 | 2,198 | 108 | 2,019 | 2,127 | 376 | 3,949 | 4,325 |
| 7. Madras | 691 | 3,476 | 4,167 | 115 | 4,382 | 4,497 | 806 | 7,858 | 8,664 |
| 8. Maharashtra | 438 | 4,911 | 5,349 | 118 | 1,730 | 1,848 | 556 | 6,641 | 7,197 |
| 9. Mysore | 166 | 1,035 | 1,201 | 215 | 1,088 | 1,303 | 381 | 2,123 | 2,504 |
| 10. Orissa | 124 | 556 | 680 | 146 | 202 | 348 | 270 | 758 | 1,028 |
| 11. Punjab | 117 | 725 | 842 | 125 | 1,165 | 1,290 | 242 | 1,890 | 2,132 |
| 12. Rajasthan | 187 | 736 | 923 | 232 | 723 | 955 | 419 | 1,459 | 1,878 |
| 13. Uttar Pradesh | 634 | 1,846 | 2,480 | 2,170 | 2,188 | 4,358 | 2,804 | 4,034 | 6,838 |
| 14. West Bengal | 166 | 1,223 | 1,389 | 17 | 376 | 393 | 183 | 1,599 | 1,782 |
| 15. Union Territories | 244 | 2,262 | 2,506 | 120 | 751 | 871 | 364 | 3,013 | 3,377 |
| All-India | 3,905 | 23,486 | 27,391 | 4,311 | 21,751 | 26,062 | 8,216 | 45,237 | 53,453 |

TABLE 16 (Contd.)

| State | Private Sector | | | | | | | | |
|-----------------------|----------------|-------|-------|--|-------|-------|-------|--------|--------|
| | Nurses | | | Midwives, Auxiliary Nurse-Midwives and Health Visitors | | | Total | | |
| | Men | Women | Total | Men | Women | Total | Men | Women | Total |
| 1 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 1. Andhra Pradesh | 95 | 689 | 784 | 8 | 110 | 118 | 103 | 799 | 902 |
| 2. Assam | - | 998 | 998 | - | 719 | 719 | - | 1,717 | 1,717 |
| 3. Bihar | 146 | 695 | 841 | 31 | 47 | 78 | 177 | 742 | 919 |
| 4. Gujarat | 111 | 668 | 779 | 8 | 42 | 50 | 119 | 710 | 829 |
| 5. Kerala | 68 | 564 | 632 | 15 | 91 | 106 | 83 | 655 | 738 |
| 6. Madhya Pradesh | 49 | 257 | 305 | 22 | 62 | 84 | 71 | 319 | 390 |
| 7. Madras | 290 | 999 | 1,289 | 22 | 491 | 513 | 312 | 1,490 | 1,802 |
| 8. Maharashtra | 86 | 762 | 848 | 26 | 147 | 173 | 112 | 909 | 1,021 |
| 9. Mysore | 43 | 326 | 370 | - | 25 | 25 | 43 | 351 | 394 |
| 10. Orissa | 17 | 71 | 88 | - | 26 | 26 | 17 | 97 | 114 |
| 11. Punjab | 71 | 273 | 344 | 16 | 20 | 36 | 87 | 293 | 380 |
| 12. Rajasthan | - | 314 | 314 | - | 72 | 72 | - | 386 | 386 |
| 13. Uttar Pradesh | 131 | 693 | 824 | 60 | 131 | 191 | 191 | 824 | 1,015 |
| 14. West Bengal | 394 | 320 | 714 | 212 | 440 | 652 | 606 | 760 | 1,366 |
| 15. Union Territories | - | 673 | 673 | - | - | - | - | 673 | 673 |
| All-India | 1,501 | 8,302 | 9,803 | 420 | 2,423 | 2,843 | 1,921 | 10,725 | 12,646 |

TABLE 16 (Contd.)

| State | Total | | | | | | | | |
|-----------------------|--------|--------|--------|---|--------|--------|--------|--------|--------|
| | Nurses | | | Midwives, Auxiliary Nurse-Midwives and Health Visitors | | | Total | | |
| | Men | Women | Total | Men | Women | Total | Men | Women | Total |
| 1 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 1. Andhra Pradesh | 390 | 1,888 | 2,278 | 231 | 2,942 | 3,173 | 621 | 4,830 | 5,451 |
| 2. Assam | 85 | 1,164 | 1,249 | 348 | 1,001 | 1,349 | 433 | 2,165 | 2,598 |
| 3. Bihar | 292 | 1,850 | 2,142 | 170 | 2,232 | 2,402 | 462 | 4,082 | 4,544 |
| 4. Gujarat | 277 | 2,086 | 2,363 | 69 | 791 | 860 | 346 | 2,877 | 3,223 |
| 5. Kerala | 246 | 1,412 | 1,658 | 189 | 1,170 | 1,359 | 435 | 2,582 | 3,017 |
| 6. Madhya Pradesh | 317 | 2,187 | 2,504 | 130 | 2,081 | 2,211 | 447 | 4,268 | 4,715 |
| 7. Madras | 981 | 4,475 | 5,456 | 137 | 4,873 | 5,010 | 1,118 | 9,348 | 10,466 |
| 8. Maharashtra | 524 | 5,673 | 6,197 | 144 | 1,877 | 2,021 | 668 | 7,550 | 8,218 |
| 9. Mysore | 209 | 1,361 | 1,570 | 215 | 1,113 | 1,328 | 424 | 2,474 | 2,898 |
| 10. Orissa | 141 | 627 | 768 | 146 | 228 | 374 | 287 | 855 | 1,142 |
| 11. Punjab | 188 | 998 | 1,186 | 141 | 1,185 | 1,326 | 329 | 2,183 | 2,512 |
| 12. Rajasthan | 187 | 1,050 | 1,237 | 232 | 795 | 1,027 | 419 | 1,845 | 2,264 |
| 13. Uttar Pradesh | 765 | 2,539 | 3,304 | 2,230 | 2,319 | 4,549 | 2,995 | 4,858 | 7,853 |
| 14. West Bengal | 560 | 1,543 | 2,103 | 229 | 816 | 1,045 | 789 | 2,359 | 3,148 |
| 15. Union Territories | 244 | 2,935 | 3,179 | 120 | 751 | 871 | 364 | 3,686 | 4,050 |
| All-India | 5,406 | 31,788 | 37,194 | 4,731 | 24,174 | 28,905 | 10,137 | 55,962 | 66,099 |

47. The distribution of 53,453 nursing personnel in public sector among Central Government, State Government, Quasi Government, and Local Bodies is given in Table 17. It is evident that the maximum employment of nurses and other nursing personnel was in the State Government organisations followed by the Central Government, Local Bodies and Quasi-Government organisations.

TABLE 17

Distribution of Nursing Personnel in Public Sector, 1964, by type of Organisation

| Type of Organisation | Persons Employed | | Total |
|----------------------|------------------|--|--------|
| | Nurses | Midwives, Auxiliary Nurse-Midwives and Health Visitors | |
| 1 | 2 | 3 | 4 |
| Central Government | 2,375 | 618 | 2,993 |
| State Government | 20,605 | 16,713 | 37,318 |
| Quasi-Government | 1,365 | 723 | 2,088 |
| Local Bodies | 3,046 | 8,008 | 11,054 |
| Total | 27,391 | 26,062 | 53,453 |

48. The data collected through occupational pattern studies in public and private sectors will be very useful provided those cover all the establishments so that all the nursing personnel employed in the public and private sectors in the country at any particular time can be obtained.

SECTION - VI

REGISTRATION OF QUALIFIED NURSING PERSONNEL

Introduction

49. Registration data form one of the most important sources of manpower information. This is also true in the case of nursing personnel in India. At present, this is the only way by which the total number of registered nursing personnel in the country is obtained.

50. The registration of nursing personnel namely nurses, midwives, auxiliary nurse-midwives and health visitors is done by the State Nursing Councils. The existence of Registration Councils dates back to the year 1926 when the first Nurses Registration Act was passed in Madras which came into force on 14th March, 1928, registration beginning also from the same date. By 1939, Nursing Councils were established in all the States except the State of Assam. Registration Councils have now been established in all the reorganised States except the States of Rajasthan and Mysore, which have yet to constitute their Councils. Nursing Schools in these two States and the Centrally administered Union Territories are affiliated to Nursing Councils in the adjacent States. For example, the States of Rajasthan and Jammu and Kashmir and Union Territories of Delhi and Himachal Pradesh are affiliated to Punjab Nursing Council. Mysore and Pondicherry are affiliated to Madras Nursing Council, whereas Tripura, Manipur, Nagaland, and N. E. F. A. are affiliated to Assam Nursing Council. Goa has its affiliation with Maharashtra Nursing Council.

51. The main functions of the Councils, inter alia, are:

- (i) the maintenance of registers of trained nurses, midwives, auxiliary nurse-midwives and health visitors; and
- (ii) the control of their training.

52. In some States, the Nursing Councils are responsible for both registration and conduct of examinations. For example, the Councils of Assam, Bihar, Gujarat, Maharashtra, West Bengal and Madhya Pradesh are responsible for registration as well as conduct of examinations whereas the Councils of Kerala, Andhra Pradesh, Uttar Pradesh, Madras

and Orissa are only registration bodies and have separate examining boards approved by the Indian Nursing Council*.

Condition for Registration²⁰

53. Any person can register herself/himself as a nurse, midwife, auxiliary nurse-midwife, or health visitor provided she/he has completed a prescribed course of training and has been successful in the examination for that course conducted by a Council or Examining Body recognised by the Indian Nursing Council. It is obligatory for a person to register herself or himself if she or he wants to seek employment in the nursing profession. The advantage of registration is two-fold. It protects the nurse from competition by unqualified persons and it assures the public of service by qualified nurses.

Limitations of Registration Data

54. All the qualified nursing personnel may not have registered with the various Registration Councils. The amount of under or over registration is likely to vary from category to category being low in the case of Nurses and high in the case of Auxiliary Nurse-Midwives.

55. The registers kept by the Nursing Councils are not live registers. No effort is being made by the Councils to up-date the registers periodically by cancelling those who are dead or retired from the profession. Some nurses and other nursing personnel have registered in more than one State Council, some are too old to practise, some have died, and some have left the country, often without having taken their names off the registers. Some nurses may not be in active nursing profession. There is no system for up-dating either the State Registers or the All-India Register.

* For more details about Indian Nursing Council please see Appendix IV.

²⁰ Cherian, A: 'State Nursing Councils', The Nursing Journal of India, July, 1964.

56. At present there are two courses for midwifery training. One course is of short-term duration, which is meant exclusively for those who have completed General Nursing and the other course is meant for those who have no background of nursing. However, a nurse who has also completed midwifery course may register herself as a nurse as well as a midwife thus giving a double count of the same person in the Register.

57. The Councils of Kerala and Madras are not registering Auxiliary Nurse-Midwives and Health Visitors whereas Orissa is not registering Auxiliary Nurse-Midwives, as the present Acts have no provision for the registration of these personnel. The registration of these personnel will begin as soon as the Acts are amended.

With all the limitations, the estimate of nurses and midwives based on registration data is not likely to be very much different from the actual number in the country.

Registration of Nursing Personnel

58. A total of 108,444 qualified persons are entered in the register of the Indian Nursing Council up to the end of 1964. This total consists of 45,293 Nurses, 52,440 Midwives, 8,213 Auxiliary Nurse-Midwives and 2,498 Health Visitors. The break-up of the total registered number is presented in Table 18.

TABLE 18
Total Number of Registered Nursing Personnel
up to the end of 1964

| Category | Registered Number | Percentage to Total |
|--------------------------|-------------------|---------------------|
| Nurses* | 45,293 | 41.8 |
| Midwives** | 52,440 | 48.3 |
| Auxiliary Nurse-Midwives | 8,213 | 7.6 |
| Health Visitors | 2,498 | 2.3 |
| Total | 108,444 | 100.0 |

* Includes 3,922 male nurses.

** Includes 32,939 nurses who are also trained as midwives.

Councilwise Distribution of Registered Qualified
Nursing Personnel

59. It has already been pointed out in the 'Limitations of Registration Data' that some of the States and Union Territories do not have their Nursing Councils as yet and nursing schools in these States and Union Territories are affiliated to Nursing Councils in the adjacent States. It will, therefore, be necessary to give the coverage of each Nursing Council before embarking upon the councilwise distribution. The coverage of each Nursing Council is presented in Table 19 and the distribution of nursing personnel by councils is given in Table 20.

TABLE 19
Coverage of Registration Councils

| Name of the Registration Council | States Covered |
|----------------------------------|--|
| 1. Andhra Pradesh | Andhra Pradesh |
| 2. Assam | Assam, Tripura, Manipur, N. E. F. A. and Nagaland |
| 3. Bihar | Bihar |
| 4. Maharashtra) | Maharashtra and Goa |
| 5. Vidarbha) | |
| 6. Gujarat | Gujarat |
| 7. Kerala | Kerala |
| 8. Mahakoshal | Madhya Pradesh |
| 9. Madras | Madras, Mysore and Pondicherry |
| 10. Orissa | Orissa |
| 11. Punjab | Punjab, Rajasthan, Delhi Himachal Pradesh, Jammu and Kashmir |
| 12. Uttar Pradesh | Uttar Pradesh |
| 13. West Bengal | West Bengal |

TABLE 20

Councilwise Distribution of Registered Qualified Nursing
Personnel as at the end of 1964

| S. No. | Name of the Registration Council | Nurses | | Midwives | Auxiliary Health Nurse- Midwives | Health Visitors | Total |
|--------|--|--------|--------|----------|--|--------------------|---------|
| | | Female | Total* | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1. | Andhra Pradesh | 3,602 | 4,103 | 5,618 | 498 | 23 | 10,242 |
| 2. | Assam | 1,255 | 1,344 | 1,116 | 623 | 25 | 3,108 |
| 3. | Bihar | 1,983 | 1,983 | 1,244 | 167 | 38 | 3,532 |
| 4. | Gujarat | 1,224 | 1,399 | 1,559 | 677 | 110 | 3,745 |
| 5. | Kerala | 893 | 933 | 1,235 | - | - | 2,168 |
| 6. | Maharashtra | 8,997 | 9,432 | 9,465 | 643 | 367 | 19,907 |
| 7. | Mahakoshal | 1,788 | 2,010 | 2,452 | 1,181 | 337 | 5,980 |
| 8. | Madras | 8,411 | 9,402 | 15,612 | - | - | 25,014 |
| 9. | Orissa | 653 | 698 | 487 | - | 68 | 1,253 |
| 10. | Punjab | 3,647 | 4,502 | 3,134 | 1,694 | 604 | 9,934 |
| 11. | Uttar Pradesh | 2,960 | 3,335 | 4,025 | 360 | 597 | 8,317 |
| 12. | West Bengal | 4,922 | 5,075 | 5,431 | 1,517 | 244 | 12,267 |
| 13. | Vidarbha | 1,036 | 1,077 | 962 | 853 | 85 | 2,977 |
| Total | | 41,371 | 45,293 | 52,440 | 8,213 | 2,498 | 108,444 |

* Includes 3,922 male nurses.

Source: Indian Nursing Council.

Stock of Registered Nursing Personnel:

60. In working out total available stock of registered nursing personnel, the number attributed to the following three factors has been excluded from the total registered number given in Table 22 of this section.

- a. Losses due to deaths Modified Oriental (1925-35) mortality rates as obtained from Life Insurance Corporation of India have been used to calculate losses due to deaths. In the application of Modified Oriental Tables, it has been assumed that the average qualifying age of a nursing course is 20 years.
- b. Midwives who are also trained nurses Nurses who are also qualified as midwives have been excluded from midwives.
- c. Nursing Personnel who are no longer in the profession Those nursing personnel who are 58 years and above have been excluded from the stock.

61. The estimated available stock of registered nursing personnel thus worked out is set out in Table 21.

TABLE 21Estimated Stock of Registered Qualified Nursing Personnel as at the end of 1964

| Category | Estimated Registered Number |
|--------------------------|-----------------------------|
| Nurses* | 42, 292 |
| Midwives | 18, 232 |
| Auxiliary Nurse-Midwives | 8, 090 |
| Health Visitors | 2, 411 |
| Total | 71, 025 |

* Includes 3, 749 male nurses.

62. It has already been pointed out in the 'Limitations of Registration data' that some of the Councils are not registering Auxiliary Nurse-Midwives and Health Visitors. On account of this there may be a high percentage of under-registration insofar as Auxiliary Nurse-Midwives and Health Visitors are concerned.

Age-distribution of Nursing Personnel

63. The Indian Nursing Council is maintaining cards of registered nursing personnel, namely, Nurses, Midwives, Auxiliary Nurse-Midwives and Health Visitors. Among other information, the card contains data regarding the year of birth and the year of passing a nursing course. To get an idea about the distribution of nursing personnel by age-groups, the year of birth and year of passing of a nursing course (if date of birth is not available) have been taken into account. To arrive at the age-distribution, two independent sets of Systematic Samples with a random start were selected. Each sample consisted of 10% of the total number of cards. The age-distribution obtained from the two samples did not vary significantly from each other for any of the four types of nursing personnel. This fact introduced an element of confidence in the estimates derived from the sample. The two sets of sample were then pooled together to provide an estimate of the age-distribution of nursing personnel in India. The distribution of nursing personnel in India by age-groups derived from the sample is set out in Table 22.

TABLE 22Age-distribution of Registered Nursing Personnel

| Age-group | Nurses | Midwives | Auxiliary Nurse- Midwives | Health Visitors | Total |
|--------------|-------------------|-------------------|---------------------------------|--------------------|-------------------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 27 or less | 18,890 (43.6) | 9,404 (50.3) | 7,394 (91.4) | 1,556 (64.6) | 37,244 (51.4) |
| 28 - 37 | 14,486 (33.5) | 4,869 (26.1) | 623 (7.7) | 444 (18.4) | 20,422 (28.2) |
| 38 - 47 | 6,056 (14.0) | 2,840 (15.2) | 52 (0.6) | 307 (12.7) | 9,255 (12.8) |
| 48 - 57 | 2,860 (6.6) | 1,119 (6.0) | 21 (0.3) | 104 (4.3) | 4,104 (5.6) |
| 58 and above | 996 (2.3) | 449 (2.4) | - | - | 1,445 (2.0) |
| Total | 43,288 (100.0) | 18,681 (100.0) | 8,090 (100.0) | 2,411 (100.0) | 72,470 (100.0) |

64. A glance at Table 22 will indicate that 44% of the nurses are in the younger age-group 27 or less, 34% in the age-group 28-37 and 14% are aged 38-47. Only 2% of the nurses are in the age-group 58 and above, the age-group when they are supposed to be no longer in active profession. The age-distribution of midwives follows, more or less, the same trend as that of nurses. The auxiliary nurse-midwives show a completely different trend. 91% of the auxiliary nurse-midwives fall in the younger age-group 27 or less and 8% in the age-group 28-37. This being a recently introduced course of education not even a single auxiliary nurse-midwife is in the inactive age-group 58 and above. Health Visitors have completely a different pattern of age-distribution although the younger age-group constitute a high percentage (65%).

Registered Male Nurses

65. The total number of registered male nurses as at the end of 1964 is 3,922. Allowing for mortality and excluding the number of those

who are 58 years and above, the total number of registered male nurses is estimated as 3,749. This is a small number in relation to the total number of nurses and gives a percentage of about 9 to the total number of registered nurses.

Age-distribution of Registered Male Nurses:

66. The age-distribution of registered male nurses was studied in conjunction with other nursing personnel arrived at earlier. The age-distribution thus obtained is given in Table 23.

TABLE 23

Age-distribution of Registered Male Nurses

| Age-group | Male Nurses | Percentage to Total |
|--------------|-------------|---------------------|
| 27 or less | 1,341 | 35.6 |
| 28 - 37 | 1,842 | 49.0 |
| 38 - 47 | 460 | 12.2 |
| 48 - 57 | 106 | 2.8 |
| 58 and above | 16 | 0.4 |
| Total | 3,765 | 100.0 |

67. A perusal of Table 23 will indicate that 35% of the male nurses are in the age-group 27 or less. The age-group 28-37 has the highest percentage of 49. Twelve per cent of the male nurses are aged 38-47. Only 3% of the male nurses are aged 48-57 and a negligible percentage of male nurses are 58 years and above.

68. The All-India Register of Nursing Personnel can be a very valuable source of information if registration is made complete and up-to-date. One way will be to make it obligatory on every person in the nursing profession to renew her/his registration every year or at least once in two years.

SECTION VII

INSTITUTIONAL OUT-TURN AND REGISTRATION OF NURSING PERSONNEL*

Introduction

69. An estimate of the stock of various categories of Nursing Personnel, namely, Nurses, Midwives, Auxiliary Nurse-Midwives and Health Visitors as at the end of 1964 can be obtained by cumulating the out-turn of qualified candidates from training institutions over a suitable number of years after giving allowance for (a) mortality, (b) migrations, and (c) inactiveness of the nursing personnel. However, due to the non-availability of out-turn details of qualified candidates before 1949, an estimate of the stock of nursing personnel has been arrived at by pooling together the total number of qualified nursing personnel entered in the State Nursing Council Registers up to the end of 1949 and the out-turn figures of qualified nursing personnel from 1950 to 1964.

70. To arrive at an estimate of stock of nursing personnel, only those nursing personnel who are aged below 58 years have been taken into account, it being assumed that by the age of 58 these persons will no longer be working. The details of the registrations up to the end of 1949 as entered in the State Nursing Council Registers and thereafter compiled in the Indian Nursing Council have been used. The out-turn figures from 1950 to 1964 have also been taken from the Indian Nursing Council. The yearwise out-turn figures are given in Appendix VI.

71. The following factors have been taken into consideration while working out estimates of the stock of nursing personnel:

(a) Losses due to deaths:

Modified Oriental (1925-35) mortality rates as obtained from Life Insurance Corporation of India have been used to calculate losses due to deaths during the period under study. In the application of Modified Oriental tables, it has been assumed that the average age of qualifying a nursing course is 20 years.

* Source: Indian Nursing Council.

(b) Migrations to Pakistan:*

The percentage of migrations to Pakistan may be assumed as insignificant because of the social barriers attached to the profession of nursing during the pre-Independence period and the purdah system prevalent among the Muslims which discouraged the Muslim women-folk to join the profession and remain active in it. Moreover, it may also be assumed that all Muslim Nurses stayed in Pakistan in view of their very insignificant number in nursing profession. Therefore, no allowance for migration to Pakistan need be given to arrive at an estimate of the stock of nursing personnel.

(c) Losses due to those who are not in active profession:

At present, it is not possible to estimate the figure of inactive nursing personnel. However, mention may be made here that such a study has already been undertaken by the Indian Nursing Council, Ministry of Health in the State of West Bengal and if results prove worthwhile this sample study may be extended all over India. Hence, no allowance insofar as inactive nursing personnel are concerned, has been taken into account.

(d) Nursing Personnel who are no longer in the profession:

Those nursing personnel who are 58 years and above have been excluded.

Institutional Out-turn and Registration of Nursing Personnel:

72. Pooling together the institutional out-turn of qualified candidates from 1950 to 1964 and registration data of nursing personnel up to the end of 1949, the figures of the total stock are set out in Table 24.

* This point was discussed with Miss T. K. Adranvala, Secretary, Indian Nursing Council and she agreed in principle.

TABLE 24

Estimated Number of Nursing Personnel, 1964

| Category | Registrations up to the end of 1949 | Out-turn of qualified candidates from 1950 to 1964 | Total |
|--------------------------|-------------------------------------|--|--------|
| Nurses | 14,238 | 34,370* | 48,608 |
| Midwives | 15,423** | 16,546+ | 31,969 |
| Auxiliary Nurse-Midwives | - | 14,729 | 14,729 |
| Health Visitors | 464 | 3,155 | 3,619 |
| Total | 30,125 | 68,800 | 98,925 |

* Includes out-turn of male nurses (2,886) as well as those nurses (457) who have done B. Sc. Course Nursing (Basic).

** Includes 9,687 nurses who are also trained as midwives.

+ Includes the out-turn of nurses with midwifery training from 1950-1954.

Estimated Available Stock of Nursing Personnel:

73. Allowing for mortality and excluding those who are 58 years and above, the total available estimated stock at the end of 1964 is worked out in Table 25.

TABLE 25Estimated Available Stock of Nursing Personnel, 1964*

| Category | Estimated Stock |
|--------------------------|-----------------|
| Nurses | 45,387 ** |
| Midwives | 20,834 *** |
| Auxiliary Nurse-Midwives | 14,509 |
| Health Visitors | 3,491 |
| Total | 84,221 |

* Worked out in IAMR based on the compiled data supplied by the Indian Nursing Council.

** Includes 2,770 Male Nurses.

*** Nurses (9,687) with midwifery training have been excluded.

Age-distribution of estimated stock of
Nursing Personnel

74. The age-distribution of estimated stock of nursing personnel is given in Table 26. This distribution is based on the age-distribution of registered nursing personnel, the details of which have already been discussed in Section V.

TABLE 26

Age-distribution of Nursing Personnel

(Figures in brackets are percentage to column totals)

| Age-group | Category | | Auxiliary | Health | Total |
|--------------|---------------------|---------------------|---------------------|--------------------|---------------------|
| | Nurses | Midwives | Nurse- Midwives | Visitors | |
| 27 or less | 20, 272 (43. 6) | 10, 746 (50. 3) | 13, 261 (91. 4) | 2, 253 (64. 6) | 46, 532 (54. 2) |
| 28 - 37 | 15, 545 (33. 5) | 5, 564 (26. 1) | 1, 118 (7. 7) | 643 (18. 4) | 22, 870 (26. 7) |
| 38 - 47 | 6, 500 (14. 0) | 3, 245 (15. 2) | 94 (0. 6) | 444 (12. 7) | 10, 283 (12. 0) |
| 48 - 57 | 3, 070 (6. 6) | 1, 279 (6. 0) | 36 (0. 3) | 151 (4. 3) | 4, 536 (5. 3) |
| 58 and above | 1, 069 (2. 3) | 512 (2. 4) | - | - | 1, 581 (1. 8) |
| Total | 46, 456 (100. 0) | 21, 346 (100. 0) | 14, 509 (100. 0) | 3, 491 (100. 0) | 85, 802 (100. 0) |

Estimated Stock of Male Nurses

75. The total stock of Male Nurses based on the out-turn of qualified candidates from training institutions from 1950 to 1964 and registration data up to the end of 1949 is estimated as 2, 886. Giving allowance for mortality and excluding the number of those male nurses who are aged 58

years and above, the total available stock of male nurses is estimated as 2, 770. This is a very insignificant number in relation to the total stock inasmuch as it gives a percentage of 6 to the total stock of nurses.

Age-distribution of Male Nurses

76. The methodology used in getting the age-distribution of Male Nurses is the same as that for female nurses. The distribution of male nurses by age-groups thus obtained is presented in Table 27 below:

TABLE 27

Age-distribution of Male Nurses

| Age-group | Male Nurses | % |
|--------------|-------------|-------|
| 27 or less | 987 | 35.6 |
| 28 - 37 | 1, 355 | 49.0 |
| 38 - 47 | 338 | 12.2 |
| 48 - 57 | 78 | 2.8 |
| 58 and above | 12 | 0.4 |
| Total | 2, 770 | 100.0 |

77. Table 27 indicates that the highest percentage (49%) of male nurses is concentrated in the age-group 28-37. Next to this is the age-group 27 or less which has a percentage of 36. The age-group 38-47 has a small percentage as compared to the age-groups 27 or less and 28-37 and records a sharp decline so much so that it has a percentage of 12. Only 3% of male nurses are aged 48-57 and a negligible percentage of male nurses are 58 years and above.

SECTION VIII

STOCK OF NURSES WITH POST-BASIC TRAINING

Introduction:

78. So far we have studied in detail only those nursing personnel who have completed one or the other basic course in nursing. With the rapid increase in the number of all categories of nursing personnel and the expansion of their respective activities, there is a great need for more well prepared nurses who will be able to (a) participate in planning, (b) organise nursing services, (c) develop nursing education programmes, (d) conduct research in training, and (e) demonstrate good patient care both in the hospital and community²¹. It is the function of such post-basic programmes to make provision for further preparation of nurses to meet this need. In the following paragraphs, an attempt has been made to estimate the stock of nurses with post-basic training.

Institutional Out-turn of Nurses with Post-Basic Training:

79. The only means of arriving at an estimate of the stock of nurses who have completed one or the other post-basic course is the institutional out-turn of qualified candidates. Since the post-basic education started in India in 1942, the out-turn figures are available from the year 1943, i. e., the year when the first batch qualified. Therefore, an estimate of the stock of nurses with post-basic training has been obtained by computing the cumulative out-turn of qualified candidates from 1943 to 1964. Table 28 gives the estimate thus obtained.

TABLE 28
Institutional Out-turn of Nurses with Post-Basic
Training

| <u>Year</u> | <u>Out-turn</u> |
|-------------|-----------------|
| 1943 | 6 |
| 1944 | 11 |
| 1945 | 17 |
| 1946 | 19 |

21. Cherian, A: 'Post-Basic Nursing Education in India',
The Nursing Journal of India, July 1964. (Contd. on next page)

(Contd. from previous page)

| Year | Out-turn |
|--------------|--------------|
| 1947 | 34 |
| 1948 | 37 |
| 1949 | 23 |
| 1950 | 32 |
| 1951 | 36 |
| 1952 | 38 |
| 1953 | 55 |
| 1954 | 40 |
| 1955 | 37 |
| 1956 | 72 |
| 1957 | 142 |
| 1958 | 155 |
| 1959 | 216 |
| 1960 | 227 |
| 1961 | 306 |
| 1962 | 362 |
| 1963 | 371 |
| 1964 | 448 |
| Total | 2,684 |

80. Table 28 brings forward a salient fact that the number of nurses with post-basic training is continuously on the increase excepting the years 1949, 1954 and 1955 when the number of qualified candidates decreased as compared to the respective figures of the previous years but the subsequent years indicate an increasing trend. This increasing trend is an indicator of the fact that the profession of nursing is becoming more and more popular. Not only this, the educational background of the nursing personnel is also improving.

Speciality-wise Distribution

81. Speciality-wise distribution of the stock of nurses with post-basic training is given in Table 29. The table also gives the stock of active nurses with post-basic training. The active stock has been estimated by applying the survival rates as obtained from the Modified Oriental Tables given by the Life Insurance Corporation of India.

82. The stock of active nurses with post-basic training at the end of 1964 is estimated as 2,601. About one-third of the nurses have done Ward Sister Course. Nurses with Master's Degree in Nursing are smallest in number, possibly due to the reason that this is a recently introduced educational course.

TABLE 29
Speciality-wise Distribution of Nurses with Post-
Basic Training, 1964

| S. No. | Speciality | Stock | Estimated Active Stock | % |
|--------|---------------------------|-------|------------------------|-------|
| 1 | 2 | 3 | 4 | 5 |
| 1. | Ward Sister | 837 | 811 | 31.2 |
| 2. | Nursing Administration | 314 | 304 | 11.7 |
| 3. | Sister Tutor | 630 | 610 | 23.4 |
| 4. | Midwifery Tutor | 79 | 77 | 3.0 |
| 5. | Public Health Nursing | 586 | 567 | 21.8 |
| 6. | Psychiatric Nursing | 161 | 156 | 6.0 |
| 7. | Public Health Supervision | 48 | 47 | 1.8 |
| 8. | Paediatric Nursing | 15 | 15 | 0.6 |
| 9. | Master of Nursing | 14 | 14 | 0.5 |
| Total | | 2,684 | 2,601 | 100.0 |

Age-distribution of Active Nurses
with Post-Basic Training

83. The age-distribution of active nursing personnel with post-basic training was studied in conjunction with the age-distribution of other nursing personnel obtained earlier in Section V of this paper. The age-distribution thus obtained is given in Table 30.

TABLE 30

Age-distribution of Active Nursing
Personnel with Post-Basic Training

| Age-group | Estimated Stock | Percentage to Total |
|--------------|-----------------|------------------------|
| 27 or less | 1,682 | 64.7 |
| 28 - 37 | 568 | 21.8 |
| 38 - 47 | 299 | 11.5 |
| 48 - 57 | 52 | 2.0 |
| 58 and above | - | - |
| Total | 2,601 | 100.0 |

84. Table 30 shows that 65% of the nurses with post-basic training are 27 or less, 22% are aged 28-37 and 12% are aged 38-47. Only 2% are in the age-group 48-57. This table brings forward one salient fact that majority of the nurses with post-basic training is in the younger age-group 27 or less.

SECTION IXESTIMATE OF THE STOCK OF NURSING PERSONNEL AT
THE END OF 1964 - EVALUATION AND CONCLUSION

85. So far we have obtained different estimates of stock of nursing personnel based on data from different sources. In this section, an attempt is made to review each of the estimates and to arrive at a best possible estimate of nursing personnel namely nurses, midwives, auxiliary nurse-midwives and health visitors as at the end of 1964.

86. Estimates of the stock of nursing personnel are available from four sources namely (1) Census of India, 1961, (2) Occupational Pattern Studies of the Directorate General of Employment and Training, (3) Registration of Nursing Personnel with the Indian Nursing Council and State Nursing Councils, and (4) Institutional out-turn of qualified candidates from Nursing Schools. The estimates obtained from each of these four sources are presented in Table 31.

TABLE 31

Estimate of Stock of Nursing Personnel in 1964
from four different sources

| (In thousands) | | | | | | |
|---|---------------------------------------|----------|--------------------------|-----------------|--|-------|
| Source | Estimated Stock as at the end of 1964 | | | | | Total |
| | Nurses | Midwives | Auxiliary Nurse-Midwives | Health Visitors | Midwives, Auxiliary Nurse-Midwives and Health Visitors | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. Census of India, '61 | 73 | N. A. | N. A. | N. A. | 51 | 124 |
| 2. Occupational pattern studies of the Directorate General of Employment and Training | 37 | N. A. | N. A. | N. A. | 29 | 66 |
| 3. Registration data | 43 | 18 | 8 | 2 | 28 | 71 |
| 4. Institutional out-turn and registration data | 45 | 21 | 15 | 3 | 39 | 84 |

Nurses

87. The estimate of nurses based on the Census of India, 1961 is 73,000. This estimate is subject to certain limitations (vide para 31, Section IV); the important limitation which vitiates the estimate is that, it is likely to include a large number of dais/nurse-dais who might have declared themselves as nurses/midwives. On a rough calculation, it has been estimated that there will be at least one dai/nurse-dai, who looks after the births in the rural areas, for every five villages. This means that there will be nearly 100,000 dais/nurse-dais, in India. There are also 'Nursing Attendants' and 'Midwifery Attendants' working in the hospitals who also are likely to have declared themselves as nurses/midwives. According to the census enumeration there are only 41,000 dais in 1961. At least a part of the balance of nearly 60,000 dais/nurse-dais/nursing attendants/midwifery attendants are likely to have declared themselves as nurses and have been included in the estimate of 73,000. It is not possible to arrive at a close enough estimate of the number of such sub-category nurses who are included in this estimate. However, it appears fairly certain that the census estimate is an over-estimate, and cannot be readily accepted.

88. The estimate of nurses based on occupational pattern studies of the Directorate General of Employment and Training includes only those who are employed in public sector and organised private sector establishments. As such it does not give a total count of all the nurses in the country.

89. With regard to the estimates of nurses, based on registration data, there are several points which need elucidation. It was pointed out in para 54, Section VI 'Limitations of Registration Data' that all the persons who qualify from a nursing course do not necessarily register themselves although it is obligatory for a person to register herself/himself if she or he wants to seek employment in the nursing profession. This factor leads to a possible undercount of nurses. The second important point is that there is no restriction as to the number of times a person can register. If a person migrates from one State to another, the first registration may not be cancelled while the new registration may be made. This leads to an overcount. The third important point which need mention is that persons who leave the nursing profession do not get their names struck off from the register. This factor again leads to an overcount. Thus the registration data are

subject to certain inaccuracies some of which lead to an overcount and others to an undercount. However, we may assume that the undercount and overcount more or less balance each other and the estimate obtained gives a broad dimensional picture of the stock of nurses in the country.

90. The best estimate of the stock of nurses will be that worked out on the basis of out-turn of qualified candidates for as many years back as is necessary. But in the case of nurses, the out-turn figures are not available for all the years. The out-turn data are available only from 1950 onwards. To compensate for the lack of data for the earlier period the next best course is to adopt the stock of registered nursing personnel upto the end of 1949 and to add to this the out-turn of nurses from 1950 to 1964, to arrive at the stock of nurses at the end of 1964. Even though the estimate worked out in this manner would also have its limitations, it is considered that in the absence of more data, this would be relatively more free from inaccuracies and would give the best dimensional picture of the stock of nurses in 1964. Moreover, this estimate differs only slightly from the estimate obtained solely from registration data. Thus the estimate of stock of nurses in 1964 can be taken to be between 43,000 and 45,000. It has been taken as 45,387 for the purpose of working state-wise distribution, etc.

Midwives

91. Separate estimates of midwives are available from two sources, namely (1) Registration data and (2) Institutional out-turn combined with registration data. As in the case of nurses, data from both these sources on midwives are also subject to certain limitations. However, the estimates based on both the sources are more or less identical and both give a closely comparable order of magnitude. Since it is not possible to subtract the out-turn of nurses with midwifery training (1950-54) from the latter estimate, the estimate of midwives based on registration data (18,232) is preferred and is recommended for acceptance.

Auxiliary Nurse-Midwives

92. Separate estimates of auxiliary nurse-midwives are available from two sources (1) Registration data and (2) Institutional out-turn. The estimate based on registration data gives only a partial picture of the stock of auxiliary nurse-midwives in view of the fact that Registration

Councils in the States of Kerala, Madras and Orissa are not registering this class of workers as the present Acts have no provision for their registration. This leads to under-registration of auxiliary nurse-midwives. Therefore, the estimate of auxiliary nurse-midwives based on institutional out-turn (14, 509) is preferred and is recommended for acceptance.

Health Visitors

93. The estimate of Health Visitors is available from two sources (1) Registration data and (2) Institutional out-turn combined with the registration data. The two estimates differ very ^{little} from each other and both can be recommended for acceptance. However, the Registration Councils in the States of Kerala and Madras are not registering health visitors as there is no provision in the present Acts. As such, the latter estimate (3, 491) is preferred and is recommended for acceptance.

94. The estimates recommended are presented in Table 32.

TABLE 32

Estimated Stock of Nursing Personnel, 1964

| Category | Estimated Stock |
|--------------------------|-----------------|
| Nurses | 45, 387 |
| Midwives | 18, 232 |
| Auxiliary Nurse-Midwives | 14, 509 |
| Health Visitors | 3, 491 |
| Total | 81, 619 |

Statewise Distribution of Stock of Nursing Personnel

95. Without the help of field investigations to determine the actual distribution of nursing personnel by States, it is not possible to arrive at the actual Statewise distribution. However, the Statewise distribution of the estimated stock has been arrived at on the basis of the Statewise distribution of nursing personnel (Appendix V) supplied by the Indian Nursing Council. As such Statewise figures given in Table 33 are "only approximate figures and they do not in any way represent the actual position in the States. This applies particularly to figures for Auxiliary Nurse-Midwives and Health Visitors"*.

96. West Bengal and Maharashtra (the two industrially advanced States) account for over one-third (34.4%) of the stock of nurses. The States of Andhra, Madras, ^{and} Uttar Pradesh account for a little less than one-third (30.9%) of the stock of nurses. The remaining one-third of the stock of nurses is distributed in the States of Assam, Bihar, Gujarat, Jammu and Kashmir, Kerala, Orissa, Punjab, Rajasthan, M. P., Mysore and Delhi. Maharashtra and Madras, the two educationally advanced States for the training of midwives, account for about 46.5% of the stock of midwives. A little less than one-third (28.6%) of the stock of midwives is claimed by Andhra, Uttar Pradesh and West Bengal. The rest of 24.9% stock of midwives is in Assam, Bihar, Gujarat, Kerala, Orissa, Punjab, Rajasthan, Madhya Pradesh, Mysore and Union Territories. About half (49.6%) of the stock of auxiliary nurse-midwives is claimed by Andhra, Maharashtra, Punjab, West Bengal and Madras, the best condition being in Punjab, the State where this training was commenced to begin with. In the case of health visitors, about two-thirds (63.0%) of the stock is in Andhra Pradesh, Madras, Maharashtra, Uttar Pradesh and West Bengal and the rest one-third of the Stock is distributed in the remaining States.

* Vide letter No. 10-4/65-INC dated 17.7.'65 from the Secretary, Indian Nursing Council.

Distribution of Nursing Personnel in India by States as at the end of 1964

| Name of the State | Nurses | | Midwives | | Auxiliary Nurse-Midwives | | Health Visitors | | Total | |
|---|---------------|--------------|---------------|--------------|--------------------------|--------------|-----------------|--------------|---------------|--------------|
| | No. | % | No. | % | No. | % | No. | % | No. | % |
| 1. Andhra Pradesh | 4,112 | 9.1 | 1,940 | 10.6 | 1,610 | 11.1 | 482 | 13.8 | 8,144 | 10.1 |
| 2. Assam | 1,271 | 2.8 | 381 | 2.1 | 638 | 4.4 | - | - | 2,290 | 2.8 |
| 3. Bihar | 1,988 | 4.4 | 467 | 2.6 | 840 | 5.8 | 201 | 5.8 | 3,496 | 4.3 |
| 4. Gujarat | 1,419 | 3.1 | 571 | 3.1 | 1,157 | 8.0 | 119 | 3.4 | 3,266 | 4.0 |
| 5. Jammu and Kashmir | 73 | 0.2 | - | - | 29 | 0.2 | 59 | 1.7 | 161 | 0.2 |
| 6. Kerala | 1,008 | 2.2 | 428 | 2.3 | 452 | 3.1 | 67 | 1.9 | 1,955 | 2.4 |
| 7. Madras | 6,543 | 14.4 | 4,847 | 26.6 | 964 | 6.6 | 378 | 10.8 | 12,732 | 15.6 |
| 8. Maharashtra | 10,511 | 23.2 | 3,624 | 19.9 | 1,614 | 11.1 | 316 | 9.0 | 16,065 | 19.7 |
| 9. Nagaland | 61 | 0.1 | 23 | 0.1 | - | - | - | - | 84 | 0.1 |
| 10. Orissa | 699 | 1.5 | 166 | 0.9 | 357 | 2.5 | - | - | 1,222 | 1.5 |
| 11. Punjab | 1,915 | 4.2 | 665 | 3.6 | 1,649 | 11.4 | 337 | 9.7 | 4,566 | 5.6 |
| 12. Uttar Pradesh | 3,344 | 7.4 | 1,402 | 7.7 | 919 | 6.3 | 636 | 18.2 | 6,301 | 7.7 |
| 13. West Bengal | 5,088 | 11.2 | 1,887 | 10.3 | 1,367 | 9.4 | 390 | 11.2 | 8,732 | 10.7 |
| 14. Rajasthan | 1,903 | 4.2 | 215 | 1.2 | 551 | 3.8 | 22 | 0.6 | 2,691 | 3.3 |
| 15. Madhya Pradesh | 2,016 | 4.4 | 849 | 4.7 | 1,423 | 9.8 | 142 | 4.1 | 4,430 | 5.4 |
| 16. Mysore | 2,680 | 5.9 | 514 | 2.8 | 457 | 3.1 | 59 | 1.7 | 3,710 | 4.5 |
| <u>Union Territories:</u> | | | | | | | | | | |
| 17. Delhi | 635 | 1.4 | 213 | 1.2 | 26 | 0.2 | 264 | 7.6 | 1,138 | 1.4 |
| 18. Himachal Pradesh | 52 | 0.1 | 9 | 0.1 | 114 | 0.8 | 19 | 0.5 | 194 | 0.2 |
| 19. Tripura | - | - | - | - | 133 | 0.9 | - | - | 133 | 0.2 |
| 20. Manipur | - | - | - | - | 129 | 0.9 | - | - | 129 | 0.2 |
| 21. Pondicherry | 34 | 0.1 | 11 | 0.1 | - | - | - | - | 45 | 0.06 |
| 22. N. E. F. A. | - | - | - | - | 80 | 0.6 | - | - | 80 | 0.1 |
| 23. Sikkim | - | - | - | - | - | - | - | - | - | - |
| 24. Andaman and Nicobar Islands | - | - | - | - | - | - | - | - | - | - |
| 25. Dadra and Nagar Haveli | - | - | - | - | - | - | - | - | - | - |
| 26. Laccadive, Minicoy and Amindivi Islands | - | - | - | - | - | - | - | - | - | - |
| 27. Goa, Daman and Diu | 35 | 0.1 | 20 | 0.1 | - | - | - | - | 55 | 0.07 |
| All-India | 45,387 | 100.0 | 18,232 | 100.0 | 14,509 | 100.0 | 3,491 | 100.0 | 81,619 | 100.0 |

- (dash) indicates "not known" and not 'nil' as there are Nurses, Midwives, Auxiliary Nurse-Midwives and Health Visitors working in all these areas.

Nurse and other Nursing Personnel Ratio to Population

97. To get a clear relationship between the stock of nursing personnel and the population, ratio of nurses and other nursing personnel to population is calculated and given in Table 34. These ratios are broadly indicative of the extent of medical facilities in the area and are useful in planning developmental programmes of nursing education and nursing services region-wise.

98. It can be observed from Table 34 that the most favourable nurse-population ratio is in Maharashtra followed by Madras, Delhi and West Bengal. In these States, the ratio is much above the all-India level. In Mysore and Andhra Pradesh, the number of nurses per million population is also above the all-India level, whereas in the remaining States, the nurse-population ratio was below the all-India level. The most favourable position in the case of other nursing personnel is in Madras, followed by Delhi, Tripura, Maharashtra, Punjab, and Andhra Pradesh, while the States of West Bengal, Assam, Gujarat and Himachal Pradesh have a ratio near about the all-India average. In the States of Madhya Pradesh, Mysore, Uttar Pradesh, Rajasthan, Kerala, Bihar and Orissa the ratio is less than the all-India average.

99. There is a high degree of rank correlation (0.7) between the nurse-population ratio and other nursing personnel-population ratio. This indicates that in those States where nurses are in large numbers the other nursing personnel are also in large numbers.

TABLE 34

Number of Nurses and other Nursing Personnel
per Million Population, 1964

| State | Estimated Mid- Year Population, 1964* (in million) | Nurses per Million Population | Midwives, Auxili- ary Nurse-Midwives and Health Visitors per Million Population*** |
|---|---|-------------------------------------|--|
| 1 | 2 | 3 | 4 |
| 1. Andhra Pradesh | 38.36 | 107 | 105 |
| 2. Assam | 13.07 | 97 | 78 |
| 3. Bihar | 50.13 | 40 | 30 |
| 4. Gujarat | 22.58 | 63 | 82 |
| 5. Jammu and Kashmir | 3.73 | 20 | 24 |
| 6. Kerala | 18.36 | 55 | 52 |
| 7. Madras | 35.63 | 184** | 174 |
| 8. Maharashtra | 43.06 | 244** | 129 |
| 9. Orissa | 18.88 | 37 | 28 |
| 10. Punjab | 22.48 | 85 | 118 |
| 11. Uttar Pradesh | 79.39 | 42 | 37 |
| 12. West Bengal | 38.20 | 133** | 95 |
| 13. Rajasthan | 22.17 | 86 | 36 |
| 14. Madhya Pradesh | 35.15 | 57 | 69 |
| 15. Mysore | 25.47 | 105 | 40 |
| 16. Delhi | 3.14 | 202** | 160 |
| 17. Himachal Pradesh | 1.46 | 36 | 97 |
| 18. Tripura | 1.26 | - | 106 |
| 19. Others | 3.01 | 40 | 87 |
| (Nagaland, Manipur, Pondicherry, NEFA, Sikkim, Andaman and Nicobar Islands, Dadra and Nagar Haveli, Laccadive, Minicoy and Amindivi Islands and Goa, Daman and Diu.) | | | |
| All-India | 475.53 | 95 | 76 |

* The population figures have been taken from the office of the Registrar General of India.

** Such metropolitan centres like Madras, Bombay (Maharashtra), Calcutta (West Bengal) and Delhi have a concentration of nurses that raises the nurse-population ratio for higher than obtaining in other States.

*** As the functions of midwives, auxiliary nurse-midwives and health visitors are largely similar, they have been pooled together.

Nurse -- Doctor Ratio

100. Table 35 gives the nurse-doctor ratio as it exists in India at the end of the year 1964. It would appear from the table that there is poor nurse-doctor ratio in India. Whereas the desirable norm would be about three nurses per doctor, there is not even one nurse per doctor at the all-India level. Excepting the States of Madras and Maharashtra which have got 1 : 1 ratio, all the remaining States do not have even one nurse per doctor.

TABLE 35
Nurse --- Doctor Ratio, 1964

| Name of the State | Number of Nurses | Number of Doctors | Nurse-Doctor Ratio |
|----------------------|---------------------|----------------------|-----------------------|
| 1 | 2 | 3 | 4 |
| 1. Andhra Pradesh | 4, 112 | 7, 638 | 1 : 2 |
| 2. Assam | 1, 271 | 3, 408 | 1 : 3 |
| 3. Bihar | 1, 988 | 7, 912 | 1 : 4 |
| 4. Gujarat | 1, 419 | 5, 264 | 1 : 4 |
| 5. Jammu and Kashmir | 73 | 419 | 1 : 6 |
| 6. Kerala | 1, 008 | 4, 011 | 1 : 4 |
| 7. Madras | 6, 543 | 6, 916 | 1 : 1 |
| 8. Maharashtra | 10, 511 | 13, 767 | 1 : 1 |
| 9. Orissa | 699 | 2, 431 | 1 : 3 |
| 10. Punjab | 1, 915 | 7, 822 | 1 : 4 |
| 11. Uttar Pradesh | 3, 344 | 10, 218 | 1 : 3 |
| 12. West Bengal | 5, 088 | 18, 665 | 1 : 4 |
| 13. Rajasthan | 1, 903 | 2, 981 | 1 : 2 |
| 14. Madhya Pradesh | 2, 016 | 4, 762 | 1 : 2 |
| 15. Mysore | 2, 680 | 4, 822 | 1 : 2 |
| 16. Delhi | 635 | 5, 849 | 1 : 9 |
| 17. Himachal Pradesh | 52 | 125 | 1 : 2 |
| 18. Pondicherry | 34 | 175 | 1 : 5 |
| 19. Others | 96 | 1, 055 | 1 : 11 |
| All-India | 45, 387 | 108, 240 | 1 : 2 |

Age-distribution of Nursing Personnel

101. The age-distribution of estimated stock of nursing personnel in 1964 is presented in Table 36. The methodology of arriving at the age-distribution is explained in para 63, Section VI. The age-distribution given here is based on that distribution.

TABLE 36Age-distribution of Estimated Stock of Nursing Personnel, 1964

| Age-group | Nurses | Midwives | Auxiliary Nurse- Midwives | Health Visitors | Total |
|--------------|----------------------------|----------------------------|---------------------------------|---------------------------|----------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 27 or less | 20, 272 (43. 6) | 9, 404 (50. 3) | 13, 261 (91. 4) | 2, 253 (64. 6) | 45, 190 (54. 3) |
| 28 - 37 | 15, 545 (33. 5) | 4, 869 (26. 1) | 1, 118 (7. 7) | 643 (18. 4) | 22, 175 (26. 7) |
| 38 - 47 | 6, 500 (14. 0) | 2, 840 (15. 2) | 94 (0. 6) | 444 (12. 7) | 9, 878 (11. 9) |
| 48 - 57 | 3, 070 (6. 6) | 1, 119 (6. 0) | 36 (0. 3) | 151 (4. 3) | 4, 376 (5. 3) |
| 58 and above | 1, 069 (2. 3) | 449 (2. 4) | - | - | 1, 518 (1. 8) |
| Total | 46, 456 (100. 0) | 18, 681 (100. 0) | 14, 509 (100. 0) | 3, 491 (100. 0) | 83, 137 (100. 0) |

102. Table 36 shows that majority of the nurses and midwives are aged 27 or less and only a small percentage (2%) belongs to the inactive age-group, namely 58 and above. As regards auxiliary nurse-midwives, 91.0% are in the younger age-group 27 or less, this being due to the reason that this is a recently introduced educational course. About 83% of the health visitors are 37 or less and the rest are distributed in other age-groups.

Concluding Remarks

103. The estimated stock of nursing personnel is based largely on institutional out-turn. It is not known how many among them are actively engaged in the profession. It is common knowledge that there is considerable withdrawal from the profession due to changes in the marital status. It is also known that this manpower resource is more scarce than even allopathic doctors. A further depth study on resource utilisation in respect of this professional group may therefore be necessary.

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"APPENDICES"

Nursing Personnel in India 1961

| State/Union Territory | Nurses | | | Midwives, Auxiliary Nurse-Midwives and Health Visitors | | | Total | | |
|---|---------------|---------------|---------------|--|---------------|---------------|---------------|----------------|----------------|
| | Men | Women | Total | Men | Women | Total | Men | Women | Total |
| 1. Andhra Pradesh | 771 | 4,220 | 4,991 | 987 | 5,603 | 6,590 | 1,758 | 9,823 | 11,581 |
| 2. Assam | 733 | 1,520 | 2,253 | 394 | 1,931 | 1,425 | 1,127 | 2,551 | 3,678 |
| 3. Bihar | 4,562 | 4,683 | 9,245 | 392 | 4,793 | 5,185 | 4,954 | 9,476 | 14,430 |
| 4. Gujarat | 165 | 2,541 | 2,706 | 113 | 1,386 | 1,499 | 278 | 3,927 | 4,205 |
| 5. Jammu and Kashmir | - | 254 | 254 | - | 162 | 162 | - | 416 | 416 |
| 6. Kerala | 211 | 2,949 | 3,160 | - | 2,495 | 2,495 | 211 | 5,444 | 5,655 |
| 7. Madras | 870 | 5,227 | 6,097 | - | 4,390 | 4,390 | 870 | 9,617 | 10,487 |
| 8. Maharashtra | 1,018 | 8,171 | 9,189 | 585 | 2,711 | 3,296 | 1,603 | 10,882 | 12,485 |
| 9. Nagaland | - | 73 | 73 | 1 | 22 | 23 | 1 | 95 | 96 |
| 10. Orissa | 31 | 1,071 | 1,102 | - | 294 | 294 | 31 | 1,365 | 1,396 |
| 11. Punjab | 149 | 3,337 | 3,486 | - | 3,966 | 3,966 | 149 | 7,303 | 7,452 |
| 12. Uttar Pradesh | 1,981 | 2,417 | 4,398 | - | 8,053 | 8,053 | 1,981 | 10,470 | 12,451 |
| 13. West Bengal | 2,075 | 9,456 | 11,531 | 1,062 | 3,056 | 4,118 | 3,137 | 12,512 | 15,649 |
| 14. Rajasthan | 3,028 | 4,013 | 7,041 | 362 | 925 | 1,287 | 3,390 | 4,938 | 8,328 |
| 15. Madhya Pradesh | 445 | 3,939 | 4,384 | 36 | 4,871 | 4,907 | 481 | 8,810 | 9,291 |
| 16. Mysore | 512 | 2,779 | 3,291 | 606 | 1,718 | 2,324 | 1,118 | 4,497 | 5,615 |
| <u>Union Territories</u> | | | | | | | | | |
| 17. Delhi | 191 | 1,876 | 2,067 | 60 | 433 | 493 | 251 | 2,309 | 2,560 |
| 18. Himachal Pradesh | 12 | 135 | 147 | 34 | 162 | 196 | 46 | 297 | 343 |
| 19. Tripura | 9 | 165 | 174 | 5 | 73 | 7 | 14 | 238 | 252 |
| 20. Manipur | - | 107 | 107 | 7 | 131 | 138 | 7 | 238 | 245 |
| 21. Pondicherry | 16 | 132 | 148 | 9 | 107 | 116 | 25 | 239 | 264 |
| 22. N. E. F. A. | 3 | 19 | 22 | 12 | 14 | 26 | 15 | 33 | 48 |
| 23. Sikkim | 2 | 17 | 19 | - | 6 | 6 | 2 | 23 | 25 |
| 24. Andaman and Nicobar Islands | 47 | 19 | 66 | 4 | 23 | 27 | 51 | 42 | 93 |
| 25. Dadra and Nagar Haveli | - | 3 | 3 | - | - | - | - | 3 | 3 |
| 26. Laccadive, Minicoy and Amindiya Islands | 1 | - | 1 | - | 11 | 11 | 1 | 11 | 12 |
| 27. Goa, Daman, and Diu | 111 | 140 | 251 | 8 | 81 | 89 | 119 | 221 | 340 |
| All-India | 16,943 | 59,263 | 76,206 | 4,677 | 48,517 | 51,194 | 21,620 | 105,780 | 127,400 |

Source: Registrar General of India, Census of India Vol. I, Part II-B (ii), Table BV.

APPENDIX II

Nursing Personnel in Urban India, 1961

| State/Union Territory | Nurses | | | Midwives, Auxiliary Nurse-Midwives and Health Visitors | | | Total | | |
|---|--------|--------|--------|--|--------|--------|-------|--------|--------|
| | Men | Women | Total | Men | Women | Total | Men | Women | Total |
| 1. Andhra Pradesh | 588 | 3,475 | 4,063 | 356 | 1,692 | 2,048 | 944 | 5,167 | 6,111 |
| 2. Assam | 40 | 549 | 589 | 105 | 183 | 288 | 145 | 732 | 877 |
| 3. Bihar | 104 | 1,485 | 1,589 | 121 | 842 | 963 | 225 | 2,327 | 2,552 |
| 4. Gujarat | 133 | 2,097 | 2,230 | 69 | 597 | 666 | 202 | 2,694 | 2,896 |
| 5. Jammu and Kashmir | - | 201 | 201 | - | 99 | 99 | - | 300 | 300 |
| 6. Kerala | 99 | 1,358 | 1,457 | - | 578 | 578 | 99 | 1,936 | 2,035 |
| 7. Madras | 766 | 4,328 | 5,094 | - | 2,136 | 2,136 | 766 | 6,464 | 7,230 |
| 8. Maharashtra | 950 | 7,070 | 8,020 | 499 | 908 | 1,407 | 1,449 | 7,978 | 9,427 |
| 9. Nagaland | - | 11 | 11 | 1 | 14 | 15 | 1 | 25 | 26 |
| 10. Orissa | 716 | 742 | 758 | - | 74 | 74 | 16 | 816 | 832 |
| 11. Punjab | 108 | 1,550 | 1,658 | - | 1,399 | 1,399 | 108 | 2,949 | 3,057 |
| 12. Uttar Pradesh | 967 | 2,023 | 2,990 | - | 2,193 | 2,193 | 967 | 4,216 | 5,183 |
| 13. West Bengal | 1,660 | 6,597 | 8,257 | 641 | 1,125 | 1,766 | 2,301 | 7,722 | 10,023 |
| 14. Rajasthan | 249 | 1,366 | 1,615 | 190 | 505 | 695 | 439 | 1,871 | 2,310 |
| 15. Madhya Pradesh | 167 | 3,067 | 3,234 | 20 | 1,142 | 1,162 | 187 | 4,209 | 4,396 |
| 16. Mysore | 433 | 2,343 | 2,776 | 296 | 752 | 1,048 | 729 | 3,095 | 3,824 |
| <u>Union Territories</u> | | | | | | | | | |
| 17. Delhi | 186 | 1,826 | 2,012 | 59 | 424 | 483 | 245 | 2,250 | 2,495 |
| 18. Himachal Pradesh | 4 | 82 | 86 | 14 | 47 | 61 | 18 | 129 | 147 |
| 19. Tripura | 1 | 104 | 105 | 3 | 21 | 24 | 4 | 125 | 129 |
| 20. Manipur | - | 35 | 35 | 1 | 42 | 43 | 1 | 77 | 78 |
| 21. Pondicherry | 13 | 96 | 109 | - | 33 | 33 | 13 | 129 | 142 |
| 22. N.E.F.A. | - | - | - | - | - | - | - | - | - |
| 23. Sikkim | 2 | 11 | 13 | - | 3 | 3 | 2 | 14 | 16 |
| 24. Andaman and Nicobar Islands | 16 | 14 | 30 | - | 6 | 6 | 16 | 20 | 36 |
| 25. Dadra and Nagar Haveli | - | - | - | - | - | - | - | - | - |
| 26. Laccadive, Minicoy and Amindivi Islands | - | - | - | - | - | - | - | - | - |
| 27. Goa, Daman and Diu | 71 | 108 | 179 | - | 24 | 24 | 71 | 132 | 203 |
| All-India | 6,513 | 40,538 | 47,111 | 2,375 | 14,839 | 17,214 | 8,948 | 55,377 | 64,325 |

Source: Registrar General of India, Census of India, 1961, Vol. I, Part II-B(ii) Table BV.

Nursing Personnel in Rural India, 1961

| State/Union Territory | Nurses | | | Midwives, Auxiliary Nurse-Midwives and Health Visitors | | | Total | | |
|---|--------|--------|--------|--|--------|--------|--------|--------|--------|
| | Men | Women | Total | Men | Women | Total | Men | Women | Total |
| 1. Andhra Pradesh | 183 | 745 | 928 | 631 | 3,911 | 4,542 | 814 | 4,656 | 5,470 |
| 2. Assam | 693 | 971 | 1,664 | 289 | 848 | 1,137 | 982 | 1,819 | 2,801 |
| 3. Bihar | 4,458 | 3,198 | 7,656 | 271 | 3,951 | 4,222 | 4,729 | 7,149 | 11,878 |
| 4. Gujarat | 32 | 444 | 476 | 44 | 789 | 833 | 76 | 1,233 | 1,209 |
| 5. Jammu and Kashmir | - | 53 | 53 | - | 63 | 63 | - | 116 | 116 |
| 6. Kerala | 112 | 1,591 | 1,703 | - | 1,917 | 1,917 | 112 | 3,508 | 3,620 |
| 7. Madras | 104 | 899 | 1,003 | - | 2,254 | 2,254 | 104 | 3,153 | 3,257 |
| 8. Maharashtra | 68 | 1,101 | 1,169 | 86 | 1,803 | 1,889 | 154 | 2,904 | 3,058 |
| 9. Nagaland | - | 62 | 62 | - | 8 | 8 | - | 70 | 70 |
| 10. Orissa | 15 | 329 | 344 | - | 220 | 220 | 15 | 549 | 564 |
| 11. Punjab | 41 | 1,787 | 1,828 | - | 2,567 | 2,567 | 41 | 4,354 | 4,395 |
| 12. Uttar Pradesh | 1,014 | 394 | 1,408 | - | 5,860 | 5,860 | 1,014 | 6,254 | 7,268 |
| 13. West Bengal | 415 | 2,859 | 3,274 | 421 | 1,931 | 2,352 | 836 | 4,790 | 5,626 |
| 14. Rajasthan | 2,779 | 2,647 | 5,426 | 172 | 420 | 592 | 2,951 | 3,067 | 6,018 |
| 15. Madhya Pradesh | 278 | 872 | 1,150 | 16 | 3,729 | 3,745 | 294 | 4,601 | 4,895 |
| 16. Mysore | 79 | 436 | 515 | 310 | 966 | 1,276 | 389 | 1,402 | 1,791 |
| <u>Union Territories</u> | | | | | | | | | |
| 17. Delhi | 5 | 50 | 55 | 1 | 9 | 10 | 6 | 59 | 65 |
| 18. Himachal Pradesh | 8 | 53 | 61 | 20 | 115 | 135 | 28 | 168 | 196 |
| 19. Tripura | 8 | 61 | 69 | 2 | 52 | 54 | 10 | 113 | 123 |
| 20. Manipur | - | 72 | 72 | 6 | 89 | 95 | 6 | 161 | 167 |
| 21. Pondicherry | 3 | 36 | 39 | 9 | 74 | 83 | 12 | 110 | 122 |
| 22. N. E. F. A. | 3 | 19 | 22 | 12 | 4 | 26 | 15 | 33 | 48 |
| 23. Sikkim | - | 6 | 6 | - | 3 | 3 | - | 9 | 9 |
| 24. Andaman and Nicobar Islands | 31 | 5 | 36 | 4 | 17 | 21 | 35 | 22 | 57 |
| 25. Dadra and Nagar Haveli | - | 3 | 3 | - | - | - | - | 3 | 3 |
| 26. Laccadive, Minicoy and Amindivi Islands | 1 | - | 1 | - | 11 | 11 | 1 | 11 | 12 |
| 27. Goa, Daman, Diu | 40 | 32 | 72 | 8 | 57 | 65 | 48 | 89 | 137 |
| All-India | 10,370 | 18,725 | 29,095 | 2,302 | 31,678 | 33,980 | 12,672 | 50,403 | 63,075 |

Source: Registrar General of India, Census of India, 1961. Part II-B (ii), Table B V.

* Act No. 48 of 1947

APPENDIX IVThe Indian Nursing Council

1. The Indian Nursing Council Act* was passed in 1947. The first meeting of the Council was held in the year 1949. This Council was constituted with a view to establish a uniform standard of training of nurses, midwives and health visitors in India. The composition** of the Council consists of the following members:

| Representatives of: | Elected |
|---|------------|
| (a) State Nursing Council - Nurses | 13 |
| (b) Heads of institutions giving training for degree in nursing and post- certificate courses in teaching and administration | 2 |
| (c) Head of an institution training health visitors | 1 |
| (d) Medical Council of India | 1 |
| (e) Indian Medical Association | 1 |
| (f) Trained Nurses Association of India | 1 |
| (g) State Nursing Councils - Auxiliary Nurse-Midwives or Midwives | 3 |
| | Ex-Officio |
| (h) Director General of Health Services | 1 |
| (i) Chief Principal Matron Army | 1 |

* Act No. 48 of 1947

** Section 3(1) of the Indian Nursing Council Act, 1947.

Ex-Officio

| | |
|--|-----------------|
| (j) Chief Nursing Superintendent, Directorate General of Health Services | 1 |
| (k) Director, Maternity and Child Welfare, Indian Red Cross Society | 1 |
| (i) Chief Administrative Medical Officers | 15 Nominated |
| (m) Superintendent of Nursing Services | 7 |
| (n) Government of India Nominees | 4 Elected |
| (o) Parliament | 3 |

2. The Indian Nursing Council has, thus, 55 members, of whom 25 are elected, 26 are ex-officio and 4 are nominated by the Government of India. This composition consists of 31 Nurses, 19 Doctors and 5 others.

3. The Executive Committee consists of nine members, of whom seven are elected by the Council from among its members for a period of two years. The President and Vice-President of the Council are members ex-officio of the Executive Committee, and are President and Vice-President, respectively, of that Committee.

4. The Council meets annually at such time and place as may be appointed by the Government whereas the Executive Committee meets more frequently.

5. In addition to the functions connected with its own organisation, the Council is empowered to maintain a register of nurses, midwives, auxiliary nurse-midwives and health visitors; frame syllabi for training courses; make regulations for recognition of training institutions; inspect Schools of Nursing; and inspect examinations. Recognition of individual schools, conduct of examinations and registration are all the responsibility of the State Nursing Councils.

6. An amendment to the Act in 1957 made it incumbent on the Indian Nursing Council to compile and maintain an all-India Register of nursing personnel in India. The Register is compiled from the lists supplied to the Indian Nursing Council by the State Nursing Councils. It is this register which gives the total number of registered nursing personnel in the country with breakdown by sex and qualifications.

7. The maintenance of this all-India Register is one of the most important functions of the Indian Nursing Council. Moreover, the validity of the estimates to get the total/actual stock of nursing personnel in the country also depends upon these figures.

APPENDIX V

Statewise Distribution of Nursing Personnel, 1964

| State | Nurses | Midwives | Auxiliary Nurse- Midwives | Health Visitors |
|-------------------|--------|----------|---------------------------------|--------------------|
| 1 | 2 | 3 | 4 | 5 |
| Andhra Pradesh | 3,488 | 2,043 | 1,612 | 432 |
| Assam | 1,078 | 401 | 639 | - |
| Bihar | 1,686 | 492 | 841 | 180 |
| Gujarat | 1,204 | 602 | 1,159 | 107 |
| Kerala | 855 | 451 | 453 | 60 |
| Madras | 5,550 | 5,105 | 966 | 339 |
| Maharashtra | 8,916 | 3,817 | 1,617 | 283 |
| Mysore | 2,273 | 542 | 458 | 53 |
| Orissa | 593 | 175 | 358 | - |
| Punjab | 1,624 | 700 | 1,652 | 302 |
| Rajasthan | 1,614 | 226 | 552 | 20 |
| Uttar Pradesh | 2,837 | 1,477 | 921 | 570 |
| West Bengal | 4,316 | 1,988 | 1,369 | 350 |
| Madhya Pradesh | 1,710 | 894 | 1,425 | 127 |
| Nagaland | 52 | 24 | - | - |
| Goa | 30 | 21 | - | - |
| Pondicherry | 29 | 12 | -- | - |
| Manipur | - | -- | 129 | - |
| Tripura | -- | - | 133 | - |
| N. E. F. A. | - | - | 80 | - |
| Himachal Pradesh | 44 | 10 | 114 | 17 |
| Jammu and Kashmir | 62 | - | 29 | 53 |
| Delhi | 539 | 224 | 26 | 237 |
| All-India | 38,500 | 19,204 | 14,533 | 3,130 |

Source: Indian Nursing Council.

APPENDIX VIOut-turn of Qualified Nursing Personnel from Different
Nursing Courses in India, 1950 to 1964

| Year | General Nursing | B. Sc. Nursing | Trained Nurses who have done Midwifery | Midwives | Auxiliary Nurse- Midwives | Health Visitors | Total |
|--------------|--------------------|-------------------|--|---------------|---------------------------------|--------------------|---------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1950 | 1,282 | 14 | - | 1,559 | - | 53 | 2,908 |
| 1951 | 1,236 | 21 | - | 1,628 | - | 56 | 2,941 |
| 1952 | 1,770 | 30 | - | 1,634 | - | 51 | 3,485 |
| 1953 | 1,740 | 20 | - | 1,983 | - | 56 | 3,799 |
| 1954 | 1,827 | 29 | - | 2,170 | 53 | 76 | 4,155 |
| 1955 | 1,962 | 21 | 1,058 | 1,274 | 42 | 106 | 4,463 |
| 1956 | 1,914 | 32 | 1,595 | 1,010 | 299 | 123 | 4,973 |
| 1957 | 2,078 | 17 | 1,141 | 1,529 | 501 | 214 | 5,480 |
| 1958 | 2,142 | 24 | 1,437 | 1,157 | 793 | 261 | 5,814 |
| 1959 | 2,563 | 32 | 2,529 | 449 | 955 | 362 | 6,890 |
| 1960 | 2,562 | 25 | 1,741 | 245 | 1,828 | 412 | 6,813 |
| 1961 | 2,851 | 43 | 1,851 | 426 | 2,083 | 315 | 7,569 |
| 1962 | 3,006 | 49 | 2,444 | 373 | 2,248 | 370 | 8,490 |
| 1963 | 3,493 | 42 | 2,733 | 504 | 2,644 | 307 | 9,723 |
| 1964 | 3,545 | 58 | 2,670 | 605 | 3,283 | 393 | 10,554 |
| Total | 33,971 | 457 | 19,199 | 16,546 | 14,729 | 3,155 | 88,057 |

Source: Indian Nursing Council.

APPENDIX VII

Out-turn of Nurses/Midwives who qualified Post-Basic Nursing Courses
from 1943 to 1964

| Year | Ward Sister | Nursing Administra- tion | Sister Tutor | Midwifery Tutor | Public Health Nursing | Psychiatric Nursing | Public Health Supervision | Paediatric Nursing | Master of Nursing | Total |
|--------------|----------------|--------------------------------|-----------------|--------------------|-----------------------------|------------------------|---------------------------------|-----------------------|----------------------|--------------|
| 1943 | - | - | 6 | - | - | - | - | - | - | 6 |
| 1944 | - | - | 11 | - | - | - | - | - | - | 11 |
| 1945 | - | 5 | 12 | - | - | - | - | - | - | 17 |
| 1946 | - | 5 | 14 | - | - | - | - | - | - | 19 |
| 1947 | 7 | 19 | 8 | - | - | - | - | - | - | 34 |
| 1948 | 8 | 22 | 7 | - | - | - | - | - | - | 37 |
| 1949 | - | 8 | 15 | - | - | - | - | - | - | 23 |
| 1950 | - | 4 | 28 | - | - | - | - | - | - | 32 |
| 1951 | - | 12 | 24 | - | - | - | - | - | - | 36 |
| 1952 | - | 12 | 26 | - | - | - | - | - | - | 38 |
| 1953 | - | 29 | 13 | - | 13 | - | - | - | - | 55 |
| 1954 | - | 16 | 14 | - | 10 | - | - | - | - | 40 |
| 1955 | - | 24 | 10 | - | 3 | - | - | - | - | 37 |
| 1956 | - | 23 | 4 | - | 32 | 13 | - | - | - | 72 |
| 1957 | 45 | 15 | 25 | 8 | 34 | 15 | - | - | - | 142 |
| 1958 | 45 | 19 | 30 | 9 | 37 | 15 | - | - | - | 155 |
| 1959 | 74 | 18 | 42 | 8 | 57 | 17 | - | - | - | 216 |
| 1960 | 79 | 17 | 43 | 9 | 58 | 21 | - | - | - | 227 |
| 1961 | 110 | 12 | 67 | 10 | 69 | 20 | 12 | - | 6 | 306 |
| 1962 | 152 | 17 | 66 | 12 | 87 | 16 | 12 | - | - | 362 |
| 1963 | 139 | 14 | 69 | 12 | 98 | 16 | 12 | 5 | 6 | 371 |
| 1964 | 178 | 23 | 96 | 11 | 88 | 28 | 12 | 10 | 2 | 448 |
| Total | 837 | 314 | 630 | 79 | 586 | 161 | 48 | 15 | 14 | 2,684 |

Source: Indian Nursing Council.

The Institute of Applied Manpower Research was set up in 1962 by the Government of India to conduct research on problems of manpower planning. The main objects of the Institute are:-

- To advance knowledge about the nature, characteristics and utilisation of the human resources in India.
- To provide a broad perspective of requirements of trained manpower for economic development in different fields with due regard to the probable impact of technological changes on the pattern of employment.
- To develop improved methods and techniques for dealing with:-
 - training and development of the existing work force;

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... preparation for employment;

... guidance;

... developing highly talented

... and supply of manpower
... tters.