



REPUBLIC OF TURKEY MINISTRY OF HEALTH



**TURKISH HEALTH SECTOR
HUMAN RESOURCES FOR
HEALTH
VISION 2023**

**TURKISH HEALTH SECTOR
HUMAN RESOURCES FOR
HEALTH
VISION 2023**

ANKARA 2011

Copyright Owned By:

Hygiene Center Presidency School of Public Health. No citations shall be allowed without the source of reference. In case of citing, the source of reference shall be indicated as: "editor/author names, School of Public Health, Refik Saydam Hygiene Center Presidency, Ministry of Health of Turkey, publishing place, publishing date". Neither full nor partial reproduction shall be allowed without the written permission of the School of Public Health as ordered by the Law Numbered 5846.

ISBN No: 978-975-590-399-6

Ministry of Publication No: 852

HMM Yayın No : HMM-2011-32

Published in: Başak Matbaacılık Tanıtım Hizmetleri İthalat İhracat Tic. Ltd. Şti.
Macun Mahallesi Anadolu Bulvarı
No: 5/15 Gimat Yenimahalle/ANKARA
Tel: 0 (312) 397 16 17 • Fax: 0 (312) 397 03 07
e-mail: info@basakmatbaa.com, basaktanitim@gmail.com
web: www.basakmatbaa.com, www.basakmatbaasi.com.tr



CHIEF EDITOR

Prof. Dr. Recep AKDAĞ

EDITED BY

Serpil NAZLIOĞLU
Dr. Salih MOLLAHALİLOĞLU
Dr. Mustafa KOSDAK
Dr. Hasan Gökhan ÖNCÜL
Dr. Yasin ERKOÇ
Prof. Dr. Adnan ÇİNAL
Prof. Dr. Sabahattin AYDIN
Prof. Dr. Necdet ÜNÜVAR
Prof. Dr. Nihat TOSUN

SCIENTIFIC BOARD

Prof. Dr. İrfan Şencan
Prof. Dr. Sefa KAPICIOĞLU
Hikmet ÇOLAK
Dr. Seracettin ÇOM

REVISED BY

Spec. Dr. Alaaddin DİLSİZ
Dr. Orhan KOÇ
Spec. Dr. Bekir KESKİNKILIÇ
Dr. Güven BEKTEMUR
Dr. Savaş AKBIYIK
Dr. Abdullah ŞEKER
Gültekin BAYRAKTAR
Tayfun ARIK
Dt. Deniz KORAŞLI
Spec. Dr. Aziz Alper BİTEN
Gülray ALTUNTAŞ
Mesut KOÇAK
Engin YILDIZ
Zennure KARADAĞ
Spec. Elif İŞLEK
Eda GÜNEŞ
Spec. Serap TAŞKAYA

PUBLICATION COMMITTEE

Spec. Dr. Banu ÇAKIR
A. Arzu ÇAKIR
Hüseyin GÜÇ
Ayşen ÖCAKTAN
Ayhan ÇETİN

BOOK AND COVER DESIGN

Hüseyin KOCAKULAK

Foreword

We aim to ensure effective, efficient and equitable organization and delivery of health care services with the Health Transformation Program (HTP) which we have been implementing in Turkey since 2003. Besides, we study on the financing of health care services in the light of the HTP, as well. So far, we have managed to put the Universal Health Insurance (UHI) into effect, which is among the significant components of the HTP, to ease access to health care services and to raise the quality of health care services. We have made a significant progress in health information systems, rational drug and material use, and empowering the planning and supervision role of the Ministry of Health. However, I feel the necessity to emphasize that the pattern of undersupply of human resources for health in Turkey might create adverse impacts on the future of our health care system in spite of the afore-mentioned achievements.

Human Resources for Health (HRH), which play a key role in development plans of modern countries today, are an important sub-topic of HTP. In spite of all advances in technology and science, health care personnel are still the most significant resources in health worldwide. For this reason, health human resources is an important subject matter which deserves a special emphasis while countries work on planning, delivering and improving national health care services. Recognizing the importance of human resources for health, we have already launched a process of health human resources development in order to train competent and skilled health human resources of required quality and quantity, develop pre-graduate and post-graduate education programs at schools complying with our needs, employ a due number of health care personnel in proper times and places with higher motivation, provide effective and efficient health care services and improve the national health care sector so.

Development of human resources for health encompasses three fields of study which are planning, training and management. National policies need to be developed so that the activities aiming to develop health human resources are effectively conducted. In this context, we commenced a joint study with the School of Public Health in 2007 on Human Resources for Health Vision 2023. The HRH Vision 2023, in the light of the Ministry of Health's intentions for the future and the knowledge and experience available currently, addresses not only public sector but also private sector and makes recommendations for the staffing needs of the health sector in the future, personnel supply and personnel deployment at a national level.

Holding the strong belief that this study, which has already taken up the slack in this field, will soon prove to be useful to all organizations and individuals involved in the health care sector by contributing to the efforts for guiding health sector reforms, policies and strategies in Turkey, I extend my most sincere thanks to all persons who invested time and energy in this study.

Prof. Dr. Recep AKDAG
Minister of Health

Introduction

The efforts aiming to improve health care services continue to be a very principal and prioritized issue not only in Turkey but also in the all world. The studies conducted so far all indicate that the human factor should be given significance and priority for a true improvement. Therefore, the need for planning of human resources for health has grown up in recent years and the significance of qualified and required human resources supply responding to the needs of health care system has been better understood in the course of time.

Health sector employees are expected to meet adequate qualifications required for the quality of health service delivery, professional skills and the flexibility of adaptation with changing conditions. In addition, health care personnel of proper quantity and quality should be employed in proper time and place for effective and efficient delivery of health care services. So, health care services offered to public will be better planned and organized, and existing shortfalls and problems will be immediately removed.

The process of human resources for health development, which was commenced by the Ministry of Health in the framework of the HTP, includes an assessment of the current status, development of a strategic perspective and identification of policies and strategies for solution. In this regard, the Ministry of Health and the School of Public Health co-prepared the Turkish Health Sector Human Resources for Health Vision 2023 in order to contribute to achieving the objectives set for the health sector of Turkey. The goal of this study is to lay the foundation for promoting human resources for health in Turkey.

I would like to extend my most sincere thanks to all people, who made efforts to the design and conduct of this study which introduces a 15-year strategic vision to the strategic planning of HRH and serves as the very first example in HRH in Turkey, and I hope it will pave the way for the next studies in the future.

Dr. Salih MOLLAHALIOLU
Director of the School of Public Health

Acknowledgement

For their valuable contributions to all stages from development to publishing of the Human Resources for Health Vision 2023, we would like to extend our most sincere thanks to ;

Prof. Dr. Recep AKDAG, the Minister of Health who encouraged us to carry out this study; Prof. Dr. Nihat TOSUN, the Undersecretary of the Ministry of Health; Prof. Dr. Necdet UNUVAR, the former Undersecretary of the Ministry of Health who launched the very first studies in human resources for health; Prof. Dr. Sabahattin AYDIN, the former Undersecretary of the Ministry of Health, Prof. Dr. Adnan CINAL, Dr. Yasin ERKOC and Assoc. Prof. Dr. Turan BUZGAN, the Deputy Undersecretaries of the Ministry of Health; to Assoc. Prof. Dr. Mustafa ERTEK, the President of Refik Saydam Hygiene Center Presidency; to Prof. Dr. M. G. Sefa KAPICIOGLU, the General Director of the Health Education General Directorate; Mr. Hikmet COLAK, the General Director of the Personnel General Directorate; Assoc. Prof. Dr. Irfan SENCAN, the General Director of the Curative Services General Directorate; Dr. Seracettin COM, the General Director of the Primary Care Services General Directorate; to Mr. Adnan YILDIRIM, the former Coordinator of the Project Management and Support Unit; and to Mr. A. Celallettin TARHAN, the Director of the Project Management and Support Unit.

We give our special thanks to Ms. Serap TASKAYA, Ms. Ummuhan EKINCI, Mr. Erman PULGAT and Ms. Sirin OZKAN from the School of Public Health who worked on human resources for health and made efforts in conducting this study.

Also, we thank to all health care facilities and their personnel that did not skimp on their assistance and support throughout this study.

School of Public Health

Table of Contents

I. EXECUTIVE SUMMARY	1
II. INTRODUCTION.....	10
A. Purpose of Human Resources Planning	10
B. HRH Vision 2023.....	11
C. Purpose of This Study.....	11
D. Addressee of this Document	12
E. HRH Supply and Requirement Projection Model	13
F. Essential Elements of the Study in This Document	14
III. CURRENT POPULATION AND HEALTH SERVICES.....	17
A. Population.....	17
B. Profile of the Health Care Services and Facilities	18
C. Distribution and Productivity of Staff by Staff Types	21
D. Staff in Training.....	26
E. Organisation and Management of Human Resources.....	28
IV. HUMAN RESOURCES PROBLEMS AND ISSUES.....	35
A. Perceived Problems and Issues.....	35
B. Problems and Issues Likely to Occur over the Next Fifteen Years	37
V. OBJECTIVES OVER THE PLAN PERIOD	39
A. Planning Assumptions	39
B. Changing the Provision of Services.....	41
C. Proposed Staffing Establishments for Public Sector Health Care Facilities.....	44
D. Total Staff Expansion	48
E. Number of New Staff to be Recruited	50
F. Training Needs.....	51
G. Management of the Workforce	52
VI. POLICY PROPOSALS	55
A. Desirable Changes in Human Resources Activities	55
B. Strategic Human Resource Development Issues	56
C. Implications of These Changes for New HR Policy.....	60
VII. STRATEGIC IMPLEMENTATION PLAN	65
A. Actions and Activities That Will Be Required.....	65
VIII. MONITORING AND EVALUATION	69
A. Protocols for Monitoring Implementation Achievements	69
B. Specification of Important Progress Events.....	70
C. Process for Annual Evaluation and Replanning of Activities.....	70

List of Tables

Table 1. Demographic Estimates and Assumptions 2008-2023	17
Table 2. Current Health Care Facilities (Public and Private)	19
Table 3. Base Year (2008) Health Workforce Supply.....	22
Table 4. Total Staff in Training in 2008.....	27
Table 5. Public Sector Health Personnel Average Annual Incomes (2008)	30
Table 6. Planning Assumptions	39
Table 7. Projected Funding for the Public Sector	40
Table 8. Projected Change of Public Sector Health Service Facilities.....	43
Table 9. Projected Change of Private Sector Health Service Facilities.....	43
Table 10. Average Bed Numbers by Type of Facility (Public).....	44
Table 11. Average Bed Numbers by Type of Facility (Private).....	45
Table 12. Staffing Proposals by Type of Public Sector Hospital.....	46
Table 13. Staffing Proposals by Type of Public Ambulatory Care Units ..	47
Table 14. Projected Changes in Staffing Requirement	48
Table 15. Comparison of the Distribution of Staff by Cadre and Category	49
Table 16. Projected Requirements for New Recruits	51
Table 17. Projected Training Needs to Meet Staffing Objectives	52
Table 18. Key Indicators of Change.....	54

List of Figures

Figure 1. Conceptual Diagram of WHO Supply and Requirement Projections Model	15
Figure 2. Number of Acute Care Beds per 1 000 Population in the OECD Countries.....	20
Figure 3. Acute Bed Utilisation Rates in the OECD countries	20
Figure 4. Number of Physicians per 1000 Population in the OECD Countries.....	23
Figure 5. Number of Physicians and Nurses per 1000 population in Turkey (2001-2008).....	24
Figure 6. Development of Geographic Distribution of Specialists in Turkey (2002-2008).....	24
Figure 7. Development of Geographic Distribution of Nurses-Midwives in Turkey (2002-2008).....	25
Figure 8. Public Sector Health Personnel Relative Incomes (2008)	31
Figure 9. Performance and Human Resource for Health Development....	56
Figure 10. Determinants of Human Resource Development	57

Abbreviations

HTP	Health Transition Programme
MoH	Ministry of Health
HRH	Human Resources for Health
HRD	Human Resources Development
WHO	World Health Organisation
EU	European Union
MOF	Ministry of Finance
HEC	Higher Education Council
SSI	Social Security Institute
PHC	Primary Health Care
OECD	Organisation for Economic Co-operation and Development
GDP	Gross Domestic Product
PDT	Personnel Distribution Table
SPO	State Planning Organisation
SSPC	Student Selection and Placement Centre
MOE	Ministry of Education
CRM	Core Resource Management System
HRMS	Human Resources Management System
DLS	Distance Learning System
O&DHC	Oral and Dental Health Centre
CHC	Community Health Centre
NGO	Non -Governmental Organisation
PBSP	Performance Based Supplementary Payment

I.

EXECUTIVE SUMMARY

1. *This document is a statement of the Human Resources for Health (HRH) Vision 2023 for the next fifteen years (2008-2023). This study is also expected to serve as a principal document on which the respective stakeholders will further discuss HRH in a technical and political framework in the future. The goal of this document is to pave the way for human resources for health development in consultation with the MoH and other stakeholders in the health sector.*
2. *The HRH Vision 2023 is intended to accomplish three objectives listed in the following:*
 - a. *To specify the direction of growth of development of HRH,*
 - b. *To specify outline HRH objectives for the medium term which provide a framework for short-term plan development, and*
 - c. *To identify short-term actions and, in particular, policy actions which are needed for the MoH to proceed towards the medium-term future of health sector development.*
3. *Therefore, the document is intended in the first place to draw a framework and to facilitate a sound discussion of HRH for decision-makers and policy-makers in the MoH. It provides them with the big picture of probable implications for training, recruitment, deployment and management of HRH to meet the specified long/medium-term objectives. It is believed that this document will provide important and valuable information for all the specialists and senior officers of related public organisations such as the Ministry of Education, Higher Education Council, Ministry of Labour and Social Security, State Planning Organisation and the Ministry of Finance and as well as related Non-Governmental Organisations (NGO).*
4. *The projections in the document were prepared by using a flexible computer-based simulation model which was developed by World Health Organisation (WHO HRH-Supply and Requirement Projection Models Software) and which*

puts an emphasis on institutional and service development.

5. *The document begins with an analysis of the commencement year's (2009) and the projected year's (2023) population characteristics, together with a description of the current profile of the health care services and its human resources.*
6. *Population is expected to grow from its level of just under 71,0 million in 2008 to just over 84 million over the fifteen-year period of the plan, with birth rates dropping slightly from 18 per 1,000 to 15 per 1,000 but with the population growth rate staying approximately constant at 1.2% per annum. In this period, the urban population is expected to grow from its current level of 75% to 80% of the total population. This ratio is 76.3% in 2010.*
7. *Other related assumptions are as follows:*
 - a. *Population growth will lead to an increased demand for health services,*
 - b. *The existing disease patterns will continue to be prominent and the need for health care services for chronic diseases and geriatric health care services will be raised,*
 - c. *Both urban and rural service facilities will need to be enlarged, strengthened and increased in number rather than simply increased in number to accommodate the shifting population.*
8. *Health care services are one of the major service areas of public sector in Turkey. In public sector, health care services of various levels and types are provided in the Ministry of Health-affiliated health care facilities, at university hospitals and in the Ministry of Defence-affiliated hospitals. Private sector provides health care services at private hospitals and in various types of ambulatory health care facilities*
9. *There are 172,165 hospital beds in the country (not including the Ministry of Defence facilities-owned beds) and approximately 13% of these beds are owned by the private sector. The number of hospital beds for a population of 71,0 million is not excessive in comparison to the OECD average. Given the population-bed ratio, there are 2.42 beds per 1000 population in Turkey whereas the OECD and the EU averages are 3.80.*
10. *Although hospital beds and population-bed ratios can be used as basic indicators of magnitude of available resources in health care services, it is observed that national health care systems, health service provision models, population structure and utilisation trends affect these ratios.*
11. *Occupancy rates of hospitals in Turkey except for university hospitals and teaching hospitals are not at an expected level. The average bed occupancy rate for all hospital beds (both public and private) is 64%. The OECD average given for acute care beds is 75% and the EU average is 77%. Such high level*

of occupancy undoubtedly indicates that hospital beds and personnel can be utilized more effectively. The available data indicate that the occupancy rates of general hospitals, in particular, vary to a large extent from one hospital to another. It is considered that this variation might be due to the variation in population density of the places where these hospitals are located (Variations exist between the hospitals which are located in small and large settlement areas).

- 12. Considering the existing population and utilization rates, both the number and accessibility of primary care facilities providing outpatient services are not insufficient. However, they need to be strengthened, especially in terms of organisation and staffing, to provide adequate access for the population. In parallel to these requirements, the family medicine practice was introduced to the Turkish health care system as an organizational model for providing outpatient or primary health care services, which points out to the willingness to provide comprehensive and good-quality service at the primary care level. Family Health Centers (FHCs) and Community Health Centres (CHCs) are the units formed under this new organisation.*
- 13. The family medicine practice aims to ensure the geographically-balanced provision of health care services across the country and to provide all persons with primary health care services together with their preventive, diagnostic, curative and rehabilitative aspects both at home and at work. The family medicine practice is a recent implementation in Turkey. As the implementation becomes well-established in the upcoming years, the primary health care services will be better utilized in Turkey, as expected.*
- 14. The total number of staff in the health sector was 563,852 in 2008 (with 452,121 working in the public sector). The staff to population indicators seems lower in comparison to relevant countries in the same year. While the number of physicians per 1000 population is 1.59 in Turkey, the OECD average is 3.10 and the EU average is 3.20.*
- 15. One of the most important reasons for this situation is that the number of school intake to medical schools was kept constant slightly below 5000 for many years. Although it will take six years to witness the reflections of the decision, the number of medical school intakes was raised to 6,655 in 2008-2009, to 7,877 in 2009-2010 and to 8,438 in 2010-2011 education years from its level of 5,253 in 2007-2008 education year after intensive efforts of the MoH and upon its agreement with the HEC. Besides, some improvements have been made in population-staff ratios as a result of the MoH's efforts since 2003.*
- 16. The inequitable geographic distribution of the HRH in Turkey has been a long-standing issue of concern which has been addressed and largely settled by the HTP. Employment of contracted health care personnel and enforcement of compulsory public service for physicians in areas where it is difficult to recruit*

and retain staff, and adoption of a fair approach towards personnel transfers have all made valuable contributions to improving the geographically imbalance distribution of HRH in Turkey.

17. *Relative to other OECD countries, Turkey has a lower nurse to physician ratio. In 2008, the ratio was 0.8 nurses per physician (this ratio rises to 1.4 when nurse, midwife and community health technicians are accounted together). In 2007, the OECD average was 3.0 and the EU average was 1.9 in 2008 (For the OECD value, it includes midwives in some countries which recruit midwives as nurses. In some other countries, however, it includes only nurses practicing at hospitals. For the EU countries, it includes all active midwives and nurses).*
18. *Employment of nurses and midwives with different education levels in the same position and with the same title appears to be another skill-mix issue in the health care sector in Turkey. A system which will make a distinction between nursing and midwifery personnel of various education levels and qualifications is not available in Turkey. So, nurses and midwives having different educational skills are put into the same category. On the other hand, efforts have been launched to address and solve this problem.*
19. *In comparison to previous years, there are signs of improvement in workforce productivity over recent years. A crude measure of a physician's productivity is the number of consultations per physician per year. While 3196 consultations per physician were reported in 2006, the number rose to 3630 in 2007 and to 3696 in 2008. In 2009 and 2010, it was reported, respectively, 4155 and 4069 consultations per physician per year.*
20. *Universities offer pre-service education programs primarily for medical residents, general practitioners (GPs), dentists, pharmacists, physiotherapists, nurses, midwives and some other health occupations. Higher education of health professionals is regulated by the HEC. Other categories of allied health personnel are educated vocational colleges and high schools of health.*
21. *Other than the medical residency training given in the MoH-affiliated teaching hospitals, post-basic training is provided for the principal categories of staff at universities. Post-basic training is more driven by individual initiatives. In this regard, the post-basic training programs at universities need to be revised in terms of quantity, diversity and curricula in order to better meet the MoH's service needs.*
22. *Though not being enforced to provide its personnel with continuous medical training by law, the MoH provides in-service training for its personnel. The results of the "Health Care Personnel Satisfaction Survey" indicated that the health personnel are not satisfied with the existing in-service training programs. The survey concluded that 50.4% of all health care personnel do not regard the in-service trainings adequate. Considering professional categories, only one-third of the general practitioners think that the trainings are satisfac-*

tory. In the light of this finding, not only the MoH but also all other stakeholders should make efforts to undertake their responsibilities in this field.

- 23. Just as the performance of the health care sector is largely dependent upon the health care personnel's performance, the system performance requires effective management of human resources, too.*
- 24. Medical school graduates are currently required to complete compulsory service in public health care facilities. New graduates are appointed to different provinces through a lottery system based on staffing needs. Compulsory service is used as a method to solve the problems occurring from the geographically imbalanced distribution of health care personnel across Turkey.*
- 25. Though compulsory service has proved to be effective in diminishing geographical imbalances among the HRH cadres, it still needs to be enhanced by supplementary revisions for sustainability of the implementation and motivation of the personnel.*
- 26. Ensuring an effective balance of monetary and non-monetary incentives to promote better geographical and skills-based distribution of the HRH in Turkey, as well as the personnel motivation and service quality, is essential to the permanent solutions to fundamental problems in the sector..*
- 27. A performance-based supplementary payment system (PBSP system) was introduced in the MoH hospitals in 2004. The bonus payment for a health worker is determined through a combination of individual and institutional performance criteria. The main objective of the PBSP system is to improve productivity and motivation of health personnel together with service quality. The PBSP system has contributed to the increased number of full-time specialist physicians in the public sector.*
- 28. However, international experience in long run demonstrates that the quality and productivity gains of the PBSP system might have a trend of change. Studies to improve the system are underway.*
- 29. The other point affecting staff motivation and productivity is keeping relative income in balance. Considering the existing annual incomes of various professional categories including bonus payments, it is seen that the relative incomes of the senior staff such as specialist physicians, general practitioners and dentists, and the support staff such as drivers, cooks and dressmakers differ in an acceptable range. The ratio of pay between the highest and the lowest grades of staff is approximately 4.5 to 1. Differentials between these grades of staff are commonly between 3 and 6 to 1. Differentials for the middle-grade staff such as nurses, midwives and laboratory technicians and the unskilled workers, on the other hand, are low (1.5 to 1). No proper distinction exists between these professional categories, all of which require different qualifications and skills, and the option of reappraisal might be considered in the future.*

30. *Due to the employment restrictions that occur from the Civil Service Law No. 657, the government enacted the Law on Employment of Contracted Health Care Personnel in Underemployed Areas and Amendment to Some Laws and Decree Laws No. 4924 in 2004. The Law No. 4924 and the subsequently added Clause B of the existing Law No. 657 allow the restructuring of staff recruitment, dismissal, working time and conditions which means further flexibility in procedures than previously allowed by the Law No. 657. However, these models can lead to sustainability problems pertaining to the personnel motivation while they bring solutions to most other problems of employment. For this reason, studies should be maintained to revise and improve the system.*
31. *Regarding health workforce planning, the MoH introduced the Personnel Distribution Table to determine local level workforce requirement (distributions) in 2006. Other than that, the involved units make continuous and joint efforts in order to develop a formal and regular process also including a perspective for strategic HRH development for the HRH planning.*
32. *It is likely that the MoH, as it moves to improve the efficiency and quality of the health services, will need to introduce new policies and operational mechanisms to improve its ability to manage or influence systematically the deployment, utilisation, development and careers of health service staff. In other words, the MoH may need to take an early initiative (a proactive position) on human resource development (HRD).*
33. *There is an array of HR problems and issues faced by all organisations worldwide. What varies are the magnitude and significance of issues specific to different organisational settings and national contexts. For instance, one organisation may have an adequate number of staff but suffer from poor industrial relations and low staff morale while another may have a shortage of staff but high levels of individual commitment. For each of these organisations, the issues posed and the potential solutions are different. The MoH also has its own unique combination of problems for which solutions tailored to these problems need to be devised. The MoH recognises these problems and under the Minister's leadership takes important steps for solving them.*
34. *There are no rapid or instantaneous solutions to these problems or to the more general issues described earlier. In order to overcome the existing or future problems of HR supply and utilization, these problems need to be addressed in the framework of a systematic and consistent development program.*
35. *As a consequence, the central issue facing the MoH is not only addressing the current and very significant problems. What is more important is that the HRH planning and management capacity needs to be strengthened in a way that allows uninterrupted assessment of the HRH-related issues.*
36. *Within this HRH Vision 2023 Period (2008-2023), it is likely that the direction for HR in the MoH will be determined by the following factors: Consolidation*

tion of services with growth in numbers of health care facilities as well as strengthening the services provided; redesigning and strengthening of primary health care services within the family medicine system and enhancement of the skill-mix of middle and high-ranking staff in the health sector; and promotion of managerial skills in the central organization and in for effective decentralisation of health services.

37. *It is anticipated that, in the next fifteen-year period, all public hospitals will be brought up to a certain quality standard in terms of the services and staffing necessary to support the services provided. It is also expected that the hospital beds will be used more efficiently and effectively (such as increased bed occupancy rates, reduced length of stay etc.).*
38. *The changes targeted in the number of public and private sector beds, which are based on the General Directorate of Curative Services' projection for probable changes in service utilization trends and types of hospital beds, are given in the Table 8 and Table 9. It is proposed that the majority of these new beds will be allocated to other specialty hospitals and psychiatric hospitals. Within 2008-2023 period, the total growth in public sector hospital beds will mount from 149,685 to 169,025, referring to an increase of 13% over the next fifteen years. During the plan period, it is anticipated that there will be improvements in bed quality rather than high increase in number of public sector beds.*
39. *There will be changes in the type and number of facilities providing primary health care services. With the full implementation of the family medicine system by late 2010, health centers were replaced by family health centers and community health centers. Within the fifteen-year period, it is anticipated that the number of primary health care facilities - except for the Mother and Child Health and Family Planning Centers (MCH-FPCs), dispensaries, public health laboratories and health posts – will be increased in line with the amendments envisaged for the health service delivery model and assumptions of the evolution of health services.*
40. *The growth in private sector is expected to continue in that the number of beds will expand with a 61% increase from 22,480 to 36,111. Existing policies of using private health sector facilities by the Social Security Institute will continue in accordance with the contracts which the SSI signs with private health care facilities. However, it is estimated that new policies such as the legislation on full-time practice of physicians (Full-Time Medical Practice Law) and successful implementation of the Family Medicine system will have an impact on private health care facilities. Apart from these, there are also more strict rules and quality checks introduced by the MoH for establishing private polyclinics and medical centres.*
41. *In this study, the changes in the average staffing for all hospitals were made in line with their changing roles and, to achieve a more consistent distribution in*

- terms of staff per bed and their level of skill between different types of hospitals. In general hospitals, obstetrics and gynaecology, and paediatric hospitals mainly middle and high level staff posts were increased to strengthen their ability to provide secondary care as were all other hospitals overall staffing to enable these hospitals to adequately address more complex case loads. Because other speciality hospitals were included in teaching hospitals, the staffing norms for this type of hospitals for 2023 were weighted accordingly.*
- 42. For some primary health care facilities, the focus was on strengthening the staffing. For the year 2023, the average number of personnel per health care facility was raised from 0,3 to 1,0 for health posts, from 27,6 to 39,6 for oral and dental health care facilities, from 11 to 17 for emergency care station 112s and from 30,5 to 64,5 for community health centers.*
 - 43. It is anticipated that the total health workforce in the public and private sectors will increase from 563,852 in 2008 to 1,067,572 in 2023. This refers to an increase of 89.34% for the overall (compared with total population growth rate of 18% over the projection period) with the public sector workforce expanding by 95.92%. This growth in the public sector especially focusing on professional and technical personnel has to be considered as an important topic resulting in an increased need for training for these staff categories.*
 - 44. To raise the overall skill level of health staff as a whole over the plan period, it will necessary to train a bigger number of middle and high-ranking medical and non-medical personnel. Besides, it is anticipated that the managerial skills of the active health managers will need to be improved and a wide range of management personnel from college graduates to professional managers will need to be re-trained for health care services.*
 - 45. The number of staff to be recruited during the fifteen-year period is made up of two parts: the staff to meet the increased demand due to the expanded services and other staff to replace leavers from the existing stock of staff over the fifteen-year period.*
 - 46. Information on leaving rates of the current and previous health care personnel (due to death, retirement and shift between sectors etc.) is not well documented. Best estimates were made for the leaving rates, both from the public health services and health sector as a whole to enable projection of new recruits. The total of new recruits required to meet expansion requirements and replace leavers was projected to be 576,512 for 2008-2023 period. The intake requirements call for substantial progressive expansion of staff training. The total school intake over the fifteen years will need to be just over 460,000.*
 - 47. The school intake requirements call for a substantial progressive expansion of physicians and nurses. A more detailed business plan for training needs to be produced as one of the important actions of the MoH. It will need to consider the requirements for capacity expansion in terms of physical facilities, train-*

ing sites and trainers/tutors and in the light of current innovations which could impact on these requirements. The plan needs to be prepared in collaboration with HEC in the light of new developments that would effect the training requirements.

- 48. With the continuing pressures to remove financial restrictions and enhance quality and performance, it is no longer sufficient to establish staffing requirements on the basis of staffing norms that are unrelated to workload and operational efficiency. As a consequence, the concepts of HRD and HRH management have come high on the development agenda of the MoH with both increased training and numbers of managers, increased incentives for good management and the provision of adequate numbers of management technical staff.*
- 49. As the MoH moves towards raising its level of performance and continuing with the process of decentralisation, it is likely that new or improved HRH policies will need to be introduced. Outline policy proposals addressing key areas of managing HRH activities are presented in the next. The policies will address the following:*
 - a. Organisational structures and roles*
 - b. Staffing of facilities*
 - c. Training*
 - d. Employment and deployment*
 - e. Public and private sector work.*
- 50. This document concludes with proposals for initial activities for implementing the strategic plan and an outline proposal for monitoring, evaluation and re-planning. Key indicators of the objectives to be achieved in this period are shown in the Table 18.*

II.

INTRODUCTION

A. Purpose of Human Resources Planning

Nowadays, public health sector resources suffer from public pressures to have their increasing demands met. These pressures do not only lead to new forms of association between public and private health care systems but also require making more intense efforts for efficient, effective and value-for-money provision of health care services in the public sector.

At the centre of this is the way human resources for health (HRH) are planned, trained and mobilised within the service network. Because, it is the human resources which are the major determinants of the quality, character and recurrent cost of health service provision. This fact has created the need to develop HRH planning and management roles, which can lead to an effective and well-motivated workforce. At the core of this is the need to ensure that the health services operating within the country have:

- the right number of people,
- in the right place,
- at the right time,
- with the right skills,
- with the right motivation and attitudes,
- at the right cost,
- doing the right work,

appropriate to the social context and economic conditions of the country.

The purpose of strategic human resource planning is to contribute to the achievement of this ideal. It does so by ensuring that the future needs for and

supply of staff are identified and prepared for in time for action, taking into account the needs of the health sector as a whole, likely future staff availability and productivity and projected availability of funding.

B. HRH Vision 2023

The HRH Vision 2023, which discusses the steps to be taken in order to provide the Turkish people with much better health care services than the developed countries in 2023 that will be the 100th establishment anniversary of the Republic of Turkey, is intended to accomplish these three things:

1. Specify the direction of growth and development of human resources;
2. Specify outline the HRH objectives for the medium term which provide a framework for short-term plan development; and
3. Identify short-term actions and, in particular, policy actions which are needed for the Ministry of Health (MoH) to proceed towards the medium-term future of health sector development.

All studies of this type are built from a mix of current and historical information about HRH, projections of future health and health care needs, the types of services to be provided, and the means through which they will be provided. At the same time, there exists a range of professional judgements about the future from different elements of the health system, which lead to multiple views of the direction in which the MoH should proceed. These views need to be brought to a consensus for the purpose of finalising a study through discussions among planners and decision-makers in the MoH.

To be clear, it is normal that there are some uncertainties in a study of such dimension. Consequently, it is both desirable and necessary to undertake regular reassessment and modification of the study as the situation in the country changes over time and current uncertainties become clear.

C. Purpose of This Study

The purpose of this study covering a period of fifteen years from 2008 to the year 2023 is to take a long distance view of how health and health care needs will change according to the following strategic objectives identified in the MoH's strategic plan

- Protecting community from health risks
- Ensure quality and safe provision of health services
- On the basis the human-centred approach to health care services pursuing equity and increasing the capacity to meet the needs and demands

and from that, how the health sector and the staff who provide health services will need to change.

Included in this long-term perspective is a recognition that the health sector as a whole will be under increasing financial pressure. As a result, this will require greater efficiency in the provision of health services. At the same time, a more skilled workforce will be needed to meet the aspirations of the public for better and more comprehensive care. The plan also recognises that there will be an increasing need for a viable private health sector working together with the public sector.

This document is the statement of a vision of human resources for health for the next fifteen years. Its purpose, therefore, is to provide a basis for decision making on strategic action in the MoH.

Nevertheless, it is to be recognised that, even in its final form, this study - like all others of this kind - was conducted in an environment of political, social and economic uncertainties. Undoubtedly new circumstances will arise in the process which will require changes both in the objectives and the actions proposed. For this reason, this study also contains proposals for a bi-annual re-evaluation and for adjustments of the recommended activities for subsequent years.

D. Addressee of this Document

Human resources are central to any activity in health care services. Therefore, human resources planning should not guide the planning of services but just support it. This HRH Vision 2023 document makes proposals for future staff requirements and supply and their allocation at national on the best available information on the future intentions of the MoH.

The first draft of this document was prepared as a result of a week workshop held in Kızılcıhamam in Ankara on 5-9 November 2007. This workshop, involving senior staff across the MoH and related organisations (Appendix 1), created a projection of future HRH requirements and supply. They used a flexible WHO computer-modelling (WHO HRH Supply and Requirement Projections Model) tool to produce a balanced picture of the future, which emphasised institutional and service development (WHO, 2001). In order to draw a balanced picture of the future by using the simulation model participants performed requirement projections through the strategic objectives developed by considering

- Public and private sector hospital types, numbers, size and personnel norms,
- Public and private sector ambulatory care facility types, number, size and personnel norms, and
- Projections of needs of academic institutions and other public health care facilities considering their organizational characteristics and strategic goals.

The leading facilitator of the workshop (S. Nazlıoğlu supported by P. Hornby and technical staff of the HRH Division of the School of Public Health) used the outcome of the workshop to produce the first draft document.

Then, the outcomes of the first draft document were presented to the Minister of Health and senior officers on April 2008 (Appendix 2). Three scenarios were produced according to the proposed recommendations in this meeting and the results were presented on November 2008 for approval (Appendix 2). Further studies were continued on one selected scenario among the three. Within this context other three meetings were held in February 2009, July 2009 and February 2010 (Appendix 2). In the last meeting, a technical working group was established including related departments of the MoH (Appendix 3) and results of other planning studies undertaken within the MoH's departments (such as the family medicine study and hospital bed-planning study etc.) were integrated into this strategic planning exercise. This technical working group undertook six consecutive meetings headed by Mr. Adnan Çinal, the Deputy Undersecretary of the MoH.

The document is intended in the first place, therefore, for the Ministry of Health including the decision-makers and policy-makers in the MoH. It provides them with an initial picture of the implications in terms of training, recruitment, deployment and management to meet the HRH objectives in the health sector over a fifteen-year period.

E. HRH Supply and Requirement Projection Model

Human Resources for Health (HRH) Medium-Term Supply and Requirement Projection Model, which was developed by the World Health Organisation (WHO), is a simulation model aiming to assist planners to develop 10-30 years HRH supply and requirement projections. Conceptual outline of the model is summarised in Figure 1. Each box in this figure represents logical step in the process of requirement projections and as a result financially feasible picture of the future in which the expected supply of HRH matches the requirements (Figure 1).

Operationally, the model consists of a set of tables that quantify the elements of the underlying approach, describing the current health service and workforce situation and a number of projected future changes, all of which ultimately lead to the projection of future HRH requirements and likely supply. The model's electronic interlinking also facilitates the exploration of different future scenarios. This is an important feature as there are often a variety of views, both political and technical, on what is the appropriate way forward in health system development. Because of the software's capacity, simulations of alternative institutional development and staffing scenarios can be carried out easily, improving health authorities' ability to explore "what if?" questions.

The model joins the variables used to determine HRH supply and requirements and it also electronically links all the elements. This leads planners to be able to

review the alternatives in terms of both development of health facilities and their staffing. Because of the software's capacity, simulations of alternative institutional development and staffing scenarios can be carried out easily, improving health authorities' ability to explore "what if?" questions. This is an important feature as there are often a variety of views, both political and technical, on what is the appropriate way forward in health system development. Typical questions that may need to be addressed as part of the simulations include the following:

1. What are the implications for staffing numbers and mix if salaries and benefits are increased with no budget change?
2. What are the training and staffing implications of substituting one category of health worker in favour of another to alleviate particular shortages?
3. What is the political feasibility of doing this type of substitution?
4. What will be the impact of an expanding private health sector on the training and recruitment of new and existing staff in the public sector? (WHO, 2010).

F. Essential Elements of the Study in This Document

This HRH Vision 2023 document contains the following:

1. An analysis of the existing HR situation.
2. A projection of future requirements for staff in line with the long-term perspectives within the Ministry.
3. An analysis of the training requirements.
4. An initial set of policy proposals to support the objectives of the plan.
5. Action proposals for implementing the plan.

III.

CURRENT POPULATION AND HEALTH SERVICES

A. Population

Projections in this document of the future population are based on the year 2008 Turkey Statistics Institute (TSI) information to provide a baseline. TSI produced demographic projections up to the year 2050. Those projections constitute the basis for the demographic estimates and assumptions. Table 1 provides a breakdown of the current and projected future population nationally by age derived from this baseline.

Table 1. Demographic Estimates and Assumptions 2008-2023

Year ---->	2008	2023	2008	2023
Estimated population =			71,095,000	84,053,000
Average annual % population change during period			1.2	
	---% distribution by age---		---(Projected) population by age---	
<1 years	1.8	1.5	1,273,000	1,245,000
1-4 years	7.0	5.9	4,996,000	4,964,000
5-14 years	17.9	15.0	12,736,000	12,569,000
15-44 years	48.5	45.5	34,513,000	38,286,000
45-64 years	17.9	22.8	12,740,000	19,164,000
65+ years	6.8	9.3	4,837,000	7,825,000
Totals	100.0	100.0	71,095,000	84,053,000
	--- Births per 1000 population ---		--- Projected births in year ---	
	18	15	1,273,000	1,245,000
	--- Urban residents ---		--- Rural residents ---	
Percent	75	80	25%	20%
Totals	53,321,250	67,242,400	17,773,750	16,810,600
Calculated growth rate =		1.6%		-0.4%

Source :Turkey Statistics Institute (2008)

Assumptions built into this projection over the fifteen-year period include a continued reduction in birth and death rate with a shift upward in the population age. Total population growth over the sixteen-year period is projected as increasing by 18% (approximately 13 million). Population growth is anticipated to be much lower in rural areas (-0.4%) because of migration into urban areas and

expected urbanisation of some rural areas. Population growth in urban areas is anticipated to be 1.6% per year as a result of migration and urbanisation resulting in 80% of the population being urban by 2023.

Other related assumptions are:

1. With population growth will come with an increased demand for health services.
2. The existing pattern of disease will continue to dominate and there will be an increased need to address chronic diseases and geriatric health services (see also Table 6 on planning assumptions).
3. Both urban and rural service facilities will need to be enlarged, strengthened and increased in number rather than simply increased in number to accommodate the shifting population.

B. Profile of the Health Care Services and Facilities

In Turkey health services is a major service area of the public sector. In public sector health services are given in the MoH facilities, university hospitals, and Ministry of Defence hospitals. Out of Ministry of Defence hospitals, for the purpose of this study, the public sector primary, secondary and tertiary health care facilities are characterised as university hospitals, MoH teaching hospitals, general hospitals, obstetrics and gynaecology and paediatric hospitals, other speciality hospitals, long-term care and chronic disease hospitals and psychiatric hospitals (Appendix 4). In this care level, the private sector facilities are characterised as general hospitals and foundation –owned university hospitals. In the primary level in public sector there are Health Centres/Family Health Centres (FHC), Health Posts, Mother and Child Health and Family Planning Centers (MCH/FPs)/ Oral and Dental Health Centres (O&DHC), dispensaries (TB Control Dispensary), Public Health Laboratories, Emergency Care Station 112s and Community Health Centres (CHCs) as health services units. In the primary care level in private sector, there are private doctor’s offices, dentist’s offices, private polyclinics and medical centers, laboratories, special diagnostic centers and pharmacies. The distribution of health service providers in public and private sector is shown in the Table 2.

The private sector provides 13% of the total beds in 2008. These beds, combined with those of the public sector, give a ratio of 2.42 beds per 1000 population. This ratio is below the OECD and EU averages. The OECD average in 2007 is 3.80 acute care beds per 1000 population (Figure 2). The EU average is also 3.80. However, big variations are observed among the population-bed ratios of the OECD countries. Although hospital beds and population -bed ratios are used as basic indicators in terms of the magnitude of available resources in health care services, it is known that health service systems, health service provision models, population structure and utilisation trends affect these ratios.

Table 2. Current Health Care Facilities (Public and Private)

Type of facility	Number	Total Beds	% Occupancy
PUBLIC SECTOR (2008)			
University hospitals	46	28.370	85
Teaching hospitals	33	19.507	74
General hospitals	683	73.418	54
Obs and Gyn and peadiatric hospitals	69	13.272	70
Other speciality hospitals	23	4.534	62
Psychiatric hospitals	9	4.160	71
Long-term care/chronic disease hospitals	34	6.424	73
Health centres/family health centres	6.305	-	-
Health posts	5.268	-	-
Maternity and family planning centres	225	-	-
Oral and dental health centres*	123	-	-
Dispansaries**	243	-	-
Public health laboratories	149	-	-
112 emergency stations	1.308	-	-
Public health centres	373	-	-
TOTAL	14.891	149.685	66,0
PRIVATE SECTOR*** (2008)			
General hospitals	387	20.938	51
University hospitals of foundations	13	1.542	74
Doctor's office	11.050	-	-
Dentist's office	10.808	-	-
Private polyclinics and medical centres	1.859	-	-
Laboratories	3.106	-	-
Special diagnose centres	712	-	-
Pharmacies	23.000	-	-
TOTAL	50.935	22.480	53
Health Sector TOTAL	65.826	172.165	68
* = Oral and dental health centres (Self contained)			
**= TB fight dispansaries			
*** Most of the private sector data collected from all the provinces by the provincial health directorates and repoted to Hfzsisihha public health school.			
Note: Teaching hospitals includes on MOH general teaching hospitals. Other speciality teaching hospitals are included each type of speciality hospital group.			

Source: General Directorate of Curative Services (2008) and General Directorate of Primary Health Care Services (2008).

Not: Ministry of Defense hospitals are not included.

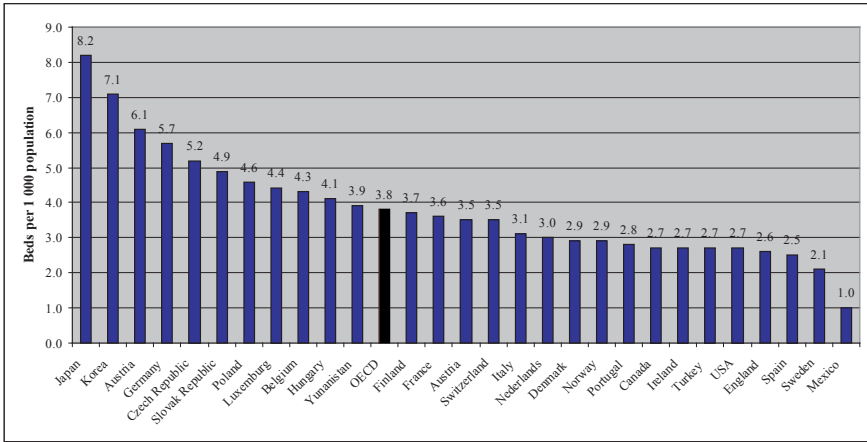


Figure 2. Number of Acute Care Beds per 1 000 Population in the OECD Countries
 Source: *OECD Health at a Glance: OECD Indicators (2009)*

Note: 2007 or latest available year. Turkey data is from 2008.

In Turkey overall occupancy rates for all types of hospitals except university hospitals and MoH teaching hospitals are low (Table 2). Public and private beds average occupancy rate is 64%. OECD average given for acute beds is 75% (Figure 3) whereas EU average is 77% (EC, 2011). This level of occupancy in hospitals is undoubtedly indicating ineffective use of hospital beds and staff. However, available information suggests that general hospital occupancy varies widely across the hospitals, too.

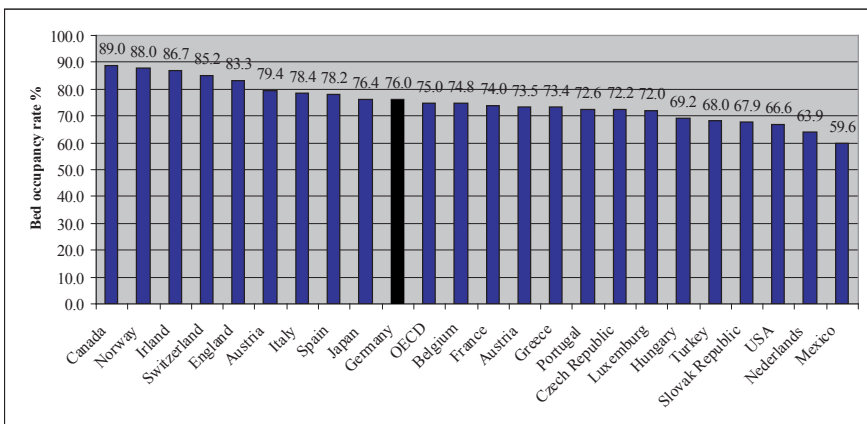


Figure 3. Acute Bed Utilisation Rates in the OECD countries
 Source: *OECD Health at a Glance: OECD Indicators (2009)*

Note: 2007 or latest available year data were used for the countries other than Turkey. The Turkish data are from the year 2008.

The number and accessibility of primary care facilities providing outpatient services is felt to be not insufficient in numbers for the current population and utilisation rates, but they will need to be further strengthened, especially in terms of organisation and staffing, to provide adequate access to the population. However in order to provide adequate access according to increasing population and changing health needs these health institutions have to be strengthened in terms of organisation and staffing. One of the components of the health transition program is introduction of family medicine as an organizational model for the provision of outpatient or primary health care services. This is indicating the willingness to provide comprehensive and good quality service at the primary level. FHC and CHC's are the health units introduced with this new organisation of the primary level services. Through family physician programme it is aimed to provide geographically balanced service provision and ensuring provision of health services with its preventive, diagnostic and rehabilitating aspects of services to individuals both at home and at work (MoH, 2010).

Effective provision of primary care services will in turn lead to not only reduction in the burden of disease but also will contribute better and quality health services provision and health education at secondary and tertiary levels. Currently, in the light of monitoring and evaluation studies conducted in all provinces a family physician system is in place since the end of 2010. When the system is settled, it is expected that there will be an increase in the use of primary care services.

C. Distribution and Productivity of Staff by Staff Types

Distribution of Personnel

Eighty percent of all health care workers work in the public sector. Despite that 69.9% of dentists and 94.5% of pharmacists are employed in the private sector (see Table 3). They constitute significant part within the current private health sector activity. A full list and definition of the staff included in each of the staff categories shown in Table 3 is given in Appendix 5. The numbers given in Table 3 indicates filled permanent posts in Full Time Equivalent (FTE).

Table 3. Base Year (2008) Health Workforce Supply

OCCUPATIONS	Supply in	% FTE in	---FTE by sector--		Population per worker
	2008	Public	Public	Private	
Specialist	75989	75,6	57423	18566	941
Practitioner doctor	35763	89,3	31951	3812	2000
Family physician	1399	84,3	1179	220	51120
Dentist	19959	30,1	6002	13957	3583
Pharmacist	24778	5,5	1373	23405	2886
Nurse	99910	84,3	84175	15735	716
Midwife	47673	92,5	44094	3579	1500
Health officer/Public Health Technician	14525	92,9	13500	1025	4924
Laboratory technician	14947	84,7	12654	2293	4785
Radiology technician	10738	85,2	9153	1585	6660
Anesthesia technician	4395	80,8	3550	845	16272
Medical secretary	5562	81,3	4522	1040	12858
First and emergency aid technician	15486	66,5	10302	5184	4618
Physiotherapist	1916	55,9	1070	846	37326
Other health personnel	21971	73,3	16102	5869	3255
Managers	2415	87,0	2102	313	29614
Engineers and other technical personnel	1004	92,9	933	71	71232
Other technical personnel	4657	85,5	3981	676	15357
General administrative staff	83501	91,7	76531	6970	856
Support staff	77264	92,6	71524	5740	926
Totals ----->	563852	80%	452121	111731	127

Source: Ministry of Health, General Directorate of Personnel (2008)

Note: Staff recruited through service agreement method included.

Relative to OECD countries Turkey has low population personnel ratios. In 2008 the number of physicians per 1000 population is 1.59 in Turkey whereas OECD average in 2007 is 3.10. (Figure 4) and EU average is 3.20 (EC, 2011).

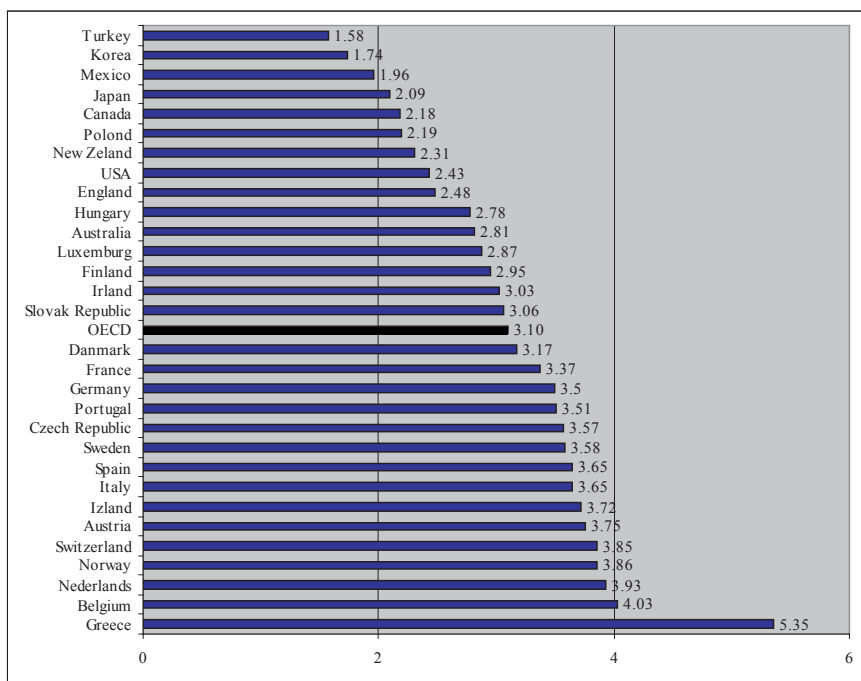


Figure 4. Number of Physicians per 1000 Population in the OECD Countries

Source: *OECD Health at a Glance: OECD Indicators (2009)* and the *Ministry of Health General Directorate of Personnel (2009)*

Note: 2007 or latest available year data were used for the countries other than Turkey. The Turkish data are from the year 2008.

One of the most important reasons for this situation is that number of school intake to medical school has been kept constant with 5000 for many years. Although it will take six years to see the effect of this decision, after intensive efforts of the MoH, the number of medical school intakes was raised to 6655 in 2008-2009 and 7877 in 2009-2010 Education Years from 5253 in 2007-2008 Education Year with an agreement between MoH and HEC (Figure 5). Besides as a result of MoH's efforts on staffing levels since 2003, there have been improvements in population staff ratios. Number of physicians per 1000 population increased from 1.33 in 2001 to 1.59 in 2008. Number of nurses per 1000 population increased from 0.66 in 2001 to 1.39 in 2008. It is expected that this improvement will continue.

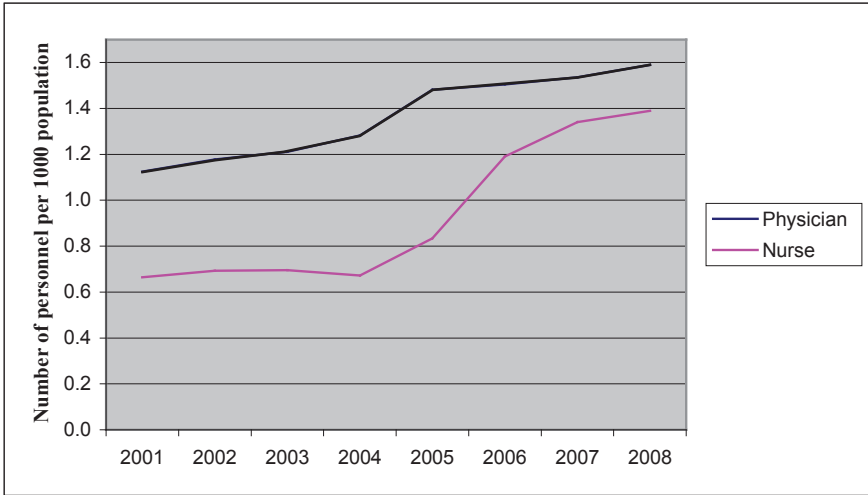


Figure 5. Number of Physicians and Nurses per 1000 population in Turkey (2001-2008)
 Source: Ministry of Health, General Directorate of Personnel (2009)

Geographical Distribution of Personnel

It is known that there is a geographical imbalance in the distribution of health personnel across the provinces. Inequitable geographic distribution of HRH in Turkey has been a longstanding issue of concern, one recognized and being addressed by the MoH through HTP. As a result of the MoH’s efforts, there appears to be some improvements in reducing geographical imbalances across the provinces over recent years (Figure 6 and 7). Figure 6 and Figure 7 present the changes in the population per specialist physician and the population per nurse-midwife by provinces in 2002-2008 period.

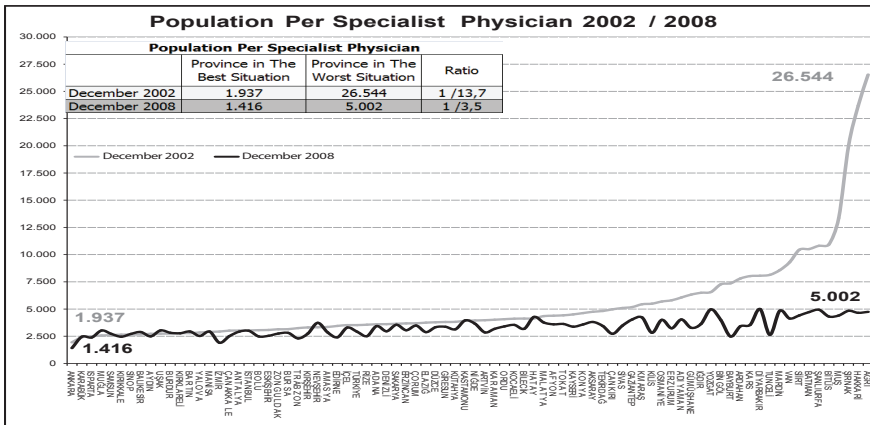


Figure 6. Development of Geographic Distribution of Specialists in Turkey (2002-2008)
 Source: MoH General Directorate of Personnel Active Personnel Study; 2008;Mollahalihiloğlu (2008)

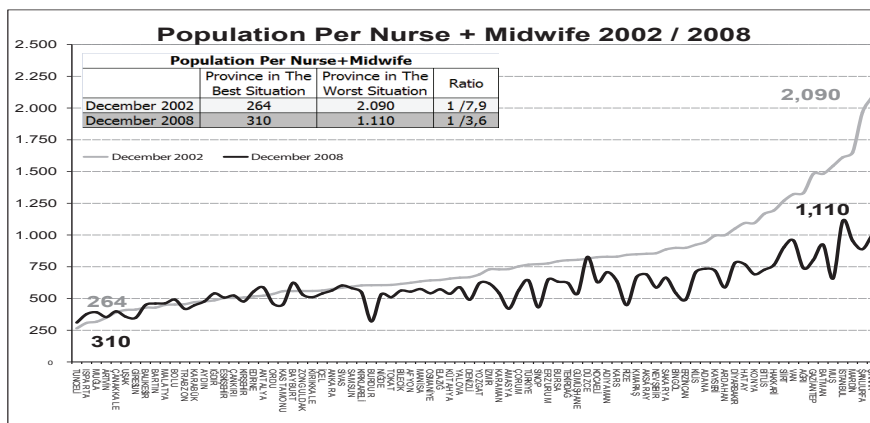


Figure 7. Development of Geographic Distribution of Nurses-Midwives in Turkey (2002-2008)
 Source: MoH General Directorate of Personnel Active Personnel Study, 2008; Mollahaliloğlu (2008)

Basically, these changes have been made in areas where it is difficult to recruit and retain staff by contract based employment model as a means to increase remuneration. For physicians besides contract based employment compulsory service can be seen as another factor of improvements in geographic distribution.

Skill-Mix

Relative to other OECD countries Turkey has low nurse to physician ratio. In 2008 the ratio is 0.8 nurses per physician (this ratio raises to 1.4 when nurse, midwife and community health technicians are accounted together). In 2007 OECD average was 3.0 (in some countries this ratio includes midwives as they are recruited as specialist nurses and in some countries it includes only nurses working in hospitals) whereas EU average in 2008 was 1.9 (this ratio includes all nurse and midwives employed in whole health sector) (EC, 2011). This shows a relative imbalance in the total number of nurses in Turkey in relation to the total number of physicians.

Besides, employment of nurses and midwives, who have various different levels of education, in the same position and title appears a significant skill-mix issue. There is not a system yet which will make a distinction between nursery and midwifery personnel both of whom have different educational backgrounds and skills. Currently, there are nurses and midwives among actively working staff who have 4 years university degree, 2 year vocational school degree, open-university degree (only for health vocational high school degree owners), 18 months course diploma and 4 year vocational high school degree. All are treated as the same. This is considered as one of the factors affecting development of these professions. At the moment there is no information on the distribution of nurses and midwives with different levels of education.

On the other hand, the overall distribution of staff in terms of the mix of skills shows a balanced distribution among mid-ranking personnel (nurses, midwives and community health technicians etc.), high-ranking personnel (physicians, dentists and pharmacists etc.) and support staff (general administrative services personnel, drivers, dressmakers and cooks etc.). While mid-ranking personnel constitute 42.9% of the total workforce, high-ranking personnel constitute 28.5% and support level staff constitute 28.6% of the total workforce.

Personnel Productivity

In comparison to previous years, there are signs of improvement in workforce productivity over recent years. A crude measure of physicians' productivity is consultations per physician per year. There were 3176 consultations per physician per year in Turkey in 2006. It rose 3630 in 2007 and 4001 in 2008 (Atasever, 2010). In 2009 and 2010, this ratio increased to 4155 and 4069 respectively. These values are well above the OECD average at 2510. There are several complementary reforms such as introduction of performance based payment, activation of dormant health centres, increase in the availability of examination rooms and increase in the availability of examination rooms for each physician in health centres that contributed to the increase in productivity. However in order not to have an adverse affect on service quality the total number of consultations per physician per year should be kept below 7000. Otherwise, it is well known that there will be decrease in service quality due to decrease in doctor's time spend per patient (WHO, 2001).

D. Staff in Training

Pre-Service Education

Specialists, practitioner doctors, family physicians, dentists, pharmacists, physiotherapists, nurses, midwives and some other categories are the principal pre-service training programmes provided by the Universities. Higher education of health professionals is regulated by HEC. Many other categories of allied health professionals are trained in vocational training schools and high schools. Vocational training high schools are under control of the Ministry of Education since 2004. Table 4 shows intakes and total students already in basic training in 2008.

Table 4. Total Staff in Training in 2008

	Study Years Required	Total Programs	Total New Students 2008	Total Students
Specialist	4.5*	99	4644	17744
Practitioner doctor	6	49	5253	30372
Family physician	3	34	170	419
Dentist	5	20	1131	5458
Pharmacist	5	14	1020	5005
Nurse	4	167	13573	35466
Midwife	4	64	1488	7634
Health officer/Public health technician	4	24	851	3178
Laboratory technician	4	72	952	2562
Radiology technician	4	24	412	1526
Anesthesia technician	4	27	688	2372
Medical secretary	3	132	2725	7031
First and emergency aid technician	3	204	4336	9645
Physiotherapist	4	10	653	2370
Other health personnel	3.5*	-	-	-
Managers	4	-	-	-
Engineers and other technical personnel	4	-	-	-
Other technical personnel	-	-	-	-
General administrative staff	-	-	-	-
Support staff	-	-	-	-
Totals	xxx	940	37.896	130.780

Source: Higher Education Council (2008) and Ministry of Education (2008)

* Average

Other than medical residency training provided in the MoH teaching hospitals, post-basic training is provided for the principal categories of staff at the universities. Post-basic training is more driven by individual initiatives to have advanced training instead of the MoH-identified objectives. In this regard, post-basic training programs need to be revised in terms of diversity, quantity and curriculum.

Standards of training are variable and depend more on individual endeavour than on objective-based training standards. The MoH only has control over the admissions and quality of the specialist training in the MoH teaching hospitals.

Also management trainings are available at universities in Turkey but the roles and task definitions of managers within the service line are far from leadership-based management and are more focused administration of the existing status rather than management.

There appears to be no shortage of qualified candidates applying to training programs in medical and health related fields in Turkey (Vujicic et al., MoH, 2007). Therefore, there appears to be no problem to scale up medical school enrolment. For nursing, however, the situation is bit unclear due to the missing statistical data on nurses given the number of nursing schools and faculties in Turkey.

Turkey has one of the lowest student-to-faculty member ratios for medical training in the world. However, the situation is not considered to be the same for nursing and other programs. In this case, it will be necessary to apply alternative solution methods such as developing and implementing a bigger number of inter-disciplinary programs in areas where non-medical health programs and medical programs intersect and opening up other health schools where medical schools are already available.

In-Service Training

The MoH provides only limited in-service training. Though not being enforced to provide continuous medical education for its personnel by law, the MoH provides in-service training for its personnel. However, the results of the “Health Care Personnel Satisfaction Survey” indicated that the health care personnel are not satisfied with the in-service trainings given. According to the survey results, 50.4% of all staff does not find these programs satisfactory. Given occupations on the other hand, only one-third of the general practitioners think these trainings are satisfactory (MoH, 2010).

The MoH attempted to change and improve the situation and abolished the In-Service Training Regulation, which was put into effect in 1983, and introduced a new regulation in 2009. Besides, since 2006, the MoH has been giving computer-based management trainings for provincial health directors, hospital head physicians and other HRH personnel in the public health care system through the School of Public Health’s distance learning system (DLS). Using this distance learning system, which is abbreviated as DLS, the MoH aims to develop the HRH capacity to ensure better practice and continuing professional development by improving staff knowledge and skills. The distance training covers the following: Microsoft Office, Basic Management Skills, Advanced Management Skills, Health and Health Facility Management Certificate Programme, Hospital Management Certificate Programme, Breast Feeding Consultancy Training and Nursing Services Management Training. Besides, with the introduction of family physician model component of the HTP, the MoH has additionally undertaken a comprehensive in-service training program for the transition period.

The main problem with in-service training is having difficulty in associating trainings and work experience with performance management, career planning and promotion. Health workforce should be encouraged to get specialised in their own work areas. Besides, for the areas that no training programs are available, staff needs to be supported to join training programs abroad.

E. Organisation and Management of Human Resources

Just as performance of the health sector is largely dependent upon health worker performance, so system performance requires effective management of

human resources (MoH, 2007). The MoH provides a wide coverage in its primary, secondary and tertiary health care services. However, the imbalanced distribution of health care personnel in terms of geographical distribution and distribution of skills, and some health care facilities that are under-staffed continue to be a problem particularly in rural areas although some partial improvement has been made so far.

Public and private medical school graduates are currently required to complete compulsory service in public health facilities. New graduates are appointed to different provinces based on needs and lottery system. Compulsory service is used as a successful method of addressing the inequitable distribution of physicians across Turkey.

Though compulsory service has been effective in readdressing geographic imbalances among some HRH cadres, it should be regarded as a short-term solution. It is possible to have problems as it happened in the earlier periods. The major shortcoming in compulsory service has been its negative affects on staff motivation. Studies are underway on this issue.

Finding an effective balance of monetary and non-monetary incentives to promote better geographic and skills distribution as well as motivation and quality of service faces certain obstacles.

A performance-based supplementary payment system (PBSP system) was introduced in MoH hospitals in 2004. Under the PBSP system health personnel receive a payment each month in addition to their regular salaries. The bonus payment for a health worker is determined through a combination of individual and institutional performance criteria also including the indicators of quality. The base salary is paid from the MoH line item budget under health personnel salaries. The performance-based payments are paid from the revolving funds that are financed from the reimbursements hospital receive from the general insurance system (GHI) and out of pocket expenditures paid by patients (Vujicic et al., 2009). There have been improvements in health personnel incomes in addition to the increased number of personnel, too. In the Table 5, the annual staff incomes including bonus payments are shown.

The main objective of the PBSP system is to encourage job motivation and productivity among public sector health personnel. When the HTP was launched, the majority of public specialist doctors worked part time, and specialist doctors preferred to work in the private sector. As a result, there was overcrowding in public hospitals, long waiting times to see a doctor and patient and provider satisfaction with the health system was low (Vujicic et al., 2009). The PBSP system has proved to be one of the key interventions made to address these problems.

However, in the long run, the impact of the PBSP system on productivity and quality may be limited as indicated by the international experience. PBSP system may face diminishing returns to productivity and quality gains. Performance is re-

warded based on increases from the previous evaluation period. While there may be initial gains if current levels are relatively low, the potential to improve diminishes as performance comes closer to ceilings. At this point MoH may therefore not have productivity and quality gains of the same magnitude as initial improvements into the future. Besides PBSP will only be reflected in limited amounts in retirements and this stays as an issue to be resolved. In addition to this PBSP rates for the central Ministry is considered to be not adequate enough to keep very qualified and experienced staff there and studies to improve the situation are carried on.

Table 5. Public Sector Health Personnel Average Annual Incomes (2008)

INCOMES	Year 2008 average annual income	Relative income Year 2008
Specialist	67944	4,4
Practitioner doctor	42900	2,8
Family physician	70000	4,5
Dentist	40800	2,6
Pharmacist	36000	2,3
Nurse	22500	1,5
Midwife	22500	1,5
Health officer/Public health technician	22500	1,5
Laboratory technician	22500	1,5
Radiology technician	22500	1,5
Anesthesia technician	22500	1,5
Medical secretary	22500	1,5
First and emergency aid technician	22500	1,5
Physiotherapist	30000	1,9
Other health personnel	22500	1,5
Managers	43452	2,8
Engineers and other technical personnel	19500	1,3
Other technical personnel	15420	1,0
General administrative staff	18240	1,2
Support staff	15840	1,0

Source: Ministry of Health, School of Public Health (2009)

*Income might vary on service area, facility type and the legislation amended over the time.

The other point affecting staff motivation and productivity is keeping relative income in balance. When the existing annual income levels (including bonus payments) are analysed, it is seen that the relative incomes between support level and high level staff is at the acceptable range. The ratio of pay between the highest and

the lowest grades of staff is approximately 4.5 to 1. Differentials between these grades of staff are commonly between 3 and 6 to 1. (WHO, 2001). Differentials for middle-grade staff to unskilled workers, on the other hand, are low (1.5 to 1). It is recommended that further consideration should be given to reappraisal of differentials (Figure 8).

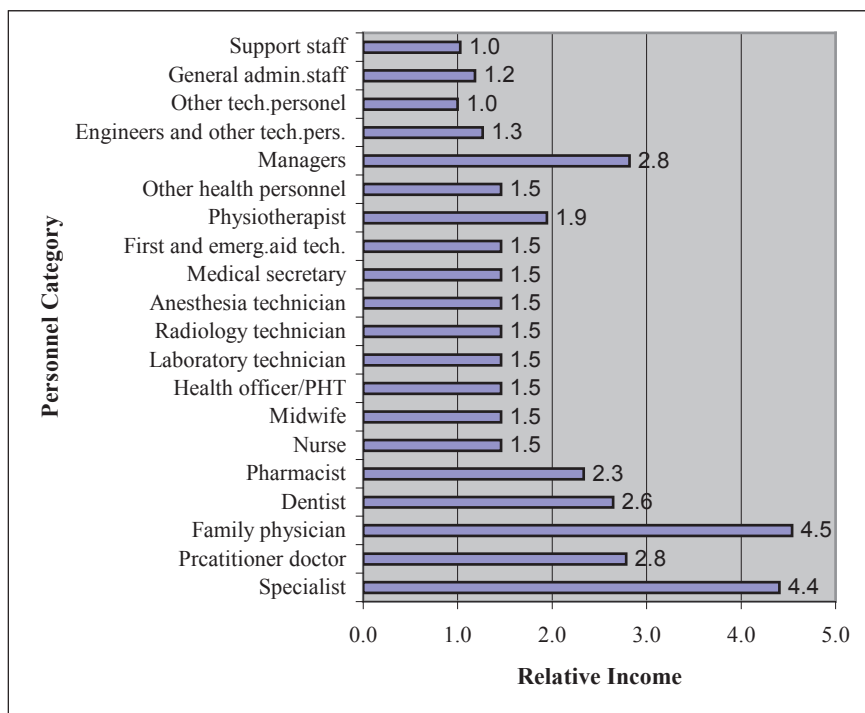


Figure 8. Public Sector Health Personnel Relative Incomes (2008)

Due to limitations in General Civil Service Law No. 657 in personnel employment, government introduced the Government Decree No. 4924 in 2003 to recruit contract based staff in places where it is difficult to recruit and retain staff. The Government Decree No. 4929 has provided a chance to restructuring staff recruitment, dismissal etc. working conditions determined by General Civil Service Law 657 4B and provided flexibility in these procedures which does not exist in the general civil service law. However, these models required to be re-assessed for continuation of the implementation in terms of personnel motivation while they brought solutions to some of the problems about employment. There are problems since the contracted health care personnel, who have been practicing in the same place for long, may not always be allowed to change their places (especially in the Eastern and South-eastern Anatolia). Now there are new developments and a more flexible approach is in use to solve these issues. For instance recently transfers

due to health conditions and spouse are permitted and staff working in the same area for a long period is given a chance to be transferred to a more favoured area. According to the Health Care Personnel Satisfaction Survey, the concerns and difficulties inherent in working in rural areas include the lack of a service infrastructure, sufficient personnel support for teamwork, the ability to maintain family unity when both spouses work or children are enrolled in urban schools, the opportunity to be assigned to a better area after certain duration of service, existence of housing estates, flexible working regimes and personnel security (MoH, 2010). Actions have been started to address these problems.

Family physician system is being an exception; local managers almost have no control on management of current HRH functions. Many other HRH functions such as recruitment, termination, promotion and transfers are managed by the central MoH units. This organisational structure restricts local level officials' initiatives and opportunities for staff movement (MoH, 2007).

Another way of improving productivity of physicians and nurses is to revise job descriptions. For example if jobs that should be undertaken by a medical secretary were being done by nurses and physicians, with the revisions in the job description this can change, staff productivity may improve. Revision of job descriptions may reduce also the problems due to unnecessary workload leading low service quality.

Regarding personnel management, many qualitative and quantitative HRH data is available through Core Resource Management (CRM), Human Resources Management System (HRMS) and Personnel Distribution Table (PDT). However, some difficulties may appear at times while transforming these data into information. Even while the MoH adopts increasingly sophisticated supervisory and information gathering techniques, more training is required to effectively manage these processes.

Regarding health workforce planning, the MoH has introduced Personnel Distribution Table to determine local level workforce requirement (distributions) in 2006. The purpose of the PDT is to determine the distribution of local staffing levels by type and position. The basic principal of the PDT is based on the population (determined by Household Determination Form), bed capacity and service utilisation patterns. In hospitals it is used in connection with "Bed and Staffing Norm Regulation" for hospitals.

Other than that, a formal and regular process aiming to develop a strategic HRH perspective has been introduced to the HRH planning. In the past, the HRH management was rather based on the functions of personnel. However, the concepts of proactive management and manager are developing today perhaps a bit slowly but steadily. There are two bodies seem to be in charge of HRH planning in theory: Department of Strategy Development and General Directorate of Health Education. The General Directorate of Curative Services, General Directorate of

Primary Health Care Services and General Directorate of Personnel give support to these two bodies. Yet, these bodies need to be revised in terms of capacity and organization for better functioning. While re-organizing the central organization of the MoH, these concerns were recognized and the new structures were built accordingly.

The MoH, as it moves to improve the efficiency and quality of the health services, has aimed to introduce new policies and operational mechanisms to improve its ability to manage or influence systematically the deployment, utilisation, development and careers of health service staff. In other words, the MoH has been intended to take a proactive position on human resource development (HRD).

IV.

HUMAN RESOURCES PROBLEMS AND ISSUES

A. Perceived Problems and Issues

There is an array of HR problems and issues faced by all organisations worldwide. What varies are the magnitude and significance of issues specific to different organisational settings and national contexts. For instance, one organisation may have an adequate number of staff but suffer from poor industrial relations and low staff morale while another may have a shortage of staff but high levels of individual commitment.

For each of these organisations, the issues posed and the potential solutions are different. The MoH also has its own unique combination of problems for which solutions tailored to these problems need to be devised. The MoH recognizes the issues such as distribution of staff and staff performance and has already taken giant steps to resolve them under the Minister's leadership. However there are still some other issues waiting to be worked out.

General Issues

The broad general issues facing the MoH and the health sector as a whole are:

- a. Imbalances and inadequacy in the mix of staff and the skills they represent, particularly in the light of a changing philosophy of health care provision: Low nurse to physician ratio, inadequate number of family physicians.
- b. In spite of the steps taken to solve the problem of geographically imbalanced distribution of personnel and positive results obtained, continuity must be ensured.
- c. Inequalities between different types of health staff due to variations in their knowledge and skills and variations in the type and quality of

- services as a result; for example different nursing categories such as public health nurse, degree nurse, enrolled nurse etc.
- d. Making better definitions for some jobs or existing definitions that are unrelated to staff activity: for instance, assigning a nurse with secretarial or technical tasks.
 - e. Limited and uncontrolled personnel development and career management: staff promotions limited by respective laws and regulations, non-compulsory continuous medical/professional education/training and its poor association with career management.
 - f. Shortage of trained management staff and management scientists.
 - g. Even there are efforts to change this, information systems geared primarily to reactive administration rather than proactive management although there is movement to change this. Besides even while the MoH adopts increasingly sophisticated supervisory and information gathering techniques, training required to effectively manage these processes appears to be lagging behind.
 - h. Low levels of individual and organisational productivity and performance for some categories of staff with little incentive to improve. Finding an effective balance of monetary and non-monetary incentives to promote better geographic and skills distribution as well as motivation and quality of service will be necessary to ensure continuity in facing fundamental issues. Besides, ensuring long-term effectiveness of the available incentives and continuous improvement.
 - i. Expanding the current basic training capacity to meet development needs of service items.
 - j. Enhancing the effectiveness of post-basic and in-service training in mobilising the benefits of the training.
 - k. Carrying out an adequate number of studies in order to develop evidence-based practices on the areas indicated above.

Most of these general issues but not all are addressed in the proposed strategic plan presented later in this document.

There are no rapid or instantaneous solutions to these problems or to the more general issues described earlier. They all require time, a political imperative, a committed leadership and resources to achieve a desired change towards a more efficient and effective health service. The document, in its following chapters, suggests that these issues and their solutions should be approached as a set of development projects with specified objectives over a precise time frame.

B. Problems and Issues Likely to Occur over the Next Fifteen Years

1. To ensure reaching national targets in health services and productivity in health services provision, the MoH will need to develop its planning and management capacity.
2. In order to ensure continuity of policies like contract based staff employment and compulsory service which were introduced to eliminate/inhibit imbalances currently exist particularly of doctors, new regulations will be necessary to keep staff motivation high.
3. The need for improved and sustainable HRH information system which allows appropriate management of staff movement and effective management of HRH will increase. For instance there is no data on loss rates or no system is available to have an access to such information at present. In the future, a more inclusive information system that allows planning, monitoring, evaluation and auditing across the health sector will be required.
4. The number, quality and skills of middle level staff especially of nurses will become a more central issue as the MoH seeks to upgrade the range and quality of services available to the public. In the next years, traditional roles of key staff cadres may need to be changed by introducing greater flexibility in the way services can be provided and requiring modification to existing training programmes.
5. Service quality and institutional performance will become a more significant issue over the fifteen-year period and will require new methods for monitoring activities in institutions across the country.
6. Licensing and re-licensing of higher-level staff will become an essential requirement to maintain standards of practice across both the public and private health sectors.
7. Staff salaries, both in absolute terms and in the differential between different staff groups and in the recognition of different levels of performance, will become an increasingly significant issue as the MoH attempts to improve efficiency, quality and motivation. New arrangements have to put in place to eliminate variations in staff motivation and clarify ambiguities in performance related pay system.
8. The rapidly changing environment for the health service will require much more clear-cut separation between planning and policymaking and executive functions to enable the MoH to respond quickly to new emerging issues.
9. If the efficiency of the health service is to be improved, the current practice of determining the staffing establishment of health institutions on the basis

of the size of the institution will need to change to determining staffing on the basis of the institutional workload.

10. All education/training programs in health and pre-basic medical education in particular will need to be standardized. Post-basic training will become increasingly important in developing knowledge and skills in the health service and will require a more objective-based approach to providing post-basic training.
11. The de-concentration and decentralising of the public health service will put new demands on the management of the health service and will require district health staff to have management skills that are not at this stage seen to be important.
12. Since the MoH will gain further effectiveness in the international arena, it will have an increased need for professionals of competence in international health who will be in charge of developing curricula, providing technical equipment and building infrastructure for the Turkish MoH-supported countries,

To address these issues, the health service as a whole will need to engage more aggressively with human resource development (HRD). By HRD, in the sense used here, is meant the development and integration of systems, policies and practice in the recruitment, maintenance and development of the workforce to meet the goals of the MoH. In particular this will mean a concerted and sustained effort to develop the functions of HRH planning, HRH policy making, training, HRH data collection, HRH management and employee relations. All of these require leadership support and a commitment of resources beyond that which currently exists.

V.

OBJECTIVES OVER THE PLAN PERIOD

A. Planning Assumptions

While the MoH is continuing the process of defining a strategic direction for its health services, it is likely that the direction for HR in health will be determined by the following factors:

1. Consolidation of services with growth in numbers of health institutions as well as strengthening the services provided.
2. Redesigning and strengthening of primary care services and facilities within the framework of family physician system.
3. Enhancement of the level of skills in the health sector with particular concentration on high and middle level staff.
4. Development of management skills at centre and provinces to enable effective de-concentration of health services.

Table 6 shows an outline for the specific assumptions developed by the working groups and used to project future HR needs.

Table 6. Planning Assumptions

Dominant morbidity and mortality patterns → Major causes will be cancer, heart disease, chronic disease (diabetes, obesity etc.) and psychiatric disease. Life time will be increased, with aging population demand for geriatric health services and home care will increase. Death and birth rates will be close to each other.

Relative emphasis given to public sector vs. private sector → Private for profit sector will continue to grow whereas the public sector will still be dominant service provider.

Growth rate in public health expenditures → Public expenditures in health will continue to grow, its share from GDP will increase.

Growth rate in private health expenditures → Private expenditures in health will continue to grow.

Relative emphasis given to personnel vs. non-personnel expenditures → More emphasis on personnel salaries and benefits will be given.

Relative emphasis given to preventive vs. curative care → By introduction of family physician system at the primary level more emphasis will be given to preventive care and the services will be more efficient at this level.

Relative emphasis given to primary care vs. higher-level care → Primary care prioritised over tertiary in line with family physician system.

Relative emphasis given to urban population vs. rural population → The emphasis will be on strengthening services provided to rural population and on increases in urban.

Relative emphasis given to high, medium and support level personnel → The current policy is emphasising on medium level staff. But high-level staff have also to be emphasised by increasing medical staff in training institutions and increasing the number of trained managers.

In translating these assumptions into specific proposals, it is essential that the proposed changes fit inside the expected finances available to the health service. The assumptions on available finances provided through the Ministry of Finance and State Planning Organisation (SPO) are shown in Table 7 and assume an increased growth in GDP of 4.1% on average over the fifteen-year period of the plan starting with the current rapid growth and moving to more stable single figure growth by 2023 (SPO, 2009).

Table 7. Projected Funding for the Public Sector

GROSS DOMESTIC (or REGIONAL) PRODUCT		
950.098	Base year Gross Domestic Product (GDP) (000,000 in YTL)	
4,1	Assumed average annual % change (0.0) in GDP	
BASE YEAR PUBLIC SECTOR EXPENDITURE ESTIMATES (000,000.0 in YTL)		
199.944,0	Total recurrent expenditures (entire public sector)	
13.984,0	Recurrent PUBLIC HEALTH sector expenditures on personnel	
21.464,0	Public funds for recurrent non-personnel health expenditures in the public & private sector	
2008	2023	Index ESTIMATES AND PROJECTIONS
21,0%	24,5	116 Total recurrent public sector as % of GDP
17,7%	21,5	121 Recurrent health expenditures as % of public sector
39,4%	43,1	109 Personnel expenditures as % of public health sector
TOTAL FUNDS (000,000, except Gross Domestic Product per capita)		
950.098	1.738.422	183 Gross domestic product
13.285	21.125	159 Gross domestic product per capita
199.944	425.913	213 Funds for recurrent expenditures, total public sector
35.448	91.571	258 Public funds for recurrent expenditures, health sector
13.984	39.467	282 Funds for recurrent expenditures, public health personnel
7,2%	= sustainable average annual % change in personnel expends, B-Yr-->T-Yr	

Source: Ministry of Finance (2009), State Planning Organisation (2009), Ministry of Health (2009)

Note: Target year total personnel costs include bonus payments added to staff salaries.

It is a universal truth that, irrespective of the wealth of a country, expenditure on staff salaries and benefits constitutes major part of public sector health expenditure. The percentage attributed to this in Turkey is 39.4%. This only shows total staff salaries (bonus payments excluded) as percentage of total recurrent public health expenditures. As indicated in earlier sections revolving funds have been used as main resource for the bonus payments. At the moment 31% of the revolving funds spend for bonus payment to staff salaries.

In arriving at the projection through to the year 2023, it is proposed that the share of the public sector budget will increase (21.0% to 24.4%) and the percentage allocated to staff pay and benefits will increase from 39.4% to 43.1%. The combination of these together with the projected average GDP growth allow for an average increase in personnel expenditure of 7.2% distributed between increases in staff numbers and staff pay and benefits. Target year staff costs include bonus payments. In practice because bonus payments are made on revolving funds, the required increase in the ministry budget for personnel expenses will be less. The

staffing projections have been made within this envelope although there remain opportunities to modify these projections as the years of the medium-term study document unfold.

The analysis shows that MoH will have sufficient resources to finance the salaries and bonus payments for the targeted staffing levels. Even in cases where the simulations predict limited resources to pay salary costs, there are fairly straightforward policy options to resolve the problem. The government could choose to devote a higher share of health spending to salaries as suggested above. Alternatively, the composition of remuneration could shift even more toward bonuses and away from salaries. According to the simulations, there will be more than sufficient resources within the revolving funds to pay bonuses (Vujicic et.al, 2010). Moreover, the share of revolving funds paid out as bonuses could be increased above 31 percent (the current limit is 40 percent) to provide additional remuneration to compensate for salary reductions. In fact, this is likely to happen if hospitals are granted further administrative autonomy, increasing the share of an individual's total remuneration performance-based. The drawback from the health worker perspective is that this would significantly reduce pension benefits, as these are based on salary income. As a result, there may be considerable challenges to this option since bonus payments are reflected on pensions very limitedly. On the other hand, the MoH has been co-working with other stakeholders in the sector so that bonus payments are reflected on pensions, as well. The objective has to be finding a solution that is satisfying all the parties. In this case service unit prices stated in Social Security Institute, Medical Enforcement Declaration will be needed to be reassessed by considering staff salary and performance related pay scheme.

B. Changing the Provision of Services

It is anticipated that, during the fifteen-year period, all public hospitals will be brought up to a certain quality standard in terms of the services and staffing necessary to support the services provided. It is also expected that the hospital beds will be used more efficiently and effectively (increase bed occupancy rates, reduced length of stay etc.). The low utilisation rates that have seen in most of the hospitals point to a need to adjust their bed sizes and staff levels. To ensure the capacity increase in the use of these hospitals, by the working group it is suggested that the size of the hospitals must be rearranged to turn them into more efficient and effective health units. Average bed size of other speciality hospitals and chronic disease-long term care hospitals have increased from 117 to 125, 196 to 200 respectively (Table 10).

General hospitals with the existing average bed size were running only 54% capacity whereas other speciality hospitals were running only 60% capacity. With expansion in the health insurance coverage (100% of the population will be covered) hospital utilisation rates will be expected to increase. Demand for health

services will also increase with increased population. To accommodate these changes, hospital beds needed to be increased (see Table 8 and 9) as well.

It has suggested by the working group that for teaching hospitals and psychiatric hospitals their average bed size were reduced from 571 to 500 and 472 to 225 respectively to increase their running capacity (Table 10). There will be expansion in these hospitals and it is proposed that these hospitals will have an increased use of bed capacity matching population growth and increase in the service demand for other reasons. It is anticipated that some additional capacity above this increase will be achieved through reductions in average length of stay as is occurring in health services elsewhere.

Suggested expansions in public and private beds are prepared on the basis of bed planning study of General Directorate of Curative Services and are given in Table 8 and Table 9. It is proposed that the majority of these new beds will be allocated to psychiatric hospitals (84%) and other specialty hospitals (57%). Total growth in public sector hospital beds is from 149,685 to 169,025, an increase of 13% over the fifteen years. During the plan period it is anticipated that there will be improvements in bed quality rather than high increase in number of public sector beds.

With this as a priority activity, it can be anticipated that the development of an adequate network of fully functioning general hospitals and full and successful implementation of family physician system will enable a more effective referral network to be established with fewer inappropriate cases presented to tertiary hospitals.

There will be a change also in the type of facilities providing primary health care services. By the full implementation of family physician system in 2010, health centres are replaced with family physician centres and community health centres. It is anticipated that there will be expansion in some of the units in this category except MCH/FP centres, public health laboratories, dispensaries and health posts in line with the changes in the health service provision at the primary level with the introduction of family physician system and related assumptions for health services development in this fifteen year period. The growth in oral and dental health centres will be under population growth. However the number of family health centres, community health centres and 112 emergency stations are raised beyond population growth (Table 8).

The growth in private sector will continue; with a 612% increase the number of private sector beds will reach from 22480 in 2008 to 36111 in 2023. Existing policies of using private health sector facilities by the public insurers will seem to be continued. The working group indicated that new policies such as full-time working legislation for doctors and full and successful implementation of family physician system may have an impact on the number of private doctor clinics and private polyclinics and medical centres. There are also more strict rules and qual-

ity checks introduced by the MoH for establishing private polyclinic and medical centres that will be considered as another reason for the anticipated change in their numbers by the working group (Table 9).

The projected changes in public and private health care facilities are shown in the Table 8 and 9.

Table 8. Projected Change of Public Sector Health Service Facilities

Type of Facility	Number in 2008	Proposed for 2023	% Change	Total beds in 2008	Proposed beds for 2023	% Change
University hospitals	46	65	41%	28.370	34.304	21%
Teaching hospitals	33	43	30%	19.507	21.703	11%
General hospitals	683	698	2%	73.418	74.729	2%
Obs and Gyn and paediatric hospitals	69	81	17%	13.272	15.383	16%
Other speciality hospitals	23	57	148%	4.534	7.134	57%
Psychiatric hospitals	9	34	278%	4.160	7.635	84%
Long-term care/chronic disease hospitals	34	41	21%	6.424	8.137	27%
Health centres/family health centres	6.305	13.925	121%	-	-	-
Health posts	5.268	5.268	0%	-	-	-
Maternity and family planning centres	225	225	0%	-	-	-
Oral and dental health centres*	123	135		-	-	-
Dispensaries**	243	243	0%	-	-	-
Public health laboratories	149	100	-33%	-	-	-
112 emergency stations	1.308	1.646	26%	-	-	-
Public health centres	373	1.012	171%	-	-	-
TOTAL	14891	23573	58%	149685	169025	13%

* Independent Oral and Dental Health Centres

** Includes TB and Malaria fight dispensaries

*** The number of targeted Community Health Centres is reached in 2010 and it is planned to keep the same numbers in the same level 2023.

Note: Targets set for hospitals are prepared by using hospital bed planning study of General Directorate of Curative Services.

Table 9. Projected Change of Private Sector Health Service Facilities

Type of Facility	Number in 2008	Proposed for 2023	% Change	Total beds in 2008	Proposed beds for 2023	% Change
General hospitals	400	334	-17%	20.938	33.413	60%
University hospitals of foundations	11	15	36%	1.542	2.698	75%
Doctor's office	11050	6000	-46%	-	-	-
Dentist's office	10898	12652	16%	-	-	-
Private polyclinics and medical centres	1859	1859	0%	-	-	-
Laboratories	3106	3606	16%	-	-	-
Special diagnose centres	712	958	35%	-	-	-
Pharmacies	23000	26702	16%	-	-	-
TOTAL	51036	52126	2%	22480	36111	61%

Note: 1. Targets set for hospitals are prepared by using hospital bed planning study of General Directorate of Curative Services.

2. Number of general hospitals planned is decreased although there is an increase in the total number of beds for general hospitals due to the change in average bed size from 50 beds to 100 beds (see Table 11).

In addition to increase in number of beds improvements in bed occupancy rate is aimed. It is aimed to increase bed occupancy rates in public hospitals from 66% to 82% and in private hospitals from 53% to 80%.

The changes shown in these tables are not intended to be absolute. Rather they are intended to show a strategic direction, which firstly aims to strengthen all hospital services at different levels of service to cope with population growth and increased public expectations and, secondly to increase local access to primary health care through family health centres and community health centres.

The policy options resulted from these strategic objectives characterised with: 1. Increase in the total number of beds in health sector (private and public together) in line with population growth 2. Improvements in bed quality rather than high increase in the number of beds in public sector.

C. Proposed Staffing Establishments for Public Sector Health Care Facilities

As mentioned in the previous section there are proposals for changes (increases/decreases) in the average number of beds for public and private sector hospitals (see Table 10 and Table 11).

Table 10. Average Bed Numbers by Type of Facility (Public)

	Average Number of Beds		% Change
	Current Average Beds in 2008	Proposed Average Beds in 2023	
Hospitals			
Public Hospitals			
University hospitals	525	525	0,00
Teaching hospitals	571	500	-0,12
General hospitals	107	107	0,57
Obs & Gyn and peadiatric hospitals	190	190	0,13
Other speciality hospitals	117	125	0,12
Psychiatric hospitals	472	225	-0,54
Long-term care/chronic disease hospitals	196	200	0,04

How those additional beds will be distributed in practice for each category of hospital will depend on future judgements about the expansion needs for specific hospitals of a given category in terms of its function and population served. For instance, some general hospitals may require 114 beds and some only 100, with an average proposed for this category of hospital of 107 beds.

Table 11. Average Bed Numbers by Type of Facility (Private)

Hospitals	Average Number of Beds		% Change
	Current Average Beds in 2008	Proposed Average Beds in 2023	
Private Hospitals			
General hospitals	50	100	1,00
University hospitals of foundations	130	175	0,35

The working group reviewed staffing of the different types of hospital institutions using the proposed average bed sizes as a basis. Changes in the average staffing were made for all these institutions in line with their changing roles and to achieve a more consistent distribution in terms of staff per bed and their level of skill between different types of hospitals. In general hospitals and obs. & gyn. and paediatric hospitals mainly middle and high level staff posts were increased to strengthen their ability to provide secondary care as were all other hospitals overall staffing to enable these hospitals to adequately address more complex case loads. Other speciality hospitals also included teaching hospitals of this type and this has been considered and weighted norms are determined for the year 2023.

Table 12 shows existing and proposed staffing establishments for hospitals. The table show an average number of beds for each type of hospital. The staffing establishments proposed relate to these average bed numbers. These are intended as guidelines only. Actual staffing should be adjusted from hospital to hospital on the actual number of beds and on the actual workload these institutions are experiencing.

For all the primary care units the focus was on strengthening the staffing. For health posts, MCH/FPC/O&DHC, dispensaries and 112 emergency stations, the number of available staff has been increased from 0.3 to 1 per health post, from 27.6 to 39.6 per MCH/FPC/OHC, 11 to 17 per 112 emergency stations 30.5 to 64.5 per community health centre. The details are shown in Table 13.

Table 12. Staffing Proposals by Type of Public Sector Hospital

Year	---FTE STAFF BY TYPE OF PUBLIC SECTOR HOSPITAL---												Total FTE pers. Public Hospitals			
	Teaching Hosp.		University Hosp.		General Hosp.		Obs&Gyn & Paed. F		Other Spec. Hosp.		Mental Hosp.		Chr. & ltc Hosp		2008	2023
	2008	2023	2008	2023	2008	2023	2008	2023	2008	2023	2008	2023	2008	2023	2008	2023
Average bed size -->	500		525		107		190		125		225		200			
Specialist	381	354.0	434.6	359.0	24.1	38.0	39.5	69.0	39.3	47.0	56.0	45.0	39.7	55.0	61.067	77.396
Practioner doctor	32.5	8.0	26.8	8.0	10.6	6.0	8.0	4.0	7.2	2.0	3.4	5.0	4.7	1.0	10.874	5.709
Family physician	3.8	4.5	0.8	4.5	0.4	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.1	0.0	4.69	4.89
Dentist	9.4	6.0	3.6	7.0	5.1	6.0	0.7	0.0	10.2	3.0	0.7	23.0	0.7	0.0	4.282	5.689
Pharmacist	5.4	7.5	3.6	6.0	0.9	3.0	1.6	3.0	1.3	3.0	0.4	3.0	1.3	4.0	1.219	3.491
Nurse	257	1,190.0	243.2	1,220.0	48.8	64.9	45.4	130.0	44.9	90.0	39.8	200.0	58.6	160.0	63.344	205.654
Midwife	56.0	80.0	4.6	40.0	15.6	25.0	57.7	90.0	10.3	85.0	8.3	1.0	6.4	0.0	17.555	35.718
Health Officer/Public Health Technician	20.1	35.0	0.0	45.0	7.3	13.0	10.0	7.0	5.1	8.0	2.7	10.0	5.0	15.0	6.728	15.512
Lab. Technician	43.7	18.0	21.6	18.0	9.2	12.0	15.2	15.0	10.1	15.0	3.3	10.0	10.9	3.0	10.827	12.870
Radiology tech.	35.8	33.0	11.3	15.0	7.7	8.0	8.2	8.0	9.4	8.0	2.1	9.0	8.6	2.0	8.325	9.491
Anesthesia tech.	12.8	15.0	6.3	15.0	4.7	8.0	6.8	8.0	4.1	8.0	0.2	7.0	1.8	2.0	4.663	8.642
Medical secretary	8.1	35.0	0.0	45.0	1.9	5.0	1.5	9.0	0.5	6.5	1.0	5.0	2.1	10.0	1.814	9.628
First and emergency aid tech.	1.7	8.0	0.0	8.0	1.4	3.0	0.2	2.0	0.2	2.0	0.2	2.0	0.0	2.0	1.006	3.390
Physiotherapist	5.8	25.0	6.0	30.0	0.6	2.0	0.2	4.0	0.1	3.0	0.1	3.0	3.5	15.0	1.103	5.649
Other health personnel	26.1	30.0	80.1	75.0	4.3	5.0	5.5	15.0	10.5	10.0	5.5	20.0	5.5	10.0	9.290	12.565
Managers	5.3	8.0	3.6	10.0	1.6	3.0	2.4	3.0	2.5	3.0	1.1	3.0	3.1	3.0	1.840	3.734
Engineers and other technical personnel	2.9	11.0	1.9	20.0	0.3	3.5	0.3	2.5	1.3	2.5	0.0	4.0	0.3	2.0	4.47	4.791
Other technical personnel	11.6	15.0	19.9	20.0	2.2	3.0	3.6	7.0	2.0	5.0	2.0	5.0	3.3	6.0	3.526	5.319
General administrative staff	53.7	40.0	42.8	40.0	15.2	13.0	19.6	19.0	11.9	11.0	8.1	4.0	15.9	15.0	17.083	16.341
Support staff	133.8	130.0	258.8	200.0	24.0	20.0	31.5	35.0	17.6	17.0	21.4	15.0	31.4	20.0	40.025	37.806
Total per hospital	1,107	2,053	1,170	2,186	186	241	258	431	189	326	156	374	203	325	XXXXX	XXXXX
FTE staff per bed	1.9	4.1	2.2	4.2	1.7	2.3	1.4	2.3	1.6	2.6	0.3	1.7	1.0	1.6	XXXXX	XXXXX
Total, this location type	42,056	89,113	66,665	142,804	126,963	168,595	18,054	34,855	2,832	18,605	1,408	12,691	7,506	13,223	256,571	453,971
% of public sector	XXXXX	13%	XXXXX	21%	XXXXX	24%	XXXXX	5%	XXXXX	3%	XXXXX	2%	XXXXX	2%	XXXXX	65%

(Note: Staff levels shown as fractions indicate individual hospital staff numbers will vary (e.g. 0.5 family physicians in general hospitals means that only 1 in 2 general hospitals will have a family physician.)

Table 13. Staffing Proposals by Type of Public Ambulatory Care Units

	----- FTE STAFF BY TYPE OF PUBLIC SECTOR CLINIC -----															
	HC/ FHC		Health Post		MCH&FPC/OHC		Dispensary		Pub. H. Lab.		112 Emerg.		Total public sector clinical staff			
	2008	2023	2008	2023	2008	2023	2008	2023	2008	2023	2008	2023	2008	2023		
Specialist	0.00	0.00	0.00	0.00	0.67	0.67	0.26	0.30	0.10	0.10	0.00	0.00	0.00	1.25	312	1572
Precititioner doctor	2.60	0.00	0.00	0.00	2.13	2.00	2.96	3.00	0.10	1.00	4.00	2.00	3.50	4.29	24129	8934
Family physician	0.00	3.20	0.00	0.00	0.70	0.70	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	254	43311
Dentist	0.10	0.00	0.00	0.00	6.60	10.00	0.08	0.10	0.00	0.00	0.00	0.00	2.30	1.25	3796	5030
Pharmacist	0.00	0.00	0.00	0.00	0.30	0.40	0.18	0.20	0.04	0.00	0.00	0.00	0.00	0.50	157	686
Nurse	1.80	1.20	0.00	0.00	5.20	9.00	3.70	4.00	0.30	2.00	4.00	0.00	4.50	6.46	20675	26856
Midwife	3.10	2.40	0.26	1.00	3.66	3.66	1.40	1.40	0.05	0.00	0.00	0.00	3.70	6.88	23775	46101
Health Officer/Public Health Technician	0.90	0.40	0.00	0.00	0.13	0.60	1.87	1.90	0.20	0.20	0.00	0.00	4.50	3.29	7709	9240
Lab. Technician	0.20	0.00	0.00	0.00	0.33	0.33	0.78	0.80	2.70	2.70	0.00	0.00	2.30	5.75	2754	6334
Radiology tech.	0.03	0.00	0.00	0.00	0.01	0.10	0.78	0.80	0.01	0.00	0.00	0.00	2.30	3.83	1155	4033
Anesthesia tech.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8	0
Medical secretary	0.10	0.00	0.00	0.00	0.58	0.58	0.09	0.10	0.01	0.00	0.00	0.00	2.10	3.83	1630	4108
First and emergency aid tech.	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32	19755
Physiotherapist	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
Other health personnel	0.30	0.00	0.00	0.00	2.87	7.00	2.04	2.00	1.30	1.30	0.00	0.00	12.38	3.89	15584	15584
Managers	0.00	0.00	0.00	0.00	0.30	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	104	113
Engineers and other technical personnel	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	2.00	2.00	0.00	0.00	0.00	0.25	300	454
Other technical personnel	0.00	0.00	0.00	0.00	0.01	0.20	0.02	0.00	0.30	0.30	0.00	0.00	0.00	0.00	52	105
General administrative staff	0.40	0.00	0.00	0.00	2.13	2.13	2.97	3.00	1.60	1.60	0.00	0.00	1.00	10.29	4320	11822
Support staff	0.90	0.00	0.00	0.00	1.95	1.95	1.18	1.20	1.60	1.60	3.00	3.00	4.30	4.29	12297	10352
Total per clinic	10.4	7.2	0.3	1.0	27.6	39.6	18.3	18.8	10.3	12.8	11.0	17.0	30.5	64.5	xxxxx	xxxxx
Total, this location type	65840	96859	1364	5268	9596	14862	2750	2820	1535	1285	14388	27986	11377	65311	106848	214390
% of public sector clinical staff in this.....	xxxxx	14.0%	xxxxx	0.8%	xxxxx	2.1%	xxxxx	0.4%	xxxxx	0.2%	xxxxx	4.0%	xxxxx	9.4%	xxxxx	30.9%
...:type of facility -->																

**The increase in the number of personnel employed in these facilities are due to the O&DHCs. No increase is projected for the number of personnel employed in the MCH-FPCs.*

D. Total Staff Expansion

It is anticipated that the total health workforce in the public and private sectors will increase from a level of 563,852 in 2008 to 1,067,572 by 2023. This is an increase of 89.34% overall (compared with total population growth rate of 18% over the projection period) with the public sector workforce expanding by 95.92%. This public sector expansion must be viewed as a major challenge particularly as the expansion is mainly focused on professional and technical grades of staff with a consequent increase in training demands for these types of staff. At the same time, this projection includes proposals to reduce the proportion of practitioner doctors over the fifteen years as the MoH moves towards using family physicians at the primary level and other specialist at the secondary and tertiary levels. Details of the proposed expansion are shown in Table 14.

In addition to this, the change in total staff requirements between the years 2015 and 2019 is given in the Appendix 7.

Table 14. Projected Changes in Staffing Requirement

Staff Type	Public Sector Requirement 2023	Private Sector Requirement 2023	Health Sector			% Change
			Supply 2008	Requirement 2023	Additional staff required	
Specialist	103.010	33.867	75.989	136.877	60.888	80,1%
Practitioner doctor	15.612	3.194	35.763	18.805	-16.958	-47,4%
Family physician	43.831	549	1.399	44.380	42.981	3072,3%
Dentist	11.662	16.364	19.959	28.026	8.067	40,4%
Pharmacist	5.085	27.802	24.778	32.886	8.108	32,7%
Nurse	238.018	45.271	99.910	283.289	183.379	183,5%
Midwife	83.633	1.444	47.673	85.077	37.404	78,5%
Health officer/Public health technician	26.654	4.984	14.525	31.637	17.112	117,8%
Laboratory technician	19.274	2.877	14.947	22.150	7.203	48,2%
Radiology technician	13.533	2.096	10.738	15.629	4.891	45,5%
Anesthesia technician	8.645	1.724	4.395	10.369	5.974	135,9%
Medical secretary	13.830	1.734	5.562	15.564	10.002	179,8%
First and emergency aid tech.	23.183	2.129	15.486	25.312	9.826	63,4%
Physiotherapist	5.732	1.256	1.916	6.989	5.073	264,8%
Other health personnel	29.958	6.299	21.971	36.258	14.287	65,0%
Managers	4.365	774	2.415	5.139	2.724	112,8%
Engineers and other technical personnel	5.769	164	1.004	5.932	4.928	490,9%
Other technical personnel	6.521	1.396	4.657	7.917	3.260	70,0%
General administrative staff	100.338	9.391	83.501	109.729	26.228	31,4%
Support staff	127.143	18.462	77.264	145.605	68.341	88,5%
Total	885.795	181.776	563.852	1.067.572	503.720	xxx
% Change	95,92%	62,69%	xxx	89,34%	xxx	89,34%

Note: General practitioner numbers include public health and medical emergency specialists, as well.

To raise the overall skill level of the health staff as a whole over the plan period will require increased production of high and mid-level professional health staff. What has been proposed here are slight shifts in the numbers of staff in different cadres with emphasis on the high level and mid-level professional staff, to meet the increased demand in all types of health service.

In line with the efforts to raise the overall level of skill in the service as a whole there will be a need to produce more high and middle level non-medical technical staff. It is also anticipated that there will be a need for increased efforts to develop management skills in existing health service managers and to start the process of training and introducing professional managers into the health service in a managed development process starting with young university graduates.

The impact of the proposed staffing changes in the overall skill level in the health sector as a whole is shown in Table 15. The table demonstrates the shift in proportion to the total for mid-level, in general slight increase in the highly skilled staff and increase in the rate of non-medical professional staff and family physician with a consequent reduction of staff in the support level grade. Percentage of managers slightly increased assuming existing managers will be replaced with professional managers.

Table 15. Comparison of the Distribution of Staff by Cadre and Category

% DISTRIBUTION		CADRE	Category	Year 2008	Year 2023			
Year 2008	Year 2023							
13,5%	12,8%	Specialist	High Level	28,6%	↗ 29,5%			
6,3%	1,8%	Practitioner doctor						
0,2%	4,2%	Family physician						
3,5%	2,6%	Dentist						
4,4%	3,1%	Pharmacist						
0,4%	0,5%	Managers						
0,2%	0,6%	Engineers and other tech. pers.						
0,0%	4,0%	Nurse*						
17,7%	22,5%	Nurse				Mid Level	43%	↗ 46,6%
8,5%	8,0%	Midwife						
2,6%	3,0%	Health officer/Public health tech.						
2,7%	2,1%	Laboratory technician						
1,9%	1,5%	Radiology technician						
0,8%	1,0%	Anesthesia technician						
1,0%	1,5%	Medical secretary						
2,7%	2,4%	First and emergency aid technician						
0,3%	0,7%	Physiotherapist						
3,9%	3,4%	Other health personnel						
0,8%	0,7%	Other technical personnel						
14,8%	10,3%	General administrative staff	Support Level	28,5%	↘ 23,9%			
13,7%	13,6%	Support staff						
100%	100%	Totals		100%	100%			

* High level nurse

E. Number of New Staff to be Recruited

The number of staff to be recruited during the fifteen-year period is made up of two parts. These are:

1. Staff required to meet the expansion of the service and
2. Those staff required to replace leavers from the existing stock of staff over the sixteen-year period.

A more accurate measure would be to make estimates of the leaving rate on the anticipated average stock of staff over the fifteen-year period. However, the uncertainties surrounding the current pattern of leaving are such that attempting this increased accuracy is not justified.

There is limited information on leaving rates from public service although there are records available within the MoH for staff retirements and deaths. However this information is limited to MoH staff and not enough to explain the total loss from all reasons. There is no information on leaving rates from the private sector. An educated guess has been made as to what those numbers are and some generalised proposals on leaving rates have been made. Clearly more will need to be done in the future to refine these estimates. Those numbers have been used in Table 16 to make estimates of the total recruits that will be required over sixteen-year period to meet the needs of the public and private sectors together. It is clear that leaving rates can and probably will vary between different categories, depending on the ages, length of service, gender and career opportunities.

It is proposed as abroad unsupported generality that between 2.5% and 5% of different elements of the workforce will leave the public sector workforce each year. It is proposed that the lower rates of leaving will apply to the higher grades of staff and higher rates will apply to unskilled staff and others who may have better opportunities outside the health sector. Within this total number of leavers, it is further proposed that 2% will leave to work in the private health sector. The private health sector will itself face staffing losses over the sixteen-year period. These, compounded with the public sector workforce leaving and not joining the private sector, generate the total losses from the health sector workforce. The results of this, combined with additional staff requirements, specify the number of new recruits required over the sixteen-year period. They total 576,512 new recruits (see Table 16).

Table 16. Projected Requirements for New Recruits

Staff Type	Public Sec. Staff in 2008	Estimated Leavers in 15 years	Transfer to Private Sec. 2%/year	Estimated Loss to H.Sector	Private Sec. Staff in 2008	Estimated Leavers 2%/year	Estimated Total Loss to H.Sector	Additional Staff Req. (Table 14)	Total Recruits Required
	(a)	(b)	(c)	(d)=(b-c)	(e)	(f)	(g)=(d+f)	(h)	(i)=(g+h)
Specialist	57,423	21,533	17,227	4,307	18,566	5,570	9,877	60,888	70,764
Practitioner doctor	31,951	11,981	9,585	2,396	3,812	1,144	3,540	-16,958	-13,418
Family physician	1,179	442	354	88	220	66	154	42,981	43,136
Dentist	6,002	2,251	1,801	450	13,957	4,187	4,637	8,067	12,705
Pharmacist	1,373	515	412	103	23,405	7,022	7,125	8,108	15,233
Nurse	84,175	31,566	25,253	6,313	15,735	4,720	11,034	183,379	194,413
Midwife	44,094	16,535	13,228	3,307	3,579	1,074	4,381	37,404	41,785
Health officer/Public health technician	13,500	5,063	4,050	1,013	1,025	307	1,320	17,112	18,432
Laboratory technician	12,654	4,745	3,796	949	2,293	688	1,637	7,203	8,840
Radiology technician	9,153	3,432	2,746	686	1,585	476	1,162	4,891	6,053
Anesthesia technician	3,550	1,331	1,065	266	845	253	520	5,974	6,494
Medical secretary	4,522	1,696	1,357	339	1,040	312	651	10,002	10,653
First and emergency aid tech.	10,302	3,863	3,091	773	5,184	1,555	2,328	9,826	12,154
Physiotherapist	1,070	401	321	80	846	254	334	5,073	5,407
Other health personnel	16,102	6,038	4,831	1,208	5,869	1,761	2,968	14,287	17,255
Managers	2,102	788	631	158	313	94	252	2,724	2,976
Engineers and other technical personnel	933	350	280	70	71	21	91	4,928	5,020
Other technical personnel	3,981	1,493	1,194	299	676	203	501	3,260	3,761
General administrative staff	76,531	28,699	22,959	5,740	6,970	2,091	7,831	26,228	34,059
Support staff	71,524	26,822	21,457	10,729	5,740	1,722	12,451	68,341	80,792
Total	452,121	169,545	135,636	39,273	111,731	33,519	72,793	503,720	576,512

Note: Minus sign in "total recruits required" means excess staff

As indicated in the commentary preceding Table 14 there are numerous uncertainties in making these projections, including future leaving rates for staff. Therefore, these projections should be seen as providing a reasonable estimate of future requirements for new recruits sufficient to provide a picture of the scale and pattern of training intakes required over the short term.

F. Training Needs

A brief of the requirements for training emerging from the projections are shown in the Table 17. The projected losses during training (drop-outs, sickness and failure) are estimates generated from the HEC statistics.

The intake requirements call for substantial progressive expansion of specialists, practitioner doctors, family physicians and nurses. It is observed that a more detailed business plan for training needs to be produced as one of the important actions of the MoH. It will need to consider the requirements for capacity expansion in terms of physical facilities, training sites and trainers/tutors and in the light of current innovations which could impact on these requirements.

The family medicine programs, which are effective at present, should be raised in number so that the needs are met more appropriately. At the moment, a certificate training program is underway for general practitioners in order to retrain them as family physicians. The general practitioners, who receive theoretic-

cal family medicine training under this program , also continue to offer medical services. In addition to this, efforts that aim to develop curricula the clinical practice of the family medicine training program through the web-based distance learning system should be expedited, however. In the long run as it is anticipated in this plan all family physicians will be graduates of specialist training programs of the medical schools. To make this change, a significant expansion is proposed for family medicine programs. But since the capacity of the medical residency training programs cannot be improved very immediately at the early stages of this process, it is considered that the active general practitioners will be retrained and employed as family practitioners for some more time so that the planned supply of family physicians is realized at the subsequent stages of the process.

Table 17. Projected Training Needs to Meet Staffing Objectives

Staff type	Total Recruits Required 2008-2023	Year 2008 intake already in Training	Total already in Training	Expected Losses in Training 2008-2023	Intake required in period 2008-2023	Total intake to meet 2008-2023 requirements
Specialist	70.764	4.644	17.744	976	53.997	58.641
Practitioner doctor	0	5.253	30.372	3.037	69.388	74.641
Family physician	43.136	170	419	8	42.726	42.896
Dentist	12.705	1.131	5.458	546	7.793	8.924
Pharmacist	15.233	1.020	5.005	300	10.528	11.548
Nurse	194.413	13.573	35.466	3.901	162.848	176.421
Midwife	41.785	1.488	7.634	1.298	35.448	36.936
Health officer/Public health technician	18.432	851	3.178	636	15.890	16.741
Laboratory technician	8.840	952	2.562	512	6.791	7.743
Radiology technician	6.053	412	1.526	305	4.832	5.244
Anesthesia technician	6.494	688	2.372	474	4.596	5.284
Medical secretary	10.653	2.725	7.031	1.406	5.028	7.753
First and emergency aid tech.	12.154	4.336	9.645	1.929	4.438	8.774
Physiotherapist	5.407	653	2.370	284	3.321	3.974
Other health personnel	17255	-	-	-	-	-
Managers	2976	-	-	-	-	-
Engineers and other technical personnel	5020	-	-	-	-	-
Other technical personnel	3761	-	-	-	-	-
General administrative staff	34059	-	-	-	-	-
Support staff	80792	-	-	-	-	-
Total	589.930	37.896	130.780	15.614	427.624	465.520

G. Management of the Workforce

The word ‘management’ is used in this document to refer to the general control of training, recruitment, distribution and mobilisation of the workforce. Part of the process for moving the management of human resources from an administrative process to pro-active management has already started with initiatives associated with decentralisation within the scope of HTP. This medium-term HR plan is part of this development.

New issues will emerge during the medium term on how management of the workforce will be achieved in a decentralised system to ensure equity in the provision of services, improved quality and range of services across the country and demonstrable improvements in efficiency.

Of particular importance is the management of the flow of the high-level professionals into the service. For many cadres of staff, this will continue to need to be managed or influenced centrally with mechanisms in place and a comprehensive HRH information system to ensure staff of a particular cadre with different levels of skill are adequately distributed around the country. This will require new policies, which are discussed in Section VI of this document and must include new approaches to the career development for many of the higher-level professional cadres.

The expansion and proposed role of the private sector will also require new concepts around private and public sector employment. These also are addressed in Section VI, although in a preliminary way, because there is a requirement for further analysis of the current situation, as well as more exhaustive dialogue between the relevant decision makers.

With the continuing financial restrictions and increasing demands for quality and performance improvement, it is no longer sufficient to establish staffing requirements on the basis of staffing norms that are unrelated to workload and operational efficiency. As a consequence, the concepts of HRD and HRH should come high on the development agenda of the MoH with both increased training and numbers of managers, increased incentives for good management and the provision of adequate numbers of management technical staff.

These changing requirements will need a more intense monitoring of human resources than is currently the situation. This will require distribution of staff with skills and roles to promote HR performance across the country.

Some key changes of the proposals contained in the previous sections of this document are shown in Table 18.

Table 18. Key Indicators of Change

YEAR 2008	YEAR 2023	Projection period= 15
71,095,000	84,053,000	Total population
126	79	Population per health worker
% 4,0	%5,4	Public health expenditure as % of GDP
563,852	1,067,572	Total health personnel included in scenario
793	1270	Health workers per 100,000 population
159	238	Physicians per 100,000 population
228	476	Nurses*per 100,000 population
242	244	Total public and private beds per 100,000 population
172,165	205,136	Total number of hospital beds
87	82	% of beds in public sector
64	81	Average bed occupancy rate
9,482,071	15,233,382	Totla hospital discharges
133	181	Hospital discharges per 1000 population

** Nurses, Midwives and Community Health Technicians are included*

VI.

POLICY PROPOSALS

A. Desirable Changes in Human Resources Activities

A detailed examination of various development strategies in the Vision 2023 Development Workshop and the subsequent study group meetings accompanied by some other in-depth analyses, it was concluded that the most viable strategy would be the successful implementation of the family medicine system in the primary care level and strengthening secondary and tertiary level services in parallel to this change, as well. The commitment to strengthening and expanding the services will lead expanding the workforce. This combined with a need to provide health service staff with improved pay and benefits, raise the overall skill level of the workforce and reduce the overall percentage of recurrent costs attributed to its human resources will require that the MoH seeks greater efficiency in the use of its human resources. The MoH must do so if it is to ensure that the health of the nation and the health service itself continues to improve. The implications of this in the short to medium term are to suggest that the MoH should focus on:

1. Establishing a process for human resource development which will encompass: strengthening HR planning; enhancing, monitoring and managing workforce and institutional performance; increasing the purpose and focus of staff training; and revamping personnel policies and practices to encourage individual and organisational achievement;
2. Strengthening its services and its facilities in number, capability and skill mix;
3. Introducing more flexibility into institutional staffing to accommodate levels of workload rather than relying simply on the characteristics of the institution;
4. Ensuring the managed deployment of staff and their career development;
5. Modifying the pay and compensation packages to improve productivity and commitment;
6. Improving the capacity of the MoH to manage the movement of staff across the public/private sector interface;

7. Increasing the training capacity for doctors and middle level professional staff and improving the match between future needs for all staff and level of training provision;
8. Strengthening the HR planning and management capability throughout the health system to improve deployment and utilisation of health staff; and
9. Developing a HR information system that can support the needs of managers at provincial and central level.

B. Strategic Human Resource Development Issues

The main core is not simply the expansion of facilities and increases in the workforce alone. This solution by itself is not viable in this country or indeed in most other countries. But rather the need for concerted action to mobilise new resources from within and outside the facilities; coordinate the use of existing resources; and improve the effectiveness and efficiency of the application of these resources.

To do this will require new orientations, skills and organisational roles. These changes are needed to create a capability to address the array of new and more complex demands inherent in efforts to improve health sector performance in a de-concentrated health system.

The dimensions of these new demands for HR management are summarised in the diagram that follows. Management performance is now seen along side traditional clinical performance as a legitimate part of the MoH goals and objectives. Its inclusion creates a need to incorporate new concepts and practices into the regular activities of the Ministry.

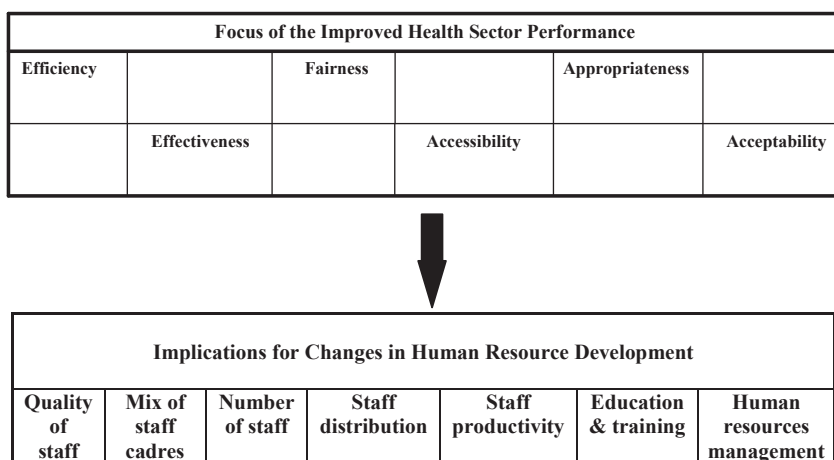


Figure 9. Performance and Human Resource for Health Development

The need to engage with these organisational variables (viz: quality of staff etc) is not new. They have not received however much attention in the past with concentration instead largely on increasing numbers of staff and expanding the volume of training. The emerging public sector financial constraints and demands for higher levels of efficiency and effectiveness require a change in priorities.

Human Resource Development

In HR terms, the MoH will need to further address the issues of HR development (HRD) across the entire health sector in a broader framework. HRD, in the sense used here, is the development and integration of systems, policies and practice in the recruitment, maintenance and development of the workforce to meet the goals of the MoH (see Figure 10).

Changes in social and political attitudes in this country and elsewhere are leading towards increased demands for improved health service planning and management. At the centre of this are human resources. Consequently it becomes essential that the MoH develops a capacity to address the organisational processes that impact on improved performance within the health system. Specifically the MoH will need to strengthen mechanisms that improve:

<p>HRD Resources: Budget HRD Staff and Staff skills</p> <p>HRD Planning: Mission and Goal Setting HRD Planning & Policy Development</p> <p>Personnel Policy and Practice: Job Classification System Compensation and Benefits System Career System Recruitment, Hiring, Transfer and Promotion Personnel Policies Discipline, Termination Grievance Procedures Other Incentive Systems Union Relationships Labour Law Compliance</p>	<p>HRD Data: Employee Data Computerisation of Data Personnel Files Health Sector Workforce Information</p> <p>Performance Management Job Descriptions Supervision Performance Planning and Evaluation Accreditation</p> <p>Training: Staff Training Management/Leadership Development Links to External Pre-Service Training</p>
---	---

Figure 10. Determinants of Human Resource Development

The Role of a HRH Planning Division

A planning division is normally expected to discharge the following functions:

1. To manage the process of producing long term, medium and annual HRH plans.
2. To provide technical support in the production of HRH plans.
3. To coordinate HRH plans and planning activities with the work of health and health service planners including the planning of training.
4. To undertake or commission research into the deployment, management, training and performance of health service staff.
5. To develop HRH policy options to facilitate the achievement of health, health service and human resource goals and objectives.
6. To provide advice, information to top management decision makers on HRH matters.
7. To determine the type and volume of training that will be required.
8. To monitor HRH and HRH management performance
9. To develop standards for HRH planning and management.
10. To maintain a coordinating and communicating network with appropriate departments of relevant other ministries and agencies.
11. To provide a clearing house for HRH information

These functions all point to the fact that a HRH structure is acting, in the broadest sense of the word, as a policy unit and not as an executive/decision-making unit. However to discharge its role, the HRH structure needs to have a number of connections with other elements of the health service organisation and outside it which have executive roles. The nature of the relationship between the HRH structure and the other units should be of four types:

Reporting

- Ministry top management
- Health service planning unit

Controlling

- Training Unit

Cooperating

- Health service planning unit
- Management Information unit

Coordinating

- Personnel
- Provincial management

As part of its work, the HRH structure will need to determine and plan for future training requirements. In this role, it may well need either to have a coordinating or controlling role with a unit responsible for organising or arranging training.

The planning activity of the HRH structure will inevitably require it to explore a range of new or modified HRH policies to achieve the ministry's intentions with regard to the recruitment, deployment, training, utilisation and mobilisation of staff.

The HRH structure will need to gather information for its activities from a variety of sources including the commissioning of specific research. In addition it will gather information from Personnel and from any Management Information unit that may exist. The HRH structure needs to be able to influence the nature of the information collected and the way it is processed for HRH.

The HRH structure will have a general responsibility for providing and disseminating the HRH information. It is the office where all general information on HRH should be located other than individual staff details, which should be in the personnel data bank. It is for this reason that the HRH structure will need to have processing software to enable it to translate raw data from the personnel and management information units into aggregated HRH information.

The HRH structure will almost certainly have some responsibilities for ensuring that plans and policies, which it has caused to be generated, are implemented. To do this will require it to have some formal links with personnel and with that part of the decentralised management structure of operational units of the health service concerned with HR management and development. While this generally does not imply a line of command relationship it does imply that the HRH structure is provided with sufficient authority that its advice and guidance is acted on by these other units.

Finally the HRH structure will need its own set of operational links with other ministries and agencies that will impact on HRH planning and management in the health sector. Generally the ministries and government institutions that are most important in this respect are the Prime Ministry State Personnel Department, the Prime Ministry State Planning Organisation, the Ministry of Finance, the Ministry of Education and Higher Education Council. The HRH structure should seek to represent the Ministry of Health on HRH matters with these and other relevant institutions including professional associations.

The HRH structure needs staff with specialised skills, which can enable it to take a leadership role in matters relating to all the dimensions of HRH development in the health sector.

It is important that new young staffs are developed in the necessary planning and policy-making skills any HRH structure needs. The unit if it is to take a full part in guiding provincial management in the development of an effective provincial HRH function will need these skills.

The HRH structure will require an array of development resources to make the steps forward it needs to make for the ministry to use its human resources more efficiently. HRH is the most significant and costly resource the ministry possesses. A development programme should focus on three critical areas of HRH planning and management capacity building. These are: HRH data and information, HRH planning capacity and HRH management.

C. Implications of These Changes for New HR Policy

The distribution of health service staff is less than optimum for the population served. It is not possible to change this situation rapidly. To achieve actual improved staff deployment will require more fundamental changes to existing management practice. A strategic HR plan to be designed without making these changes beforehand will not achieve its objectives.

As a consequence, it will be necessary to consider introducing policies for staffing health facilities and the training and deployment of staff, which will allow the MoH to prioritise the filling of vacancies against perceived need and, at the same time, to re-specify posts from one cadre of staff to another to achieve a better skill balance within different institutions.

It will also require the introduction of some form of workload-based staffing assessment method to determine real staff requirements rather than simply using standard establishments. This will need to be supported by the introduction or improvement of existing mechanisms for monitoring of individual and institutional performance.

Given the recognition in this study that a private sector service of significant proportions will continue and expand over the next fifteen years, new policies will also be necessary to improve the management of staff moving within the public sector and between the public and private sectors and in the regulation of private sector activity.

The policies that will need to go into place to achieve the intentions of the MoH encompass all dimensions of HRH activity, including:

1. Organisational structures and roles;
2. Staffing of facilities;
3. Training;
4. Employment and deployment;
5. Public and private sector work.

The outline policy proposals that follow address key issues in managing HR activity.

They need to be integrated with existing policies which in turn will need adjustment to ensure consistency and to which additional policies may be added to provide a comprehensive array. As a whole the policies should be reinforcing and directed towards addressing the main issues identified earlier in this section (VI) of the plan document and to enabling the production, deployment and mobilisation proposals in this plan to be achieved.

1. Organisational Roles

- a. National HRH planning should include the totality of health workforce needs including those of public sector organisations, NGOs working within the health sector and private sector.
- b. When the de-concentration is in place, each province/district may need to have a named individual, adequately resourced, responsible for the HRH planning and development, independent of the personnel function providing a direct link to the central HRH development function.
- c. Provinces and the national level will share responsibility for monitoring HRH performance and for taking action to improve performance.

2. Staffing of Facilities

- a. Future staff requirements will be determined on the basis of health needs, workloads and available finance.
- b. Staffing norms will be progressively based on workload and not on 'establishments' and be specific to individual units.
- c. Staffing of all institutions will be funded on the basis of staffing norms that may change over time and for which an annual review is required. Funding will be based on work load based staffing norms.
- d. Standards for minimum and maximum levels of staffing will be determined by the MoH on the basis of workload, performance standards and availability of related staff.
- e. Provincial managers will be responsible for determining local variations in staff mix within clinical standards established by health professional committees at national level.
- f. The management of health care facilities should be passed on to competent managers having management education/training and further professional skills in the course of time, and management career should be developed for this purpose.

3. Training

- a. Post-basic training will be determined solely by either the requirements of organisational objectives or the requirements for continuing professional accreditation.
- b. All professional health staff in the public and private sectors must undertake accredited in certain intervals in order to retain their professional status.
- c. Post-graduate management training centres will be established to meet the management training needs of the health service. Distance learning program introduced by the Hifzisiha Public Health School is one of the initial steps in this respect.
- d. Training of technical and administrative/management cadres will be given increased emphasis in line with identified needs for more skilled human resource management.
- e. In the accreditation and validation of training programmes and the maintenance of training standards, MoH will take part through health council of professional boards together with HEC and MOE.
- f. Training will be increasingly focused around the identification of needs to raise staff competency and skills in line with the objectives of the organisations.
- g. Objective-based staff appraisal will be progressively introduced as the principal method of determining the personal development needs of individual staff.
- h. All managers to receive mandatory basic training on a regular basis in management skills appropriate to the management level they hold.
- i. All staff will be subject to an annual appraisal, the purpose of which is to identify personal development needs and training requirements to meet the objectives of the organisation and to assess individual performance.

4. Employment and Deployment

- a. All jobs will be progressively described in terms of requirements of competency, skills and capability.
- b. Regular staff appraisals will be introduced which assess individuals in the same terms as are applied to describing jobs and which will be tied, over time, to improving individual contributions to corporate goals and objectives.

- c. Pay differentials will be incrementally expanded in line with comparable differentials in the private sector and differentiated on the basis of job equivalence determination.

5. Public/Private Sector Work

Certain cadres of staff have advantageous opportunities to work in the private sector. Because of this, the MoH may wish to control or at least influence the movement of staff into private sector and the degree of cooperation that exists between the public and private sector activity. The areas in which it may be desirable to develop policies are as follows:

- Bonding and licensing
- Standard setting for service quality
- Public/private institution partnerships

Some possible policies relating to the action areas identified above are as follows:

- a. All health professionals must be licensed to practice with a biannual renewal of licence mandatory.
- b. Licensing standards will be determined from time to time by the MoH in conjunction with appropriate professional bodies.
- c. Similar training and examination standards to be applied for public and private training institutions.

These sets of policy statements are not intended to be final statements. They are intended to provide a direction for policy change to address the needs of the health sector and be modified and used with existing policies which may also need amendment.

VII.

STRATEGIC IMPLEMENTATION PLAN

A. Actions and Activities That Will Be Required

1. This HRH Vision 2023 document is the first step of the study for now. It is considered to share this study, which has been revised by the MoH and has been presented as a final product in this HRH Vision 2023 document, key stakeholders in the sector.
2. The earlier chapters of this document discussed about building a HRH structure and identifying its HRH roles and responsibilities in the MoH (see section IV). So, it is essential that the MoH takes action on setting up a HRH structure as rapidly as possible.
3. The period to 2023 will have multiple objectives. It will seek to improve efficiency in the use of facilities and staff and at the same time increase accessibility for outpatient services at local levels, as well as seeking to strengthen the referral system, particularly with reference to expansion of the use of family health centres.
4. The proposed growth in public sector hospital beds is approximately 18,000 in study period. In stead of big and rapid increase in the current bed to population ratio to OECD countries levels, it is anticipated that quality of beds and bed utilisation levels will be increased. Among the general hospitals some are too small to function as a viable general hospital and should be converted to effective and efficient institutions.
5. In the medium term expansion of tertiary and secondary services will need to be primarily focused to encourage increased utilisation levels in existing facilities. Long term care hospitals such as psychiatric hospitals and physical therapy and rehabilitation hospitals will be turned into rehabilitation centres.

6. Expansion of family health centres faster than population growth and will require the creation of around 930 new family health centres per year on average. There is definitely a need for detailed expansion plan for those units.
7. The restricted staff growth in this fifteen-year period is such that production of new staff needs to be monitored carefully against movements of existing staff within the service and out of it in order not to create an over-supply beyond the targets.
8. De-concentration and the dispersal of responsibility to provinces will require enhancement in the training of existing managerial staff. It will also require to employ further professional managers in number and to train them within the health service. At this stage, it is not possible to attract qualified non-medical university graduates into the service. To do so will require the creation of a management cadre which over the thirty years can be expected to produce managers suitable for highest levels of the service. The process for developing these managers will take a substantial period of time and it will be certainly helpful to start with the creation of this cadre and suitable posts for junior managers in the following years.
9. The need for expansion of the existing training capacity at the universities (especially in medical schools) is an essential part of the strategic HRH plan. There is a significant difference between views of the MoH on how training can be expanded and that of the HEC. Capacity issues encompass physical facilities, sufficiency of trainers, accommodation and practice sites. All under control of HEC. Higher education of health professionals and other HRH categories is regulated by HEC. HEC is responsible from the development of the content of training, quantitative planning (that is the number of students to enrol) and infrastructure planning as well. There is a need to improve the existing cooperative communication between the MoH and the HEC and to develop a “business plan” for the training institutions linked to the objectives of this strategic HRH plan that would be proposed to the HEC.
10. The HRH Vision 2023 study must be converted into a series of annual plans, year by year, setting objective development targets and their implications for training, recruitment and deployment of staff.
11. The staffing for all institutions should be increasingly determined on a workload basis and then through a combination of workload and performance standards. Priority for staff deployment should follow staffing needs identified through the workload methods and be put in place.
12. The emerging pressures to improve efficiency and effectiveness (performance) will require increased attention on performance measurement. It is proposed that HRH performance monitoring be introduced on a trial basis in the medium term.

13. The staffing of health services has been on a differential skill mix for different types of institutions. While this has achieved a positive redistribution of staff roles, the need for a more fundamental assessment of future work activities and the types of staff required will emerge.
14. In the development of the management function it becomes absolutely essential that the part of the information system providing HRH/personnel data is absolutely up to date at all times and approximately accessible. A clear picture of movement within and outside the sector is the foundation on which management of the situation becomes possible.
15. With regard to the private sector activity, the MoH will continue to encourage private sector development through Social Security Institution by supporting them to contract out with the private health institutions fulfilling the quality standards determined by the MoH. Health staff will continue to have access to private sector work.

VIII.

MONITORING AND EVALUATION

A. Protocols for Monitoring Implementation Achievements

This medium-term visionary study is intended to provide, firstly, a set of objectives over a fifteen-year period and to provide guidance for a periodic planning of HR activities and initiatives.

The purpose of this medium-term visionary study and the periodic HRH plan is, as stated earlier, to improve the foundation for good management and improved health service performance. It is, as a result, necessary to review and amend the medium-term plans at appropriate intervals. It is likely that these intervals will be approximately two to three years.

The medium-term plan sets out, first of all, a set of specific objectives to be achieved by the end of the medium term for staff numbers, staff training, and institutional staffing and how this might be distributed across the country.

It also sets out a series of developmental actions, which need to be introduced during the course of the medium term, together with proposals for relevant policy changes introduced at the same time to support the intentions of the implementation plan.

The HRH planning processes will use the medium-term plan to establish, on a year-to-year basis, appropriate activities to meet the objectives of the fifteen-year period. It is the achievements on a year-to-year basis, which will provide the essential input to a review of the medium-term plan.

The normal procedure may involve a comparison of the achievements over the two-year period against the pre-determined objectives of the strategic plan. Where there has been under achievement, it will be necessary to assess the causal factors and judge whether appropriate corrections can be made in the rest of the plan period to achieve the objectives of the medium-term plan and/or, on the basis of the new information, to reset the objectives of the medium-term plan.

At the same time, a new medium-term plan extending for a further two years beyond the existing plan would be developed. That is the planning target year may be extended from 2023 to 2025 and the new medium term plan would be prepared for 2010-2015 period. The outcome of this process will be to provide new guidelines for the next annual plan in line with the new terms for the medium-term, which is constantly rolling forward to maintain a fifteen-year horizon.

B. Specification of Important Progress Events

It can be anticipated that important events (milestones) will be added during the course of producing the final medium-term plan document. Some initial milestones to be considered in the first year are as follows:

1. HRH planning and management institutional roles defined and implemented;
2. HRH information system assessed, upgraded and HRH information updated;
3. An HRH annual planning process introduced;
4. A business plan completed for the expansion of training institutions to meet staff production as specified in the objectives;
5. Measurable redistribution of staff in line with provincial needs;
6. A detailed programme of hospital and primary care facility expansion fully specified.

C. Process for Annual Evaluation and Replanning of Activities

This process is an essential ingredient for ensuring that the medium-term plans continue to be useful vehicles for management development and change. Historically, in many countries, the HRH planning process has been isolated from the annual health service planning and often when incorporated in that process is not included in such a way as to make the interaction between HRH plans and health plans viable.

To address this problem in Turkey, it is proposed that the process of annual HR planning is undertaken in parallel but slightly ahead of the health planning process to provide the health planners with a working framework for developing health plans and interacting more effectively with the realities of HR training, recruitment and deployment. The process should address the needs of the sector as a whole.

This outline sets out the steps of an annual HRH planning process linked to annual health service planning. It is likely to require four to five to six months to complete.

- | | |
|---------|--|
| Month 1 | Produce comparison of current HRH objectives for year against achievement (i.e. numbers in training and in service; distribution; performance and expenditure).

Forecast year end outcome and assess causes of under- and over-achievement. |
| Month 1 | Produce overall targets for staff expansion and training in coming year in line with medium-term plan and current performance. |
| Month 2 | Consolidate and review bids from provinces and make initial determination of priorities in post creation and projected distribution of staff and training. |
| Month 3 | Assess likely HR supply situation for coming year and explore possible policy options for changing requirement/supply imbalances. |
| Month 3 | Quantify HR budget requirements additional to current year for next year training, new staff and salary changes and test feasibility. |
| Month 3 | Submit overall proposals for posts, staffing and training to Ministry for review. |
| Month 4 | Revise staffing and training plans arising from ministerial/cabinet decisions and agree distribution of new posts and priorities for staffing. |
| Month 5 | Produce new projection for coming year of the distribution of new posts and staff supply and submit procedures and priorities for post filling to personnel. |
| Month 6 | Confirm target for pre-service training and execute processes to secure candidates, training places and funding. |

This process will need to be amended as the de-concentration becomes further developed to accommodate the increasing autonomy of the provinces but will still require central involvement to take a sector view of the situation.

APPENDIX 1. HRH WORKSHOP PARTICIPANT LIST (NOVEMBER 2007)

WORKING GROUP I

1. M.Recep PEKÇİCİ	General Directorate of Personnel, MoH
2. Hakkı ÖZTÜRK	General Directorate of Personnel, MoH
3. M.Erkan ÇİÇEK	General Directorate of Personnel, MoH
4. Münevver KERKÜKLÜ	General Directorate of Health Education, MoH
5. Hüseyin ZIRH	General Directorate of Health Education, MoH
6. İsmail KASIM	General Directorate of Primary Health Care, Family Planning Unit, MoH
7. İnci YILMAZ	General Directorate of Curative Care Services, MoH
8. Ahmet AKPINAR	General Directorate of Curative Care Services, MoH
9. Haneñi GÖK	General Directorate of Curative Care Services, MoH
10. Fehime Zülfikar	General Directorate of Curative Care Services, MoH
11. Hasan ŞENTÜRK	General Directorate of Mother and Child Health and Family Planning, MoH
12. Abdulaziz CAN	Monitoring and Evaluation Coordination Unit, MoH
13. Hınç YILMAZ	Monitoring and Evaluation Coordination Unit, MoH
14. C.Fatih GÖK	Monitoring and Evaluation Coordination Unit, MoH
15. Selman GÜL	Strategy Development Unit, MoH
16. Atilla DURMAZ	Strategy Development Unit, MoH
17. Kibar ALTUNAL	Undersecretary's Office, MoH
18. Haydar SUR	School of Health Sciences, Marmara University
19. Bekir ÖZTEKİN	Health Services Unit, MoE
20. Halil POLAT	Health Services Unit, MoE
21. Ali Enver DUDU	State Personnel Department, Prime ministry
22. Yılmaz TUNA	State Planning Organisation, Prime ministry
23. Harun GÜNGÖR	State Planning Organisation, Prime ministry
24. Prof.Dr.Bülent ZÜLFİKAR	Oncology Institute, Çapa Medical School, Istanbul University
25. Doç. Dr.Nevzat ALKAN	Istanbul University Medical School, Forensic Medicine Department
26. Ayşe Gülgün EROL	General Directorate of Budget and Financial Control, MOF

FACILITATORS

1. Ms S. Ozcan Nazlıođlu , HRD Consultant, Hıfzısıhha School of Public Health, MoH
2. Mr P. Hornby, Senior HRD Consultant, HRH-Programme Director, Keele University, UK
3. Mr Ünal Hülür, Director, Hıfzısıhha, School of Public Health, MoH
4. Ms Banu Ayar, Hıfzısıhha School of Public Health, MoH
5. Mr Mustafa Kosdak, Hıfzısıhha School of Public Health, MoH.
6. Ms. Ayşegül Gençođlu, Hıfzısıhha School of Public Health, MoH
7. Ms Ümmühan Ekinci, Hıfzısıhha School of Public Health, MoH
8. Ms Şirin Özkan, Hıfzısıhha School of Public Health, MoH
9. Ms Hatice Şimşek, Hıfzısıhha School of Public Health, MoH
10. Ms Serap Taşkaya, Hıfzısıhha School of Public Health, MoH
11. Mr İbrahim Köstekli, Hıfzısıhha School of Public Health, MoH

APPENDIX 2. MEETING PARTICIPANT LISTS

MEETING PARTICIPANTS (April 2008)

- Prof. Dr. Recep Akdağ, Minister of Health
- Prof. Dr. Nihat Tosun, Deputy Undersecretary
- Dr. Turan Buzgan, Deputy Undersecretary
- Assoc. Prof. Dr. Hakkı Yeşilyurt, Deputy Undersecretary
- Dr. Sinan Yol, General Director of Health Education
- Dr. Öner Odabaş, General Director of Curative Care Services
- Dr. Seraceddin Çom, General Director of Primary Care Services
- Mr. Mehmet Atasever, Head of the Department of Strategy Development
- Dr. Salih Mollahaliloğlu, Director of the School of Public Health
- Dr. Ünal Hülür, Deputy Director of the School of Public Health
- Dr. Mustafa Kosdak, Deputy Director of the School of Public Health
- Dr. Hakkı Gürsöz, Deputy Director of the School of Public Health
- Ms. Serpil Özcan Nazlıoğlu (Keele University), Local Consultant in the School of Public Health

MEETING PARTICIPANTS (November 2008)

- Prof. Dr. Recep Akdağ, Minister of Health
- Assoc. Prof. Dr. Hakkı Yeşilyurt, Deputy Undersecretary
- Dr. Salih Mollahaliloğlu, Director of the School of Public Health
- Dr. Mustafa Kosdak, Deputy Director of the School of Public Health
- Nurs. Şirin Özkan, School of Public Health
- Ms. Serpil Özcan Nazlıoğlu (Keele University), Local Consultant in the School of Public Health

MEETING PARTICIPANTS (July 2009)

- Prof. Dr. Adnan Çinal, Deputy Undersecretary
- Assoc. Prof. Dr. Hakkı Yeşilyurt, Deputy Undersecretary
- Prof. Dr. Safa Kapıcıoğlu, General Director of Health Education
- Mr. Hikmet Çolak, General Director of Personnel
- Spec. Dr. Bekir Keskinliç, Deputy General Director of Primary Care Services
- Dr. Abdullah Şeker, Head of Department in the General Directorate of Curative Care Services
- Dr. Salih Mollahaliloğlu, Director of the School of Public Health
- Dr. Mustafa Kosdak, Deputy Director of the School of Public Health
- Ms. Serpil Özcan Nazlıoğlu (Keele University), Local Consultant in the School of Public Health

MEETING PARTICIPANTS (November 2009)

- Prof. Dr. Recep Akdağ, Minister of Health
- Prof. Dr. Adnan Çinal, Deputy Undersecretary
- Dr. Yasin Erkoç, Deputy Undersecretary
- Prof. Dr. Safa Kapıcıoğlu, General Director of Health Education
- Mr. Hikmet Çolak, General Director of Personnel
- Mr. Güven Bektemür, Deputy General Director of Personnel
- Assoc. Prof. Dr. İrfan Şencan, General Director of Curative Care Services
- Dr. Rıfat Köse, General Director of the MCH-FP
- Spec. Dr. Bekir Keskinliç, Deputy General Director of Primary Care Services
- Mr. Memet Atasever, Head of the Department of Strategy Development
- Ms. Songül Doğan, Department of Strategy Development
- Dr. Ali Kemal Çaylan, Department of Administrative and Financial Affairs
- Dr. Salih Mollahaliloğlu, Director of the School of Public Health
- Dr. Mustafa Kosdak, Deputy Director of the School of Public Health
- Spec. Serap Taşkaya, Specialist of Health Care Administration, School of Public Health
- Ms. Serpil Özcan Nazlıoğlu (Keele University), Local Consultant in the School of Public Health

MEETING PARTICIPANTS (February 2010)

- Prof. Dr. Recep Akdağ, Minister of Health
- Prof. Dr. Adnan Çinal, Deputy Undersecretary
- Dr. Yasin Erkoç, Deputy Undersecretary
- Assoc. Prof. Dr. Hakkı Yeşilyurt, Deputy Undersecretary
- Dr. Rıfat Köse, General Director of the MCH-FP
- Dr. Alaaddin Dilsiz, Deputy General Director of Health Education
- Dr. Orhan Koç, Deputy General Director of Curative Care Services
- Dr. Seraceddin Çom, General Director of Primary Care Services
- Mr. Güven Bektemür, Deputy General Director of Personnel
- Dr. Abdullah Şeker, Head of Department in the General Directorate of Curative Care Services
- Dr. Hasan Gökhan Öncül, School of Public Health
- Spec. Elif İşlek, Specialist of Health Care Administration, School of Public Health
- Midwife Eda Güneş, School of Public Health
- Spec. Serap Taşkaya, Specialist of Health Care Administration, School of Public Health
- Dr. Salih Mollahaliloğlu, Director of the School of Public Health
- Dr. Mustafa Kosdak, Deputy Director of the School of Public Health
- Ms. Serpil Özcan Nazlıoğlu, Local Consultant in the School of Public Health

APPENDIX 3. LIST OF WORKING GROUP II

- Prof. Dr. Adnan Çınal, Deputy Undersecretary
- Assoc. Prof. Dr. İrfan Şencan, General Director of Curative Care Services
- Spec. Dr. Alaaddin Dilsiz , Deputy General Director of Health Education
- Dr. Orhan Koç, Deputy General Director of Curative Care Services
- Spec.Dr. Bekir Keskinılıç, Deputy General Director of Primary Care Services
- Mr. Güven Bektemur, Deputy General Director of Personnel
- Dr. Alaaddin Dilsiz, Deputy General Director of Health Education
- Dr. Savaş Akbıyık, Head of the Family Medicine Department in the PCS-GD
- Dr.Abdullah Şeker, Head of Department in the General Directorate of Curative Care Services
- Mr. Gültekin Bayraktar, Head of Department in the General Directorate of Curative Care Services
- Mr. Tayfun Arık, Head of Department in the General Directorate of Personnel
- Dt.Deniz Koraşlı, Acting Director of Branch in the General Directorate of Health Education
- Spec. Dr. Aziz Alper Biten, General Directorate of Personnel
- Ms. Gülay Altuntaş, Statistician in the General Directorate of Personnel
- Spec. Mesut Koçak, General Directorate of Curative Care Services
- Spec. Engin Yıldız, General Directorate of Curative Care Services
- Midwife Zennure Karadağ, General Directorate of Primary Care Services
- Spec. Elif İşlek, Specialist of Health Care Administration, School of Public Health
- Midwife Eda Güneş, School of Public Health
- Spec. Serap Taşkaya, Specialist of Health Care Administration, School of Public Health
- Dr. Mustafa Kosdak, Deputy Director of the School of Public Health
- Ms. Serpil Özcan Nazhoğlu, Local Consultant in the School of Public Health

APPENDIX 4. HOSPITAL TYPES USED IN THE PROJECTION MODEL

	Type of facility	Description
	Hospitals	
1	University hospitals	Includes public university hospitals.
2	Teaching hospitals	Includes MoH general teaching and research hospitals.
3	General hospitals	Includes MoH general hospitals. District day hospitals and municipality hospitals transferred to the MoH are not included.
4	Obstetrics & gynaecology and paediatric hospitals	Includes MoH obs. & gyn. and paediatric hospitals and teaching hospitals of this type.
5	Other speciality hospitals	Includes MoH eye, dermatology and venereal disease, leprosy, oncology, first aid and traumatology, goiter, oral and dental health hospitals and teaching hospitals of these types.
6	Chronic disease and long term care hospitals	Includes MoH chest disease, bone disease, physical care and rehabilitation hospitals and teaching hospitals of these types.
7	Psychiatric hospitals	Includes MoH psychiatric hospitals and teaching hospitals of this type.

APPENDIX 5. PERSONNEL CATEGORIES USED IN THE PROJECTION MODEL

	Category	Definition
1	Specialist	Includes specialists and assistant doctors.
2	Practitioner doctor	Includes practitioner doctors graduated from medical schools.
3	Family physician	Includes family physician specialist degree owners.
4	Dentist	Includes specialist dentists and dentists graduated from faculties of dentistry.
5	Pharmacist	Includes pharmacists graduated from faculties of pharmacy.
6	Nurse	Includes nurses with vocational high school degree, 2 years vocational training schools, degree and 4 years university degree owners.
7	Midwife	Includes midwives with vocational high school degree, 2 years vocational training school degree and university degree owners.
8	Health officer/Public health technician	Includes health officers with vocational high school degree, 2 years vocational training school and 4 years university degree owners. Since 2007 health officer departments were merged with nursing department. From now on the graduates will have nursing degree (male nurse).
9	Laboratory technician	Includes laboratory technicians graduated from vocational high schools and 2 years vocational schools.
10	Radiology technician	Includes radiology technicians graduated from vocational high school and 2 years vocational schools.
11	Anaesthesia technician	Includes technicians graduated from vocational high schools and 2 years vocational schools.
12	Medical secretary	Includes medical secretaries graduated from vocational high schools and 2 years vocational training schools.
13	First and emergency aid technician	Includes technicians graduated from vocational high schools and 2 years vocational schools.
14	Physiotherapist	Includes graduates of universities physiotherapy departments.
15	Other health personnel	Includes health all remaining health personnel not included above such as environmental health technicians, audiologists, orthopaedic technicians, biologists, psychologists, dieticians, etc.
16	Managers	Includes undersecretary and his deputies, general directors and his deputies, directors, head doctors, provincial directors and their deputies.
17	Engineers and other technical personnel	Includes graduates of faculties of engineering, architect, economics, statistics, management mathematics etc.
18	Other technical personnel	Includes technical staff with high school and 2 years vocational school degrees.
19	General administrative staff	Includes all high school and vocational school degree holder administrative staff (officers included).
20	Support staff	Includes all support level staff such as cooks, drivers, plumbers, tailors etc.

**APPENDIX 6. TOTAL HEALTH SECTOR PERSONNEL
REQUIREMENTS FOR SELECTED YEARS**

	2008	2015	2019	2023
Physician	113,151	130,215	155,426	200,063
Dentist	19,959	24,277	26,283	28,026
Pharmacist	24,778	29,359	31,526	32,886
Nurse	99,910	159,494	214,648	283,289
Midwife	47,673	59,395	70,765	85,077
Health officer/Public health technician	14,525	19,779	24,789	31,637
Laboratory technician	14,947	16,556	18,688	22,150
Radiology technician	10,738	12,317	13,722	15,629
Anesthesia technician	4,395	7,185	8,642	10,369
Medical secretary	5,562	14,714	16,326	15,564
First and emergency aid technician	15,486	24,440	25,050	25,312
Physiotherapist	1,916	4,957	6,155	6,989
Other health personnel	21,971	26,199	30,543	36,258
Managers	2,415	4,251	4,851	5,139
Engineers and other technical personnel	1,004	3,089	4,505	5,932
Other technical personnel	4,657	6,735	7,441	7,917
General administrative staff	76,531	91,216	100,069	109,729
Support staff	71,524	106,095	125,850	145,605

REFERENCES

- Atasever, M. (2010). Presentation on Financial Problems and Suggested Solutions in Enterprises with Revolving Funds.
- European Commission (EC). (2011). European Commission Health Indicators. http://ec.europa.eu/health-eu/health_in_the_eu/ec_health_indicators/index_en.htm. Accessed: June, 2011.
- Higher Education Council (HEC). (2009). Higher Education Statistics. www.yok.gov.tr . Accessed: September, 2009.
- Hornby, P. (2003). Human Resources for Health Planning Lecture Notes, Keele University, England
- Ministry of Education (MOE). (2008). Health Fields Department. Health Vocational High Schools. <http://sdb.meb.gov.tr> . Accessed: January, 2009.
- Ministry of Finance (MOF). (2008). Annual Economic Report. www.maliyebakabligi.gov.tr. Accessed: January, 2009.
- Ministry of Health (MoH). (2007). General Directorate of Personnel. Provincial Statistics of Active Working Health Personnel Study.
- Ministry of Health (MoH). (2007). Hıfzısıhha School of Public Health, Current Situation Analysis of HRH.
- Ministry of Health (MoH). (2010). Family Physician System in Turkey. www.ailehekimligi.gov.tr. Accessed: 6.10.2010
- Ministry of Health (MoH). (2008). General Directorate of Curative Services , Curative Services Annual Statistics.
- Ministry of Health (MoH). (2008). General Directorate of Primary Health Care Services, Primary Health Care Annual Statistics.
- Ministry of Health (MoH). (2008). General Directorate of Personnel. Provincial Statistics of Active Working and Planned Health Personnel.
- Ministry of Health (MoH). (2008). General Directorate of Personnel. Active Working Health Personnel Statistics.
- Ministry of Health (MoH). (2009). Hıfzısıhha School of Public Health. Health Personnel Incomes Study.
- Ministry of Health (MoH). (2009). The Chairmanship of Strategy Development. Final Accounting Table.
- Ministry of Health (MoH). (2011). Hıfzısıhha School of Public Health. Health Statistics Year Book, 2010.
- Mollahaliloglu, S. (2008). Presentation on Current Situation of Human Resources for Health in Turkey.

- OECD. (2009). Health at a Glance: OECD Indicators, OECD Publishing. http://dx.doi.org/10.1787/health_glance-2009-en. Accessed: September, 2009
- State Planning Organisation (SPO). (2009). Gross Domestic Product Projections Study.
- Turkish Statistical Institute (TSI). (2009). Population Projections. www.tuik.gov.tr. Accessed: September, 2009.
- Vujcic, M.; Sparkes, S.; Mollahaliloğlu, S. (2009). Health Workforce Policy in Turkey: Recent Reforms and Issues for the Future, Paper prepared as background note to Turkey health sector review. World Bank, Washington DC, USA.
- World Health Organisation (WHO). (2001). Human Resources for Health Supply and Requirement Projection Models Software.
- World Health Organisation (WHO). (2010). Models and Tools for Health Workforce Projections. Human Resources for Health Observer, Issue 3.