

**THE SEMINAR ON HEALTH RESEARCH  
PRIORITIES FOR PAKISTAN**

**FEBRUARY 26-27, 2001  
ISLAMABAD**

**PAKISTAN MEDICAL RESEARCH COUNCIL**

## **BACKGROUND:**

In 1996 the World Health Organization (WHO) convened an Ad Hoc Committee on Health Research to review the health needs and related priorities for research and development in the low-income and middle-income countries. The report of the Committee lists and discusses the key challenges faced by governments and the health systems. The report states that “-----”. Yet the governments of middle-income and low-income countries must somehow respond to the multiple and complex health needs ahead of them. To do so effectively, they will need new information, tools and policy instruments that they can obtain only through research and development. But finances and capacity for R&D are limited, and in order to make the best use of both, priorities must be set and incentives for efficiency created”. Earlier, the Commission on Health Research for Development, an independent international initiative, had recommended in its report published in 1990 that all countries vigorously undertake Essential National Health Research (ENHR) to accelerate health action in diverse national and community settings, and to ensure that resources available for the health sector achieve maximum results. Three months after the publication of the Commission’s report, the technical discussions of the World Health Assembly focused on the theme, ” The Role of Health Research in the Strategy for Health for All by the Year 2000”. Resolution WHA 43.19 of the Assembly included a call to the WHO member states to undertake ENHR appropriate to national needs. In 1993, the Council on Health Research for Development (COHRED) was constituted to “promote, facilitate, support and evaluate the ENHR strategy and other health issues of international priority”.

Pakistan is a constituent member of COHRED and the Pakistan Medical Research Council is endeavoring to implement the ENHR strategy in the country. The following are the principle objectives of ENHR:

1. To identify country specific health problems and design and evaluate action programs for dealing with them;
2. To join in the international effort to find new knowledge, methods, and technologies for addressing global health problems that are of high priority for the country in question.

These objectives provide the basis for the realistic planning of health research facilities that will be aimed at the highest-priority health problems and consistent with what can be afforded over time (as mentioned in the Commission’s report).

The Seminar on Health Research Priorities for Pakistan was organized as the first essential step in the effective implementation of the ENHR strategy. Although the activity was organized over a very short period of time the response from the institutions and stakeholders invited to participate, was overwhelming. From among the key policy and decision-makers, the Minister for Science and Technology inaugurated the Seminar and participants were later invited for informal discussion over a dinner hosted by the Minister, Health. The Deputy Chairman, Planning Commission, presided over the session in which the groups made their presentations. The Secretary, Health, sent his nominee the Executive Director, National Institute of Cardio-Vascular Diseases to preside over the concluding session and the Director General, Health, presented the Keynote Address at the inaugural session. The participants included leading and senior researchers and academicians from public sector medical colleges and postgraduate medical institutions, the Aga Khan University, the Zia-uddin Medical University, the Armed Forces Institutions, the National Institute of Health, the Health Services Academy, the National Institute of Population Studies, the Pakistan Council on Science and Technology, the Ministry of Science and Technology, other private sector academic medical institutions and some leading very active and revered retired academicians and researchers. In addition, international representatives from COHRED and the John Hopkins University especially came to attend and facilitate the Seminar.

In the organization of the Seminar, the Pakistan Medical Research Council received technical support from COHRED, the Global Forum for Health Research, the Department of International Health of the John Hopkins University and the Health Services Academy. This process of organization and management of the Seminar was itself a collaborative venture to promote health research in Pakistan.

# 1. PROCEEDINGS OF THE SEMINAR

The Seminar was held on February 26-27, 2001, in the auditorium of the Pakistan Academy of Sciences, Islamabad. The participants included health professionals, scientists, researchers and leading academicians of the health policy-makers, and senior level manager decision-makers, etc. A special newspaper supplement was published on February 25, 2001, to focus the attention of stakeholders on the need and objective of the activity. Messages of support from Dr. Abdul Malik Kasi, Federal Minister for Health; Dr. Atta-ur-Rehman, Federal Minister for Science & Technology; Dr. Shahid Amjad Chaudhary, Deputy Chairman, Planning Division; Mr. Ejaz Rahim, Secretary, Ministry of Health; and Rear Admiral Surgeon Muhammad Aslam, Director General, Health, are placed at No.3.0 in the **Seminar Supplement Section** of this report. The programme of the Seminar and the list of participants are attached at **Annexure-2.6** and **Annexure-2.7** respectively.

## 1.1 Plenary Session

### a) Welcome and introduction of speakers

Dr. Tasleem Akhtar, Executive Director, PMRC, while welcoming the participants expressed her overwhelming gratitude for their support to the PMRC in the past and for sparing their time at very short notice to participate in the Seminar. She informed the participants that the role of the PMRC is to facilitate and assist the health research effort in the country. The Council is dependent on their support and guidance for the achievement of its functions. She said that the Council was making a fresh effort to re-vitalize health research, to put it on the country's priority list with the ultimate goal of institutionalizing it, not only within the health care delivery system but in all other sectors and spheres of life. This she said, is the need and demand of the new millennium, which could no longer be ignored if Pakistan sincerely wanted to participate as an equal among nations in the globalized world.

After giving the brief purpose of the Seminar Dr. Tasleem introduced the two speakers of the plenary session: Dr. Chitr Sitti-Amorn and Dr. Adnan Hyder.

**Dr. Chitr**, she said, was representing the Council on Health Research for Development (COHRED). Introducing COHRED she said that it is a Geneva based organization, which was created to promote the implementation of Essential National Health Research in developing countries. Dr. Chitr is the founder Dean of the College of Public Health at the Chulalongkorn University Bangkok, Thailand. He is a member of the WHO Advisory Council for Health Research. His

knowledge and experience will help us a lot in achieving the objective of our Seminar.

When introducing **Dr. Adnan Hyder**, she informed the participants that he is a graduate of the Aga Khan University and has acquired his Masters in Public Health and Ph.D in Public Health from the John Hopkins University, USA. He is an Assistant Research Professor and Director of the Doctor of Public Health (DrPH) Program in the Department of International Health of the School of Hygiene and Public Health at the John Hopkins University. Dr. Hyder also serves as a consultant to the Global Forum for Health Research and the World Health Organization in Geneva. In addition, he is Program Manager for Pakistan on the Council for COHRED. Dr. Hyder has been working on health systems development in developing countries for many years. He has adjunct positions in Pakistan with a number of organizations especially the Health Services Academy, Islamabad and has worked with the Pakistan Medical Research Council for several years. (Full text of her welcome address is given at **Annexure-2.1**)

**b. Essential National Health Research (ENHR): Key for National Development (Dr. Chitr Sitti-Amorn):**

A full text has not been received. The following is the slide presentation made by the speaker.

**STRATEGIES IN 1990**

- COUNTRY FOCUS (based on **ENHR** - 2% expenditure)
- “N-S” PARTNERSHIPS focused on highest priority problems
- GREATER INVESTMENT IN HRD (5% of aid)
- INTERNATIONAL MECHANISMS - monitoring and technical support

**Essential National Health Research (ENHR)**

- Research on country-specific health problems, needed to formulate sound policies and plans for field action
- Contributions to global health research:
  - New knowledge and technologies to solve health problems of general significance
  - Relevant to problems of the country

- **Goal:** *promote health and development based on equity and social justice*
- **Content:**
  - Research: biomedical, clinical, epidemiological, behavioral and social
  - Health system research and policy analysis

*Emphasis on important problems affecting the population and disadvantaged and vulnerable groups*

- **Mode of Operation:** Inclusiveness (researchers, health care providers, community) in planning, promoting and implementing programs.
- **Essential National Health Research Questions:**
  1. To what extent have the recommendations been implemented?
  2. Have they made a real difference in the lives of the disadvantaged?
  3. What is the current situation in health research for development?
  4. What impact on health and equity do national and global efforts have?
  5. Where do we go from here?

#### **Unprecedented Changing Paradigm in the Last Decade:**

- Collapse of the Communist Block
- Economic crisis in Asia
- Ethnic and territorial conflicts throughout the world
- Massive population movement and migration
- National disasters
- Globalization, information, communication and knowledge

#### **Unprecedented Changes in Health Areas:**

- Spread of health problems across national boundaries: AIDS, drug-resistant malaria, tuberculosis: vulnerability of nations
- Scientific breakthroughs: genomes; new drugs and vaccines; new methods (reform efforts and health system performances)
- Attention to health and poverty: Millennium Summit of World Leaders at the UN
- More inequity

#### **New Initiatives**

- The WDR 1993: Investing in Health
  - Test the development of nationally defined health intervention packages
  - Redirecting investment in equity-oriented health development led by the World Bank
- The Ad Hoc Committee five-step approach to resource allocation for strategic health research
- Global Forum for Health Research
- Alliances for Policies and Systems Research
- Global Public and Private Partnerships:
  - Pharmaceutical industry's involvement in the neglected areas of health research
  - Bill and Melinda Gates Foundation
  - Rockefeller Foundation:

*Do these efforts contribute optimally to a strong and self-reliant national health research system?*

*Do these efforts strengthen or weaken international efforts to support the national systems?*

**Response to Commission's Recommendation:**

- **Strategies adopted by 55 countries:**
- **International partnership to address high priority health problems:**
  - Ad Hoc Committee
  - Private-Public Partnership on specific problems
  - Vertical more than horizontal/systems => may affect capacity at country level

**Mobilization of financial resources: Not materialized**

- GFHR 2000
- Resource flows

**International mechanism to monitor progress and provide support:**

- COHRED
- GFHR
- Others

**Revitalization of Health Research: What is needed?**

- **Vision for Health Research**
  - Driven by Equity

- Country Focus: Needs and Priorities
- Within an interactive regional and global framework
- **Key Features:**
  - Strengthen immediate work environment of health researchers
  - Strategic international networks, partnerships and alliances to make the voices of developing countries heard
  - Link health research closely with development agenda
- **Develop an Effective Health Research System**
  - Clearly defined goals and shared values
  - Operating Principles:
    - Appropriate functions: stewardship; financing; knowledge generation; utilization and management of knowledge; capacity development
    - Structure and Governance
- **Some Operating Principles**
  - National policies, plans & priorities
  - Targeted financing
  - Integration with health development
  - Multi- inter- sectorality
  - Long-term perspective
  - Ethical code
  - Communication and networking
  - Subsidiary
  - Monitoring & evaluation
- **Desirable Characteristics of "Structures"**
  - Robustness of Vision: advance health research for development at all levels in a comprehensive manner (5 functions)
  - Competence and Effectiveness: top notched technical advisor and effective external review process
  - Credibility and accountability with multiple stakeholders
  - Effective advocate and linkage with Health Development System
  - Capacity to generate research funds
  - Support lower level entities in their organizational effectiveness
  - Good governance (Internal Review Process)
  - Cost-effectiveness
- **The Framework**
  - Equity (including gender equality & sensitivity)
  - EVIDENCE as basis for improved health
  - EXCELLENCE



- KNOWLEDGE = PUBLIC GOOD

### **Governance: Key for Development of the Health and Research System**

- **Research is essential for the Good Governance of the Health System**
  - Empowerment of the public
  - Enhance effectiveness of NGOs
  - Enhance accountability of executive branch
  - Align donors to national priorities

### **CIVIL SOCIETY**

#### **STRATEGY 1 (Target)**

- **MORE KNOWLEDGE**
  - More in quantity
  - Better quality
  - Better management and use

#### **STRATEGY 2 (“level”)**

- **NATIONAL FOCUS**
  - Mechanisms at country level
  - More effective arrangements at all levels, focused on country strengthening
  - Connectivity

#### **STRATEGY 3 (means)**

- **CAPACITY DEVELOPMENT**
  - health research quality
  - research management, use & demand
  - ICT mechanisms
  - ALL players
  - retention of capacity
  - strategic partnerships

#### **STRATEGY 4 (support)**

- **MORE MONEY**
  - assess baseline and flows
  - increase resources (% from national and donor “purses”)
  - increase appropriate use (focused on HR for equity)

- strengthen management capacity

#### **STRATEGY 5 (governance)**

- **WELL-ALIGNED GLOBAL STRUCTURES FOR EFFECTIVE SUPPORT OF COUNTRY AND REGIONAL HRD**
  - codes of good practice
  - monitor & review
  - advocacy

After the in-depth presentation by Dr. Chitr, **Dr. Hyder** was invited to give his talk on priority setting for health research. The salient points of his talk are given below:

c) **Presentation on Priority Setting - Methods and Framework**  
**(Dr. Adnan Hyder):**

Full text has not been received. The slide presentation follows:

**Health Research & Development: A Global Imperative**

- It is estimated that 85% of the world's population lives in low and middle-income nations; it is also estimated that these same countries suffer 92% of the disease burden
- The burden for all types of diseases is higher in low and middle-income nations as compared to high-income nations. The rate of DALYs per 100,000 for the year 1998 indicates that in low and middle-income nations the rate of:
- The 10-90 disequilibrium in health research is a major inequity. It reflects that of the estimated \$70 billion spent every year on health research, only 10% or less is used for health problems relating to 90% of the world's people.
- What can we do about the 10-90 disequilibrium?

**Why Prioritise a Research Agenda**

- Limited resources for health and health research
- Balancing interest of different constituencies
- Coordination amongst actors in health research
- Addressing local needs and requirements
- Focus on both tool development (generation of knowledge) as well as implementation
- Levels of intervention differ from local to national

**Priority Setting Tools**

The features of a generic priority setting method are:

- Systematic method
  - Applicable at various levels
  - Evidence based
  - Provides links between research for tool development, application and policies
  - Useful for comparisons amongst (within) diseases
  - Useful for the identification of research gaps

**Priority Setting Process**

A generic priority setting process for health research will have the following steps:

- Problem definition
- Identification of stakeholders
- Description of an 'ideal' control situation
- Identification of literature on research
- Description of information gaps
- Review of national activities
- Review of institutional comparative advantage
- Matching requirements of other programmes

### **Examples of Priority Setting Tools**

- The Visual Health Profile of WHO released in December 1997
- The «Five Steps » in Priority Setting proposed by the Ad Hoc Committee of WHO in 1996 :
  - What is the disease/risk factor burden?
  - Why does the burden persist?
  - How cost effective are present interventions?
  - How cost effective could future interventions be?
  - What are the resources currently flowing to address this issue?
- The addition to the « Five Step » process, an institutional overview of the determinants of health by the Global Forum for Health Research in 1999:
  - Individual, family and community determinants
  - Level of Health Ministry, research institutions, health systems
  - Sectors other than health
  - Central Government

The placement of the five-steps in rows and the determinants in columns lead to the framework proposed by the Global Forum.

### **Common Framework**

The features of a useful framework for priority setting in health research are that it:

- Consolidates information
- Promotes communication
- Identifies linkages between types of research (basis to be applied)
- Places research into context; and
- Assists identification of new research areas (helps define competitive advantages)

### **Factors Necessary for Capacity Strengthening:**

- *Defined national research priorities*
- Systematic effort involving all actors
- Multi-disciplinary approach
- Sustained effort with a long-term perspective

- Balance between human and physical capacities
- Defined policy to limit brain drain
- Measurable indicators of success
- Systematic analysis of factors of success/failure
- Regular consultations at regional/international levels

### **Points for Discussion**

The following are issues that will require further discussion within any country:

- Overall health research governance:
  - diversity of actors
  - defining roles and collaboration principles
- Fields of health research:
  - (1) biomedical issues
  - (2) behavioural and community issues
  - (3) sectors outside health with profound influence on health
  - (4) good governance issues affecting health research
- The research “loop”:
  - (1) creation of knowledge
  - (2) validation of knowledge
  - (3) transformation into best practices
  - (4) dissemination
  - (5) identification of gaps and development of initiatives to fill the gaps
  - (6) development of indicators to measure impact on health status
  - (7) feedback on orientation and design of future research - focus on the weakest link/s
- How to increase the efficiency/effectiveness of the research “loop”:
  - research (process, tool)
  - knowledge (research outcome)
  - change in health status of populations (global objective)

Communication is a critical part of the research process and should be considered integral to it. It involves an interactive dialogue with :

- community/people/customers
- policy-makers/decision-makers

### **Conclusions**

- Identifying priorities is as important as conducting research itself.
- The *process* is a critical part.
- The methods used are *tools* and are as good as the users and the purpose.
- Review information available and research conducted elsewhere.
- Consider a wide variety of areas including conditions and risk factors.

These two presentations were followed by a discussion in which the participants fully contributed and exchanged their views and comments with the speakers.

The plenary session ended at 1330 hours.

## **1.2 Inaugural Session:**

Dr. Atta-ur-Rehman, Federal Minister for Science and Technology presided over the inaugural session. The Director General Health delivered the keynote address.

In her welcome address, Dr. Tasleem Akhtar, Executive Director, PMRC, acknowledged the contribution and efforts of certain institutions and individuals to the health research effort in Pakistan. Dr Akhtar regretted that overall health research had, as yet, not found a place even on the priorities list of the Ministry of Health, leave alone the country. She said that research culture is lacking and that there is no demand for research. The Pakistan Medical Research Council, she said, was established with the primary responsibility of addressing these issues but, owing to reasons known to the participants, had not been able to make an impact. She assured them that the Council is fully conscious of its responsibilities and has resolved to revitalize health research in the country. She emphasized the fact that the Council is not an isolated, discrete entity working in its own isolated offices and institutions. Without their guidance, cooperation, collaboration and participation there can be no effectively functioning PMRC. She described the actions, which the Council is contemplating for more effectively achieving its objectives (full text given as **Annexure 2.2**).

Surgeon Rear Admiral Mohammad Aslam, Director General, Ministry of Health, presented the keynote address. He drew the attention of participants to the immense problems in the health sector, which include the less than satisfactory governance, the increasing burden of disease and the widening gap between needs and available resources. He also described some of the actions being taken by the government. These include the Primary Health Care programme, the poly-immunization program, which is on the verge of eradicating polio, and the National Program, which is taking health care to the households and families through the lady health workers. He mentioned the health sector reform effort with its key components of devolution of authority to the district level, the award of autonomy to hospitals and the development of public-private partnerships for the delivery of health services.

He acknowledged that evidence-based policy, planning and decision-making is yet to be institutionalized. He dilated on the critical role of knowledge in the development of countries and the key role of information in the efficient utilization of the spectacular advances made in the health field. Alternate to this, he said, is the danger of the accentuation of inequality. He expressed the opinion that an essential need of the country is to develop capacity for acquiring, adapting and applying the available knowledge to its own specific needs. He acknowledged the role of the Commission on Health Research for Development in focusing

world attention to the global neglect of research on the health problems of developing countries. He said that the report of the Commission has triggered and accelerated global effort for the promotion of health research in the developing countries and that Essential National Health Research (ENHR), the strategy recommended by the Commission, is being adopted by many developing countries. The closing years of the last millennium, he said, saw the near universal acceptance of the fact that research is a need and not a luxury.

He went on to narrate the development of health research in Pakistan and the role and responsibility given to the Pakistan Medical Research Council. He discussed some of the reason as to why health research had not yet taken off in the country and informed the participants about the actions being taken to strengthen the PMRC and revitalize research.

**Before concluding his address the DG announced that the Ministry of Health had decided to accede to the PMRC request for the grant of a lump sum amount from the Central Health Research Fund.** (Full text of the keynote address is placed as **Annexure-2.3**).

### **1.3. Summary of Proceedings**

Dr. Adnan Hyder developed and presented the following summary of the deliberations of the meeting:

#### **The Meeting Process**

The Seminar on Health Research Priorities for Pakistan began with a plenary session, which explored the rationale and need for setting health research priorities at the national level. In addition, the plenary speakers provided the audience with suggested guidelines for group work and criteria for selecting priorities. The meeting then proceeded with group work for more than 6 hours using the top intellectual and human resources present at the meeting. The group discussions were based on the values of *equity* and *social justice* and had the mission of developing a relevant and essential national research agenda. The entire deliberations were framed within the context of scarcity of resources for health and especially health research in Pakistan.

The working meeting provided an excellent opportunity for researchers, health professionals, representatives of NGOs and policy-makers to discuss and share views. The participants were divided into 8 groups and reported their findings as described below. List of groups and participants and their reports are placed at **Annexure 2.4 to 2.7**.

## **Communicable Conditions**

The group assigned to explore research priorities within communicable conditions established a specific consultative group process. They decided to use the following criteria for setting priorities:

- Magnitude of the disease burden
- Prior research work done on the disease
- Feasibility of research and research products
- Potential impact of research product

The group was self-critical of the somewhat subjective nature of the process but considered it a good beginning.

The group listed the following priorities based on their evaluation:

- TB (epidemiology, resistance)
- Respiratory infections (etiology, prognosis)
- Malaria (epidemiology, resistance)
- Hepatitis B, C, E (risk definition)
- Viral diseases
- Microbial resistance (quality control, labs)
- HIV/AIDS
- Diarrheal diseases
- Vaccine preventable diseases (measles)
- Social, economic, behavioral factors
- Surveillance and outbreak response

However, the group did not have time to further work out the priority list within this list and decided to postpone that for post-meeting interactions.

## **Non-Communicable Conditions**

The priorities listed by the group discussing non-communicable conditions were:

- Cardiovascular conditions
- Diabetes
- Cancers (especially breast, lung, oral) – development of a tumor registry
- Risk factors (HTN, lipids, smoking, obesity)
- “Accidents” (especially road crashes)
- Violence against women

The group, however, did not stop at thinking through the research priorities but also spent some time exploring control efforts at multiple levels such as:

- Individual, community, society
- Institutional levels, systems



- \* Knowledge of community/public awareness
- \* Food producers

They wanted to discuss the potential impact of any recommendations that may emanate from research conducted within Pakistan and to map out the other stakeholders within the country.

A second group was convened on communicable diseases in consultation with the Group facilitator after the seminar.

### **Mental Health**

The group discussing mental health issues was very dynamic and began deliberations by exploring the major issue around mental health in Pakistan – social stigma. They propose a package of research and action interventions that they called, “Country Specific Action Based on Research and Equity” (CARE).

The group came up with more than 32 specific research areas requiring work within Pakistan. However, they further prioritized that list and suggested that priorities for the short term include:

- Better assessments of the epidemiology of mental health in Pakistan, including estimates of the burden of disease
- Knowledge Attitude Practice assessments for different stakeholders within the country to enhance our understanding of the ground realities.

The group suggested that research priorities for the long term would include:

- Development of a mental health registry,
- Evaluations of local treatment strategies, and
- Evaluation of the effectiveness of the recent new mental health legislation of 2001.

The group stressed that changes in the research environment in Pakistan were critical for the promotion of relevant health research. The group also suggested specific research into existing inequities with the recognition of “special groups” and “risk factors” for mental health. The group placed an important stress on the “process” of national health research by indicating that good leadership was important together with strong international linkages. Finally they proposed the creation of an ENHR Unit within the PMRC.

### **Reproductive Health**

The group on reproductive health began by developing their one conceptual framework for health research priorities. They developed a simple list of 4 questions that they attempted to answer:

- What research is required in Pakistan for reproductive health?
- Why is this research required?
- Can such research be done in the country?
- What will be the result of that research?

Using this framework the group proposed the following list of priority issues:

- Safe motherhood & maternal health: especially maternal mortality\*\*
- Adolescent health: especially estimates of morbidity\*\*
- Family planning: community based delivery systems\*\*
- Reproductive Tract Infections (including STDs): especially morbidity estimates\*\*
- Vital registration systems
- Infertility research and intervention studies
- Cancers of the reproductive system\*\*
- Violence against women
- Male participation in reproductive health programs

The group went on to select the marked topics as high priority (\*\*HIGH priority) based on their understanding of the issues in Pakistan.

### **Capacity Building**

The group discussing capacity development had a vast agenda and explored the application of capacity development at two different levels:

- Strategic management of an institution/s (as part of the mission)
- Operational aspects (including educational development issues, use and generation of resources, and marketing of programs and products)

As a priority the group recommended the development of a “National Health Research Policy” for Pakistan. This national policy would guide the development of research agendas and the conduct of research within the country. The group also stressed the need for strengthening the PMRC, which has the function of promoting, coordinating and disseminating research within the country.

The group indicated that the research on the issues of capacity development revolves around human resources (largely evaluative research) and how they have been developed and used. The increasing importance of the private sector in Pakistan for health care delivery was another area for concern and work in terms of health research. This also reflected on the national need for research on standards and quality assurance of the health care system in the country.

### **Health Systems/Policy**

The conceptual framework used by the health systems group included two axes. One considered the role of behaviors, institutions, and the context of research while the other focused on the need to improve the goals of the health system. The group focused on the operational principles of multi-sectoral, multi-disciplinary

and multi-institutional research that focused on cooperation, collaboration, and networking.

The group proposed a long list of research topics and indicated that priority health systems research issues include:

- Health sector reform/health financing/health policy
- Socio-cultural/traditional aspects of health
- Macro assessments of health care/public-private mix

The group also suggested that the certain organizational issues and actions would be required to catalyze such research within the country. They suggested that health systems research funds be generated in a joint capacity by institutions; and that efforts for capacity development need evaluation more than a simple count of publications.

### **Perinatal & Child Health**

The perinatal health group decided to use the five-step process as modified by the Global Forum and provided the participants with the results of their process. The Global Forum framework was found to be entirely or partly useful within disease/condition entities. The specific references to all the 4 types of determinants for a disease could not be used in every case.

The group proposed research priorities within the following five areas:

- Perinatal/newborn health: especially socio-behavioral issues and further development of community based interventions
- Malnutrition: micronutrient deficiencies, maternal nutrition, and low birth weight
- Poverty and child health: impact of health sector reform, development and resting of social safety nets for children
- Communicable conditions: diseases not usually funded such as typhoid
- Evaluation of current/previous programs for perinatal and neonatal health to learn of their impact on the health status of the current population.

### **Common Themes from Groups**

The working groups used different group processes and varied their use of criteria for setting research priorities. However, they all shared some common features as follows:

- The level of prioritization differed between groups – some produced a general list while others developed their “top” priorities.
- Capacity building for health research was a common theme in all of the groups.
- Improving the research environment was important to all of the discussions.

- ✱ Generation of resources – widen the definition of “resources” to include human, technical, equipment and financial issues were clarified several times during the meeting.
- ✱ Use of products for research (policy development and implementation) is part of the “research enterprise” and needs to be addressed
- ✱ Recognition of the determinants/risk factors for each disease and condition is important for the research agenda within Pakistan.

### **Additional Issues to Consider**

As a result of the discussions at the seminar some additional issues for health research in Pakistan were also recognized:

- ✱ The use of methods for priority setting may differ according to the issue under discussion. This means that the same specific method or criteria may not be suitable for all types of research.
- ✱ The process needs to be informed by evidence and national data needs to be considered. This was within the context of questioning the quality of information available in the country.
- ✱ There are important health systems issues awaiting research such as the poor use of existing structures (such as the primary health care system) in the country. These issues must be addressed urgently.
- ✱ Ethics of research must be addressed within the context of national ethical guidelines and the development of institutional ethics committees.
- ✱ Operational quality and scientific rigor of research must be maintained. The system of peer-review needs to be strengthened, as do the skills of national researchers.

### **Conclusion**

The participants concluded that the meeting was an important step in a larger *process* of health development in Pakistan. The success of this meeting depends on the action plan and next steps taken to implement the suggestions made in the meeting. More importantly, the meeting and action plan are not just for the Pakistan Medical Research Council, but also for all partners within Pakistan.

## **1.4. Health Research Agenda: Action Plan and Next Steps**

Presented by Dr. Tasleem Akhtar, Executive Director, PMRC:

### **Summary of Activities:**

Dr. Tasleem informed the participants that the on-going Seminar was part of the process started by the PMRC for boosting health research in Pakistan

- The process started in November 1998 with the National Seminar at Islamabad on the role of health research in development and the restructuring of the PMRC;

- The Seminar on health research priorities for Pakistan is a continuation of the national dialogue;
- This will be followed by further consultations to:
  - Refine, develop and disseminate a comprehensive research agenda
  - Operationalize the research agenda developed

### **Immediate Next Steps**

- Convene a smaller group/groups to convert the tentative list of priorities recommended by the Seminar into a comprehensive National Health Research Agenda document.
- Disseminate the agenda to stakeholders including:
  - **Policy-makers**
  - **Donors**
  - **NGO's**
  - **Civil society**
- Continue dialogue on research priorities, especially with other partners

### **Prepare a Plan of Action for:**

- The adoption of the national health research agenda by decision-makers
- Generating resources for operationalizing the agenda
- Planning for impact assessment of the research undertaken under the agenda.
- Development of an “oversight” function to evaluate and monitor research and research investments in the country

### **Generating “Resources” within the Country**

Working together under the principle of *solidarity and collective* action for the benefit of all project plans and proposals will be developed to access the funds from the following resources available within country:

- Central Research Fund in the country
- R&D Allocation in grants and loans
- Annual development plan budgets
- WHO and Bilateral aid plans

### **Developing Human Resources:**

- Identification of skills/strengths within institutions for capacity development;
- Identification of needs, based on national health research agenda;
- Development of projects and programs for capacity development at the national, provincial and local levels;
- Planning career structures and pathways for researchers in the country.

### **Linking with “Resources” Outside of the Country**

- International organizations (COHRED, Global Forum)
- Donors (World Bank)
- International Networks (INCLIN)
- REGIONAL efforts (WHO-EMRO)

### **Improving Research Environment**

- Important “need” within Pakistan to sustain research efforts
- Identification of “career pathways” for researchers
- Use of professional incentives in creative ways
- Addressing “brain drain” (internal and external) reasons for qualified personnel moving to other locations and institutions
- “Centers of Excellence” concept (WHO) to be applied within the country so that intra-country technical support can be obtained on specific issues

### **Role of PMRC in the Action Plan**

- Provide leadership for the implementation of the national health research agenda. Promote, organize and coordinate action.
- Establish linkages and collaboration
- Advocate utilization of the research undertaken
- Facilitate and assist researchers in accessing resources
- Generate resources
- Plan and implement capacity building for research

### **Role of Partners in the Action Plan**

Diversity of partners and their roles need to be acknowledged; some will be involved in promoting research, others in conducting it and still others in utilizing the results – but all are important stakeholders in this national health research enterprise. Different agencies have a role at various points in the process.

More specifically the partners will:

- Take the national health research agenda to individual institutions to promote dialogue and ownership – “internalize it”
- Disseminate within and outside of the country at every opportunity
- Contribute to the further refinement of the agenda over time
- Contribute to operationalizing it both within the institution and the country

Dr. Tasleem concluded that with the hope and support, cooperation and collaboration of the participants and other stakeholders, PMRC will be able to achieve its immediate objective of revitalizing health research and implementing the research agenda, based on the priorities identified by the participants of the Seminar. The Seminar, she said, will prove to be a milestone in the institutionalization of Essential National Health Research in Pakistan.

## **Welcome and Introduction of Speakers at the Plenary Session**

Dr. Tasleem Akhtar, Executive Director PMRC

Dr. Chitr Sitti-Amorn, Dr. Adnan Hyder, colleagues, ladies and gentleman, it is difficult for me to find words to express my overwhelming gratitude to you all, for sparing your time to participate in the PMRC's various activities, whenever we have called you; often at short notice. The last time we met was in November 1998, when we all sat together to discuss the role of health research in national development and to formulate recommendations for the strengthening and restructuring of the PMRC, to enable it to be a leader in the field as envisioned by its founders. I must assure you that your recommendations on that occasion have not gone into cold storage. In fact, this Seminar is one of the recommendations of that consultation, which is being implemented. The implementation of the other recommendations; like capacity building, identification and accessing of financial resources for research, strategies for linking research to policy and the establishment of an information resource center, has been started. We are depending on all of you for your support and guidance in our efforts and activities for re-vitalizing health research, putting it on the priorities list of the country and ultimately institutionalizing it, not only within the health care delivery system of the country but in all other sectors and spheres of our lives. This is the need and demand of the new millennium and we can no longer afford to ignore it if we sincerely want our country to participate as an equal among nations in the globalized world of today.

The program of this Seminar has undergone some revision. This session, which previously combined the inaugural and plenary sessions, has been split up. The Minister for Science and Technology, who very kindly accepted to inaugurate will join us in the evening. Therefore, the Inaugural Session will be in this auditorium at 1630 hours. I apologize for any inconvenience, which may have been caused by this adjustment.

It is my pleasure to introduce the two speakers of this plenary session: Dr. Chitr Sitti-Amorn and Dr. Adnan Hyder.

Dr. Chitr is representing the Council on Health Research for Development (COHRED). COHRED, as most of you know, is a Geneva based organization, which was created to promote the implementation of Essential National Health Research in developing countries. Dr. Chitr is the founder Dean of the College of Public Health at the Chulalongkorn University, Bangkok, Thailand. He is also the president-elect of the International Epidemiology Association. He has had a very diverse background, starting as a neuroscientist, then becoming a clinician, an epidemiologist and finally a founding dean of a public health institution at the oldest university of Thailand. He is a member of the WHO Advisory Council for Health Research, the Advisory Committees on the Rational Use of Drugs Program and Management Sciences for Health and is the COHRED's Asian Focal Point. He is an important member of a group, which is very successfully promoting

ENHR in the South East Asian countries. His knowledge and experience will help us a lot in achieving the objective of our Seminar.

Dr. Adnan Hyder is a 1990 graduate of the Aga Khan University, Karachi. He is an Assistant Research Professor and Director of the Doctor of Public Health (DrPH) Program in the Department of International Health of the School of Hygiene and Public Health at the John Hopkins University. He is also Joint Faculty of the John Hopkins Bio-ethics Institute. Dr. Hyder also serves as a long-term consultant to the Global Forum for Health Research and the World Health Organization in Geneva. In addition, he is Pakistan Program Manager for the Council for Health Research and Development in Geneva. Dr. Hyder has been working on health systems development in developing countries for many years and has widely published issues related to the burden of disease measures, ethics and equity, and the new burden of injuries in the Third World. Dr. Hyder has adjunct positions in Pakistan with a number of organizations especially the Health Services Academy, Islamabad and has worked with the Pakistan Medical Research Council for several years. Dr. Hyder obtained his MBBS from the Aga Khan University and his Masters in Public Health and Ph.D in Public Health from the John Hopkins University, USA.



## Welcome Address at the Inaugural Session

Dr. Tasleem Akhtar, Executive Director PMRC

Dr. Atta-ur-Rehman, Minister for Science and Technology, Rear Admiral Surgeon Mohammed Aslam, Director General Health, guests, colleagues, ladies and gentlemen, it is my proud privilege to welcome you all to this Seminar for developing a consensus on the health research priorities for Pakistan. It will be presumptuous on my part to set out to inform the distinguished participants of this Seminar, on the fundamental importance of this activity in the field of health research. In your response to my first letter on the subject, and most of you very kindly took the trouble to respond, you emphasized that this was something long overdue.

When I say that health research has yet to take off in Pakistan, I do not mean to belittle the individual contribution and efforts of certain institutions and individuals who we all know are doing a splendid job. What I want to record is that health research has, as yet, not found a place even on the priority list of the Ministry of Health, leave alone the country. We have as yet not created the required research culture, environment and the demand for research in our different spheres of activities and the lack of evidence-based policy, planning and decision-making continues. The Pakistan Medical Research Council was established with the primary responsibility of addressing these issues. I am not going to waste your time on reasons and excuses for the lack of impact of the efforts of the Council so far. I would like to assure you that the Council is fully conscious of its responsibilities and has resolved at the dawn of the new millennium, to review and revise its policies, plans and strategies to revitalize its efforts to achieve its objectives. Our core strategy of collaboration with you all, and facilitating and assisting the research efforts of institutions and individuals will be implemented with new vigor and commitment. I take this opportunity to emphasize the fact that the Council is not an isolated, discrete entity working in its own isolated offices and institutions. All of you are the PMRC and without your guidance, cooperation, collaboration and participation there can be no effectively functioning PMRC.

The re-thinking of strategies has been going on within the Council for some time now. In 1998 we convened a national consultation to define the role of health research in national development and to get your advice and guidance on the restructuring of the PMRC to make it more effective. Most of you participated in that activity. This Seminar is one of the recommendations of the consultation. We have also started working on the implementation of the other recommendations of the consultation. The fundamental issue of resources for health research is being addressed by locating the various sources of funds and with the help and support of the Ministry of Health accessing these funds. A dialogue has been initiated with the Ministry of Health (MoH) and the Finance Division on optimizing the utilization of the Central Research Fund, which has been established with the 1%

levy for research on the profits of the pharmaceutical industry, since 1978. PC1s have been submitted to the Ministry of Health for the funding of capacity building of the PMRC and institutionalization of Health Systems Research within the Health Care delivery system of the provinces under SAPP 11. Recommendations for allocation for health research capacity building and funding of research under the JPRM of MoH and WHO have been submitted for consideration on the occasion of the visit of the Director General WHO. The research agenda that is expected to emerge from the deliberations of this Seminar, will form the basis of accessing the Health sector allocation from the substantial amount of funding made available for R&D by the present government. Strengthening of the PMRC head office is being done to enable it to meet its functions of a health information resource, a provider and promoter of the utilization of research in policy and planning and as a coordinator of health research.

The results of the deliberations of this Seminar are of critical importance for us. The health research priorities, which will be identified by the different groups, will form the basis for developing a research agenda. This research agenda will guide the determination of the resource needs for health research over the coming years and will help define the direction of health research in Pakistan.

I thank Dr. Atta-ur-Rehman and all of you once again for your participation, support and guidance in this essential national activity."

**Keynote Address by:**  
**Surgeon Rear Admiral Mohammad Aslam**  
Director General Health, Govt. of Pakistan

Dr. Atta-ur-Rehman, Minister for Science and Technology, Mr. Ejaz Rahim, Secretary Health, Dr. Tasleem Akhtar, Executive Director Pakistan Medical Research Council, participants of the Seminar, guests from abroad, ladies and gentleman, I join the Secretary Health in welcoming you to the Seminar. The research agenda, which will be developed on the basis of the research priorities listed by you all, will be a major input for boosting health research and putting it on track in Pakistan. We, in the MoH, look forward with immense interest to the outcome of your two days of deliberations and I assure you that whatever action is required of the MoH will be taken on your recommendations.

All of you, being senior level professionals and leaders in your respective fields, are well aware of the immense problems in the health sector, which include the less than satisfactory governance, the increasing burden of disease within our population and the widening gap between needs and available resources. You also know of the many programs, which have been undertaken and which are currently on going to respond to these problems. We are proud to have implemented a well-structured Primary Health Care program, a poly-immunization program, which is on the verge of eradicating polio, and a National Program of Lady Health Workers, which is taking health care to the households and families. The currently on-going health sector reform effort is aimed at addressing the governance and resource constraint issues of the health sector. The devolution of authority to the grass roots level through the District Governments will enable the different stakeholders to participate in health care. Through this strategy it is hoped that the long talked about but elusive concepts of community participation and the inter- sectoral approach to health care will start to be implemented. The other two components of health sector reform being implemented currently are the award of autonomy to hospitals and the development of public-private partnerships for the delivery of health services.

A still to be addressed issue is the institutionalization of evidence-based policy, planning and decision-making. Knowledge has become a key factor in the development of countries. According to the World Bank, today's knowledge explosion is dividing the world into fast-moving rich countries that use knowledge and the slow-moving poor countries that do not. Nowhere is this more true than in the health field. The spectacular scientific breakthroughs, such as the human genome mapping, the new technologies for drug and vaccine development and the evaluative frameworks for the appraisal of health reform efforts and the performance of national health systems hold the promise of more effective prevention, management and treatment for disease provided countries have the capacity and necessary strategies to use this knowledge for the betterment of the health of their population and for their health sector development. The alternate is the danger of the accentuation of inequality. Our resources and the present level of capacity in the health field prevent us from becoming major producers of knowledge. What we need to concentrate on is to develop the capacity for

acquiring, adapting and applying the available knowledge to our own specific needs.

Those who know have never denied the need for research. However, it was the National Commission on Health Research for Development, an independent international initiative, formed in 1987 with the aim of improving the health of people in developing countries, which emphasized the critical role of research development in its report released in 1990. This report has triggered and accelerated global effort for the promotion of health research in the developing countries and Essential National Health Research (ENHR). Its recommended strategy is being adopted by many developing countries. The closing years of the last millennium saw the near universal acceptance of the fact that research is a need and not a luxury. Research generates information, which helps in identifying needs, prioritizing needs and distributing resources according to need. As very wisely stated by a leader of one of the developing countries, “It is because we are a poor country, that we cannot afford not to do research”.

The need for research as an essential underpinning of development was recognized early in Pakistan. The Pakistan Medical Research Council was established in 1962 on the recommendation of the Medical Reforms Committee to promote, organize and coordinate research and link it to the development plans of the country. The Council has succeeded in establishing a network of research centres all over the country to assist and facilitate health research and promote research collaboration within the country. We are far ahead of many developing countries as far as infrastructure is concerned. However, owing to the neglect of human resource development, the effective operationalization of this infrastructure has not happened. The system has been working under the assumption that advance qualifications automatically confer on individuals, the understanding and capacity for research. This may be true for the pure sciences to some extent, but not for medical sciences. Research has no place in our premedical, undergraduate medical and most postgraduate medical education. Coupled with the socio-cultural influences, which actively suppress critical thinking, the lack of exposure to research in the educational system results in an end product devoid of the capacity for critical analysis. Our health care delivery system therefore suffers from a severe lack of capacity for research both at the academic and the service delivery levels. Now that this critical issue has been recognized, appropriate measures are being taken to address it. As a first step, capacity strengthening within the PMRC is being done to develop a core group, which in turn will help develop a critical mass of researchers within the health care system. The Council has adopted the Essential National Health Research strategy put forward by the previously mentioned Commission on Health Research and now being promoted by the Council on Health Research for Development (COHRED). After a prolonged ban on recruitment, the Council has at last been allowed to fill some of its large number of vacancies. The Council is also taking advantage of the Ministry of Science and Technology’s program of provision of short-term consultants. A PCI for provision of funds under SAP for capacity building with the PMRC has been put up. A career structure for health researchers has been developed and is with the MoH for review and approval. Proposals and recommendations for the restructuring and strengthening of the Council have been prepared and are under consideration.

This Seminar for developing a consensus on the health research priorities for Pakistan is the first essential step in revitalizing health research in general and the PMRC in particular. On behalf of the MoH I thank you for your participation in this very important activity and look forward to the results of your deliberations. I assure you that your efforts will not be allowed to go in vain.

I wish you all success with your discussions and deliberations.

**GROUPS:**

1. CAPACITY BUILDING FOR HEALTH CARE
2. HEALTH SYSTEMS RESEARCH
3. REPRODUCTIVE HEALTH
4. PERINATAL AND CHILD HEALTH
5. COMMUNICABLE DISEASES
6. NON-COMMUNICABLE DISEASES AND INJURIES
7. MENTAL HEALTH
8. HEALTH CARE FINANCING

| <b>Group</b>                           | <b>Moderator</b>              | <b>Presenter and Facilitator</b>          |
|----------------------------------------|-------------------------------|-------------------------------------------|
| CAPACITY BUILDING FOR HEALTH CARE      | Prof. Nasiruddin Azam Khan    | Dr. Franklin White                        |
| HEALTH SYSTEMS RESEARCH                | Maj.Gen. ® Akhtar A. Qureshi, | Dr. Anwar Islam                           |
| REPRODUCTIVE HEALTH                    | Dr. Sadeqa Jaffery            | Farid Midhet                              |
| PERINATAL AND CHILD HEALTH             | Dr. Fehmida Jalil,            | Dr. Zulfiqar Bhutta                       |
| COMMUNICABLE DISEASES                  | Dr. Abdul Rab                 | Dr. Faisal Sultan                         |
| NON-COMMUNICABLE DISEASES AND ACCIDENT | Dr. S.J Zuberi,               | Maj. Gen. (Retd.) Iftikhar A Malik        |
| MENTAL HEALTH                          | Col. M. Rana,                 | Prof. Malik H Mubashir,                   |
| HEALTH CARE FINANCING                  | Dr. Mushtaq A. Khan           | Dr. Abdul Ghaffar/<br>Dr. Sameen Siddiqui |

## **List of Participants of Capacity Building for the Health Care Group**

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4. Prof. Dr. D.S. Akram, Professor of Pediatric, Dow Medical College, Karachi.
5. Mr. Abdul Samad Khan, Senior Scientific Officer, National Institute of Health, Islamabad.
6. Dr. Amanullah, Chief Executive Institute of Public Health, Birdwood Road, Lahore.
7. Dr. Azimullah Asif Jah Goraya, Senior Medical Officer, PMRC Research Centre, Bolan Medical College, Quetta.
8. Prof. Dr. Zahir Shah, Chief Executive, Khyber Teaching Hospital, Peshawar.
9. Prof. Farrukh A. Khan, Professor of Urology, King Edward Medical College, Lahore.
10. Dr. Muhammad Hussain, Head, VFMS, National Institute of Health, Islamabad.
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- 7 Dr. Akram Pervez, Executive Director, Child & Maternity Welfare Association, Gulberg-II, Lahore.
- 8 Dr. Abdul Bari, Save the Children, Haripur.
- 9 Dr. Khalida Adeeb Khanum Akhtar, # 43 Race Course Road, Rawalpindi.
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4. Dr. Syed Ghulam Haider Kazmi, Associate Professor (Eco) C/o DPI Colleges Muzaffarabad, Kashmir.
5. Prof. Tariq Bhutta, # 240-W, DHA, Lahore.
6. Dr. Hashim Popal Zai, National Institute of Population Studies, Islamabad.
7. Dr. Asifa Murtaza, Consultant & Head, Department of Pediatric, Federal Government Services Hospital, Islamabad.
8. Mr. Muhammad Saleem, Chief Nutrition, NIH, Islamabad.
9. Dr. Dure Samin Akram, Prof. & Head of Deptt of Pediatrics, Dow Medical College, Karachi.

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4. Prof. Noor Muhammad Memon, Professor of Medicine, Liaquat Medical College, Jamshoro.
5. Dr. Asif Ali Jah Goraya, Senior Medical Officer, PMRC Research Centre, Bolan Medical College, Quetta.
6. Dr. Arif Munir, Director, Malaria Control Programme, Government of Pakistan, Blue Area, Islamabad.
7. Brig. Tariq Butt, Head Deptt of Microbiology, Armed Forces Institute of Pathology (AFIP), Rawalpindi.
8. Dr. Malik Manzoor A. Khan, Joint Executive Director, Pakistan Institute of Medical Sciences, Islamabad.
9. Dr. Huma Qureshi, Senior Medical Officer, PMRC Research Centre, Jinnah Postgraduate Medical Centre, Karachi.

### **List of Participants of the Non-Communicable Diseases & Injuries Group**

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- 3 Dr. Abdul Ghaffar, Health Services Academy, Bawal Plaza, Blue Area, Islamabad.
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6. Dr. Shehbaz a. Qureshi, Consultant Cardiologist, Federal Government Services Hospital, Sector G-6, Islamabad.

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- 8 Dr. Ijaz Haider, Consultant Psychiatrist, Health Department of Punjab, 6-C-1, Defence Housing Authority, Lahore Cantt.

## Group Reports

### 1. CAPACITY BUILDING FOR HEALTH CARE

**Prepared by: Franklin White, Chairman, Community Health Sciences, Aga Khan University, Karachi.**

#### **The Need for a National Research Policy:**

Pakistan needs a national research policy; this may require an “ordinance”. The concept of “national” needs to be broadened beyond the federal public sector, to include the private sector, in order to reflect and to take full advantage of capacities evolving throughout the country. This principle may also be applied to the PMRC.

#### **Importance of a Strategic Approach:**

The promotion and development of research (viewed as a “rigorous enquiry to increase knowledge and improve practices”) cannot be achieved in any institution unless this is embodied within the mission of the institution. Relevant institutions therefore are to be encouraged to review their missions, to ensure that there is adequate recognition for their role in research and development, and if this is found to be deficient in terms of the vision of any particular institution, to consider revising this aspect of the mission statement.

#### **The Pakistan Medical Research Council:**

The PMRC itself needs to be strengthened. Its role should be facilitative, to guide and coordinate but not to be the sole structure for research. For example, university faculties must also develop their research capacities. Furthermore, there is a need to link the PMRC with all health sciences (not only medicine, but also nursing and other allied health sciences). While the PMRC must emphasize ENHR and promote priorities and equity, this must not in the process restrict research, which must be nurtured where it exists. The PMRC may identify centres of excellence based on merit, and subject these to periodic review to ensure continued validity and accountability. The PMRC should have a training capacity, and should have direct involvement in some national priority projects.

#### **Specific Research Needs:**

The working group focused mostly on human resource requirements, with reference to such issues as: quantity, quality, impact, barriers, incentives, effectiveness, efficiency, and consumer satisfaction. The health systems approach was thought to be most relevant, with a shift in emphasis away from traditional supply side issues to questions more directly relevant to population needs. In this connection, the present role and effectiveness of the PMDC was questioned. However, action is also required at the level of medical colleges themselves, especially in relation to the need to fully implement community-oriented education and problem-based learning.

Based on this discussion, the following issues for research emerged:

- why some medical colleges are not implementing PMDC recommendations on community-oriented education
- the need for medical colleges to innovate and evaluate (e.g. 5<sup>th</sup> year pre-internship)
- to assess the potential need, pros and cons of a national accreditation examination
- the involvement of medical students in projects in order to expose them to research
- the need for faculty development/teacher training programs
- to review mission statements for reference to research, and to encourage revisions if necessary

### **The Private Sector:**

The reality of a growing and now dominant private sector (estimated at 80% of service delivery in the National Health Survey of Pakistan), requires representation in relevant national policy fora. The following related questions emerged:

1. What are the characteristics (i.e. components, effectiveness, efficiency) of the private sector?
2. Why do people choose the private sector?
3. What is the meaning of this in terms of community participation, quality of care, and resource allocation?
4. How can public-private sector partnerships be developed?
5. How can the private sector become involved in health policy development?

Following discussion of these questions, the following recommendations emerged:

- That PMDC inspections and approvals of medical colleges must be unbiased with respect to whether the institution is of public or private origin.
- That a method of quality assurance be developed for all hospitals and related facilities (e.g. laboratories), that is to say, a uniform standard to be applied to

both public and private sector, keeping in mind that the ultimate goal is to meet the needs of the patient or consumers.

#### **Alternative Practitioners:**

There needs to be an independent assessment of alternative medical practices; research is needed in this area.

#### **Medical Products:**

Research is needed on drugs and equipment and related materials that have potential for marketing and income generation and/or conservation for Pakistan.

#### **Discussion:**

Following presentation of this report in plenary on February 27, questions from the floor included a query about the “brain drain” which represents a continuing loss of research capacity from Pakistan. In reply, the existence of both an internal and an external brain drain were noted, of which the internal (ie., talented people forsaking research to go into practice, due to the relative lack of support for research) may constitute the greater loss, given that those who leave the country to engage in research careers elsewhere, are at least still engaged in research (which may return some indirect benefits to the country, along with the world at large). The creation of a “research friendly” environment is the long term solution to this, and requires attention to many needs, from supportive mission statements, to adequate resource allocations, to mechanisms for supporting career development (including financial incentives for research). Another question had to do with requirements for accreditation of allied health professionals, other than PMDC and the Nursing Council; the group had not addressed this matter. Finally, there was a query as to whether “another regulatory layer” (i.e. a national accreditation examination as a requirement for medical licensure) was in the best interests of the country. While the group had not made such a recommendation, it had recommended that the adequacy of the present system (which allows any medical graduate to become licensed with the award of a medical degree, even without the requirement of an internship), should be studied. To give this question serious consideration at this time, as had been done in many other countries, may be in the best interests of professional competence and quality of care.

## **2. HEALTH SYSTEM RESEARCH**

**Prepared by Dr. Anwar Islam, Associate Professor and Head, Health Systems Division, Department of Community Health Sciences, Aga Khan University, Karachi**

#### **Conceptual Framework:**

1. Health System is composed of three broad elements:

- (a) A set of cultural beliefs about health and illness that forms the basis for health seeking and health promoting behavior.
  - (b) The institutional arrangements within which that behavior occurs; and
  - (c) The socio-economic, political and physical context for those beliefs and institutions.
2. Health Systems Research (HSR) must encompass research into all these elements of the health system. HSR includes all types of research that contribute to improving the functioning of the health system through:
- (a) providing new information for decision-making;
  - (b) providing information to support advocacy for change in the system; and
  - (c) contributing to the body of knowledge relating to theories, concepts and methods that is required for generation of such knowledge.
3. Burden of Disease (BOD) measures alone must not be used to set priority. BOD suffers from three drawbacks. They are:
- (a) It is often based on inaccurate and/or insufficient data. Quite often quality of the available data is also suspect;
  - (b) It is insensitive to the relative value of disease/injury. For example, BOD does not discriminate between the loss of a day-laborer's leg (much severe implications for the individual) and that of a university professor; and
  - (c) BOD is focused exclusively on the individual, ignoring the impact of disease burden on the family and/or others.
4. Health Systems Research must not ignore the *political context* of decision-making within the broader health system.

### **Operational Principles:**

Health Systems Research must be:

- (a) Multi-sectoral;
- (b) Multi-disciplinary;
- (c) Multi-institutional effort;
- (d) Based on cooperation, collaboration and networking among institutions; and
- (e) Ensuring meaningful participation of partners/stakeholders in all phases of HSR – even in organizing and structuring a seminar/workshop to share ideas. It was also felt that:
- (f) Pakistan Public Health Network could be an excellent medium for promoting HSR/ENHR.

### **Priority HSR Issues:**

The following priority areas were identified for Health Systems Research:

1. Decentralization/Devolution/Restructuring
  - Impact on Health
  - Equity/Accessibility
  - Sustainability
2. Health Sector Reform/Financing
  - Local Government: Capacity for Management of Services
  - Local Government: Generation of Financial Resources
  - Local Government: Capacity for Planning, Implementing, Monitoring, and Evaluation
  - Other HS Reform Issues
3. Globalization, Information-Communication Revolution, and Health and Development
4. Public-Private Mix: Dynamics and Trends
  - Implications for Health and Development
  - Public-Private Partnership Issues
5. Policy Research
  - How are policies made?
  - What information goes into policy-making?
  - How to influence policy?
  - Policy Impact Assessment
6. Social, Structural and Cultural Aspects of Health, Illness and Health Seeking Behavior
  - Understanding cultural idioms and meanings associated with health and illness
  - Social and cultural determinants of health seeking behavior
  - Structural barriers to access health (particularly for women)
7. Macro/meta Assessment/Evaluation of the Health Institutional Structure
  - Ministry of Health – Efficiency, Effectiveness
  - PMRC – Efficiency and Effectiveness
8. Traditional Health Systems
  - Diversity of traditional health systems
  - Clinical validity of traditional medicine
  - Traditional-modern dichotomy
9. Meter Evaluation of Existing Health Research Funding Mechanism/Institutions

10. Environmental/Occupational Health
11. Patterns of Clinical Practice
  - Prescription drugs
  - Over-the-counter drugs
  - Legal framework for Health Care Services
  - Consumer protection/rights

#### **Organizational Issues/Actions**

1. Establish a Resource Data Bank.
2. Actively promote/seek freedom of access to all information collected by public institutions and promote sharing of data/information
3. Initiate joint research on HSR (public/private institutions).
4. Actively promote sharing/exchange of resources/people across public/private institutions.
5. Hold an annual (or biannual) convention/seminar on HSR.
6. PMRC should set aside a portion of its funds for Health Systems Research.
7. Support/strengthen/consolidate existing Pakistani journal on health.
8. Strengthen the capacity for HSR, including proposal writing.
9. Funds collected from pharmaceutical companies for health research must be used for health research. These funds could be earmarked for PMRC and NIH.

### **3. REPRODUCTIVE HEALTH**

**Prepared by: Dr. Farid Midhet, Principal Investigator, Asia Foundation, Islamabad.**

The group began with a presentation by Dr. Sadeqa Jaffery on the current situation of maternal and reproductive health in Pakistan. The group discussed the situation analysis with the view to identify the main problems in this area. A big list of issues and problems in reproductive health in Pakistan was thus identified. The list was categorized into several headings, including safe motherhood, maternal mortality, maternal health services, adolescent sexuality, child abuse, sexual health, etc. The list was then reviewed by the group to put the issues into research perspective. A prioritization exercise was then conducted by asking the following questions for each research issue on the list:

1. Would the research help find a solution for the problem?
2. Should we address this issue at all?
3. Why should we address this issue?
4. Is the research addressing this issue feasible?
5. What will be the outcome of the research?

The research priority areas resulting from the first round of discussions were:



1. Adolescent health:
  - 1.1 Morbidity studies among adolescents
  - 1.2 Reproductive health issues among adolescents
  - 1.3 Health seeking behaviors among youth
  - 1.4 Sexual abuse
2. Reproductive tract infections including sexually transmitted infections:
  - 2.1 Morbidity patterns (male, female, post-delivery, post abortion, etc.)
  - 2.2 Health seeking behaviors in RTIs and STIs.
  - 2.3 Screening studies for RTIs and STIs
3. Safe motherhood and maternal health:
  - 3.1 Estimation of levels and causes of maternal mortality
  - 3.2 Quality of care issues in safe motherhood
  - 3.3 Estimation of levels and causes of maternal morbidity
  - 3.4 Cost-effectiveness studies of health care options
  - 3.5 Skilled birth attendants.
4. Family Planning:
  - 4.1 Causes of contraceptive method failure
  - 4.2 Quality of care issues in family planning
  - 4.3 Analysis of unmet needs
  - 4.4 Providers' perceptions and knowledge about family planning
  - 4.5 Service delivery issues: target-based versus non target-based approach, integrated versus vertical approach, etc.
5. Vital registration (recording of births and deaths)
6. Infertility research and intervention studies:
  - 6.1 Prevalence and determinants of infertility
  - 6.2 Socio-cultural issues
  - 6.3 Health seeking behaviors among infertile couples
  - 6.4 Male and female, primary versus secondary etc.
7. Cancers of the male and female reproductive systems:
  - 7.1 Setting up a national cancer registry
  - 7.2 Screening studies for cervical cancer
  - 7.3 Risk factors for cervical cancer
  - 7.4 Operations research to find interventions for early detection of cancers of reproductive systems.
8. Violence against women:

- 8.1 Prevalence and types of violence against women
  - 8.2 Risk factors
  - 8.3 Operations research to determine the possible role of lady health workers in support systems
  - 8.4 Community's role in combating violence against women
  - 8.5 Women's perceptions of violence
  - 8.6 Violence during pregnancy and the postpartum period.
9. Male participation in reproductive health:
- 9.1 Men's role in health seeking behaviors for safe motherhood
  - 9.2 Men's role in reproductive health decision-making

The "big list" above was further scrutinized in a second round of the group prioritization exercise where the discussion focused mainly on the immediate need and relevance of the research area to the most pressing reproductive health problems in Pakistan. The following was the result of the second round of discussions:-

- 1. Safe motherhood and maternal health:
  - 1.1 Estimates of and trends in maternal mortality ratio
  - 1.2 Maternal morbidity estimates and determinants
  - 1.3 Quality of maternal care
  - 1.4 'Best options' for skilled birth attendance
  - 1.5 Cost-effectiveness studies for basic and comprehensive essential obstetric care strategies
- 2. Adolescent health:
  - 2.1 Obstetrical and gynecological morbidity studies among female adolescents
  - 2.2 Reproductive morbidity among male adolescents
  - 2.3 Reproductive health seeking behavior among adolescents
- 3. Family planning:
  - 3.1 Operations research studies to test various options for community-based delivery of contraceptive methods
  - 3.2 Providers' understanding of reproductive health and family planning
- 4. Reproductive tract infections:
  - 4.1 Morbidity patterns (studies of prevalence and determinants of RTIs and STIs)
- 5. Infertility:
  - 5.1 Prevalence and determinants of infertility

5.2 Socio-cultural issues related with infertility.

6. Cancers of the reproductive system:

6.1 Studies of prevalence and determinants of common cancers of the male and female reproductive systems

6.2 Effectiveness studies for the use of PAP smears in screening for cervical cancer

6.3 Studies of the prevalence and determinants of cancer of the prostate

6.4 Studies of the prevalence and determinants of ovarian cancer in Pakistan

The group felt that these (17) areas needed urgent attention in terms of research. However, the research should be relevant to the needs of the Pakistani population and must be conducted in the Pakistani urban and rural contexts. It was felt that there was not much information and hard data available in any of these areas.

The group urged the Government, scientists and NGOs to address these areas of research and collect information that is reliable, relevant and accurate.

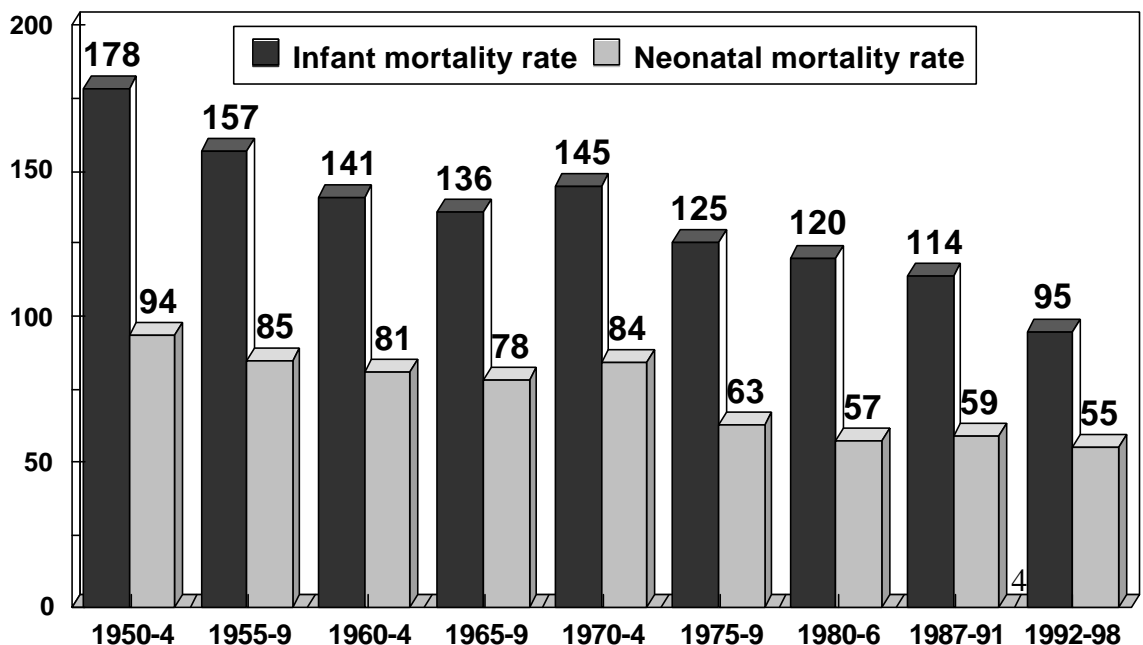
#### 4. PERINATAL AND CHILD HEALTH

**Prepared by: Prof Zulfiqar Ahmed Bhutta, Professor of Pediatrics, Aga Khan University, Karachi.**

##### **Background**

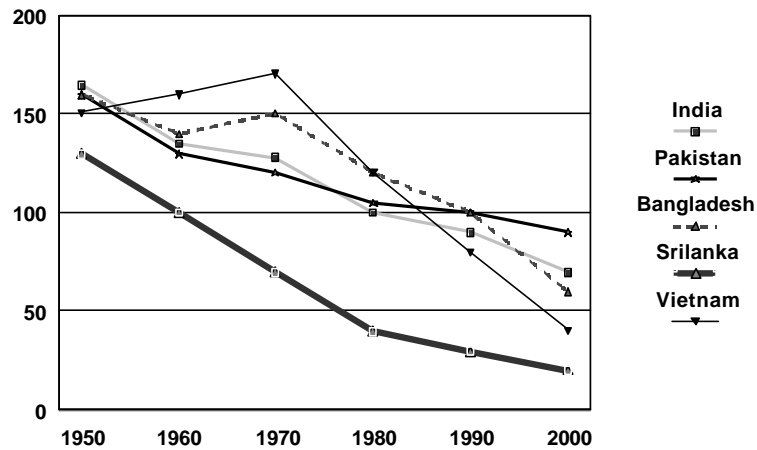
The group began its deliberations by a background presentation on the current state of perinatal and child health by Dr Zulfiqar A. Bhutta. Dr Bhutta highlighted the trends in infant mortality and made the case to focus on virtually static perinatal and neonatal mortality and morbidity rates (Figure 1).

##### **Comparative infant and neonatal mortality for Pakistan**



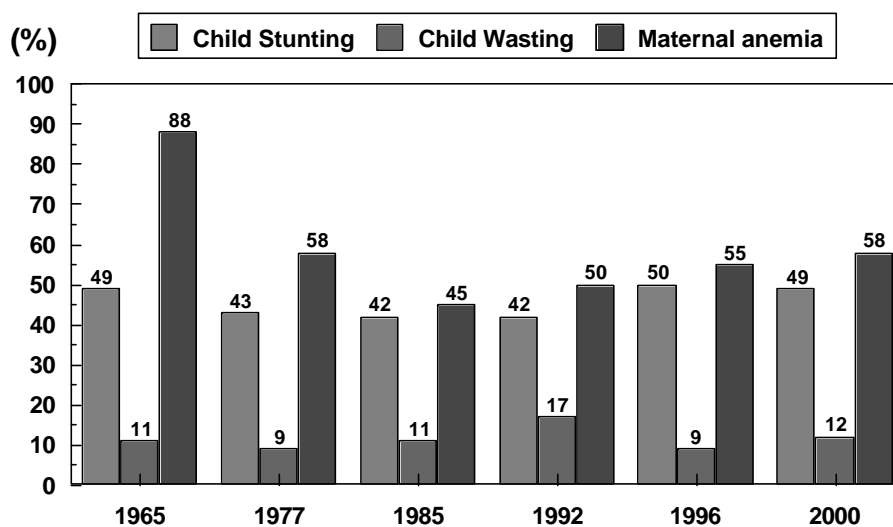
It was further highlighted that despite vast improvements in child health in the region and our neighbourhood, the infant mortality rates in Pakistan were still very high (Figure 2).

**Figure 2: Trends in Infant mortality rates in South Asia and Vietnam**



The gaps in information on critical elements and determinants of child health and their impact on development were also highlighted. It was pointed out that despite major vertical programs and available data the overall national rates of malnutrition had hardly changed over several decades (Figure 2) and that malnutrition underlay over half the deaths, under the age of five in Pakistan.

## Nutrition trends in Pakistan (Pregnant women and children under 5)



## **Recommendations**

The group then met in three separate sessions and agreed upon the following major elements as their recommendations for focusing efforts on research.

### **1. Perinatal and neonatal care**

This was universally acknowledged as a much under-researched and under-resourced area. In particular, the following areas were highlighted for enhanced attention in targeted research for future programs

- Better regional and national burden estimates of perinatal and neonatal mortality/morbidity
- Evaluation of the socio-behavioural determinants of perinatal and neonatal mortality/morbidity in diverse but representative settings
- These would include an evaluation of the current barriers for care-seeking and potential acceptability of future intervention strategies.

In this regard it was highlighted that there were several large and community-based data sets on reproductive health and related behaviour already available with several government agencies and autonomous bodies. As a specific proposal it was indicated that these disparate data sets and additional information could be pooled under a collaborative research exercise under the auspices of the PMRC. This composite analysis would give a comprehensive picture of existing reproductive health behaviour and practices that impact on perinatal and newborn care in Pakistan. Any gaps still left could be the subject of further research. A specific proposal will be submitted to the PMRC in this regard this summer.

- It was specifically stated that much work was needed in Pakistan to undertake studies of cost-effective community-based interventions in perinatal and newborn care, especially those that combine elements of maternal and postnatal care.

### **2. Maternal and Childhood Malnutrition**

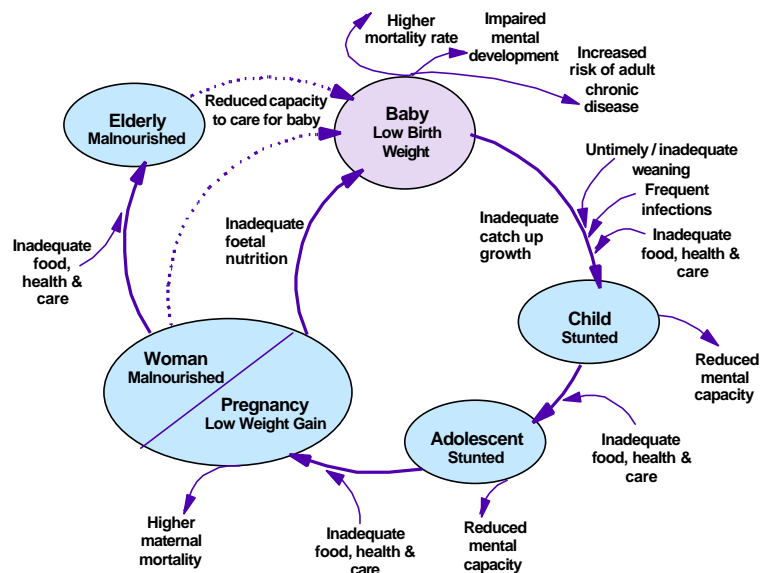
Given the available information on persistent high rates of childhood malnutrition especially wasting and stunting in Pakistan, this area was highlighted by the group as a priority area for action oriented research. In particular the following were highlighted as key areas:

- Socio-cultural determinants of childhood malnutrition and barriers to change.
- It was pointed out that the positive-deviance approach did identify children who were well nourished within the same socio-economic environment and that a better understanding of child caring and feeding behaviours may indicate strategies that may lead to better national or regional interventions.

- The need for cost-effective and sustainable nutrition interventions was highlighted as a priority and this should be the focus of effectiveness studies at a community level.
- In the same context the importance of micronutrient malnutrition was highlighted. It was pointed out that no nationally representative data on vitamin A status was available even though it was now the focus of national intervention studies. It was stressed that the national nutrition survey must be undertaken forthwith with the appropriate target micronutrients.
- While both supplementation and fortification are important strategies for improving micronutrient status of the populace, it was important to conduct relevant studies in Pakistan to identify the most cost-effective and sustainable solutions.
- In this context, the lack of representative studies addressing issues of complementary feeding was stressed. This was an important underlying factor behind much of the malnutrition and anaemia among children in Pakistan.

The group spent much time on the issue of maternal malnutrition and low birth weight (LBW) in Pakistan. It was evident that community-based estimates of the latter were inexact and limited. However, recent data suggested that this was a much bigger issue than previously imagined. The importance of LBW in the national context was also underscored by the important contribution it made to the life course and adult outcomes (Figure 4).

**Figure 4**



In this context, the need for culturally acceptable interventions in pregnancy targeting maternal and foetal malnutrition, especially those that led to an evaluation of outcomes beyond the immediate neonatal period, were stressed. This

was regarded as an important opportunity to link maternal, foetal and child health research and interventions.

### **3. Impact of structural adjustments and economic downturn on perinatal and child health**

Increasing poverty and dwindling resources were highlighted as important underlying factors responsible for the static child health indicators and worsening nutrition trends. It was clear that the burden of increasing poverty was disproportionately felt by women and in the words of Sridath Ramphal, “Debt has a child’s face”.

The group recommended urgent research to study the impact of economic and structural adjustment programs that Pakistan was following, on maternal and child health. If results indicated an important link then further work was necessary to identify effective and sustainable social safety nets. It was important to underscore the ineffectiveness of the current social action plan on improving maternal and child health in the wake of dwindling resources.

### **4. Preventive strategies for childhood infections especially diarrhea**

Available evidence from national data on childhood diarrheal diseases and respiratory infections, indicated that while mortality rates have declined, there has been little impact on the incidence of disease. Few preventive strategies other than breastfeeding had been instituted at a programmatic level. The group strongly recommended formative work and concerted studies on effective and sustainable preventive strategies on reducing the burden of these diseases at the household and community level.

### **5. New and emerging infectious diseases**

The group recognized that this was an important and under-researched area with wide ranging ramifications. These had implications for both existing and future national programs. The group highlighted the fact that in the absence of representative and well-researched information from the community, it was impossible to develop appropriate algorithms for community-based management strategies. To illustrate the current IMCI program for Pakistan: anti-malarial administration is recommended for every sick febrile child with no localising features, a recommendation that had no basis in local literature. On the other hand, despite evidence of the importance of typhoid in national adult and paediatric data, there was little information provided to care givers on its recognition and management.

The following diseases were highlighted as meriting nationally representative research to highlight their importance during childhood.

- Typhoid
- Tuberculosis
- Emerging viral infections e.g. Dengue haemorrhagic fever

In addition, it was stressed that the burden and spectrum of childhood *Haemophilus influenzae* and *Streptococcal pneumoniae* infections was an under-researched area. Given the preventive potential of newer vaccination strategies, it was stressed that essential nationally representative research was needed in this important area as a priority.

## **6. A re-evaluation of vertical national programs in child health**

Lastly, the group did recognize that child health had been the focus of several national programs in Pakistan ranging from the expanded program for immunization to the recently launched integrated management of the sick child initiative. However, given the limited impact that these isolated vertical programs have had on improving child health in comparison to regional countries, it was unanimously agreed that a re-evaluation of these programs was needed. In particular, an evaluation of alternative strategies particularly local and community-based interventions was warranted. It was also emphasized that these approaches would be entirely compatible with the devolution of power and local control of the SAP II program. In contrast to previous approaches, this must be done by incorporating appropriate research within these programs from an early stage.

## **5. COMMUNICABLE DISEASES**

**Prepared by: Dr. Faisal Sultan, Director Medical, Shaukat Khanum Memorial Hospital, Johar Town, Lahore.**

The discussion started with a brief initial presentation by Dr. Faisal Sultan on some pertinent institutional data from Shaukat Khanum Cancer Hospital. This included statistics on patterns of bacterial resistance, incidence of tuberculosis and the prevalence of hepatitis B and C in the healthy volunteer blood donor population.

The group then focused on deciding a general methodology in assigning importance to various areas of research in the field of infectious diseases. It was decided to assign empiric scores (based on the experience and views of the committee members) to various topics on the following:

1. Magnitude of the problem in Pakistan at the present time
2. Potential magnitude in the future
3. Feasibility of research in the said field, considering available resource
4. Potential practical impact of research in the field



Topics were then identified and discussed individually, using the parameters described above. It was recognised that such an assignment of importance in research was largely empiric and should take into consideration the individual skills and interests of investigators. The following areas of infectious diseases were considered important for research. The list is clearly not all-inclusive.

#### Tuberculosis

The areas of fruitful research included patterns and incidence of resistance and epidemiology.

#### Malaria

Epidemiology and innovative methods of prevention

#### Hepatitis B and C

Epidemiology, assessment of risk factors and prevention

#### Childhood viral diseases

Vaccination strategies, epidemiology

#### HIV

Risk / protection factors and epidemiology in Pakistan

#### Bacterial resistance

Epidemiology

#### Diarrheal diseases

Epidemiology and prevention strategies

#### Rabies

Epidemiology – both in humans and in the animal reservoir. Prevention and vaccine work

#### Viral hemorrhagic fevers

Viral detection methodology, epidemiology

#### Typhoid

Epidemiology and variations in Pakistan, resistance patterns

#### Amebiasis

#### Basic science research

It was agreed that modest basic science projects involving a wide variety of infectious diseases would be important in laying the foundation for more fundamental work in the future.

## **6. NON-COMMUNICABLE DISEASES IN PAKISTAN**

**Prepared by Dr. Sania Nishtar, President, National Heart Foundation of Pakistan, Islamabad.**

Cardiovascular diseases, diabetes and cancer are the three major non-communicable diseases (NCD's), for the purpose of this report however, and in keeping with logistic issues, environmental health has been classed under the broad head of non-communicable diseases.

NCD's are emerging as a major health related challenge for the developing world, this trend a feature of the health transition propelled largely by demographic and environmental changes is currently a double burden in addition to communicable diseases. The projected trends for this epidemic as part of the global epidemiological transition, however, places NCD's as the leading cause of death and disability and premature death in the next two decades, with serious implications for a country like Pakistan.

Fortunately scientific evidence testifies to the preventability of NCD's, particularly in the case of cardiovascular disease and diabetes and offers the greatest opportunity for prevention. It is therefore, imperative to invest in the prevention and control of NCD's before they take a pandemic shape. Comprehensive strategies that address issues related to control should begin with an initial quantification and baseline evaluation of the problem, and therefore the need to prioritize research that will unveil the crucial gaps in our knowledge. Following is the working outline of the health research priorities in non-communicable diseases.

## CARDIOVASCULAR DISEASE SECTOR

|              | <b>Prevalence<sup>i</sup></b> | <b>Burden<sup>ii</sup></b>   | <b>Feasibility of Intervention<sup>iii</sup></b> | <b>Research Priority<sup>iv</sup></b>                                                                                                                | <b>Assumptions<sup>v</sup></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------|-------------------------------|------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hypertension | High prevalence               | High mortality and morbidity | Moderate to high                                 | Health promotion and appropriate lifestyle modifications as primary control strategies and low cost therapeutics for selected high-risk individuals. | <ol style="list-style-type: none"> <li>1) CVD and its biological risk states are recognized as a major public health challenge, at the macro policy level.</li> <li>2) Primary and secondary prevention given precedence over high technology curative care.</li> <li>3) CVD gets integrated as part of the primary health care package at the grass root outreach of the public sector health initiatives.</li> <li>4) Participation of the media through partnership.</li> <li>5) Policy change with respect to CVD will integrate food and nutrition, agro industrial diversification, urban and rural planning and the departments of trade and taxation.</li> <li>6) Unregulated and for profit pharmaceutical and clinical care industry continues to</li> </ol> |

|                                                       |                                                          |      |          |                                                                                                                                                                                                                            |                                                                                                                                                      |
|-------------------------------------------------------|----------------------------------------------------------|------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                       |                                                          |      |          |                                                                                                                                                                                                                            | support expensive treatment for inappropriately selected individuals.<br>7) Adequate financing.                                                      |
| <b>Coronary Artery Disease (and its risk factors)</b> | High based on assumptions; but overall poorly quantified | High | Moderate | 1) Identification of community based risk reduction interventions.<br>2) Quantification of the baseline of the baseline prevalence.                                                                                        |                                                                                                                                                      |
| <b>Cerebro-vascular Diseases</b>                      | Poorly quantified                                        | High | Moderate | 1) Document baseline prevalence.<br>2) Research to identify health promotion and appropriate lifestyle modifications as primary control strategies and low cost therapeutics for selected high-risk individuals.<br>3) Low |                                                                                                                                                      |
| <b>Rheumatic Heart Disease</b>                        | Low                                                      | High | Moderate | 1) Identification of health promotive efforts to prevent rheumatic fever.<br>2) Cost effective algorithms for the identification of GAS pharyngitis obviating the need for throat cultures.                                | Improved social conditions and better living standards are linked to over all economic policy and are beyond the scope of health and social sectors. |
| <b>DIABETES</b>                                       |                                                          |      |          |                                                                                                                                                                                                                            |                                                                                                                                                      |

|                                    |                                                                                                                  |                                                                                                                                  |                  |                                                                                                                                                      |                                                                                                                                                                                                                      |
|------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NIDDM                              | High                                                                                                             | High                                                                                                                             | Moderate         | 1) Primary prevention through diet, exercise and behavior change.<br>2) Low cost treatment.<br>3) Prevention of complications.                       | Same as for Cardiovascular diseases.                                                                                                                                                                                 |
| <b>ENVIRONMENTAL HEALTH SECTOR</b> |                                                                                                                  |                                                                                                                                  |                  |                                                                                                                                                      |                                                                                                                                                                                                                      |
| <b>Safe drinking water</b>         | 1) High prevalence of diarrhea in children.<br>2) High prevalence of water borne diseases in general population. | 1) High Morbidity<br>2) High childhood mortality (300,000) childhood deaths per year)                                            | Moderate to High | Solar water disinfection validation Home chlorination Water quality surveillance for small communities.                                              | High political support.<br>Adequate financing                                                                                                                                                                        |
| Sanitation                         | High degree of fecal contamination of water, food and environment due to improper sanitation                     |                                                                                                                                  | Moderate to High | Low cost on site sanitation systems. Community participation for low cost off site sanitation systems. Evaluation of low capital and low O&M system. |                                                                                                                                                                                                                      |
| Food Quality                       | Poorly quantified                                                                                                | Moderate to high if infectious outbreaks of food poisoning included, Low in the short term if infectious outbreaks are excluded. | Moderate         | HACCP for local street vendors, restaurants, food based product manufacturers.<br>Cost effective surveillance strategies to enforce adherence to     | Participation of District Health Office staff, Food Inspectors, Food Manufacturer's Associations, Restaurant Owners and Street Vendors (either individually or through their representatives/ associations, if any). |

|             |                     |                                                                                                              |          |                                                                                                                                                            |                                                                                                  |
|-------------|---------------------|--------------------------------------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
|             |                     | Moderate in the long term if higher incidence of cancer, chronic disease and developmental defects included. |          | HACCP and Codex Alimentarius.                                                                                                                              |                                                                                                  |
| Solid Waste |                     |                                                                                                              | Moderate | Recycling<br>Environmental sound disposal<br>Source reduction.                                                                                             | Participation of municipalities essential at both the research as well as the operational level. |
| Air Quality | High in urban areas | High morbidity due to upper and lower respiratory tract irritation.                                          | Low      | Burden of disease measurements<br>Protection of high risk groups<br>Linkage of Environmental Health in the country's strategic planning for energy policy. |                                                                                                  |

|                   |                                          |                                                                                  |      |                                                                                                          |                                                                                                                                                                                                             |
|-------------------|------------------------------------------|----------------------------------------------------------------------------------|------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Health Care Waste | High for all health care waste providers | Responsible for high burden of transmission of Hepatitis B & C and possibly AIDS | High | Cost effective, sustainable and environmentally and occupationally sound hospital waste disposal options | Needs integrated approach including federal and provincial health departments, private and public sector hospitals, GP's as well as other registered as well as unregistered generators of biomedical waste |
|-------------------|------------------------------------------|----------------------------------------------------------------------------------|------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

<sup>i</sup> Based on existing data, estimates or assumptions.

<sup>ii</sup> Higher priority is given to mortality, especially childhood mortality, as compared to morbidity, especially adult morbidity. A more refined method, beyond the scope of this workshop, would be to use standardized Burden of Disease (BoD) measures including Disability Adjusted Life Years (DALY's) and Cost per Life Year Saved.

<sup>iii</sup> High if domain of intervention is within the health sector and cost is affordable; moderate if cost is high but benefit is also high, the assumption here being that there is strong political commitment. Low if cost and cost to benefit ratios are high and stakeholders are predominantly outside the health sector.

<sup>iii</sup> Identifies current research priorities. This list is by no means exhaustive, and focuses primarily on gaps in existing baseline knowledge, as well as emphasizing the operational and applied aspect of environmental health as opposed to the mere collection of data.

<sup>iv</sup> Identifies current research priorities. This list is by no means exhaustive, and focuses primarily on gaps in existing baseline knowledge, as well as emphasizing the operational and applied aspect of environmental health as opposed to the mere collection of data.

<sup>v</sup> Assumptions are political support by the highest level of government for the relevant sector, financing and ownership of the results of the research by key stakeholders.

## **7. REPORT OF MENTAL HEALTH RESEARCH GROUP**

**Prepared by: Prof. Malik H Mubbashar, Institute of Psychiatry, RGH, Rawalpindi.**

### **MAJOR ISSUES IN MENTAL HEALTH RESEARCH:**

The group identified the following list of priority issues that mental health research agenda of PMRC must address:

#### **1. ISSUES RELATED WITH STIGMA OF MENTAL ILLNESS**

- Across the board myths and misconceptions (about mentally ill, mental illness, mental health professionals and mental health interventions)
- Maltreatment of mentally ill

#### **2. ISSUES RELATED TO RESEARCH ENVIRONMENT**

- Non existent quality training in research methodology
- Scarcity of research tools
- Absence of a data bank on existing research
- Minimal expertise in research methods and medical writing
- Absence of links and coordination between the mental health professionals, researcher and the policy makers, researcher and the funding body, researcher and the potential clients of his research findings
- Mental health has a low priority in health research agenda.

#### **3. GAPS**

Yawning gaps exist in the following areas:

- Evidence (epidemiological data, clinical data),
- Access to health services
- Utilization of treatment facilities and existing services
- Research environment.
- Evidence and research-based policy and action
- Evaluation of utilization and effectiveness of existing mental health facilities.

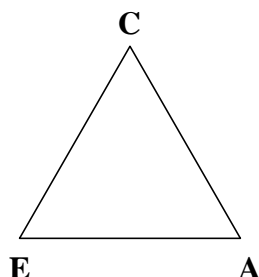
#### **4. INEQUITY**

Gross inequities exist in distribution of specialist manpower and available resources.



## RECOMMENDATIONS:

The challenge posed by the issues identified above call for what the group terms as Mental Health Country specific Action based on Research and Equity or **MH CARE THROUGH** the Essential National Mental Health Research (NMHR) Initiative of PMRC.



## A THREE PRONGED STRATEGY IS SUGGESTED FOR ACTION:

- STEP 1. Identify priorities
- STEP 2. Improve research environment.
- STEP 3. Provide leadership to ensure linkage and utilization of research in action for development in health in its broader perspective.

The details of the suggested plan are as follows:

### STEP 1:

**DRAWING PRIORITIES:** The priorities need to be based on countries' needs, ensuring equity (by covering the rural communities, slums, women, children, old, disabled and unemployed.), with outcomes that can be translated into policy and action for development. Such evidence based action plans can produce positive trends in health, social and economic parameters that can be evaluated in health economic terms. The outlined list of such priorities appear as **Appendix-1** and the details of the ten high priority studies that need immediate start appear as **Appendix-2**. A detailed list of research agenda for short and long term use appear as **Appendix-3**.

### STEPS 2:

#### **IMPROVING RESEARCH ENVIRONMENT:**

##### I) **STEPS AIMED AT THE RESEARCHER:**

The single most important player in the game of research is the researcher himself, hitherto left unattended. The guiding principles

in ensuring his unfailing commitment and improving his quality as a researcher include:

- a. Methods to ensure a feeling of economic, social and intellectual security in him.
- b. It is also crucial to equip him in research methods and research tools, link him with international and local research bodies and potential clients (stakeholders). Support and assistance should also be given by ensuring time for research in his otherwise diverse and busy schedule as a trainee or a practicing doctor, and provision of the infrastructure and finances needed. Once these needs are catered for it is then mandatory to evaluate him and link his progress to his career with the quantity and quality of his research.

II) ENMHR BANK:

Setting up a data bank as a hub of all research activities can serve as a potent resource for drawing the country profile, situation analysis for all future mental health initiatives for research, policy and action. This data bank will comprise all published research, review of the existing research database, comments on limitations, strengths, potential uses (indications for its use). The bank will also arrange investment of available research data into health projects as a pilot for the policy-makers and thus set the direction for action.

III) ENMHR CALENDAR:

A timekeeper, monitoring and reporting body on the progress of research on priorities developed in this Seminar will bring a structure and ensure ongoing progress.

**STEP 3:**

**DEVELOPING LEADERSHIP AND LINKAGES:**

**ENMHR (ESSENTIAL NATIONAL MENTAL HEALTH RESEARCH) CELL** based at PMRC will serve as a body comprising of mental health leaders, researchers and research methodology experts that:

- I) provides technical assistant, (in priority setting, designing the research question, the study design, statistical support and guidance, evaluation of data)
- II) creates awareness amongst stakeholders
- III) assists in publication and dissemination of research
- IV) finds partners (international, local)
- V) links up research findings with policy-makers and potential consumers and buyers
- VI) assists in implementation and translation into action
- VII) evaluates the action based on research findings

**These steps can help start up a potent and a dynamic research loop.**

**RESEARCH PRIORITIES**

**OUTLINE:**

1. PUBLIC MENTAL HEALTH RESEARCH
  - EPIDEMIOLOGICAL SURVEYS
  - HEALTH SYSTEMS
  - INTERSECTORALITY
  - HEALTH ECONOMICS
  
2. CLINICAL ASPECTS
  - BIOLOGICAL
  - SOCIAL
  - PSYCHOLOGICAL
  
3. RESEARCH ON SPECIAL GROUPS:
  - CHILD AND ADOLESCENT
  - LEARNING DISABILITY
  - FORENSIC
  - SUBSTANCE ABUSE
  - LIAISON
  - PSYCHOGERIATRICS
  - REPRODUCTIVE HEALTH

**PRIORITY RESEARCH AREAS:**

**SHORT-TERM**

1. Development of a consensus document for management of major psychiatric disorders.
2. National Epidemiological Survey for psychiatric morbidity.
3. Knowledge, attitudes and perceptions towards mental health issues.
4. Genetic and Biological Markers for Severe Mental Disorders.
5. Re-evaluation of current therapeutic interventions for substance abuse and their outcome.

**LONG-TERM**

1. Development of a National Case Register - identification of families with mental illnesses.
2. Prevalence of psychiatric morbidity in suicide and para-suicide cases.
3. Study of treatment gaps for major psychiatric disorders.
4. Impact of Mental Health Ordinance 2001 on current mental health practices.
5. Prevalence and patterns of childhood abuse: victims and offenders.

**DETAILS OF THE PRIORITIZED AREAS:**

1. PUBLIC MENTAL HEALTH RESEARCH
  - EPIDEMIOLOGICAL:
    - i. NEEDS ASSESSMENT SURVEY IN COMMUNITY CONCERNS ON MENTAL HEALTH
    - ii. ATTITUDE AND BELIEF STUDY OF DIFFERENT GROUPS TOWARDS MENTAL HEALTH
    - iii. EPIDEMIOLOGICAL STUDIES ON PREVALENCE, COURSE AND OUTCOME IN RURAL AND URBAN POPULATION
    - iv. DISABILITY AND BURDEN OF DISEASE SURVEYS ON CHILDREN AND ADULTS
  - HEALTH SYSTEMS:
    - i. STUDY OF LEVELS OF MENTAL HEALTH CARE POSSIBLE AT DIFFERENT HEALTH CARE FACILITIES
    - ii. DEVELOPMENT OF INDICATORS OF PRIMARY MENTAL HEALTH CARE AT PHC
    - iii. IMPACT OF INTRODUCTION OF MENTAL HEALTH CARE PROGRAMME ON OTHER HEALTH INITIATIVES AND PROGRAMS
    - iv. UTILIZATION OF GENERAL HEALTH SERVICES
    - v. EVALUATION AND EFFECTIVENESS OF TRAINING PROGRAM ON KNOWLEDGE, ATTITUDE SKILLS AND PRACTICES OF HEALTH PROFESSIONALS
    - vi. DEVELOPMENT OF SIMPLE INFORMATION SYSTEMS IN HOSPITAL AND PRIMARY CARE FACILITIES
    - vii. STUDY OF TREATMENT GAPS IN MAJOR PSYCHIATRIC DISORDERS (SCHIZOPHRENIA, DEPRESSION, EPILEPSY)
  - INTERSECTORAL COLLABORATION:
    - EDUCATION SECTOR:
      - STUDY ON CURRENT LEVELS OF AWARENESS, ATTITUDE AND BELIEFS AMONGST TEACHERS
      - EVALUATION ON ROLE OF SCHOOL CHILDREN FOR BRINGING SOCIAL AND BEHAVIOURAL CHANGES IN HOMES AND COMMUNITY (SCHOOL CHILDREN AS AGENTS OF CHANGE)
      - EVALUATION OF THE IMPACT OF SCHOOL MENTAL HEALTH PROGRAM
    - NATIVE FAITH HEALERS:
      - ROLE OF FAITH HEALERS IN DETECTION PREVENTION AND TREATMENT OF MENTAL HEALTH AND RELATED GENERAL HEALTH ISSUES

COMPARATIVE STUDIES BETWEEN NATIVE FAITH  
HEALERS AND PHYSICIANS TO ASSESS THEIR  
IMPACT ON ATTITUDES OF THE COMMUNITY

ROLE OF MASS MEDIA:

USE OF MEDIA AS AN EDUCATION TOOL FOR  
PREVENTION, RECOGNITION AND TREATMENT OF  
PSYCHIATRIC DISORDERS. STUDY THE IMPACT OF  
PUBLIC EDUCATION AND AWARENESS ON THE  
HEALTH BEHAVIOUR

ROLE OF SOCIAL AND RELIGIOUS INSTITUTES:

PREVALENCE OF MENTAL DISORDERS IN  
POPULATION SEEKING HELP FROM SOCIAL  
WELFARE AGENCIES

CHILD LABOR AND ITS IMPACT ON MENTAL  
HEALTH, MENTAL HEALTH NEEDS FOR DIVORCED,  
SEXUALLY ASSAULTED, SINGLE PARENTS IN  
URBAN SLUMS.

- HEALTH ECONOMICS:

INCIDENCE OF UNEMPLOYMENT IN PATIENTS WITH  
PSYCHIATRIC DISORDERS

ECONOMIC BURDEN OF THE MENTALLY ILL ON  
FAMILIES

COST COMPARISON OF COMMUNITY CARE VS HOSPITAL  
CARE OF THE MENTALLY ILL.

2. CLINICAL

- BIOLOGICAL PSYCHIATRY:

BIOLOGICAL MARKERS IN SEVERE MENTAL ILLNESS

DEVELOPING NATIONAL REGISTRY FOR FAMILIES WITH  
SEVERE MENTAL ILLNESS, TWINS, AND ADOPTIONS:  
DETECTION AND SCREENING FOR PSYCHIATRIC  
MORBIDITY

- MANAGEMENT ISSUES/THERAPEUTICS

EFFECTIVE MANAGEMENT STRATEGIES AND  
SCHEDULES FOR DEPRESSION, SCHIZOPHRENIA,  
BIPOLAR AFFECTIVE DISORDERS, EPILEPSY,  
DEMENTIAS, LEARNING DISABILITIES

COMPARISON OF INTERVENTION STRATEGIES FOR  
DEPRESSION, NEUROSES, PSYCHOSES, ORGANIC BRAIN  
SYNDROMES, SUBSTANCE ABUSE

ROLE OF GENETIC COUNSELING IN PSYCHIATRIC  
MORBIDITY

ROLE OF HOTLINE SERVICES AS A DETECTION AND  
INTERVENTION TOOL IN PSYCHIATRIC MORBIDITY  
ESPECIALLY ATTEMPTED SUICIDE

- AETIOLOGY

CAUSES AND PATTERNS OF PRESENTATION OF  
PSYCHIATRIC DISORDERS

RESEARCH ON SPECIAL GROUPS

- FORENSIC:

IMPACT OF MENTAL HEALTH ORDINANCE 2001 ON THE  
CURRENT MENTAL HEALTH PRACTICES

MENTAL HEALTH ISSUES AMONGST PRISONERS

- CHILD AND ADOLESCENTS

PREVALENCE OF PSYCHIATRIC MORBIDITY IN  
CHILDREN AND ADOLESCENCE

CROSS CULTURAL STUDIES IN CHILD REARING  
PRACTICES AND CHILD DEVELOPMENT

DETECTION OF CHILDHOOD ABUSE: VICTIMS AND  
OFFENDERS

MANAGEMENT OF MENTAL HEALTH ISSUES: PATHWAYS  
TO CARE

- SUBSTANCE ABUSE:

EVALUATION OF COST EFFECTIVENESS OF CURRENTLY  
AVAILABLE THERAPEUTIC INTERVENTIONS

COURSE AND OUTCOME FOLLOWING ACUTE  
TREATMENT (DETOXIFICATION)

- LEARNING DISABILITY:



COST EFFECTIVE INTERVENTIONS TO PREVENT  
LEARNING DISABILITIES

PREVALENCE AND PATTERNS OF LEARNING DISABILITY  
IN CONSANGUINITY

- PSYCHOGERIATRICS:

PREVALENCE OF PSYCHIATRIC MORBIDITY IN OLD AGE

IMPACT OF INTERVENTIONS AT PHC LEVEL ON COURSE  
AND OUTCOME

DEPRESSION IN OLD AGE

- LIAISON PSYCHIATRY:

DETECTION OF PSYCHIATRIC MORBIDITY IN GENERAL  
HEALTH CARE SETTINGS

PSYCHIATRIC MORBIDITY IN PARASUICIDE

CHANGES IN ATTITUDES AND PRACTICES OF HEALTH  
PROFESSIONALS FOLLOWING TRAINING IN MENTAL  
HEALTH ISSUES

- REPRODUCTIVE HEALTH:

PREVALENCE AND PATTERNS OF PSYCHIATRIC  
MORBIDITY IN RH CONDITIONS

CASE CONTROL STUDY ON IMPACT OF ANTENATAL  
CARE ON REDUCING THE RISK OF LEARNING  
DISABILITIES

MYTHS AND MISCONCEPTIONS IN RH SETTINGS

**PROGRAMME OF SEMINAR**

**DAY 1:**  
**MONDAY**      **February 26, 2001**

|                         |                    |
|-------------------------|--------------------|
| <b>PLENERY SESSION:</b> | <b>0900 – 1130</b> |
|-------------------------|--------------------|

**Venue**                      **Main Auditorium of Pakistan Academy of Sciences, Constitution Avenue, G-5/2, Islamabad**

0900 – 0905      Recitation from the Holy Quran.  
0905 – 0920      Welcome and introduction of the speakers by Dr. Tasleem Akhtar, Executive Director/Chairperson, Pakistan Medical Research Council Islamabad  
0920 – 0935      Presentation on ENHR: Key for national development: Dr. Chitr Sitti – Amorn, Dean, College of Public Health, Chulalongkorn University, Bangkok, Thailand  
0935 – 0950      Presentation on priority setting: Methods and frameworks by Dr. Adnan Hyder, John Hopkins University

**Refreshment**

1030 – 1100      Reassemble in main auditorium for guidelines and instructions to groups

**Group Sessions**

**Venue**                      **Pakistan Medical Research Council Head Office and Pakistan Council for Science & Technology, G-5/2, Islamabad**

|                   |                         |                    |
|-------------------|-------------------------|--------------------|
| <b>SESSION 2:</b> | <b>GROUP DISCUSSION</b> | <b>1115 – 1300</b> |
|-------------------|-------------------------|--------------------|

|              |                    |
|--------------|--------------------|
| <b>LUNCH</b> | <b>1300 – 1400</b> |
|--------------|--------------------|

|                   |                                 |                    |
|-------------------|---------------------------------|--------------------|
| <b>SESSION 3:</b> | <b>GROUP DISCUSSION (CONTD)</b> | <b>1400 – 1600</b> |
|-------------------|---------------------------------|--------------------|

|                           |                    |
|---------------------------|--------------------|
| <b>INAUGURAL SESSION:</b> | <b>1630 - 1730</b> |
|---------------------------|--------------------|

**Venue:**                      **Main Auditorium Pakistan Academy of Sciences**

1630 - 1635      Recitation from the Holy Quran.  
1635 - 1650      Welcome address by Dr. Tasleem Akhtar, Chairperson/Executive Director PMRC  
1650 - 1705      Keynote address by Rear Admiral Surgeon Mohammad Aslam, Director General Health, Ministry of Health  
1705 - 1725      Inaugural address by Dr. Atta-ur- Rehman, Minister for Science and Technology  
1725 - 1730      Vote of Thanks by Dr. Tasleem Akhtar, Executive Director/ Chairperson, PMRC

**Refreshment**

**DAY 2:**  
**TUESDAY**      **FEBRUARY 27, 2001**

|                   |                         |                    |
|-------------------|-------------------------|--------------------|
| <b>SESSION 4:</b> | <b>GROUP DISCUSSION</b> | <b>0830 – 1030</b> |
|-------------------|-------------------------|--------------------|

**TEA BREAK** **1030 – 1100**

|                   |                                                |                    |
|-------------------|------------------------------------------------|--------------------|
| <b>SESSION 5:</b> | <b>GROUPS' PRESENTATIONS &amp; DISCUSSIONS</b> | <b>1100 – 1300</b> |
|-------------------|------------------------------------------------|--------------------|

**Venue:** **Main Auditorium Pakistan Academy of Sciences, G-5/2, Islamabad**

**Chairman:** **Dr. Shahid Amjad Chaudhry, Deputy Chairman Planning & Development Division, Govt. of Pakistan**

**Groups' Presentations**

**Discussion**

**Chairman's Remarks** **Dr. Tasleem Akhtar**

**Lunch Break** **1300 – 1400**

|                   |                           |                    |
|-------------------|---------------------------|--------------------|
| <b>SESSION 6:</b> | <b>CONCLUDING SESSION</b> | <b>1400 – 1700</b> |
|-------------------|---------------------------|--------------------|

**Venue:** **Main Auditorium Pakistan Academy of Sciences, G-5/2, Islamabad**

**Chairman:** **Mr. Ejaz Rahim, Secretary Health, Govt. of Pakistan**

**Recitation from the Holy Quran**

**Summary of issues Generated** **Dr. Adnan Hyder**

**Reflections on the meeting** **Dr. Chitr Sitti-Amorn**

**Action Plan and the next step** **Dr. Tasleem Akhtar**

**Chairman remarks** **Mr. Ejaz Rahim, Secretary Health, Govt. of Pakistan**

**Refreshment**

**GROUPS:**

- 1. HEALTH CARE FINANCING**
- 2. CAPACITY BUILDING FOR HEALTH CARE**
- 3. HEALTH SYSTEMS RESEARCH**
- 4. REPRODUCTIVE HEALTH**

5. PERINATAL AND CHILD HEALTH
6. COMMUNICABLE DISEASES
7. NONCOMMUNICABLE DISEASES AND INJURIES
8. MENTAL HEALTH

| Group                                  | Moderator                     | Presenter and Facilitator                 |
|----------------------------------------|-------------------------------|-------------------------------------------|
| HEALTH CARE FINANCING                  | Dr. Mushtaq A. Khan           | Dr. Abdul Ghaffar/<br>Dr. Sameen Siddiqui |
| CAPACITY BUILDING FOR HEALTH CARE      | Prof. Nasiruddin Azam Khan    | Dr. Franklin White                        |
| HEALTH SYSTEMS RESEARCH                | Maj.Gen. ® Akhtar A. Qureshi, | Dr. Anwar Islam                           |
| REPRODUCTIVE HEALTH                    | Dr. Sadeqa Jaffery            | Farid Midhat                              |
| PERINATAL AND CHILD HEALTH             | Dr. Fehmida Jalil,            | Dr. Zulfiqar Bhutta                       |
| COMMUNICABLE DISEASES                  | Dr. Abdul Rab                 | Dr. Faisal Sultan                         |
| NON COMMUNICABLE DISEASES AND ACCIDENT | Dr. S.J Zuberi,               | Maj. Gen. (Retd.) Iftikhar A Malik        |
| MENTAL HEALTH                          | Col. M. Rana,                 | Prof. Malik H Mubashir,                   |

**SEMINAR SECRETARIAT:** Pakistan Medical Research Council, Shahrah-e-Jamhuriat, G-5/2, Islamabad.  
Ph. 9205480, 9217146, 9207386, Fax: 9216774,  
E.mail: <pmrc@isb.comsats.net.pk>

**SEMINAR ORGANISORS:**

|                             |                                                                          |
|-----------------------------|--------------------------------------------------------------------------|
| <b>Dr. Tasleem Akhtar</b>   | <b>Executive Director, PMRC</b>                                          |
| <b>Dr. Jehangir A. Khan</b> | <b>Chief Research Officer, PMRC</b>                                      |
| <b>Dr. Arif Munir</b>       | <b>Director, Malaria Control Programme/Senior Research Officer, PMRC</b> |
| <b>Dr. Abdul Ghaffar</b>    | <b>Consultant, Health Services Academy, Islamabad</b>                    |

**SEMINAR REPORTING TEAM**

|                              |                                                                     |
|------------------------------|---------------------------------------------------------------------|
| <b>Dr. Tasleem Akhtar</b>    | <b>Executive Director, PMRC, Islamabad</b>                          |
| <b>Dr. Chitr Sitti-Amorn</b> | <b>COHRED, Geneva</b>                                               |
| <b>Dr. Adnan Hyder</b>       | <b>John Hopkins University, USA</b>                                 |
| <b>Dr. Zulfiqar Bhutta</b>   | <b>Head, Department of Pediatrics, Aga Khan University, Karachi</b> |
| <b>Dr. Abdul Ghaffar</b>     | <b>Consultant, Health Services Academy, Islamabad</b>               |

**MEDIA COORDINATOR**

|                           |                                                                              |
|---------------------------|------------------------------------------------------------------------------|
| <b>Dr. Zafar Mirza</b>    | <b>The Network for Consumer Protection, Islamabad</b>                        |
| <b>Mr. Masroor Hausen</b> | <b>The Network for Consumer Protection, Islamabad<br/>Tel. 0320 490 4190</b> |

**SEMINAR SECRETARIES:**

|                               |                                                  |
|-------------------------------|--------------------------------------------------|
| <b>Mr. Taj Mohammed</b>       | <b>PMRC Head Office, Islamabad (Ph:9205480)</b>  |
| <b>Mr. M. Ilyas Qaisar</b>    | <b>PMRC, Head Office, Islamabad (Ph:9217146)</b> |
| <b>Mr. M. Mohsin Siddique</b> | <b>PMRC Head Office, Islamabad (Ph:9205480)</b>  |

**ACCOUNTS:**

|                                  |                                                                             |
|----------------------------------|-----------------------------------------------------------------------------|
| <b>Mr. Shahid Mehmood Bashir</b> | <b>Deputy Director (B&amp;A), PMRC Head Office, Islamabad. (Ph:9217692)</b> |
|----------------------------------|-----------------------------------------------------------------------------|

**ARRANGEMENTS:**

|                       |                                                                        |
|-----------------------|------------------------------------------------------------------------|
| <b>Amir Zia Butt:</b> | <b>Deputy Director (Admin), PMRC Head Office, Islamabad. (9216773)</b> |
|-----------------------|------------------------------------------------------------------------|

### LIST OF PARTICIPANTS OF SEMINAR

1. Dr. Atta-ur-Rehman, Minister for Science & Technology, Islamabad.
2. Dr. Shahid Amjad Chaudhry, Deputy Chairman, Planning Division, Islamabad.
3. Prof. Azhar Masood Ahmed Faruqui, Executive Director, National Institute of Cardiovascular Diseases, Rafiqui (HJ) Shaheed Road, Karachi. Ph:9201271-5
4. Rear Admiral Surgeon Mohammad Aslam, Director General Health, Ministry of Health, Government of Pakistan, Islamabad.
5. Dr. Tasleem Akhtar, Executive Director, PMRC, Islamabad.
6. Dr. Adnan Ali Hyder, John Hopkins University, USA.
7. Prof. Chittr Sitti-Amorn, Thailand.
8. Dr. Fahim Arshad Malik, Deputy Director General Health, Ministry of Health, Government of Pakistan, Islamabad.
9. Dr. Farazana Chaudhry, Drug Controller, Ministry of Health, Government of Pakistan, Islamabad.
10. Dr. Abdul Ghaffar, Health Services Academy, Blue Area, Islamabad.
11. Maj. Gen. ® Iftikhar A. Malik, Margalla Institute of Medical Sciences, Islamabad.
12. Maj. Gen. ® Professor Dr. Akhtar Ali Qureshi, House No.31, Street No.48, F-8/1, Islamabad.
13. Dr. S. J. Zuberi, Scientist Emeritus, PMRC Research Centre, Jinnah Postgraduate Medical Centre, Karachi.
14. Lt. Gen. Karamat A. Karamat, Director General Medical Services, GHQ, Rawalpindi.
15. Dr. Athar Saeed Dil, Executive Director, National Institute of Health, Islamabad.
16. Maj. Gen. ® M.I. Burney, Scientist Emeritus, National Institute of Health, Islamabad.
17. Dr. Akram Pervez, Executive Director, Child and Maternity Welfare Association, Gulberg-II, Lahore.
18. Prof. Dr. D.S. Akram, Professor of Pediatric, Dow Medical College, Karachi.
19. Dr. Fouzia Qureshi, Head, Department of Community Medicine, Aga Khan University, Karachi.
20. Dr. Zulfiqar Ahmed Bhutta, Professor of Pediatrics, Aga Khan University, Karachi.
21. Prof. Farrukh A. Khan, Professor of Urology, King Edward Medical College, Lahore.
22. Dr. Faisal Sultan, Director Medical, Shaukat Khanum Memorial Hospital, Johar Town, Lahore.
23. Prof. Noor Muhammad Memon, Professor of Medicine, Liaquat Medical College, Jamshoro.
24. Dr. Jahangir A. Khan, Chief Research Officer, PMRC Head Office, Islamabad.
25. Dr. N. Rehan, Research Director, PMRC Research Centre, Fatima Jinnah Medical College, Lahore.
26. Dr. Talat Rizvi, Research Director, PMRC Research Centre, Sindh Medical College, Karachi.
27. Dr. Nasim R. Khan, Principal Research Officer, PMRC NHRC, Sheikh Zayed Hospital, Lahore.
28. Dr. Misbah-ul-Islam Khan, Principal Research Officer, PMRC Nishter Medical College, Multan.
29. Mr. Agha Sadaruddin, Principal Research Officer, PMRC Central Research Centre, National Institute of Health, Islamabad.
30. Dr. Huma Qureshi, Senior Medical Officer, PMRC Research Centre, Jinnah Postgraduate Medical Centre, Karachi.

31. Dr. Asif Ali Jah Goraya, Senior Medical Officer, PMRC Research Centre, Bolan Medical College, Quetta.
32. Mr. Nisar Ahmed, Senior Research Officer, PMRC Research Centre, Hayatabad Medical Complex, Hayatabad, Peshawar.
33. Dr. Sameen Siddiqui, World Bank, Islamabad.
34. Dr. Amanullah, Chief Executive Institute of Public Health, Birdwood Road, Lahore.
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36. Dr. Tariq-ur-Rehman, Joint Scientific Advisor, Ministry of Science & Technology, Government of Pakistan, Islamabad.
37. Mrs. Clara Pasha, Nursing Advisor, Ministry of Health, Feroze Centre, 14-D Blue Area, Islamabad.
38. Dr. M.D. Shami, Secretary General, Pakistan Academy of Sciences, G-5/2, Islamabad.
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50. Dr. Rafaqat Ali Jafari, Director, NORI Hospital, Sector G-8/3, Islamabad.
51. Dr. Manzoor Ahmed, Executive Director, Capital Hospital, G-6/2, Islamabad.
52. Dr. Manzoor Malik, Joint Executive Director, Pakistan Institute of Medical Sciences, Sector G-8/3, Islamabad.
53. Dr. A. R. Kemal, Director, Pakistan Institute of Development Economics (PIDE), Quaid-e-Azam University, Islamabad.
54. Dr. Asma Hamayun, Assistant Professor, Department of Psychiatry, Rawalpindi General Hospital, Rawalpindi.
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60. Dr. Ghulam Rasool, Associate Professor of Psychiatry, Bolan Medical College, Quetta.
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62. Dr. Farid Aslam Minhas, Associate Professor of Psychiatry, Rawalpindi Medical College, Rawalpindi.
63. Dr. Khalid Saeed, Associate Professor of Psychiatry, Rawalpindi General Hospital, Rawalpindi.
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74. Dr. Naveed Rahat, Chairman, Department of Anthropology, Quaid-e-Azam University, Islamabad.
75. Prof. Ijaz Haider, Professor of Psychiatry, Health Department of Punjab, 6C-1, Defence Housing Authority, Lahore Cantt.
76. Maj. Gen. Syed Abdul Ahad Najmi, Secretary, Health Department, Govt. of AJ&K, Kob Line, Qasim Market, Rawalpindi.
77. Dr. M. Tariq Siddiqui, Vice Chancellor, Quaid-e-Azam University, Islamabad.
78. Mr. Ehtram Ali, Secretary, Pakistan Medical & Dental Council, Mouve Area, G-10/4, Islamabad.
79. Prof. Nasimullah, Chief Executive (RMC), Holy Family Hospital, Rawalpindi.
80. Dr. Rehan Hafeez, Project Manager (EPI), National Institute of Health, Islamabad.
81. Dr. Faizullah Khakar, Epidemiologist, World Health Organization, National Institute of Health, Islamabad.
82. Mr. Bruce Rasmussen, Program Manager, Haripur District Reproductive Health Program, Sattar Manzil, Tahsil Road, P.O Box 12, Haripur. (H.No.7, St.No.58, F-7/4, Islamabad.)
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91. Brig. Tariq Butt, Head, Department of Microbiology, Armed Forces Institute of Pathology (AFIP), Rawalpindi.
92. Dr. Abdul Bari, C/o Mr. Bruce Rasmussen, Program Manager, Haripur District Reproductive Health Program, Sattar Manzil, Tahsil Road, P.O Box 12, Haripur. (H.No.7, St.No.58, F-7/4, Islamabad.)



93. Dr. Inayat Thaver, UNFPA, 13<sup>th</sup> Floor, Saudi Pak Tower, Jinnah Avenue, Islamabad.
94. Mr. Haleem Asghar, Director to Minister for Science & Technology, Government of Pakistan, Islamabad.
95. Dr. Ashraf Hussain, Deputy Director General (MER)/PH/IH, Ministry of Health, Government of Pakistan, Islamabad.
96. Dr. Fazli Hakim Mian, Deputy Director General (P&D), Ministry of Health, Government of Pakistan, Islamabad.
97. Mr. Muhammad Saleem, Chief, Nutrition Division, National Institute of Health, Islamabad.
98. Dr. Birjees Mazhar Kazi, NPM AIDS, National Institute of Health, Islamabad.
99. Dr. Fazle Subhan, A/Chief, Public Health Division, National Institute of Health, Islamabad.
100. Dr. Farnaz, Malik, A/Chief, Drug Control & Traditional Medicine Division, National Institute of Health, Islamabad.
101. Dr. Shahid Abbas, A/Chief, Clinical Research Division, National Institute of Health, Islamabad.
102. Dr. Farida Ahmed, Officer Incharge Hospital Wing, National Institute of Health, Islamabad.
103. Dr. Azam Chaudhry, Department of Anthropology, Quaid-e-Azam University, Islamabad.
104. Dr. Jamal Nasir, Pathologist, City Lab., Murree Road, Rawalpindi.
105. Prof. Tariq Bhutta, Principal (Retd), Nishter Medical College, Multan.
106. Dr. Shereen Bhutta, Secretary, Pakistan Society of Ob-Gyn, C/o Dr. Zulfiqar Ahmed Bhutta, Professor of Pediatrics, Aga Khan University, Karachi.
107. Dr. Abdul Majid Rajput, Director, Health Services Academy, Bewal Plaza, Blue Area, Islamabad.
108. Brig. Qaiser, National University Science & Technology, (Only inaugural card)
109. Students of MPH, Health Services Academy, Islamabad.

## **Message**

**From**

**Dr. Abdul Malik Kasi**

Federal Minister for Health

Govt. of Pakistan

I am happy to learn that the Pakistan Medical Research Council is organizing a two-day national seminar on Health Research Priorities for Pakistan. This is a timely activity and will help give direction to health research in Pakistan. Research is now accepted as the essential underpinning for policy, planning and decision-making.

PMRC has succeeded in establishing an infrastructure for health research in the country. The Council's vision for Essential National Health Research (ENHR) within the health care system of the country is worthy of support. In today's world, knowledge and information have become the driving force for development.

I wish the seminar all success and look forward to the results of the two days' deliberations of the eminent participants of the seminar.

## **Message**

**From**

**Dr. Atta-ur-Rehman,**

Minister for Science and Technology,  
Government of Pakistan

I am happy to know that the Pakistan Medical Research Council is organizing a two-day seminar on Health Research Priorities for Pakistan, which is the basic step for developing a coherent agenda for health research in the country.

Science & Technology have at last achieved the long overdue recognition in Pakistan and the present government has for the first time in the country's history made a substantial financial allocation to the field. The Ministry of Science & Technology has the immense responsibility of ensuring that each penny of this fund, which has been spared from the grossly inadequate budget of the country, is put to use to achieve the objective of enabling Pakistan to claim its due place among the comity of nations. We are conscious of the fact that investing in the health and education of the nation is the key to the achievement of the objective. Unfortunately medical research remains in a pathetic state and no significant world class medical research has been conducted in Pakistan. This is the challenge that PMRC is faced with. It is only through well-organized and coordinated research that credible, relevant and timely information can be generated for the purpose. The PMRC has been assigned the responsibility of organizing, coordinating and promoting health research in the country. I hope that the Council can revitalize the much neglected health research and I assure the Council of my help and support in the endeavor.

I wish the seminar success.

## **Message**

**From**

**Mr. Ejaz Rahim,**

Secretary, Government of Pakistan,  
Ministry of Health

I wish to extend felicitations to the Pakistan Medical Research Council for organizing the two-day seminar on Health Research Priorities for Pakistan. Research is an essential component of modern health care delivery systems. It is a necessary tool to progress. As pointed out by the Commission on Health Research for Development, “Every country, no matter how small and poor, should establish a research base to understand its own problems, to enhance the effectiveness of limited resources and to improve policy and management”.

Setting priorities is the first essential step in developing a health research agenda. I am pleased to know that eminent health professionals, scientists and health managers are participating in the seminar to develop a consensus on the health research needs of the country. The Ministry of Health fully supports this and other efforts of the PMRC to promote and institutionalize Essential National Health Research (ENHR) in Pakistan. PMRC has earned the credit of undertaking and completing the National Health Survey of Pakistan, which has been widely used and recognized.

I wish the seminar all success and look forward to receiving the recommendations of the eminent participants of the seminar. I am confident that PMRC will develop a vision of its future agenda through these proceedings.

# **Message**

**From**

**Dr. Shahid Amjad Chaudhary,**

Deputy Chairman

Planning Division

Government of Pakistan

I am very pleased to hear that the Pakistan Medical Research Council is holding a seminar to develop consensus on the health research priorities of Pakistan. In today's globalized world information has become the key determinant of the status of a country. To be able to participate at the international level and compete as an equal among countries no country can afford to neglect research

The critical role of information in development is no longer a debatable issue. At the national level development is closely linked to the availability of resources, the most important being human resource. The health status of a population is a key determinant of the quality of human resource available and health research is a crucial input for promoting health and preventing disease. Reliable, relevant and timely health research generated information must be the foundation for developing coherent policies and plans, setting national priorities and disbursing resources equitably.

I am certain that the eminent participants of the seminar will focus on the information needs of health policy, planning and decision-making and look forward to results of their two days deliberations.

## **Message**

**From**

**Surgeon Rear Admiral Muhammed Aslam**

Director General Health

Government of Pakistan

Ministry of Health

I am delighted to know that PMRC is organizing a two-day seminar on Health Research Priorities for Pakistan.

The Pakistani population is bearing the so-called ‘double burden of disease’. It is becoming increasingly difficult to balance the needs of the health care system with the resources available. It has therefore become imperative to establish a credible and sustainable information generation system in the country, which will provide timely and relevant information for prioritizing problems and establishing equity in the distribution of resources. PMRC has managed to lay down an infrastructure for health research and is now endeavoring to operationalize the structure to address the information needs of the health system of the country. The Ministry of Health is fully supporting and facilitating the Council’s efforts and endorses the Council’s agenda of establishing Essential National Health Research in the country.

I hope this seminar will achieve its objective of developing consensus on the health research needs and priorities of the country. I am convinced that the positive outcome of the seminar will prove to be a land mark in the development of the country in general and the health sector in particular.

## **RESEARCH CAPACITY BUILDING FOR HEALTH CARE**

**Franklin White, Professor & Chair**

Community Health Sciences

The Aga Khan University

**ABSTRACT:** Research may be viewed as rigorous inquiry to advance knowledge and improve practices. Strengthening research capacity is one of the most powerful, cost-effective, and sustainable means of advancing health and development. In health organizations, the concept of research is broad, and includes biomedical and clinical research, epidemiological and related community health research, health systems research, health services research, operational research and other forms. Building research capacity for health is not altogether different from building other kinds of capacity. In addressing research capacity building, there are two main levels: the context of strategic management, and the operational context. In organizations in the health field, if reference to research is not in the mission, then developing a relevant research capacity is made vastly more difficult. Research capacities that take years to develop can easily be destroyed through inadequate support or poor management. This paper examines: capacity building primarily as a challenge for senior management, the requirements for operational effectiveness and efficiency, the realities of resource mobilization, and the need for effective marketing of the research enterprise.

**B**uilding research capacity for health is not altogether different from building other kinds of capacity. In the lexicon of contemporary management practices, it should also be part of a commitment to “continuous quality improvement”. Research is not a marginal activity, but should be viewed as part of the mainstream. Etymologically, research means “re” to do again, and “search” to look for, in effect “to look again”. A utilitarian definition is simply: “rigorous inquiry to increase knowledge and improve practices”.

To quote Fortune Magazine, a decade ago: “Forget your old tired ideas about leadership. The most successful corporation of the (future) will be... a ‘learning organization’”. In management terms, an enterprise with a functional capacity for research and development may be viewed as such an organization (Senge 1990). In health organizations, the concept of research is of course much broader than traditional biomedical and clinical research, and includes other forms such as: epidemiological and related community health research, health systems research, health services research, operational research and so on. Research may also be disguised by other names, such as planning, evaluation, surveillance, investigation, problem analysis, and external audit. As Shakespeare reminds us: *a rose by any other name would smell as sweet*. So we must not enshroud research in any kind of mystery; it is as basic to effective and efficient health care as hand washing.

The ideas of effectiveness and efficiency in health services are also by no means new, and were drawn to our attention in the early 1970s by the late Archie Cochrane in his critical analysis of the British National Health Service. In the 1980s, the concept of “health as a resource” was recognized in the health promotion movement, and the idea of “investing” in this resource was made by the World Bank in 1993. All this owes its origins to the strength of evidence-based approaches to good management at all levels, and its increasing application to policy, programmatic and clinical decision making. According to the International Commission on Health Research for Development in its 1990 report, *“strengthening research capacity in developing countries is one of the most powerful, cost-effective, and sustainable means of advancing health and development.”* That this is a continuing need that applies to countries at all stages of development, is illustrated by the following quotes from the WHO Regional Office for Europe in 1997:

- *uncertainty surrounds the relationship between the quality of outcomes and the volume of work undertaken.*
- *although the literature about clinical effectiveness is increasingly well developed, there is little research-based evidence about the components of effective hospital management.*
- *uncertainty concerning the impact of new technology on... ways that care is provided.*

The challenge of capacity development for health research, with a developing country focus, is even more recently addressed by the Global Forum on Health (1999). This takes an international perspective with particular reference to the role of the UN and other development agencies. However, the approach I now offer is based mostly on my observations as a health science manager with direct



experience in research and development operations in both developed and developing countries.

In addressing research capacity building, there are two main levels: the strategic management context, and the operational context. In many forae, there is a tendency to focus only at the second level. However, the first is more fundamental, as it deals with philosophy, organizational design and integration within a strategic framework.

#### The Strategic Management Context

Just like other good management practices, support for research (or “rigorous inquiry to increase knowledge and improve practices”) must stem from the top. In a learning organization (and surely all health institutions should seek to be learning organizations) this commitment must start with a Vision and/or Mission statement. Any reference to improvement in quality requires that some form of research be done, for how else can one ensure that such quality is being sought, let alone actually delivered?

By way of illustration, I quote from the Aga Khan University Order 1983:

Whereas His Highness Prince Karim Aga Khan and the Aga Khan Foundation have established in Pakistan a Health Sciences Complex whose programs will promote human welfare in general and the welfare of the people of Pakistan in particular and have expressed the desire to establish an autonomous University in Pakistan for the promotion and dissemination of knowledge and technology and for providing instruction, training, research, demonstration and service in the health sciences and such other branches of learning as the University may determine;...

From the Vision stems the Mission, and at AKU the Faculty of Health Sciences has an eleven point Mission statement (1993), of which the second element reads:

To design and develop community, clinically and laboratory based research focused on high priority health problems of Pakistan and the developing world.

Planning cycles generally flow from the Mission statement, which becomes the key factor in the formulation of goals, objectives, strategies and action plans, moving on from there to monitoring and evaluation, and then back to revisit the mission once again, and then onward to revised goals, objectives and so on. This process is often termed the “management cycle”, itself an application of general systems theory. The theory may be applied to organizations as a whole, to systems within organizations, and also to particular functions within those systems.

To borrow a quote from the business sector:

The industrialist who rejects the aid of science... will... be found wanting, and his business will soon pass to other hands. The wise investor will avoid him...

*Arthur Dehon Little*  
The Handwriting on the Wall

In organizations in the health field, if reference to research is not in the Mission, at least implicitly, then developing a relevant research capacity is made vastly more difficult.

To extend this generic thought to Pakistan, while not absolving private sector institutions from this consideration, one often hears from people working in the public sector that they cannot develop or achieve their research goals as there is no managerial support, time or funding allocated to it. If we look carefully, we may find that there is also little or no reference to it in the Mission statement of their institutions. This may reflect the pace at which organizations have adapted to changing management paradigms. Some may not even have a Mission statement. Developing or revising a Mission statement is an important opportunity that will allow the potential role of research to be addressed or updated and thereby help to achieve a learning organization. Overall responsibility for the existence of a research-friendly environment therefore goes straight to the top. This applies equally beyond the institution to the public policy environment as a whole, and brings us to the issue of priorities, which must be connected to the present topic of capacity building.

Priorities must be addressed of course both at strategic management and at operational levels. At the macro level, the national priorities for education, higher education, health services, management and related research across the board are reflected in the level of public sector investment, especially when compared with other expenditures or with countries experiencing similar resource constraints. Priorities of course cannot be reformulated overnight, but nonetheless must be considered at all levels when attempting to build capacity for health research: what is the priority for health, and what is the priority for research for the advancement of knowledge and improving health practices?

Beyond vision, mission, priorities and planning, appropriate structures must also be developed. At national level the Pakistan Medical Research Council is a vital element in the required structures. At the University level, there may be a Research Office, whose role is to facilitate access to information on grant opportunities, to facilitate ethical reviews, and to promote internal peer review, developing linkages, and promoting skills development. Of course, it takes time and effort to build effective structures and to achieve smoothly running functions. Research capacities that take years to develop can easily be damaged or even destroyed through inadequate support or poor management. Like other areas of capacity building, a modest way is often safer, while steadily working towards more complex challenges built upon initial successes.

#### The Operational Context

Just as successful learning organizations are self correcting, so too has the paradigm of good medical practice shifted from a synthesis of patho-physiological concepts, experience and common sense, to one that now recognizes ever-emerging scientific evidence as its basis. The education of physicians and increasingly other health professionals now requires the discipline: *keep on asking, keep on searching, keep on learning*. (Espallardo NL, Leopando ZE 2000). We are however living in an era when many physicians still practice the medicine of their year of graduation rather than moving with the times.(Sackett et

al 1985) How then can one promote the discipline of *lifetime learning*? This is a major aim of contemporary professional education, and requires the capacity to critically read and understand health science literature, and to incorporate what is relevant into practices, and in the process discard outmoded approaches (such as undue reliance on textbooks as distinct from journals, medline searches and intelligent use of the internet). Even if our future physicians (for example) do not intend to become researchers (and few will), they must at least have the capacity to assess and apply in their practices relevant scientific evidence derived from research. The same applies to any other category of health professional called upon to exercise independent judgment. In other words, *commitment to a research mentality in health care must not only be top down, it must also be bottom up*. For example, teaching primary health care at AKU utilizes the cycle illustrated in Figure 1. In this way, our medical students are presented from their very first day with the concept of an information driven self-correcting system:

**Figure 1:**

## THE HEALTH PLANNING CYCLE

### Conceptual Basis for the Medical Curriculum



The most critical element in any enterprise is usually the human resource. In health care, building the best possible team requires good operational management, which depends in turn on the strategic approach already referred to: team members must share a common mission and a self-correcting cycle must have the right mix of skills to ensure success. The right mix requires well thought-out post descriptions, and formal criteria for appointment and promotion, ensuring that the right people are hired and promoted for the jobs to be done. Performance appraisal systems must be keyed to realistic and evolving expectations, mutually negotiated between team member and team leader.

Having just outlined an ideal approach, let us now briefly visit a reality which we would all like to see recede over time: people promoted to jobs for which they are inadequately qualified; qualified people assigned to posts for which their training is underutilized, or not even recognized. Keeping in mind that these are generic

issues which may apply to all areas of human service organizations, let us now take note of the following questions:

- What is the relative importance of seniority and merit in appointments?
- What are the minimum requirements to be appointed to a given post?
- Is research built on brilliant individuals or well trained teams?
- How do we develop leadership for research friendly environments?

There is an important distinction between being a researcher, and being a research manager. Not all of the former are well equipped to become the latter, so beware of promoting a brilliant researcher into a research management role if he or she is not a competent manager. In developing the management of research, one really needs to be in a planning mode, armed with the four classical planning questions:

1. Where are we?
2. Where do we want to be?
3. How are we going to get there? and...
4. How will we know when we get there?

The first of these is the situation analysis, the second is the setting of goals and objectives, the third is the action plan, and the fourth is a commitment to monitoring and evaluation. Only after assessing the current situation can one identify the potential needs. Only after developing goals and objectives can one recognize the gaps between where we are and where we would like to be. Only with an operational plan can one clearly see how those gaps and deficiencies be closed, and only with a commitment to monitoring and evaluation can we be accountable for getting there. *Only if a researcher can relate to these questions, should he or she be appointed or promoted into a research management role. To do so without reference to these qualities is to act on the Peter Principle... to promote people to their level of incompetence. (Peter & Hull 1969)* If we want to succeed in building research capacity, it is critical not to confuse seniority with merit.

There are of course, specific skills in developing research abilities for which appropriate post-graduate education is essential. Interestingly, this is an area in which Pakistan may (in respect of post-graduate medical education) be ahead of the world, namely: that anyone seeking to be certified in a medical specialty in this country must develop a dissertation. Other options (not limited to the physician example) are to do a post-graduate degree that requires research training, such as a relevant MSc with thesis requirement or in some instances a doctorate. There is no single ideal model, and some people may develop equivalent skills through a combination of aptitude plus good quality short courses which may have a project requirement. In the end, one sooner or later learns that research is only about 10% inspiration, the remaining 90% being perspiration! Even before a grant is obtained for research, under competitive circumstances, dozens or even hundreds of hours might go into the proposal formulation. Once the grant is obtained, keeping in mind that only a minority of submissions actually succeed in attracting funding, one must then deliver on the project. If one fails to deliver on this, the likelihood of securing future funding from the same source will be reduced.

Regarding the training and development of the research manager, research training itself is not enough without attending equally to the managerial dimension, which requires skills in risk analysis, priority setting, planning, budgeting, human relations, team building, the development of incentives and rewards, and everything else that goes with being a good manager. The research enterprise is no luxury; it is a highly demanding necessity and requires strong leadership and advanced managerial skills.

Perhaps the most important task of the research manager is to create an atmosphere of freedom from fear of intelligent failure. The research endeavor requires acceptance that *uncertainty is an inevitable ingredient*. This must be understood elsewhere in the working environment, including the offices of CEO, personnel and finance, each of which may be called upon to be flexible and creative in order to be supportive. While productivity cannot be measured in the same way as other kinds of work, researchers may be assessed in terms of their contribution to the advancement of relevant knowledge and contribution to improvements in practices. This implies that the research outputs in themselves are not necessarily enough to justify the investment; equal efforts are needed to ensure dissemination and promote application at all relevant levels from policy to practice. This of course is where the concept of Essential National Health Research (ENHR) should serve as an example: linking research activities to national priorities and seeking to strengthen the link between research and its policy and programmatic applications. These principles are no less true of course for research conducted in any other context: whether regional, provincial, local or institutional.

#### Resource Mobilization for Research

There are many good ways of resource mobilization that are essential to building capacity. For starters: not all research projects require money, although relevant skill is always a prerequisite, and implies appropriately trained staff ideally working in teams with complementary skills. In its simplest form, the case report or the programme review is mostly a process of examining and writing up observations in a critical manner. A literature review requires little by way of funding. Process analyses in the context of the quality improvement cycle are now routinely conducted by many institutions at management level. There are also many forms of field research that are relatively inexpensive as they require little in the way of laboratory infrastructure; they do however, require epidemiological and statistical rigour, which returns us once again to the necessity of appropriate training and human resource development. In other words, if the Mission is supportive, and the human resource prepared, even with no explicit research funding as such, individuals and institutions can carry out research and (when applicable) publish their observations. As Pasteur would have us recognize: *Chance favours the mind that is prepared*. Time and money also are often interchangeable. To a large extent, having at least a basic research capacity, is a matter of priorities and attitude.

Making a start on research capacity building with very little actual financial investment is of course different from the situation where one may aspire to building research at a capacity that can become a national or regional resource.

This is the pathway chosen by AKU for example, and involves a major amount of planning and development. To be realistic, most health care organizations cannot aspire to this, but most certainly in a country the size of Pakistan there must be several leading centres in both public and private sectors that have the explicit Mission and capacity to make a contribution of this nature. In building this capacity one must examine not only national priorities, or priorities at other levels (provincial, regional), but also the linked issues of “mandate” and “comparative advantage”. For example, in many countries authority for product regulation exists at federal level; it stands to reason therefore that there should be developed a particular research capacity to support this role, such as appropriate food and drug laboratories. By contrast, one should not expect a university teaching hospital to develop regulatory research, especially as conflict may arise with the quite different need to develop capacity, quality and rapid turn-around in relation to its diagnostic laboratory work. A similar contrast may be drawn from environmental health research: for example, the AKU Community Health Sciences Department recently concluded a study of blood lead levels in Karachi children, in which the laboratory determinations were carried out under subcontract by the federal PCSIR laboratories.

One of the key ingredients in the development of research capacity is the development of grant writing skills. Formal training takes care of the basics, but there is no limit to the amount of practice that helps one to become steadily more effective over time. Grant writing workshops can expand the pool of researchers in a given institution, and lift standards. Peer review both internally and externally is essential to raising and maintaining standards. In the end however, there is always an element of chance. It is absolutely critical for example, to write proposals with very careful attention to every part that makes up the request for proposals, or the requirements of the particular granting agency. To take a pedestrian example, a proposal formally received at 9am on Tuesday in Glasgow will be returned unopened to Karachi, if the deadline was 5pm the night before. The likelihood of funding a small project in the AKU intra-mural competition, which is designed to encourage proposals from AKU faculty and thereby help to build research capacity, is currently about 25%. The likelihood of funding any given larger project proposal from major international granting agencies such as the US National Institutes of Health or the UK Wellcome Trust, statistically is probably less than 10%.

Good ideas can sometimes be shot down because they do not fit within the established priorities of the organization or the nation, and one must recognize in this the potential short-comings of priority setting, including “whose” priorities are being addressed, and how adequate was the process. Some priorities are influenced by “the latest fashion”, and some may be “donor driven”, with the potential to distort national or local priorities. Some proposals may be recognized as sound, but not funded for reasons such as competition for an insufficient available research budget. Some poorly constructed research proposals will be approved, because these fit the official list of priorities. On some occasions the nod will be given to groups that are well established, simply because they are well established, not necessarily because they put forward the best proposals. Good proposals from lesser known institutions and individuals may be viewed as risky. In the end however, unless there is some return to the researcher in terms of

recognition and funding, there will be a brain drain away from research, either out of the geographic area, or to other occupations perceived as more rewarding for the effort. At the organizational level, rather than “capacity building”, this is “capacity destroying”. Unfortunately, we all know that this also happens.

From time to time, grant flows diminish due to external factors not under the control of the investigator. In these situations, other strategies can be used to maintain capacity. One can partially revert to activities that require little or no funding, one can solicit smaller grants or contracts with new and more diverse and sometimes more flexible agencies. Partnerships can be developed that effectively pool resources. Some kinds of consulting contracts offer value similar to a small grant, provided the potential for independence is adequately protected. One may also have to seek ways of bridge financing, in order to ensure that a research capacity built up painstakingly over time is not destroyed overnight due to an externally generated funding freeze. One can use the time creatively to develop more ambitious grant submissions that may be viable once the freeze lifts, or submit these to previously uninvolved agencies. During the 12-15 months since the change in government October 1999, the Department of Community Health Sciences at AKU, sustained a 30% decline in the value of research and development funding, doubled the actual number of grants and contracts, increased publications output, and maintained research capacity by using all the above approaches. We have more recently, *ma’shallah*, secured new grants that restore the previous funding level.

One of the key risks, particularly during times of grant instability is opportunism, especially with regard to consulting contracts. To avoid this, it is critical to be true to one’s Mission. In the Department of Community Health Sciences we examine each potential project (whether grant or contract) for consistency within the departmental Mission, itself a relevant extract from the Mission of the Faculty of Health Sciences:

*To train young people for leadership in addressing health problems of the people of Pakistan, particularly those of the more deprived populations through the primary care approach, and to contribute to improvements in the health services of Pakistan, particularly through the development of prototypes that are effective and affordable.*

In practice, once capacity is developed and is reasonably mature, it is possible for a local resource to become a national one, and a national one to become a regional one, and so on. For example, at AKU, projects elsewhere in Asia and Africa are also considered, and these help to broaden the base of experience and expertise, maintain capacity and buffer periods when viable opportunities within Pakistan may be restricted, such as recently.

Related to resource mobilization there are a few important rules for research managers:

- Planned research projects are not sacred, however much they may be someone’s “pet project”. Research must sometimes be suspended or

terminated when conditions render them unfeasible or when better proposals come along.

- Time given to unsuccessful ventures cannot be recouped, and can be an opportunity cost. Just as in financial investments, where one does not want to “throw good money after bad”, a responsible research manager must be prepared to cull projects.
- Project ideas should get attention anytime, not just at budget time.
- There should be no projects in the “nothing-better-to -do” category.
- There should be “over-booking”; a backlog of ideas and submissions outstanding. None are guaranteed success. This is what I call the “shots on goal” theory.
- Contracting out and partnerships must always be considered. There is often no good reason why institution B could not be doing research under contract to institution A, if B has the capacity and the independence to do a better job.

### The Marketing of Research

And now for a crucial question: *How can we get our national leaders to become more receptive to the importance of building appropriate research capacity?* Unless this is achieved, there is perhaps little likelihood that national priorities for health or related research will greatly change. One may equally need to recognize the importance of promoting research at all levels in the health, social and educational sectors. Perhaps our organizational CEOs may be a necessary part of the solution, as these are mostly highly influential people, with the opportunity to translate and communicate the importance of research to higher levels of governance. However, even at this level there is a challenge.

Consider a quote from our industrial cousins:

*“The expertise of a chief executive can most influence any new... development program in the programs’ early stages – during preliminary study, design and development. But current research suggests to the author that chief executive officers actually devote only trivial amounts of their time and energy to these early stages... Instead, they typically have significant involvement only during production and marketing – when it’s too late to do anything that can influence the outcome.”*

Edward Roberts

CEOs have a major influence on shaping the institutional environment and its destiny. Thus, it follows that R&D should be part of the training of all prospective CEOs. For current CEOs, many of whom have risen to their positions without this advantage, we must turn to other approaches. Research priorities, project activities and outputs must be brought regularly to their attention. This is no less true for Ministers of Health and social sectors, as well as Heads of Government. Similar actions can be taken at other appropriate levels, such as opportunities for upgrading other Health Services Administrators. District Health Officers are a case in point, as they are effectively the health CEOs for populations of typically 1-2 million in Pakistan, which entails a major level of responsibility for resource management in support of primary health care.

### **Conclusion**



Research may be viewed as rigorous inquiry to advance knowledge and improve practices. Strengthening research capacity is one of the most powerful, cost-effective, and sustainable means of advancing health and development. Capacity for research is a basic element of any organization that aspires not only to survive, but to advance the quality, relevance and impact of its services. Research capacity building is a challenge for governance, health systems and institutional leadership, and requires as much attention to good management practices as it does to the research itself.

### **Acknowledgments**

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# **HEALTH SECTOR DEVELOPMENT AND HEALTH RESEARCH CAPACITY IN PAKISTAN**

## **AN OVERVIEW**

**Dr. Tasleem Akhtar, Executive Director**  
Pakistan Medical Research Council,  
Islamabad.

Pakistan became an independent sovereign state on August 14, 1947. At the time of independence the territories, which became Pakistan had one medical teaching college and attached hospital and one university at Lahore. The public sector health care delivery system consisted of a few district and civil hospitals. In 1954 a Medical Reforms Commission was set up to advise the government on the organization and structure of the medical services. One of the recommendations of the Commission was the establishment of a Medical Research Fund. In 1962 a Medical Reforms Committee advised the establishment of the Pakistan Medical Research Council. The Council was created under the Ministry of Health and was assigned the responsibility of promoting, organizing and coordinating medical research in the country and linking medical research to the over-all socio-economic development plans of the country.

In the first two decades after independence rapid expansion occurred in the health sector. By the early sixties the number of medical colleges stood at five and a postgraduate institute, called the Jinnah Postgraduate Medical Centre (JPMC) had been established. The National Health Laboratory, now called the National Institute of Health (NIH) was also established in the sixties. A journal for the publication of original research called the Journal of Pakistan Medical Association (JPMA) was started. A Pakistan Medical and Dental Council was established to set standards and oversee medical education. Currently the country has 18 undergraduate Medical Colleges in the public sector with 4 Postgraduate Medical Institutes, a National Institute of Health, a Pakistan Institute of Medical Sciences, a National Institute of Cardio-Vascular Diseases, an Armed Forces Institute of Cardio-Vascular Diseases, an Armed Forces Institute of Pathology, a Pakistan College of Physicians and Surgeons, two Institutes of Public Health, two Health Services Academies and three Provincial Health Development Centres. The private sectors have established three medical universities and several medical colleges.

Over the years and especially in the eighties, many commissions and committees were constituted to advise the government on health sector reform and development. However the concepts of universal access, equity, quality and community participation in the provision of health care, which were put forward in the recommendations of the Health Survey and Development Committee (Bhore Committee), set up in 1946, and endorsed by the subsequent commissions and committees to-date elude implementation as envisioned.

The expansion and development in the Health Sector in Pakistan described above, has not occurred under any policy and long term planning. Since the early sixties development has been going on under Five Year Plans and Annual Development Plans. An abortive attempt at health policy making was made in 1990. It was in

1997 that the first Health Policy of the country was announced. However the starting of the present Health Sector Reform effort preceded the Health Policy and is being undertaken under the umbrella of the Social Action Programme (SAP)

### **Health Research Capacity And Status In Pakistan:**

Research in Pakistan has remained a low priority area in all fields. This is well indicated by the total scientific and technical manpower of 14,576 and a total number of 1843 PhDs in all fields, in a country of 130 million plus population. The total allocation to the Research and Development (R & D) organizations and universities, in the annual budgets of the country ranged between Rs. 8336.396 million (\$ 154 million) in 1988-89 to 12878.313 million (\$239 million) in 1994-95<sup>6</sup>. The allocation to Health and Population sector research institutions was a small fraction of even this paltry spending.

In the field of health the number of research scientists is 966 with a total of just 42 PhDs (with 24 of these at the Aga Khan University, Karachi). The neglect of health research and development in the country cannot be blamed on the early planners and decision-makers since a Medical Research Fund was established as early as 1954 on the recommendation of the Medical Reform Commission. The Pakistan Medical Research Council was created in 1962 on the recommendation of the Medical Reforms Committee. Why the early promising start could not be built on is a matter for research itself.

The Pakistan Medical Research Council was assigned the functions of promoting, organizing and coordinating health research and linking research to the socio-economic development plans of the country. The Council adopted the strategy of establishment of Research Centres in Medical Academic institutions where the research capacity was assumed to be concentrated, to achieve its functions. Unfortunately this strategy has failed to deliver. Again the reasons could be many and need research. However one reason is failure of the Council to attract competent researchers and develop a core group of research trainers. With severe lack of capacity in its own research centres the Council has been unable to develop a health research human resource in the country. The Council's assumption that adequate research capacity is available within the medical institutions and that all that is needed is to provide some technical and logistic facilities through the research centres to promote research has proved wrong. Research know-how is severely deficient and the mere provision of equipment and support facilities has failed to help the Council achieve its objectives.

Several institutions are involved in health research in Pakistan. These include, besides the Research Centres of the Pakistan Medical Research Council, the Aga Khan University, the Health Services Academy, Population Council, Asia Foundation, Federal Bureau of Statistics, National Institute of Population Studies and the postgraduate medical Institutions. However, health research remains individual-based, fragmented, uncoordinated, of poor quality and mostly irrelevant to the health policy and planning needs of the country.

### **Suggestions And Recommendations For Promoting Health Research And Enhancing The Use Of Research In Policy And Planning:**

In a recently undertaken study (Sameen Siddiqui and Tasleem Akhtar) in which top decision-makers of the health sector were interviewed the following suggestions were given to enhance the use of research for improved decision-making:

- Research must be a part of all government plans and proposals and must have separate allocation in each such plans and proposals.
- Research capacity in the country needs to be strengthened. Suggestions given were:
  - a) Creating a demand for research;
  - b) Strengthening of Research in Academic Institutions;
  - c) Developing human resource capable of independent research in health;
  - d) Networking and collaborative linkages among institutions;
  - e) Information support to researchers;
  - f) Adequate financial resources allocation for research
- Decision makers should be educated through:
  - a) Capacity building of mid-level human resource and deploying these close to policy-makers so that information based on sound evidence is conveyed to them as and when required;
  - b) Expose high level policy-makers to systems where such a process is working - “study tours” could be one option;
  - c) Enhance the value of social sector research in the eyes of decision-makers through establishment of resource centres and making information more accessible;
  - d) Organize awareness workshops.
- As regards the development of a research culture where research is considered an investment rather than a liability, there were two views on what has obstructed the creation of a research environment: 1) The decision-makers do not demand research for policy and planning and base their decisions on intuition rather than information, and 2) the researchers do not conduct policy relevant research and often take up esoteric research, which has little relevance to the needs of the country. There is thus a gap between the researchers and policy-makers, which needs to be bridged through:
  - a) Development of human resource for research, provision of incentives and funds for research;
  - b) Creation of an enabling environment that encourages research. Establishment of information resource centers, strengthening research institutions, training professionals in research methodologies, providing monetary as well as non-monetary incentives to research scientists;
  - c) Dissemination of research results through inviting multi-disciplinary teams of professionals such as lawyers, politicians, journalists and media men and women;
  - d) Establishment of common forum for researchers, academics, bureaucrats and policy-makers such as joint dinners and get-togethers;
  - e) Institutionalization of Research;
  - f) Provision of relevant information to decision-makers on a timely basis;
  - g) Utilization of examples of successful research use in policy-making for convincing policy-makers.

## **RESEARCH PRIORITIES IN REPRODUCTIVE HEALTH IN PAKISTAN**

**Farid Midhet, Principal Investigator (BSMI),**  
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Islamabad.

### ***Research and Planning:***

Ideally, planning should always be guided by research. Unfortunately in our country, the planning processes rely more on foreign experts and less on hard data. This is especially true for the planning of health services and programs. When national health policies and strategies are not based on research data, it is hard to monitor their success in achieving their objectives. Pakistan is one of the few countries that do not have reliable data on some very important health indicators, including those related to women's health status. As a result, we do not know if the government's health services interventions have improved women's health in Pakistan. An example is maternal mortality ratio (MMR), which is an important indicator of women's health and the state of the health services available to them. It measures the number of deaths due to complications of pregnancy and childbirth for every 100,000 live births. The MMR is therefore an estimate of the risk of death associated with pregnancy and childbirth. We do not have a national figure for MMR. Similarly, the data on the frequency and severity of pregnancy-related illnesses are also lacking. We also have a very limited understanding of the prevalence and determinants of major reproductive illnesses like sexually transmitted infections and cancer of the cervix. Similarly, we do not know why a vast majority of Pakistani women prefer having births at home. And we have very little information about the scope, the quality and the utilization of health services available to women at government health facilities, particularly those located in rural areas. Last but not the least, there are no reliable information on men's reproductive health status and needs.

Yet in all these areas, policies are formed and new strategies are routinely developed and launched at the national level. It is not surprising, however, that these policies and strategies have had little impact on women's health status in this country. Here are a few examples:

1. Only 18% of all deliveries are performed by trained health personnel; 80% deliveries occur at home.
2. Just about one third of all pregnant women receive some kind of antenatal care.
3. More than 60% of pregnant women do not receive immunization against tetanus.
4. Contraceptive use rate is just 24%, while that for modern methods is only 17%.
5. Total fertility rate (average number of children a woman is expected to bear in her lifetime) is over five.
6. About 28% of the women who desire no more children or who wish to delay their next pregnancy do not use a modern family planning method due to lack of access to services and/or information.

7. Forty percent of the women aged 15 years or older are anemic. Anemia increases steadily with age, from 35% among teenage women to 66% among those aged 45-50 years, which is an alarming indicator of the poor state of health services available to women.
8. About one quarter of the women give birth when they are less than 18 years or over 35 years of age, which puts them at higher risk of obstetric complications. About 20% are also grand multiparous -- having given birth to four or more children already -- which increases their risk manifold.
9. The sex ratio in 1998 was 108 women per 100 men, indicating a higher number of men than women in the population. At least in part, this depicts higher female mortality during early childhood and in the reproductive ages.
10. Maternal mortality ratio is believed to range somewhere between 300 and 700 per 100,000 live births, which is among the highest in the world. Because a woman is at risk each time she becomes pregnant, her lifetime risk of maternal mortality accumulates to about 2.5% -- meaning that one in every 40 Pakistani women dies of complications of pregnancy and childbirth.

***A Reproductive Health Research Agenda for Pakistan:***

The International Conference on Population and Development (ICPD) in Cairo in 1994 defined reproductive health as "...a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and its functions and process. Reproductive health therefore implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so".

After the ICPD, three broad areas for research and interventions in reproductive health were identified:

1. Sexually transmitted infections, their prevalence and determinants.
2. Family planning use, particularly with regard to modern contraceptive methods.
3. Safe motherhood: safe pregnancy and delivery and healthy outcome of pregnancy.

Within these broad areas, each country must assign priority areas for reproductive health research and interventions. For Pakistan, some relevant research questions in reproductive health would be:

1. What is the maternal mortality ratio in Pakistan? What are the causes of maternal mortality?
2. How many women suffer from obstetric complications? What are the major causes of maternal morbidity?
3. What are the major causes of neonatal mortality and morbidity?
4. Who are the women using modern contraceptives in the rural areas?
5. How many women receive appropriate prenatal care during pregnancy?
6. How many women receive skilled birth attendance?
7. Who are the women who receive skilled birth attendance?
8. Who performs the most deliveries in rural areas?
9. Who performs the most deliveries in urban areas?

10. What is the prevalence and determinants of common obstetric complications?
11. Who are the “birth attendants” in the urban and rural areas?
12. Whom had we trained as trained birth attendants during 1980s? Where are they?
13. What are the various categories of traditional birth attendants?
14. What are the family dynamics in terms of selection of a birth attendant?
15. Who are ‘birthing supervisors’, ‘cord-cutters’ and ‘mother’s maids’?
16. How do we move from “mostly unskilled” to “mostly skilled” birth attendance?
17. How much does it cost to deliver a baby at home?
18. How much does it cost for a normal delivery in a government hospital?
19. What are the implications of delivery at home?
20. How can the proportion of skilled birth attendance be increased?
21. What is the current level of reproductive health knowledge among married men?
22. Why is vasectomy not popular in the country?
23. Where is the family in family planning?
24. What is the role of the (nuclear and joint) family system in safe motherhood?
25. What family values and dynamics determine the adolescents’ sexual behavior?
26. What media campaigns of the Ministry of Population Welfare have worked?
27. What communication strategies of the non-governmental organizations have worked?
28. What communication strategies have not worked?
29. Why the increase in the contraceptive prevalence rates is so slow?
30. What are the ethical questions in reproductive health research?
31. Is there an ethics code for reproductive health research in Pakistan?
32. Are consents sought from respondents and participants in RH research?
33. Why gender in Pakistan means women only?
34. What are the social and cultural aspects of male isolation in reproductive health?
35. Why has Bangladesh’s family planning program worked better than Pakistan’s?
36. What lessons have we learned and applied from success stories in South Asia?

Some experts might think that we already have answers to many, or most, of these questions. I believe otherwise. Each of these questions need hard data before they are answered, not just opinions. These questions are important from two points of view: first, they need to be answered *before* initiating an intervention program, and second, these questions need to be asked continuously throughout the course of the program, and also at its end.

I will discuss one other example: Recently, there is a global trend of ‘dumping’ the *Dai* training programs and stopping any further investment in traditional *Dais*. Some policy documents of our government also follow the same pattern, without considering the ground realities in our country. The argument given against *Dais*

is that their training (about 53,000 *Dais* were trained in the country during the 1980s) have failed to bring down maternal mortality. However, those who have worked closely with these training programs will testify that most programs were ill-organized and weak. I will pose the following questions to the opponents of continuation of *Dai* training programs:

1. Who are the “trained” *Dais* employed at government health facilities in many rural areas of Pakistan?
2. Who were the *Dais* who were trained during the 1980s? How were they selected? What were the mechanisms for follow-up training and for their supervision and support, and for linking them with the health system?
3. Do we have a definition of who a *Dai* really is?
4. A vast majority of deliveries occur at home and are performed by *Dais*. How soon can trained midwives replace the *Dais* in all areas of Pakistan?
5. Where is the evidence that the deliveries performed by *Dais* are at any greater risk of complications than those performed by trained health personnel?

This is only an illustrative case to make the point that research is needed before taking policy decisions. It also proves that research is simply an extension of and an aid to common wisdom. It is clear that the *Dai* training programs were launched without much preparation and there was no effective system of their monitoring. ‘Failure’ of *Dai* training program cannot be attributed to *Dais* alone, especially when there are no data to substantiate this claim. More importantly, a decision to totally ignore the *Dais* will be dangerous, for a very simple reason: In the best case scenario, the health system may require a minimum of ten years to deploy enough trained midwives to displace *Dais* out of their profession. Some sort of intervention will be needed for this interim period. Moreover, untrained birth attendants are not the only barrier to women’s access to emergency obstetric care. A number of other factors are operative at home and community level, which cause delays in transferring a woman to hospital when she needs emergency care. Moreover, a significant number of deliveries in the rural areas are performed or supervised by older female relatives who have the decision-making power to seek (or not to seek) medical care during emergencies. Providing skilled birth attendants in all villages may remove some, but not all barriers to access to medical care. More research is needed to find appropriate solution to this problem. Setting research priorities in reproductive health should follow a comprehensive process to identify major areas of need and concern. The seminar organized by the Pakistan Medical Research Council will handle precisely this question.



## **TRENDS IN HEALTH CARE FINANCING IN PAKISTAN**

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### **Investing in the Health Sector**

Improvement in health has an instrumental value in enhancing economic development. Investment in health is the foundation for social and economic development. Improved health contributes to economic growth through increased worker productivity, improved utilization of natural resources, improved learning ability and school enrollment of children, synergism between health gains and fertility reduction and reduced expenditure on medical care. Investments in health not only lead to improvement in health status but also contributes to alleviation of poverty.

Pakistan lags well behind the averages for low-income economics in terms of social indicators. Government spending on health has traditionally been well below 1 percent of its GDP. Factors attributable to poor health status can be attributed to social and developmental issues and health sector issues. The former include *inter alia* high level of poverty, low level of education – especially female education, low status of women and inadequate sanitation and water supplies. Health sector issues are varied but the major ones are inadequate allocation and inefficient utilization of resources, unregulated health sector, human resource imbalances in health, centralized decision making and managerial weaknesses, gender imbalances, political interference insufficient focus on preventive interventions, insufficient interaction with non-governmental health sector and communities.

### **Financing of Health Sector in Pakistan**

Health sector in Pakistan is financed or administered through the public exchequer and by the private sector. Sources of public sector financing include government revenues raised through taxation, donor financing through projects and programs, cost recovery at health facilities (user charges), social security insurance and *Zakat* funds. Private sector financing covers out-of pocket payment (fee for service), private health insurance, NGOs working in the health sector (through donor financing).

The following three tables provide an overview of the trends of public sector financing of the health sector. It covers total government expenditure on health and population, provincial and federal contribution to total public sector expenditure on health and the contribution of the Second Social Action Project.

**Table 1: Total Government Expenditure on Health and Population**

|                                            | 1993-94        | 1994-95        | 1995-96         | 1996-97         | 1997-98         |
|--------------------------------------------|----------------|----------------|-----------------|-----------------|-----------------|
| Total Public Sector Expenditure on Health  |                |                |                 |                 |                 |
| Current                                    | 8.596<br>(71%) | 9.433<br>(64%) | 11.234<br>(68%) | 12.988<br>(71%) | 14.777<br>(71%) |
| Development                                | 3.460<br>(29%) | 5.237<br>(36%) | 5.387<br>(32%)  | 5.339<br>(29%)  | 6.166<br>(29%)  |
| Total                                      | 12.056         | 14.670         | 16.621          | 18.327          | 20.943          |
| Ministry of Population Welfare Expenditure |                |                |                 |                 |                 |
| Total                                      | 0.794          | 1.077          | 1.389           | 1.460           | 2.073           |
| GDP at Market Rates                        | 1564.60        | 1866.30        | 2214.30         | 2503.25         | 2932.00         |
| Govt. Health Expenditure as % of GDP       | 0.77           | 0.78           | 0.75            | 0.73            | 0.71            |
| MOPW Expenditure as % of GDP               | 0.05           | 0.06           | 0.06            | 0.06            | 0.07            |

**Table 2: Provincial and Federal Contribution to Total Public Sector Expenditure on Health**

|                               | 1991-92 | 1992-93 | 1993-94 | 1994-95 | 1995-96 | 1996-97 | 1997-98 |
|-------------------------------|---------|---------|---------|---------|---------|---------|---------|
| Federal                       | 14%     | 12%     | 15%     | 18%     | 20%     | 19%     | 17%     |
| FANA, FANA, AJK               | 4%      | 5%      | 4.5%    | 5       | 5       | 5       | 6       |
| Punjab                        | 39%     | 44%     | 38%     | 37%     | 34%     | 38%     | 42%     |
| Sindh                         | 21.5%   | 18&     | 19%     | 17%     | 19%     | 17%     | 17%     |
| NWFP                          | 14.5%   | 14%     | 15%     | 15%     | 14%     | 13%     | 12%     |
| Balochistan                   | 7%      | 7.5%    | 8%      | 8%      | 8%      | 7%      | 7%      |
| Total Health Exp. As % of GDP | 100%    | 100%    | 100%    | 100%    | 100%    | 100%    | 100%    |

**Table 3: Second Social Action Program Project – Financial Summary – Estimated Program Costs (1997-2003)**

|                             | Elementary Education | Primary Health       | Population         | RWSS               | Others            |
|-----------------------------|----------------------|----------------------|--------------------|--------------------|-------------------|
| Punjab                      | 3,315.7              | 698.5                | -                  | 439.1              | -                 |
| Sindh                       | 1,331.0              | 319.9                | -                  | 185.9              | -                 |
| NWFP                        | 1,022.2              | 188.4                | -                  | 177.4              | -                 |
| Balochistan                 | 514.2                | 174.0                | -                  | 125.4              | -                 |
| Federally Administered Area | 338.6                | 158.2                | -                  | 74.3               | -                 |
| Federal Programs            | 103.7                | 417.5                | 379.2              | -                  | -                 |
| PDP                         | -                    | -                    | -                  | -                  | 47.1              |
| M&E                         | -                    | -                    | -                  | -                  | 28.8              |
| TA                          | -                    | -                    | -                  | -                  | 16.9              |
| <b>Total</b>                | <b>6,625.4(66%)</b>  | <b>1956.5(19.5%)</b> | <b>379.2(3.8%)</b> | <b>1002.1(10%)</b> | <b>92.8(0.9%)</b> |

## **Cost recovery at Health Facilities – User charges**

Nominal user charges are levied for out-patient consultation, in-patient admission and diagnostics. Cost recovery in public facilities from user charges at all levels amount to about 2% of total government spending on health. Proceeds from almost all user charges accrue to the provincial or federal treasuries. Raising substantial additional resources from general revenues seems unlikely. Institutional capacity has to be created that allows for mobilization of additional resources from the system's clients – who are willing and able to pay for services through introduction of user charges.

Facilities would require permission to retain the proceeds from user charges and use them for improving operations and quality of services. Poor and women and children have to be protected from user charges through exemptions or cross-subsides. Structure of the user fees requires further studies – those bypassing the system could be charged higher fees. Devolution may provide some flexibility in introducing user charges.

## **Employees Social Security Institutions**

It was established in 1967 under the Provincial Employees' Social Security ordinance 1965. Provincial ESSI under the general direction of a governing body manages it. It covers employees of industrial and commercial establishments with 10 or more workers and drawing salary up to Rs.3000 per month. The benefits offered include medical care for secured workers, medical care for dependents, cash benefits. The scheme is financed through contributions at 7% of the wages of workers paid by employers. Over 500,000 employees – mostly urban – are registered in Punjab, Sindh and NWFP. ESSIs run their own network of facilities and in some cases provide care in private health facilities. ESSI system accounts for up to 1% of all health care financing in the country. Concerns with the concept of ESSI include that funding is guaranteed regardless of performance, thereby efficiency is poor and quality of care low, maximum wage for insurance is ESSI is rarely adjusted, many who need it are excluded.

## **Zakat Health Funds**

In 1991-92, Rs.2.6 billion in *Zakat* funds were collected out of which Rs.90 million (or 4%) were designated and spent on health related projects. *Zakat* funds for health are distributed to the "Mustahiqeens" through two mechanisms – the Patient Welfare Society and through direct disbursement to facilities (Fatimid Foundation, PIMS, FGSH). *Zakat* Funds are only being used for purposes of health services and not for any capital and development purposes. There are major procedural and administrative problems in the disbursement of *Zakat* Funds. *Zakat* funds amount to 0.5-1% of the country's health expenditures and are not adequate to cover the health costs of the indigent in Pakistan.

## **Private Sector Financing**

Private sector expenditure on health accounts for almost two-thirds of total health expenditure in the country. Most health care in the private sector is paid for directly by individuals. Out-of-Pocket household expenditures are high, with

estimations of about Rs.20 per capita per month. Private sector provides curative health services to almost 80% population – 56% private doctors, 14% private dispensers; 5% hakims homeopaths; 3% private pharmacies; and 21 government health facilities. Private health sector in Pakistan is largely unregulated – and there is lack of legislation that would allow for enforcement of standards of health care.

The breakdown of estimated household expenditures on health comprises doctor/hospital fee 35.6%, medicines 63.1% and other expenses 1.3%. Based on the finding of a Household Income Expenditure Survey on a representative sample of almost 15,000 households, by Federal Bureau of Statistics in 1998-99 the average household expenditure per month was Rs.145.0. The estimated number of households in Pakistan is 19.71 million. The annual household expenditure on medical care amounts to Rs.34.295 billion. For the same year the total public sector expenditure on health was Rs.18.327 billion. Thus the total expenditure on health was approximately 52.622 billion out of which private sector expenditure on health accounts for 65% and public sector expenditure 35%.

### **Private Health Insurance**

Private Health Insurance Market in Pakistan is limited. Most private and state owned insurance companies do not offer health care insurance products. New Jubilee and Adamjee Insurance Companies offer health insurance to their clients with a limited range of services. Membership base of private health insurance is approximately 25,000. In 1994 the USAID conducted a study for the Federal MOH on – Development of Private Health Insurance Based on Managed Care Principles.

### **Conclusions and Recommendations**

Health improvement has an instrumental value in enhancing productivity and economic development. Pakistan has one of the lowest health investments in Asia and in the world. Public sector contribution to health and population combined is less than 0.8% of the GDP. Donors finance up to 20% of the public expenditure on health through loans and grants. Over 80% financing of SAP as well as SAP II is through domestic resources, which has largely remained protected. Health expenditure varies between 5-9% of the total provincial government spending. This is unlikely to increase in the foreseeable future. ESSI system accounts for less than 1% of all health care financing in the country. Cost recovery in public facilities from user charges at all levels amount to about 2% of total government spending on health. *Zakat* funds amount to 0.5-1% of the country's health expenditures. Private household expenditure on health accounts for two thirds of the total health expenditure.

A number of developing country governments have started to experiment with splitting financing and provision of health services by contracting out packages of services for defined populations to NGOs or other private parties. While administratively demanding, and probably not feasible on a large scale in Pakistan in the near future (but feasible at the margin), this type of organization and management reform is very promising. It could enable the provincial and district governments to obtain better value for money, as compared with expanding the present model of in-house provision.

Lack of access to health risk-pooling mechanisms by most households is a major problem in Pakistan. The Government should play an active role in fostering the development of health insurance institutions and try to steer such development in socially beneficial ways. Two specific types of reform that could be considered by the Government are:

*Expansion of social health insurance by incorporating government employees to the ESSI system.* At present, government employees are entitled to free medical care from government hospitals. The subsidies involved in such arrangement are non-transparent. Incorporating government employees to the ESSI system instead would make the cost to the Government of providing medical coverage to its employees explicit, and would help to build social insurance as an institution.

*Piloting of Community Financing Schemes.* For households outside the formal sector, e.g. in the rural areas, the Government may consider piloting Health Community Financing Schemes. Such schemes may be able to capture most of the out-of-pocket expenditure that rural households already incur on health services/goods, and which is often squandered on fees to untrained health care providers or ineffective (or worse) over-the-counter drugs. Community Financing Schemes would then channel these resources into more efficient and effective services for the same households, while also pooling risks.

## **NOTE FROM THE COUNCIL ON HEALTH RESEARCH FOR DEVELOPMENT (COHRED)**

The Council on Health Research for Development (COHRED) is a nongovernmental organisation, created in 1993 to promote and support the concept of Essential National Health Research (ENHR). ENHR is a strategy for organizing and managing health research, founded on the conviction that effective health research can be a powerful means of promoting health and development based on equity. For a number of years, COHRED has worked closely with health institutions and other bodies in some 40 developing countries, including Pakistan, to advocate for and promote the ENHR strategy.

For many people, perhaps, the term “health research” conjures up an image of white-coated scientists working at a laboratory bench on problems of little direct relevance to ordinary people’s lives. It may be seen as something of a “luxury” which can only be afforded by rich countries. But such an image tells only a small part of the story. Health research covers a wide spectrum of activities, which can include such apparently simple tasks as counting the number of malarial mosquitoes in a community or observing how food is prepared in village homes. And essential national health research is particularly relevant for developing countries, since it provides an important engine to help drive national development by focusing research on the priority health problems of the country.

This week’s seminar on health research priorities in Pakistan is an important step in the organization of health research in the country. Left to the influence of market forces and scientific curiosity alone, investments in health research tend to target the diseases of the affluent or so-called “glamorous” conditions, resulting in under-investment in research that can benefit the poorest in society. The setting of national priorities, based on hard evidence of need, can go a long way towards ensuring that investments produce concrete returns for all, and move society forward on the development path. It also puts the country in a stronger position in its negotiations with development partners in the North, since these partners are less likely to be able to impose their agendas in a country with a clear agenda of its own.

As a small, independent nongovernmental organization, COHRED works with developing countries, to support them in organizing a health research system that responds to their particular needs. COHRED’s participation in Pakistan’s national seminar this week is an example of the organization’s commitment to “put countries first” and to stimulate partnerships at all levels – including country level – between all the parties involved in, or affected by health research, from politicians, to academics, to the man and woman on the street.

The aims of this week’s research priority-setting exercise are to improve the use of limited resources and generate more funding for research on problems of the poor. The ultimate success or failure of this effort will depend on what happens next: Will the priorities set this week be implemented? Do they, in fact, address the question of equity? Will the interest of the various stakeholders in the research agenda be maintained? Creating an effective health research system that can

improve equity will not happen overnight. It will demand commitment by all the actors involved. COHRED will remain ready to provide support whenever appropriate and to make available the expertise of its collaborators from around the world in this difficult, but very worthwhile task.

## **SERVICE ORIENTED RESEARCH IN MENTAL HEALTH**

**Prof. Malik H. Mubbashar**

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**I**t is only over the last fifty years that a number of developing countries have achieved nationhood, however this independence has not always been reflected in the policies formulated. Health policies have particularly suffered on this count, being formulated on the basis of data from developed countries.

This resulted in programs of dubious usefulness, inequitable distribution of resources and lopsided infrastructural development, however for the last 02 decades it is being increasingly realized that indigenous research and evaluation should be integrated in the process of formulating national regional policies and priorities.

This realization however is confronted with a number of constraints, including shortage of trained manpower, lack of technical and funding resources, lack of culturally valid measures, limited avenues of disseminating results and most importantly lack of operationally useful public mental health research because of the attitudes of professionals engaged in research.

In spite of these constraints a number of developing countries have developed mental health policies and programs for providing mental health services to their populations. It is now for the mental health professionals, to realize that instead of harping on the constraints it is upto them to carry out evaluation of the existing models of services and develop models of care integrating evaluation as part of their planning and implementation process, by utilization of existing resources and maximizing these researches by collaboration with other social sectors like education, social services, police, criminal justice system and within the health sector. Since it is unlikely that majority of the health professionals working in developing countries would be able to devote themselves to research and evaluation full time. It follows that most of the work would relate to the clinical settings they work in ranging from validation of existing instruments, development of diagnostic measures, program reviews and program trials.

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"><li>1. Research is cornerstone of economic prosperity.</li><li>2. Research is the engine which drives national progress.</li><li>3. SALVATION of Mankind lies in Medical Research.</li><li>4. Research breeds moral literacy.</li></ol> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

It can be useful to carryout educational research to evaluate manpower development programs for example training courses for primary care physicians and health workers or to raise the awareness of fellow professional about the prevalence of mental disorders in general health care settings.



It will at times be useful to move out of clinical settings altogether and carry out community surveys, which can be useful in planning of services, evaluating the impact of services on community development, utilization of services offered, satisfaction of the providers and users of services, identifying Needs and Demands for mental health care for general population and special groups like school children, women elderly, drug abusers.

In addition to biological research, research and evaluation is therefore essentially concerned with collection and interpretation of information in the domains of Need, Demand and Service – inputs, process, outcome and impact, be it at the level of policy and planning, program development and implementation or project. It is equally important however that this information be presented in an understandable form for the intended target population.

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| <ol style="list-style-type: none"><li>5. Research is a systematic way of learning from experience.</li><li>6. Research institutionalizes wisdom.</li><li>7. Our future lies in institutionalizing Research</li><li>8. Money spent on research pays dividends in national progress.</li><li>9. Research shall be plinth for health service system.</li></ol> |
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Evaluation can be systematic way of learning from experience and using the lessons learnt to improve both current and future actions if it is made an ongoing process, involving all the stake holders, focusing on both the quantitative and qualitative aspects, addressing the questions of Availability, Efficacy, Efficiency, Effectiveness and Equity.

Mental and neurological disorders are widespread in all populations and cultures and continue to be a sources of distress, impaired productivity and diminished quality of life of significant number of people. According to WHO and World Bank studies, mental and neurological disorders are responsible for a quarter of global of burden of diseases. Rate of increase of mental health and neurological problems in third world coupled with demographic trends towards population increase, outstrips very seriously the capacity of national health systems to cope with such a burden. Numerous opportunities for prevention of mental illness and neurological disorders are not taken although it can be shown that as much as 50% of all the mental health and neurological disorders can be prevented.

It is felt that any future planning of psychiatric services in this country will have to realize the sharp realities and limitations of socio-cultural factors and should attempt to utilize them advantageously. In this context, it need hardly be emphasized that the family structure in our society can provide a therapeutic aid and maximum assistance, understanding the resources of the family can thus be used in caring for the mentally ill. Modern methods of treatment can be successfully utilized involving a dynamic and community oriented psychiatric service, which need not be too expensive. It was felt that the services will inevitably have to move out into the community as often and as such as possible to achieve our aim and to prevent the ill person from breaking off from his environment and to allow him to retain his relevance to the community for as long as possible.”