Kerman Medical University: lessons learned

Karl Blanchet
Associate Professor London School of Hygiene and Tropical Medicine

June 2017

http://kmu.ac.ir
# Table of Contents

Acknowledgements ........................................................................................................... 3
Summary of key findings .................................................................................................... 4
Introduction ....................................................................................................................... 4
Objectives of the assessment ............................................................................................. 6
Methodology ....................................................................................................................... 6
Overview of innovations in medical research and development ......................................... 7
  Animal Farm project ........................................................................................................ 7
  Health-related technologies project ................................................................................. 8
  Kerman Neuroscience Research Center ........................................................................ 9
Results of the assessment ................................................................................................ 12
  KMU is supported by a national enabling environment ................................................ 14
  A fully integrated health system for Kerman province .................................................. 16
  Evidence-based policy and practice promoted by KMU .................................................. 18
  Portal for promoting human resources of health system, Koolehposhti ....................... 21
  Knowledge translation planned from the start of any research project ........................... 22
  A systems-level approach changing the culture of healthcare ...................................... 24
  The seven competencies of a medical expert (The CanMEDSs model) ....................... 26
  The Management of Innovation as routine .................................................................. 27
  Innovating rather than competing ................................................................................ 28
  KMU: a pioneer in Iran in futures studies and foresight process .................................. 29
Conclusions ....................................................................................................................... 31
Annex ............................................................................................................................... 32
Acknowledgements

I would like to thank Dr. Sameen Siddiqi WHO Representative in I.R. Iran, the initiator of this assessment and developed the terms of reference in consultation with Ms. Shadrokh Sirous, WHO Technical Officer for Health System Strengthening, who organized and facilitated my visit to Iran including Kerman.

I would like to thank Dr. Mesgarpour from MoHME for her time and valuable input.

At KMU, my sincere thank you to the Chancellor Dr. Haghdoost who has been a real catalyst for my visit and the development of KMU and has all my respect and admiration for the work achieved at KMU.

I also want to thank Dr. Dehnavieh for his valuable input for the report and the whole team at Futures Studies for their warm welcome.

I also thank all the KMU Officials who have given their time and shared their experience during this assessment: Dr. Amirheidary, Dr. Fasihi Harandi, Dr. Pardakhti, Dr. Sharifi, Miss Najafi, Dr. Baneshi, Dr. Shahrvan, Dr. Mashrooteh, Dr. Mehrolhasani, Dr. Nekouei Moghadam, Dr. Saberi, Dr. Khajouei, Dr. Barooni, Dr. Jafari, Mr. Sadeghzadeh, Dr. Noorihekmat, Dr. Safizadeh, Dr. Momeni, Dr. Amanpour, Miss Poursheikhali.
Summary of key findings

- KMU combines service delivery, education and research capacities that are well recognised at provincial, national and regional levels
- KMU could benefit from international exposure to gain international reputation
- KMU has been highly supported by Ministry of Health and WHO
- KMU offers a wide range of research areas in public health, medicine, pharmaceuticals and technology
- KMU has fully integrated service delivery with education and research at provincial level
- Through training and online portals, KMU has promoted evidence-based medicine and evidence-based policy with MoHME
- Knowledge translation is not seen by research teams of KMU as an addendum but as a core element of what KMU is trying to achieve
- KMU has a track record at influencing national and provincial health policies and programming by providing evidence that informs high level decisions.
- KMU has developed interesting frameworks used in medical education in order to comprehensively cover seven competencies: medical expert, communicator, collaborator, scholar, professional, manager and health advocate.
- KMU is characterised by having integrated innovation into routine management processes and as a result into the organisational culture.
- KMU has maintained a role of pioneers at the national level and has supported the capacity building of other medical schools in the country.

Introduction

The health system of Iran has been integrated with medical education, research and service provision for almost three decades. The Universities of Medical Sciences (UMS) in every province of the country have the role of ensuring the implementation for the national health policies and programmes that are developed by the Ministry of Health and Medical Education (MoHME), the provision of health care and public health services and Food and Drug monitoring and medical education. The Office of the University Board of Trustees is the governance body that promotes intra-sectoral governance and resource management in KMU.

KMU has several objectives: (i) Education: nurturing talents through instruction and scientific research, and promotion of medical and paramedical sciences aiming at the provision of the country’s required man power in the pertinent areas; (ii) Research: creating research facilities in an attempt to identify unexplored
potential fields to increase scientific capability in the issues of health and medicine; (iii) **Health service provision**: developing and improving medical facilities across the province and the society, through medical organizations and institutes and the affiliated health centres.

In **education**, KMU has around 6,000 students in undergraduate, postgraduate and research degree programmes supported by more than 500 faculty members. KMU has ten faculties: medicine, dentistry, pharmacy, nursing and midwifery, allied medicine, public health, traditional medicine, health care management and information.

In **research**, KMU consists of three research institutes and 25 research centres: Institute for Futures Studies in Health, the Think Tank, Institute of Neuropharmacology and Institute of Oral and Dental Diseases. The institutes are complemented by research centres such as the Cardiovascular Research Centre or the Afzalipour Clinical Research Centre, amongst many others.

In **health service provision**, KMU is responsible for the delivery of health care services and public health services in Kerman province. 1.8 million populations are receiving services from KMU and 1.3 million indirectly via the other medical universities within Kerman province.

**Social Accountability related body in KMU:**

1. **The Institute of Futures Studies in Health**: to respond to questions about the future of health at the national level

2. **The Think Tank**: to lead and develop inter-sectoral collaboration to improve the community’s health in Kerman province

3. **The Office of the University Board of Trustees**: to promote intera-sectoral governance and resource management in KMU
Objectives of the assessment

The objectives of the visit commissioned by the World Health Organisation (WHO) was to document the successes in the governance of health policies and programmes in KMU. Dr Karl Blanchet from the London School of Hygiene and Tropical Medicine in close collaboration with WHO, MoHME, and KMU was requested to analyse areas of success, achievements, and identify specific initiatives applied in Kerman province (See Annex).

Methodology

Karl Blanchet visited Iran between June 10th and 16th 2017. The approach adopted was to review all key documents produced by KMU and discuss with the Chancellor, Vice Chancellors, Institute and Centre Directors and researchers. The focus of the visit mainly focused on public health and research considering the background of the evaluator although KMU has developed many initiatives in various other fields such as knowledge translation, health systems research, neuroscience, pharmaceuticals and technology innovation (See Section on Overview of innovations in medical research and development). The evaluator was presented by research Leads the content of their programme and achievements and Karl Blanchet was free to ask questions and have an open dialog with each researcher. The evaluation was conducted in full independence and transparency with KMU sharing any information and document that was requested. The evaluator was also free to modify the visit programme at anytime and propose new activities. For example, the evaluator suggested to visit a primary health care centre, a hospital and a refugee camp. The evaluator declares no conflict of interest with the present piece of work.

A debriefing meeting was organised with KMU staff and the key findings of the evaluation were shared with key staff. WHO was also involved at the start of the evaluation to guide the evaluator and facilitate the visit and was debriefed at the end of the visit. Dr Sameen and Mrs Sirous were the main contact persons at WHO.

The present report aims to present the key achievements of KMU but more importantly to analyse the enabling factors that can explain the success of KMU by reflecting on the process and practice at KMU with references with key concepts and frameworks used in management and public health. In order to describe the achievements of KMU beyond the scope of the present evaluation, the following section presents some of the key successes of KMU in medical research and development (R&D).
Overview of innovations in medical research and development

KMU has a broad Research and Development portfolio and has experienced significant successes that are briefly described below:

**Animal Farm project**

This venture is carried out as a knowledge-based mega-project with the collaboration of Vice-Presidency for Science and Technology, Kerman University of Medical Sciences (KMU), Shahid Bahonar University and private sector investment. The main goal of the project is "to design, and set up the national laboratory of animals’ reproduction, a center for breeding and keeping animals in Iran, for the national market and exportation".

In this project, many specific strains of animals including transgenic, pathogen free and genetically engineered strains of different rodents including rats, mice and rabbits will be produced according to international biosafety & biosecurity guidelines. Cleanroom design and performance with European certificates for breeding of immune-compromised strains and some specific instruments such as functional MRI, flow cytometry, animal imager and cell sorter will be available in this research and manufacturing center.

Other species include nonhuman primates, reptiles, hamsters, Guinea pig, cats, dogs, sheep, fish and some marine creatures. Nonhuman primates will be used for cognitive neuroscience studies and brain mapping in collaboration with some research institutes in Japan, Australia and Brazil.

Cancer research, brain & mental disorders, vaccines & infectious diseases especially regional ones such as malaria and leishmaniosis, heart & kidney diseases and finally, different substance addictions shape the main research topics in this field.
Health-related technologies project

Iran is one of the biggest pharmaceutical and cosmetic consuming markets in the Middle East with an annual US$ 9 billion turn over. In this project, different health-related infrastructures have been established (some are accessible now) for production of some medical, botanical, pharmaceutical and cosmetic products by private investment. KMU expertise and academic staff and Kerman Graduate University of Advanced Technology (KGUAT) have been combined in this mega-project.

There are five main activity fields:

1. **Botanical dosage forms**: Kerman province is the largest province of Iran with a wide variety of climate and annually more than 200 Tons of medicinal plants are exported to Iranian & overseas pharmaceutical companies and traditional markets. More than 45 botanical dosage forms in solid, semisolid and liquid dosage forms and some raw materials such as glycyrrhizin will be manufactured in the company.

2. **Biotechnology products**: The nature of the market for medicines is changing from "small molecules" to "biologics" in the fast-growing market of pharmaceutical companies. These medicines are very expensive and some efforts have been done to establish the national manufacturing of these biological medicines in companies such as "Aryagen" and "Cinnagen" in I.R. Iran. Insulin (active pharmaceutical ingredient, API, to injection pens), 3 viral & one protozoal vaccines and one parenteral biosimilar dosage form will be manufactured in Kerman pharmaceutical association. Some hormones (such as PTH), growth factors (such as EGF), platelet rich plasma (PRP), fibrin film, commercialized stem cell products and enzymes are in the pipeline of several knowledge-based companies in Kerman.

3. **Medical devices**: Some diagnostic kits for cancer biomarkers, infectious diseases and biological parameters by European technologies will be manufactured at KMU. Research on and manufacturing of some brain implanting devices such as "substance addiction control implant" will be also under the investigation.
4. **Cosmetic & toiletries:** Some cosmetic products in hair, skin, maternal and baby care fields with Switzerland and France technologies including shampoos, syndet pans, sunscreens, anti-wrinkles and whitening creams, gels and lotions will be manufactured in the designed area. Some products could be already manufactured by contract manufacturing method.

5. **Pharmaceutical dosage forms:** New drug delivery systems (NDDS) are the most important technologies in pharmaceutical companies which have been developed based on nanotechnology (metal-base, Lipid-base, polymer-base and bio-conjugates) or the other targeting techniques. The 1st FDA approved nanoliposome is Doxil® (doxorubicin HCl) for treatment of recurrent breast and ovarian cancers and Kapoosi sarcoma in HIV infected patients. KMU is manufacturing similar I.R. Iran FDO (Food and Drug Organization) approved liposomal doxorubicin product (SinaDoxosome®), all manufactured in Teheran. The NDDS technologies such as niosome production procedure could be utilized for Acne vulgaris, androgenetic alopecia, cutaneous leishmaniasis and joints arthritis treatment and vaccine adjuvant design and transdermal dosage from manufacturing.

**Kerman Neuroscience Research Center**

Kerman Neuroscience Research Centre (KNRC), which was the first research centre in Iran in the field of Neuroscience was established in 1995. Our members conduct basic and clinical research in the areas of molecular, behavioural and cognitive neuroscience, Addiction, pain, and neurodegenerative disease. With eight full-time and 22 part-time faculty members, the centre has the ability of collaborating with other research centres in the world in the field of Neuroscience, specifically in cognitive neuroscience. At the present, KNRC has signed a memorandum of understanding with several universities and research centres from other countries.

The main priorities of KNRC are:

- Cognitive Neuroscience
- Mental Health
- Nervous System Disorders
Iran’s Curative Road Map (NEDA 2025); The Foresight of the Curative required resources and the service provision model

The Curative Road Map project was conducted for the first time for the province of Kerman in Kerman University think tank. After presenting Kerman Road Map report, Iran’s Health Minister delegated the NEDA 2025 project to Kerman University think tank. NEDA 2025 project started in March 2016 and ended in March 2017.

In order to create fair access to curative services in Iran, the NEDA 2025 project was conducted. In the NEDA 2025 project, for the first time in Iran, a master plan was designed which combines quantitative modeling and the experiences and predictions of experts about futures scenarios, to estimate resources needed for next 10 years. In this project, the number of required emergency and inpatient beds, the number of required manpower in the medical, nursing, midwifery, dentistry and pharmacy groups, capital medical equipment and disaster and medical emergency facilities were estimated for all 430 cities of Iran. In an economics simulation, the possible costs to implement the road map were also estimated.

The phases of NEDA project

1- Capacity Building
- The central secretariat in think tank established
- Medical Universities secretariats organized
- The provincial collaboration offices established
- Universities core members get familiar with the concept (Workshop)

To make strong collaboration in all region, we organized provincial offices in which 4 to 6 universities in a Geographic area collaborated to each other to have a joint road map

2- Data Collection
- Data on present status of hospital beds, human resources and medical equipment
- Distribution and the trend of hospitals performance indicators were collected
- Other countries experience in developing master plans were review
- Other countries resources allocation standards were review
- Benchmarking study were done

3- Modeling
- The extent of model parameters variation ranges was determined
- Three National Modeling Workshops (bed, human resources, medical equipment) were held
- Resources forecasting panels at all Medical Universities were health
4. Results validation

Because the modelling phase were performed in university secretaries separately, we expected a variation in modelling results between universities, so we chose fairness and equity indicators to evaluate the results.

As equity is the most important indicator presented in WHO Model of health system functions and objectives, we tested both horizontal and vertical equity for all resources need estimations. In vertical equity our goal was to achieve same resource per capita in same cities in term of needs. In horizontal equity our goal was to assign same resource per capita in same cities in term of their status in referral system.

Triangulations of 3 cross check approaches were applied to estimate the number of hospital bed and clinical human resources estimation needed.

**Figure 1 - Methodological approach of Iran’s curative road map**

NEDA 2025 outcomes

The main objective of the project is to reduce unnecessary migration to big cities to get basic curative care. Estimates of the project will speed up the development of resources in small remote area while
controlling the resources allocation trend in large cities; consequently, the implementation of the outcomes of this project will lead to an increase of 30% in horizontal equity and 23% decrease of variance between provinces and reduction in the variance between the cities within each province (vertical equity).

**NEDA 2025 implementation guarantees**

The project report is published in 11 volumes which is available to all managers of various levels in the Ministry of Health and all medical universities and also national and local authorities outside of the Ministry of Health.

Economic analysis of the implementing NEDA 2025 revealed that, assuming 3-5% growth in GDP, 7-9% of health share from GDP, the inflation rate of 10 to 14% and annual salary increases of 10 to 14%, by allocating 80% of the share of health to curative services (both inpatient and outpatient treatment), this road map can be implemented in 2025 in all cities of the country. The economic analysis justified many managers and governmental authorities outside the Ministry of Health for accepting the road map so that they accept financial obligations incurred by the implementation of the road map.

Methodology and all estimations of medical and clinical human resources were explained for medical education system policymakers and was completed by their feedback. In the meantime, it was accepted by the Iran health care system and the medical education system. To ensure the implementation of NEDA 2025, agreements between the Ministry of Health and heads of all medical universities were signed. Furthermore, an agreements was signed between the Ministry of Health and the Programing and Budgeting Organization so that the implementation costs of these estimated resources will enter in the national annual budget.

**Results of the assessment**

The present section focuses on the findings of the assessment and is structured by theme and characteristics that are seen to be representative of KMU.

The table below describes the various areas, disciplines and tools developed by KMU both at national and provincial levels.

<table>
<thead>
<tr>
<th>Area</th>
<th>National/international level</th>
<th>Provincial level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Forming a roadmap to implement the concept of regionalization in the educational system of medias universities in Iran</td>
<td>Strengthen the infrastructure of KUM</td>
</tr>
<tr>
<td></td>
<td>Need assessment of the workforce of Iran in medical fields in following decade in Iran</td>
<td>Comprehensive educational plan in KUM</td>
</tr>
<tr>
<td></td>
<td>Foresight of medicine and medical education in Iran</td>
<td>Science Museum Proposal</td>
</tr>
<tr>
<td></td>
<td>Review Qatar &amp; United Arab Emirate Knowledge city experiences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conducting national and international workshops in Iran and other countries around the world</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Advanced epidemiology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Applying simple methods to intensify the knowledge of students</td>
<td></td>
</tr>
</tbody>
</table>

Education
<table>
<thead>
<tr>
<th>Area</th>
<th>National/international level</th>
<th>Provincial level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>academic staff, and experts around the country in modelling and futures studies e-health Journal clubs Systematic review of the national scientific literature in main public health issues to create a user-friendly platform in order to facilitate the concept of “evidence-based policy making”. More than 30 national level project in the field of public health</td>
<td>Disaster management in the province</td>
</tr>
<tr>
<td>Portals</td>
<td>NAAB Portal The learning Portal of Iran’s Hospital Managers (SIMBA) KASA Portal</td>
<td></td>
</tr>
<tr>
<td>Technology</td>
<td>Animal Farm project Health-related technologies project</td>
<td>Determining the Extent of Substance Abuse among Women in Kerman Addiction free university program Happy city criteria for Kerman Municipality Road Map to Kerman Welfare Organization for 2026 Planning to sensitize schools towards the future To conduct a comprehensive baseline inequity assessment and comprehensive mapping on HIV/AIDS, and develop a detailed strategy and plan for establishment of HIV friendly city Futures studies Department of Health Care Insurance</td>
</tr>
<tr>
<td>Social impact</td>
<td>Strategies to social happiness National consultant on National consultant to advise on implications of the new population policy on health and prepare a proposal for relevant legislation (WHO Project) Help Iran and other countries (Georgia, Sudan, Bangladesh, USA, Yemen, Iraq and Afghanistan) to develop and improve the HIV control surveillance system Change behavior multimedia Population-based Medical Informatics Interventions</td>
<td></td>
</tr>
<tr>
<td>Service delivery</td>
<td>Simulating curative costs for years 2017 &amp; 2018 Iran’s Curative Road Map (NEDA 1404) Iran’s Family Physician case study (WHO Project)</td>
<td>Kerman Health Master Plan Kerman curative road map to 1404 Evaluation of experiences and the implementation of healthcare reform packages KMU Patients migration analysis Strategies to improve Hoteling in university hospitals The introduction of mental health service pioneer plan and social care of Bardsir city Telemedicine interventions</td>
</tr>
<tr>
<td>Health economy</td>
<td>final expenses of laboratory tests Health Technology Assessment studies (more than 5 studies)</td>
<td>Commonly used medications trend analysis (last 10 years) Costly medications used trend analysis (last 10 years) Commonly prescribed medications by the family physicians trend analysis (last 10 years)</td>
</tr>
</tbody>
</table>
KMU is supported by a national enabling environment

At the national level, according to the World Bank, out-of-pocket expenditures (OOPs) in Iran constituted in 2013 about 52.1% of total expenditure on health, for which Iran was ranked 13th among WHO Regional Office for the Eastern Mediterranean (EMRO) countries. According to WHO brief report, OOPs were one of the main flaws of Iran's health system. Iran had to resolve an unequitable distribution of health services and a concentration of secondary hospitals in the large urban areas and as a result, populations from rural areas are underserved and have extra indirect costs to get access to appropriate health services. Iran has a fragmented health insurance system with 17 different insurance funds that results in incomplete population coverage, overlap in population coverage, inappropriate service coverage, and public dissatisfaction.

To respond to all these pressing issues in the health system, in 2014, the Government of President Hassan Rouhani introduced the Health Transformation Plan (HTP) designed to achieve universal health coverage. Based on the models of Thailand and Turkey, the national plan constituted a real change in the Iranian health system with successes, internationally recognised. The budget of Ministry of Health and Medical Education was increased from 6.7% of GDP in 2013 to 10.3% in 2015. Financially, the budget allocated to MoHME is covered by three sources: public funds (main source), cutting fossil fuel subsidies, and value-added tax (VAT). Three funding sources were chosen in order to ensure that public funding does not depend on the fluctuation of global prices of crude oil. As a result, VAT has constituted a large share of the budget allocated to MOH.

Following the introduction of HTP, gains included a reduction of maternal mortality from 123 per 100,000 livebirths in 1990 to 25 in 2015, control of malaria and trachoma, and establishment of a primary health care system. In 20 years, the number of university students increased by 13 with 60% of whom are female. Several challenges need to be tackled in the Iranian health system that have been highlighted by KMU health service managers and researchers. They include an ageing and increasingly urban population, a
growing burden of non-communicable diseases, youth drug use, a high graduate unemployment rate, and a large (1.5 million officially registered) refugee population, mainly from Afghanistan.

In research, the Iranian Government’s spending budget for science is far lower than that of leading countries in research. The target for science spending in Iran is 3% of the GDP (Gross Domestic Product), but only reached 0.5% in 2014 (about US$1.75 billion in 2014). This budget for scientific research in Iran suggests that productivity in the higher education sector is mainly due to the large number of young, talented, self-motivated, and ambitious scientists.

Iran has had an impressive history in the medical sciences. Iranian scientists such as Avicenna had great roles in development of medical knowledge and practice. The country has 60 medical universities, 17,000 faculty staff and 160,000 students enrolled in one of the schools run by medical universities. Iran published 388 peer review journals, 72 of them are indexed in Medline, 47 in Web of science and 83 in Scopus. According to the latest statistics released by the Scopus database, Iran produced 39,890 scientific articles in 2014 putting Iran at 16th position in the world, and securing its position in the region above Turkey. Looking at the degree of international collaboration in medical research, Iran is amongst the top five countries with the highest number of publication, the country with the least degree of collaboration with international universities. However, despite sanctions, Iran has continued to make scientific progress by at a lower rate than Israel, Saudi Arabia, and Turkey.

6 Mozafari, Masoud The Lancet, Volume 387, Issue 10029, 1721 - 1722
7 Stone, R. Unsanctioned science. Science. 2015; 349: 1038-1043
8 Malekpour, M. A jumpstart to nowhere. Lancet. 2007; 370: 317
Iran is among the countries with the world’s fastest-growing scientific output, measured by the number of peer-reviewed papers published in the international journals on a yearly basis. In 2000, Iran ranked 53rd in the world in terms of highly cited medical articles, but this position improved to the 22nd rank in 2014. According to the Institute for Scientific Information (ISI), Iranian researchers and scientists published a total of 60,979 scientific articles in major international journals from 1999 to 2008, making Iran the fastest scientifically growing country (even above China) as far as publications are concerned. Iran has been doubling its total scientific output every three years at a rate of 25% every year. Extrapolating this growth predicts that Iran will reach the level of Canadian annual scientific output by 2020. With Iran’s new ‘Comprehensive Plan for Science’, the country intends to increase investments in research and development to 4% of Iran GDP by 2020.

With the push for more research and universal health coverage, MOHME needs to be supported by strong academic and service delivery institutions that are able to guide the decisions of national policy makers. As a matter of fact, MOHME has commissioned several pieces of work to KMU for example to better understand how to better distribute resources within the country and by health system level, to harmonize health information system, evidence based decision making and developing strategic plans for subsystems of health or to build the capacities of health service managers. The support received by MOHME is a great opportunity for KMU, which has been very proactive at encouraging MOHME fund such studies and tools. The current approach of MOHME is very evidence-based policy, which is, compared to many other ministries in MENA, a very good example of good practice. And KMU has fully taken part to this process.

A fully integrated health system for Kerman province

MOHME is composed of deputys of health, education, research, student affairs and logistic services. There are 40 medical universities in the country which are responsible for the health care and management of 30 provinces (some large provinces such as Tehran have more than one university). Each university has deputys of health (public health and curative affairs are usually separate), education, research, student affairs and logistic services. The same university is in charge of the health care network. Medical universities cover approximately 400 districts Beyond being integrated, the health system in Iran is highly decentralised. Medical Universities can autonomously make decisions regarding the following issues through their board of trustees: budget, allocation of local revenues, contracts with the private sector, financial and materialistic aid, contractual and financial regulations, how affiliated units are run, granting research, provision of fees for compilation, teaching and translation, and approval of faculty members’ employment criteria.9

Integration of health services and medical education is not a new phenomenon in Iran and started in 1985. The 1985 reform has enabled increased capacity for the training of health professionals including healthcare managers at all levels, expansion of the health network system, modification of medical education curricula, and increased social accountability of universities. However, not all objectives of the reform have been achieved as education and the health system have not been fully integrated. Medical education in some universities is not enough adapted to community needs and distribution of health staff remains unequitable between rural and urban areas.1

---


1 Heshmati, Bahram et al. Iran’s health-care system in transition The Lancet, Volume 387, Issue 10013, 29 - 30
In Kerman, beyond the fact that KMU like in every province manages healthcare delivery services, public health services, medical and public health education and research, the leadership has managed to create synergies between all areas of responsibilities. The continuous dialog established between the various research centres and the health service providers enable the sharing of ideas and capturing the needs of each side. Regular forums are organised between all the branches: education, research and service delivery, which facilitates the sharing of ideas and the introduction in branch of new and common ideas that are in some places investigated (Research centres), in others tested (Service delivery) and in others taught (medical school).

For example, KMU launched a well recognised international journal, International Journal of Health Policy and Management (IJHPM), that has gradually gained reputation amongst health policy and systems researchers and managers.

In health informatics, researchers at KMU have identified areas of good practice, discussed with clinicians on the most appropriate tools for their daily work and are currently developing new technologies with the private sector to support clinical decisions and patient decisions. In order to support health services in their daily work, stimulate preventive care and self-management, KMU Medical Informatics Research Centre has developed several applications (e.g. management of preeclampsia in pregnant women, postpartum depression, management of patients with dementia) and interactive websites (e.g. paediatric asthma, schizophrenia). As a complement, the KMU Medical Informatics Research Centre has launched in 2014 the Journal of Health and Biomedical Informatics¹, a platform created to share the latest evidence and good practice on health informatics, and will organise in Kerman in February 2018 the 2nd National Congress of Medical Informatics.

---

Evidence-based policy and practice promoted by KMU

Evidence Based Medicine (EBM) represents integration of clinical expertise, patient’s values and best available evidence in process of decision making related to patients health care. A few years ago, several studies1,13 conducted in Kerman province and other parts of Iran highlighted that although EBM is taught in Iranian Universities, it has experienced slow progress amongst practitioners. Obstacles identified by these studies were the lack of knowledge on EBM amongst academics and consequently amongst medical students, the lack of access to databases and electronic resources, lack of resources available in Persian, poor research methods and absence of practice of systematic reviews as routine methodology. On the practitioner’s side, it is recognised that clinical practitioners have little time to search the literature, have limited knowledge and experience in systematic review methodology.

KMU has decided to really address these issues and in 2017, several initiatives launched by KMU have enabled to make EBM a reality in clinical practice. For example, the Centre on HIV/STI Surveillance Centre, HIVHUB18, a WHO Collaborating Centre, launched between 2009 and 2016, 21 various courses on HIV/STI surveillance, HIV interventions and research methodologies organised across the country that...

1 Khanjani, Narges, Reza Tahrizi, and Ahmad Maghsoudi. "The Obstacles of Teaching Evidence Based Medicine in Iran, from the View Point of Clinical Academics and Medical Students; a Qualitative Study." American Journal of Educational Research 1.4 (2013): 143-148.


18 HIVHUB http://hivhub.ir/
were attended by more than 700 researchers and practitioners primarily from Iran but also from other countries in MENA region, China, Russia, Latvia, Germany, France. The Centre has strong collaborative links with University of California and has been involved in several international research projects.

Figure 5: HIVHUB ONLINE COURSE OFFERED TO PRACTITIONERS

The Centre for Modelling in Health has published in 2017 the second edition of the reference book on systematic review methodology in Persian that was approved by the National Board of Epidemiology and the Education Department at MOHME, which was followed by the organization of 24 workshops across the country for clinicians and researchers.

Recently, the KMU Chancellor received the agreement to develop at KMU within the National Institute for Medical and Development (NIMAD) a Cochrane group in English with peer reviewers from outside Iran, which will give the opportunity to develop more systematic reviews and training for researchers and clinicians.

Another illustration on how KMU has managed to integrate the various fields together is the NAB portal\(^2\). The portal aims to influence health policy decisions through the provision and use of evidence throughout the health policy cycle consist of five main following parts:

1. **Harmonized health information:** All health data from different data sources are gathered and harmonized so that it can be used for many data-based purposes as a strong evidence. This function deals with many previous challenges in the health system in achieving data.

2. **Experience learning:** this function aims to gather, categorize and archive the best practices and failures that all other parts of the health sector (even out of the health sector) can learn from them. The experiences are in tow main category. Experiences by field (like financing, human resource management and etc.) or they are by the charts (like management experiences, executive experiences and etc.).

3. **Terminology:** this function aims to achieve consensus on terms and keywords.

4. **Evidence-based decision making:** It combines the provision of evidence including systematic reviews, rapid review, scoping reviews and etc. by different purposes for different target groups. For example, there is KASA (key for Iranian health) gathers all evidence for communicable and non-communicable diseases and it becomes the educational source for medical students. Ganjineh Salamat (means the treasure of health) that the purpose of this system is to search, maintain and classify the various forms of the past effects of the health system and facilitate thematic analysis from the past to now.

\(^2\) NAB portal [http://ed.irnabs.com](http://ed.irnabs.com)
5. **Elite network**: the networking of experts in different areas of the health system, facilitating of achieving their viewpoints and maximizing the synergies created by networking and sharing of experience between policymakers with the global aim to promote evidence-based policy decisions is the purpose.

![Portal for promoting human resources of health system, Koolehposhti](image)

**Figure 6: The NAB portal offering systematic reviews**

Portal for promoting human resources of health system, Koolehposhti

Koolehposhti means backpack in Persian. This portal is based on competence promotion model that aims to promote the requires competences for a different level of human resources and different occupations. This model is consisting of some basic competencies common for all jobs and occupations (but with different level of competence) and some professional competencies related to that job or competence. The portal is consisting of self-assessment exams, external auditory exams and educational contents for each job or occupation. There is another type of competence improvement mechanism that focuses on competence package for all target groups. One of the active packages is international communication skills.
Knowledge translation planned from the start of any research project

On approach adopted systematically by KMU, which is an example of good practice not only for Iran but also for the rest of the world, is knowledge translation. KMU has succeeded in translating the evidence generated by its researchers into good practice and provincial and national policies. This was achieved by putting in place innovative activities and processes, which are explained and summarised by the evaluator in the Figure below. What is remarkable is that every research centre at KMU has adopted the same approach. For example, HIVHUB has organised 21 different training workshops of 2 or 3 days attended by 700 participants. In advanced epidemiology, online one-two month-courses are organised combined with the organisation of online journal clubs.

A good illustration of how the KMU processes in knowledge translation functions is the national welfare roadmap project. The same strategy was used for the national health roadmap or the national higher education roadmap, both commissioned to KMU by MOHME. The roadmap was commissioned by Kerman Welfare Organisation, which is an organisation providing preventive, social, rehabilitative and educational services to elderly people, people with disabilities, drug users, and vulnerable women and children. The project started with a research question: the demographics and needs of populations are changing. How can we adapt the services to make sure they respond to the changing needs of the target population? The research question was translated into the research domain by looking at a clear analysis of the problem, the current interventions and the level of implementation of these interventions (intensity, fidelity and coverage) (Research domain).

In some cases, KMU conducted systematic reviews to complement their knowledge on a local or global problem. Once the evidence is generated with rigorous and transparent research methods, which is a key quality standards for KMU as highlighted by the various presenters during my visit, results are adapted to each audience by modifying the format and language. For example, KMU has produced several policy briefs that summarised the key findings of their studies (changing needs, types of services to deliver).

Second, they have produced analytical tools that can be used by other researchers to simulate scenario (Knowledge Synthesis). In order to facilitate knowledge translation, KMU has defined evidence-based priorities to guide policy makers in their policy decisions (Setting Priorities). For example, KMU has the
priority services that need to be delivered, the volume of services expected to be delivered between 2017 and 2026 and the service provision model. All this information on research methods, evidence and priorities is shared with policy makers and experts for validation who then defines the key strategic orientations of the province and translate the policies and strategies in managerial tools (Managerial domain) for a better impact on population health (Societal domain).

In 2016, KMU was commissioned by MOHME to develop Iran’s Curative Road Map (2017-2025). The project first started in Kerman province and served as a pilot for the national study in 430 cities. The study started with a problem statement: the changing health needs of population due to ageing population that is becoming more urban, the burden of non-communicable diseases and the inequitable distribution of services within the country and by health system level. These changes will have an effect on services that need to be delivered, how they will need to be delivered and the cost of these services. KMU with a multi-disciplinary team started generating evidence to describe the population size in 430 cities between 2017 and 2025 and conducted systematic reviews to identify for example the most appropriate methodologies to estimate number and distribution of hospital beds and specialised services.

Regarding the priority setting exercise, KMU decided to train the medical university teams from the 31 provinces to collect data and use the model developed by KMU. The model used is actually generated by three different models: model describing the services needed, a model based on benchmarking and a model based on service provision systems. With the implementation of the roadmap, it is anticipated better health outcomes for the population, increase of horizontal equity by 30% and a decrease of variance between provinces by 23%.

KMU launched in 2016 a provincial Addiction Secretariat to coordinate educational, research and implementation activities. KMU put in place with local authorities (Municipal Security Council) the monitoring of lead in opium, assessed the educational curriculums in medical universities related to drug
abuse and addiction content (7,506 courses were assessed). Several reference books were written with the contribution from Iranian experts, created multimedia teaching clips and animations and multimedia products, and displayed with the City Council a series of banners and posters to sensitize population on the dangers of opium. They managed to convince policy makers to close 80 hookah centres.

Another example is the SIMBA portal that is targeting hospital managers and aims to supply them with the latest evidence and information on hospital management. The portal offers easy-to-understand briefing papers, networking, forum and short training modules to ensure that hospital managers in Iran are provided the latest evidence on health services management (e.g. infection management, hygiene). SIMBA has the capacity to promote links and collaborations between hospital managers themselves and between hospital managers and researchers.

A systems-level approach changing the culture of healthcare

KMU has a clear vision on the role of medicine shared and promoted across research centres and departments in the health system. In order to explain how KMU frames this role - although it is not explicit within KMU - we will use the CanMEDS framework2, which was developed in the 1990s and describes the abilities needed for physicians to provide high-quality care across the whole spectrum of a career.

The standards are used to describe the educational needs of practising physicians, as well as framing the training needs and the basis for evaluation of trainee physicians. At KMU, it is expected that a medical doctor should combine the seven following competencies: medical expert, communicator, collaborator,

---

scholar, professional, manager and health advocate (See Figure). As a result, every research project conducted by KMU translate each result into elements of information to inform each of these competencies.

![Figure 8: The CanMEDS model](image)

The seven competencies of a medical expert (The CanMEDSs model)

**Medical expert**

As experts, healthcare practitioners need to apply medical knowledge, clinical skills and professional attitudes in their provision of health care. This competency focuses on the cognitive component of medical knowledge, the technical competence in performing procedural skills and the application of judgement and experience to diagnostic and therapeutic decisions.

**Communicator**

All healthcare providers have to communicate effectively to patients, relatives, colleagues and, at times, the policy makers and media. Communication may be written or verbal. Poor communication between team members in an operating room have been shown to be a common causal factor underlying adverse events. Excellent communication skills are vital for challenging situations, such as breaking bad news and medical error disclosure.

**Collaborator**

There is a growing appreciation of the need for healthcare personnel to work in a collaborative team to affect optimal patient care. The days when the model of healthcare delivery focused on the physician only, with other healthcare providers performing a subordinate role, are numbered. The skills to work collaboratively with others, both within and across healthcare teams and environments, is crucial. Improving teamwork to improve safety has been widely applied in a variety of high-risk industries, including healthcare.

**Scholar**

As scholars, healthcare professionals demonstrate lifelong commitment to reflective learning and applying new knowledge, as well as teaching others. To improve patient safety, healthcare practitioners need to reflect on their practice and to actively seek out, or learn, new ways to make their practice safer.

**Professional**

A professional is committed to the health and well-being of individuals and society through ethical practice, profession-led regulation and high personal standards of behaviour. Professionalism tends to be a skill somehow different from those cognitive, behavioural and psychomotor skills traditionally taught to health professionals. Professionalism may often be taught through the ‘hidden curriculum’ by observing, experiencing and discussing real-life events.

**Manager**

As managers, healthcare practitioners are integral participants in healthcare organisations, making decisions about allocating resources and contributing to the effectiveness of the health system. Although nurses have often stepped up to this leadership challenge, there is a concern that clinical leadership among doctors is underdeveloped and underutilised.

**Health advocate**

A health advocate is someone who speaks out for a cause. Advocacy gives voice to several questions: What is wrong here? Could we do better? How can I work with the system to benefit my patient? Consequently, advocates often witness and bring to light inequities, unfair practices and potentially dangerous health conditions and practices. Advocates can operate on a local scale championing patient safety in their department or hospital, or might act on a national or global scale.
The Management of Innovation as routine

KMU is characterised by having integrated innovation into routine management processes and as a result into the organisational culture. KMU has the capacity to capitalise on the ideation process to develop an innovative product or service and implement the innovation with their partners (MOHME, other provincial medical institutes) or commercialise the innovation through a network of private sector partners. KMU has been successful at creating an internal organisational culture around innovation that has been translated into processes and procedures. Following the assessment, KMU organisational behaviour has seen as having the following characteristics:

- **Engaged**
  
  KMU has integrated together the management of innovation and the management of people by incentivising people to stay alert of their environment and future developments and identify possible innovations in their practice and projects. This is obvious through the Innovation Centre but also through the Futures Studies Institute where each member has a very good understanding of their environment, their capacities to deliver research and have stayed up-to-date with the latest developments and concepts in medical science and public health research.

- **Adaptive**
  
  KMU has integrated the management of innovation and the evolution of technology and has adapted their research agenda and their technology needs. As an illustration, KMU has created for each project websites, online platforms, forums and portals created to respond to their needs and stay advanced in their national environment.

- **Aligned**
  
  Integrating the management of technology and the management of people by ensuring that the organisation empowers the appropriate human capabilities to match and ideally exceed the technological needs at any one time. This was illustrated by creating an enabling and positive environment to attract new graduates and researchers.

![Figure 9: The three characteristics of KMU in terms of innovation management](image-url)
Innovating rather than competing

KMU in a few areas such as public health has been a pioneer in Iran, testing new methodologies and tools in the context of Iran. KMU has often taken the approach of developing and testing the method for the province of Kerman. Once successful and translated to policy makers, the second phase has been to ensure that the other provinces can benefit from their tools and methods. This was the case for example of the higher education roadmap. The KMU team offered to the other provinces their support and skills so that the other provinces can benefit from this new development.

KMU has a clear vision of development for the country and their staff see themselves as actors, being part of their society, who can really bring a real contribution to national development. It is as if the national interest and the public good comes first, before the sole interest of KMU. On the contrary, the team has this vision that their contribution to the national interest will organically improve the reputation of KMU.

KMU is using a lot of benchmarks and comparison to assess their own performance in terms of health service delivery, research and teaching. By promoting a culture of transparency and comparison, KMU promotes a spirit of innovation and progress emphasizing the need for being a pioneer and maintaining a comparative advantage. This refers to “blue ocean” theories developed in management on the importance for organisations to develop their capabilities necessary to continually create new unique resources facilitating new advantages over competitors. If organisations can continually find uncontested niches or generate new demand through innovation, then the main strategic concern of organisations is not about managing competition, but rather about managing innovation, which is what KMU has managed to do. KMU has been able to identify sufficient uncontested niches, thus creating new demand and increasing growth and reputation while avoiding confrontation with other medical universities.

To illustrate this idea on KMU’s current and planned portfolios, we could use the Pioneer-Migrator-Settler Map created by W. Chan Kim and Renée Mauborgne. Settlers are organisations that try to imitate what already exists, migrators are organisations that deliver products or services that are better quality than most in the marketplace, and pioneers are organisations that offer unprecedented value because being positioned in an uncontested niche (See Figure).

Using a blue ocean strategy lens enables to understand the position and vision of KMU managers who look beyond today’s performance and are constantly trying to identify innovations and be the first to test and implement them. This is closely linked with the concepts and frameworks in Futures Studies promoted at the research level by KMU.

**KMU: a pioneer in Iran in futures studies and foresight process**

KMU has been using interesting concepts that have shaped research and thinking in every research centre. These concepts are based on Futures Studies and Foresight Process. For example, at the Future Studies Institute, the research strategy and research priorities in every research centre at the Future Studies are defined by a vision of the future. The creation of scenarios presents an interdisciplinary approach to explore future issues while offering several advantages, e.g. the support of a future-oriented way of thinking by taking alternative developments into consideration. Furthermore, it fosters systematic and structured discussion of uncertain alternative futures by the incorporation of expert knowledge. Proceeding step-by-step reduces the perceived complexity of the correlations examined, generates findings that are comprehensible, and should improve strategic decision-making. It may be combined with other foresight methods such as the Delphi technique or road-mapping.

---


For each element of the foresight process, demonstrating the level of integration and coherence within KMU, almost every study produced at KMU follows the same consecutive process: (i) making sense; (ii) analyzing; (iii) guiding decisions; and (iv) policy and practice. KMU has used for each step of the foresight process several methods that are summarized below:

**Figure 1: The Futures Studies Conceptual Framework at KMU**

<table>
<thead>
<tr>
<th>Making sense</th>
<th>Analyzing</th>
<th>Guiding decisions</th>
<th>Policy and practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature review</td>
<td>SWOT analysis</td>
<td>Strategic planning</td>
<td>Policy briefs</td>
</tr>
<tr>
<td>Systematic review</td>
<td>Dynamic simulations</td>
<td>Roadmaps</td>
<td>Training tools and guidelines</td>
</tr>
<tr>
<td>Trend analysis</td>
<td>Benchmarking</td>
<td>Costing</td>
<td>Action planning</td>
</tr>
<tr>
<td>Stakeholder analysis</td>
<td>Modeling (Statistical, Mathematical, Artificial Intelligence, Health Economy)</td>
<td>Prioritization</td>
<td>Impact evaluation and assessment</td>
</tr>
<tr>
<td>Stakeholder workshop</td>
<td>Scenario technique</td>
<td>Delphi Method</td>
<td>Advocacy campaign</td>
</tr>
<tr>
<td>Social network analysis</td>
<td>Consensus panel</td>
<td>Piloting interventions</td>
<td></td>
</tr>
<tr>
<td>Network scale up studies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gaming</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 12: Methods Used at KMU in the Foresight Process (Adapted from Saritas (2006))**

---

Conclusions

KMU has gained over the years a national and international reputation and has demonstrated that well integrated research, education and service delivery institution could improve the delivery of health services, improve the diversity and quality of courses provided to health professionals and managers, generate more evidence and translate evidence into practice. The multiplication of tools and projects (scientific journals, online platforms, resource platforms, short courses, guidelines, research projects) is remarkable in such a short period of time of the field of public health and medicine.

WHO and MOHME have played a critical role at enhancing KMU’s capacity and reputation:

1. KMU, with the support of WHO and Ministry of Health, has organised national, regional and international workshops to disseminate some of its most successful experiences.

2. WHO supports KMU to play more effective role at the regional level to provide advice to tackle key pressing issues in various areas such as health impact analysis, health economy, health management.

3. KMU with the support of WHO has international links with highly reputable universities such as LSHTM to discuss about joint education and research projects.

KMU benefits from a strong leadership who has embraced innovation as a key core concept of the institution and translated at every management level of the institution. The research and education teams have managed to keep their knowledge up-to-date and are in many areas more advanced than other institutions. KMU has also managed to create a network of researchers who are based in various institutions and have become the ambassadors of the KMU to create new international collaborations.

The main recommendation is to create international exposure to the KMU researchers and give KMU access to international platforms so that they can promote their work and share with other researchers the benefits of their research.
Program

Documentation of successes in the governance of health policies and programmes in Kerman University of Medical Sciences
11-15 June 2017

The specific Terms of Reference for the mission are:

- In close collaboration with WHO and Kerman UMS the consultant will fulfill the following tasks:
- Engage in discussion with Kerman UMS and stakeholders to identify, highlight and finalize main areas of work and interventions in Kerman province
- Visit the field in Kerman province to document actions and practices in policy, plan and programmes for health improvement with public health approach
- Document achievement and successes in governance of health interventions including specific disease control, dissemination of knowledge and skill, knowledge translation, collate and collect statistics and information
- Finalize findings to document achievements and future prospects and potentials.

Proposed Mission Members:

From WHO Iran:
- Dr. Sameen Siddiqi WR Iran
- Mrs. Shadrokh Sirous

International Expert:
- Dr. Karl Blanchet

Day 1 – Sunday, 11 June 2017

Arrival: 11 June 2017 at 06:25

<table>
<thead>
<tr>
<th>Time</th>
<th>Description</th>
<th>From WHO</th>
<th>From National Counterpart/s</th>
<th>Venue</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 – 10:00</td>
<td>Briefing meeting with Dr Sameen</td>
<td>Mrs Sirous</td>
<td></td>
<td>WHO office</td>
</tr>
<tr>
<td>10:30-12:00</td>
<td>Iran Cochrane center and KMU experiences</td>
<td>Karl Blanchet</td>
<td>Mrs Sirous</td>
<td>Dr. Mesgarpour</td>
</tr>
<tr>
<td>12-14:15:00</td>
<td>Departure for Kerman</td>
<td>Karl Blanchet</td>
<td>Mrs Sirous</td>
<td></td>
</tr>
<tr>
<td>14:15-16:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00</td>
<td>Arrival in Kerman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00- 17:00</td>
<td>A summary presentation for the visit</td>
<td>Karl Blanchet</td>
<td>Mrs Sirous</td>
<td>Dr. Haghdoost</td>
</tr>
</tbody>
</table>

Day 2 – Monday, 12 June 2017
<table>
<thead>
<tr>
<th>Time</th>
<th>Description</th>
<th>From WHO</th>
<th>From National Counterpart/s</th>
<th>Venue</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:30</td>
<td>Pick up from hotel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00-9:30</td>
<td>Briefing meeting to discuss the programme and plan</td>
<td>Karl Blanchet</td>
<td>Dr. Haghdooost, Dr. Amirheidary, Dr. Fasahi Harandi, Dr. Pardakhti</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mrs Sirous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:30-11:00</td>
<td>Elaboration on activities related to HIV/STI surveillance research center, and WHO collaborating center for HIV surveillance</td>
<td>Karl Blanchet</td>
<td>Dr. Sharifi</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mrs Sirous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00-12:00</td>
<td>Presentation on International Journal of Health Policy and Management (IJHPM)</td>
<td>Karl Blanchet</td>
<td>Miss Najafi</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mrs Sirous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00-13:00</td>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:00-14:00</td>
<td>Discussion on modeling in health</td>
<td>Karl Blanchet</td>
<td>Dr. Baneshi</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mrs Sirous</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 14:00-15:00| • Systematic review  
               • KASA  
               • Advanced epidemiology                                                   | Karl Blanchet        | Dr. Sharifi, Dr. Shahravan, Dr. Mashrooteh |       |
|          |                                                                               | Mrs Sirous           |                                      |       |
| 15:00-15:40| Presentation and discussion on establishing the place for innovation promotion | Karl Blanchet        | Dr. Pardakhti                        |       |
|          |                                                                               | Mrs Sirous           |                                      |       |
|          | Mrs Sirous departure to Tehran at 17:00                                       |                      |                                      |       |

**Day 3 – Tuesday, 13 June 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Description</th>
<th>From WHO</th>
<th>National Counterpart/s</th>
<th>Venue</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:30</td>
<td>Pick up from Hotel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 8:00-9:30| Elaboration and discussion on :  
               • Harmonized health information system  
               • Other research fields of health services management research center | Dr Karl Blanchet     | Dr. Mehrolhasani                 |       |
|          |                                                                               |                      |                                  |       |
| 9:30-10:30| Crisis Management                                                             | Dr Karl Blanchet     | Dr. Nekouei Moghadam, Dr. Saberi |       |
| 10:30-12:00| • NAAB³ portal  
               • Futures studies special mission  
               • Change behavior multimedia  
               • SIMBA³                                                              | Karl Blanchet        | Dr. Dehnavieh                    |       |

³ KASA is the abbreviation form of the “Iranian health key” in Persian
³ NAAB is the abbreviation form of the “Mapping a better future” in Persian
³ SIMBA is the abbreviation form of the “Integrated portal of hospital managers”
<table>
<thead>
<tr>
<th>Time</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00-13:00</td>
<td>Lunch</td>
</tr>
<tr>
<td>08:00-09:30</td>
<td>Medical informatics</td>
</tr>
<tr>
<td></td>
<td>Dr Karl Blanchet Dr. Khajouei</td>
</tr>
<tr>
<td>10:00-13:30</td>
<td>Health economy</td>
</tr>
<tr>
<td></td>
<td>Dr Karl Blanchet Dr. Barooni</td>
</tr>
<tr>
<td>13:30-14:30</td>
<td>- Discussion on the interventions</td>
</tr>
<tr>
<td></td>
<td>- Insurance futures studies</td>
</tr>
<tr>
<td></td>
<td>- Welfare futures studies</td>
</tr>
<tr>
<td></td>
<td>Dr Karl Blanchet Dr. Haghdoost Dr. Dehnavieh Dr. Jafari Dr. Noorihekmat Dr.</td>
</tr>
<tr>
<td></td>
<td>Mehrolhasani</td>
</tr>
</tbody>
</table>

**Day 4 – Wednesday, 14 June 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:30</td>
<td>Pick up from Hotel</td>
</tr>
<tr>
<td>08:00-9:30</td>
<td>Review and discussion on education master plan</td>
</tr>
<tr>
<td></td>
<td>Karl Blanchet Dr. Haghdoost Dr. Fasihi Harandi Dr. Dehaghani</td>
</tr>
<tr>
<td>09:30-10:30</td>
<td>Presentation on: How to improve the level of happiness in Kerman</td>
</tr>
<tr>
<td></td>
<td>Karl Blanchet Dr. Safizadeh Dr. Momeni</td>
</tr>
<tr>
<td>10:30-12:00</td>
<td>Review and consultation on:</td>
</tr>
<tr>
<td></td>
<td>- National roadmaps in expansion and improvement of the curative system</td>
</tr>
<tr>
<td></td>
<td>- KMU think tank</td>
</tr>
<tr>
<td></td>
<td>Karl Blanchet Dr. NoorIhekmat</td>
</tr>
<tr>
<td>12:00-13:00</td>
<td>Lunch</td>
</tr>
<tr>
<td>13:00-14:30</td>
<td>- Secretariat of the board of trustees</td>
</tr>
<tr>
<td></td>
<td>- The think tank of the management and Planning organization</td>
</tr>
<tr>
<td></td>
<td>- Observatory</td>
</tr>
<tr>
<td></td>
<td>Karl Blanchet Dr. Haghdoost Dr. Amanpour Dr. Javadi</td>
</tr>
<tr>
<td>14:30-16:00</td>
<td>Conclusion and feedback</td>
</tr>
<tr>
<td></td>
<td>Karl Blanchet Dr. Haghdoost and lead persons for the presented programs</td>
</tr>
</tbody>
</table>

Dr Karl Blanchet departure to Tehran at 21:00

**Day 5 – Thursday, 15 June 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noon</td>
<td>Debriefing meeting with Dr Sameen</td>
</tr>
<tr>
<td></td>
<td>Karl Blanchet Dr. Haghdoost and his team via Skype or TC</td>
</tr>
<tr>
<td></td>
<td>WHO Office</td>
</tr>
</tbody>
</table>