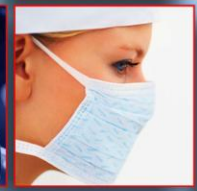




UNITED NATIONS  
UNIVERSITY

UNU-IIGH  
International Institute For Global Health



ANNUAL REPORT  
**2012**  
UNU-IIGH  
International Institute for Global Health



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## **MISSION AND OBJECTIVES OF UNU-IIGH**

The mission of the United Nations University International Institute for Global Health (UNU-IIGH) is to undertake research, capacity development and dissemination of knowledge related to key issues of human health. The Institute seeks to contribute to the development and strengthening of health services policy frameworks and management actions, particularly for people in developing countries and to support implementation of promotive and preventive approach to human health.

The objectives of UNU-IIGH are to enhance the efficiency, quality, access and equity in the delivery of healthcare services; to undertake and strengthen research in Global Health towards achieving the Millennium Development Goals (MDGs); to facilitate dissemination of information and innovation on global health for developing countries; to build and enhance capacities crucial in addressing global health issues especially in developing countries and to promote networking among research institutions in developed and developing countries.

The Institute is actively involved in capacity building in terms of training and offering academic post-graduate programmes including research with various academic, governmental and non- governmental institutions in several UN member countries.

## **DIRECTOR'S SUMMARY FOR 2012**

In terms of academic programme, UNU-IIGH is in the midst of preparing comprehensive proposals (CPs) for the Master in Community Health Science, which is a joint degree in collaboration with National University of Malaysia (UKM) and the MSc in Health Informatics, which is a joint degree with UNU-IIST. The PoCs for both programmes have been approved and the CPs are expected to be submitted to the UNU Academic Committee in April of 2013.

The twinning prospect with Universitas Andalas (UAI), Indonesia is still pending as there are now new government regulations related to foreign universities operating in Indonesia which raises doubts in funding matters and other issues as well. However, an MOU was signed with UAI and UNU-IIGH is assisting UAI in its MPH programme and supervision of one PhD candidate. In terms of capacity building, the Institute is currently involved in implementing the UNU-IIGH Casemix Grouper (developed in-house) in collaboration with the Ministry of Health, Indonesia (KEMENKES) funded by AUSAID. An MOU was also signed with Universiti Sains Malaysia (USM) in Nov 2011 to run training workshops for the implementation of Casemix in USM's teaching hospital. In a recent WHO Discussion Paper entitled "DRG-based payment systems in low and middle income countries", UNU-IIGH technical support and the adoption of the UNU Grouper in Indonesia, Philippines, Mongolia and Uruguay had been mentioned. Recently, UNU-IIGH signed an MOU and collaborated with the National Center of Neurology and Psychiatry (NCNP), Japan, to run a workshop to train trainers involved in counseling post-tsunami victims. UNU-IIGH also received financial support from the Ministry of Foreign Affairs, Malaysia, to conduct the ministry's Malaysian Technical Collaborative Programme (MTCP) for 25 participants from nine different countries.

## COMPARATIVE ADVANTAGE OF THE INSTITUTE

There are two main areas where the Institute may have an advantage in building capacities in the developing countries. Firstly, it is its expertise and experience in the implementation of the Casemix as can be seen in Indonesia, Malaysia, Mongolia, Uruguay and the Philippines. Chile, Vietnam, Kenya, Ghana and Yemen have shown interest in the Casemix. Secondly, UNU-IIGH acts as a provider of training on open source for health practitioners to develop their own health information systems (HIS). Both the Open Source and Casemix trainings have been launched as online programmes so as to make it more accessible to health practitioners in developing countries. The present offering of Masters and PhDs in Global Health in collaboration with National University of Malaysia (UKM); University of Science and Technology, Sanaa, Yemen; University of Medical Sciences and Technology, Khartoum, Sudan and B.P. Koraila Institute of Health Sciences, Nepal - is aimed at producing health leaders in developing countries.

## ACTIVE PARTNERSHIP

1) **UNU International Institute for Software Technology (UNU-IIST)**

Collaboration in the Masters of Science Health Informatics

2) **UNU Institute for Water, Environment and Health (UNU-INWEH)**

Collaboration in a research entitled '*Global Vulnerability to Disease (VyGIL)*'

3) **Gwangju Institute of Science and Technology (GIST)**

Collaboration in a research entitled '*Health Risk and Health Care Cost Assessment of Arsenicosis in Cambodia*'

4) **Joint United Nations Programme on HIV/AIDS (UNAIDS)**

Collaboration in developing a fact sheet on HIV and Mental Well-being

5) **World Health Organization (WHO)**

Collaboration in developing a distance learning module on mental health intervention guidelines

6) **GNU Solidario**

GNU Solidario, an NGO which developed MEDICAL, an open source healthcare information system is involved in collaboration activities with UNU-IIGH

7) **Hong Kong Baptist University**

Collaboration in a research entitled '*Health Risk and Health Care Cost Assessment of Arsenicosis in Cambodia*'

8) **National Center of Neurology and Psychiatry, Japan (NCNP)**

Collaboration in a 'joint trainers' training workshops on mental health and psychosocial support

9) **National University of Malaysia (UKM).**

Collaboration in a research entitled “*Health Risk and Health Care Cost Assessment of Arsenicosis in Cambodia*”.

10) **UN Headquarters, New York.**

Collaborating in developing a learning module of mental health intervention guideline.

11) **Universitas Andalas, Indonesia.**

Collaborating in capacity building and research in Case-mix management, health economics and health management in Masters and PhD programme.

12) **Universiti Putra Malaysia.**

Collaborating in research entitled “School Environment and its Impact on Asthma, Allergy and Respiratory Symptoms among Secondary School Children.”

13) **Universiti Sains Malaysia.**

Collaborating as experts in the Case-mix implementation in HUSM teaching hospital.

14) **University of Southern California.**

Collaborating in research entitled “Assessing Air Pollution Exposures in Pacific Rim Port Communities.”

15) **University of Tokyo, Japan.**

Collaborating in joint expert meeting on culture and global mental health.

16) **University of Uppsala.**

Collaborating in research entitled “School Environment and its Impact on Asthma, Allergy and Respiratory Symptoms among Secondary School Children.”

## **PROGRAMMES OF UNU-IIGH**

### **1) Accessibility, Efficiency and Quality of Care in Health**

The aim of this programme is to enhance health delivery systems in developing countries with the goal of achieving universal coverage. Development of an effective and efficient health financing system to ensure access to health services for high-risk populations is a priority. Capacity building through the development and deployment of a customized case-based payment using the Case-mix system will be made available by UNU-IIGH in conjunction with its collaborating partners. Developing countries with limited manpower and financial resources will be able to use tools developed through this programme to deliver accessible, quality, and efficient healthcare services. The Casemix online training programme launched in 2011 has provided greater access to UNU-IIGH capacity building programmes. Policy research on health biotechnology in developing countries is included in this programme to generate information on efforts to exploit domestic resources to sustain local health care industries.

This programme is led by Professor Syed Mohamed Aljunid, Senior Research Fellow of UNU-IIGH.

The overall aim of the programme is to support developing countries to achieve universal coverage, through delivery of efficient, effective and accessible healthcare services.

The approach is through collaborative research and capacity development activities with local and international partners. Workshops, seminars and conferences will be organized at local, regional and international levels and are supplemented by e-learning package.

Capacity building projects to support implementation of Casemix projects in the following countries were carried out under these thematic areas: Philippines, Malaysia, Mongolia, Indonesia, Islamic Republic of Iran, Yemen, Uruguay, United Arab Emirates, Vietnam, Kingdom of Saudi Arabia, Jordan, Ghana and Kenya.

### **2) Climate Change in Health**

Even though the impact of global climate change on local weather systems and ecosystems is well-researched, its direct and indirect consequences on human health have not been well documented. This programme aims to investigate the complex inter-relationships between climatic and environmental changes and human health. The key strategy is to adopt an interdisciplinary approach to investigate and understand the key environmental determinants of human health. Subsequently, adaptation and mitigation measures can be proposed to lessen the consequent health burden. Among the impacts of climatic and environmental change on human health to be studied will be the impacts on incidences of water-related diseases which include waterborne and vector-borne diseases and impacts on air quality and respiratory illnesses. Another approach will be to assess the impacts of climate change on large river basins.

This programme is led by a Research Fellow in UNU-IIGH, Professor Dr. Jamal Hisham Hashim and supported by a Post-Doctoral Fellow, Dr. David Baguma.

This programme addresses not only the pressing issues of the impacts of climate change on human health specifically, but also the overall relationships between the environment and human health. Focus is given to these issues as they relate to developing countries.

The approach is through collaborative research and capacity development activities with local and international partners. Workshops, seminars and conferences will be organized at local, regional and international levels.

### **3) Information Technology in Health**

This programme seeks to address limited information technology (IT) in healthcare information systems of developing countries, which is mainly due to inadequate proper planning, the high cost of propriety software, and a lack of technical capacity in human resources. Development and deployment of open source hospital information systems (HIS) will help these countries adopt IT in healthcare at affordable costs and sustain the long-term maintenance of these systems by drawing on locally developed human resource capacity. Inputs from IT and healthcare experts with practical experience working in developing countries will be systematically sought in the development, customization, and localization of the open source HIS. Capacity development and training programmes will be carried out to support the development of local human resources who can in turn fully support the implementation of the systems, using both face-to-face training as well as virtual modes.

This programme is led by Dr. Nurhizam Safie Mohd Satar and Dr. Harleen Kaur, Research Fellows of UNU-IIGH.

The aim of this programme is to support the development and deployment of efficient and affordable hospital information systems in developing countries.

The training modules will emphasize on exposure of the trainees to the complete cycle of the implementation of open source hospital information systems project. This will provide them with hands-on experience by the time they complete the training modules of the programme.

### **4) Leadership in Global Health**

The main focus of this programme is to create effective leaders to lead global health initiatives in developing countries. The PhD Fellowship is a scholarship aimed to support PhD students from developing countries to study at UNU-IIGH. Students will spend about a year at UNU-IIGH during which they will be supervised by the Institute's Research Fellows; they will focus on data analysis and preparation for publications. Postdoctoral Fellowships are opened to scholars who have completed their doctoral programme to further enhance their research skills. The Fellows will spend between one to two years conducting research and preparing their publications. The Postgraduate Forum (PGF) is for students to exchange ideas related to their postgraduate studies. The forum is rotated yearly among UNU-IIGH, Malaysia; Naresuan University, Thailand; and Universitas Gajah Mada, Indonesia. The



Health Leadership Forum brings together senior officials in the health sector from developing countries to share experiences and to be exposed to current issues and approaches in health management.

This programme is led by Dr Mohamed Salleh, the Director and Professor Syed Moahmed Aljunid, Senior Research Fellow and supported by other professional staff of UNU-IIGH.

The aim of this programme is to develop leaders in global health by building human capacity through postgraduate and leadership trainings.

The focus of this programme is to support developing countries to conduct master programmes and to train future leaders in global health at PhD and postdoctoral levels .

#### **5) Newly emerging, Re-emerging, chronic and non-communicable diseases & Mental Health issues**

This programme is aimed at addressing the increasing challenges caused by chronic-non communicable diseases which require comprehensive and multidisciplinary approach strategies. Newly emerging and re-emerging diseases that have huge socio-economic impact will also be covered in this programme. UNU-IIGH is taking the lead in addressing the resulting issues by proposing an innovative research approach which brings together various stakeholders, including UN agencies, health ministries in developing countries, and research institutes and organizations. Research will further focus on challenges resulting from prioritized non-communicable diseases including mental health. The approach is through collaborative research and capacity development activities with local and international partners. Workshops, seminars and conferences will be organized at local, regional and international levels.

This programme is led by Dr Atsuro Tsutsumi, Research Fellow of UNU-IIGH.

The aim of this programme is to develop the impact of healthy lifestyles campaigns which will include promoting best practices information and lifestyle programmes across many developing countries.

The approach is through collaborative research and capacity development activities with local and international partners. Workshops, seminars and conferences will be organized at local, regional and international levels.

#### **6) Programme Development**

Addendum to the Memorandum of Understanding (MoU) between National University of Malaysia (UKM) and the University of Science and Technology (UST) Sanaa, Yemen which is coordinated by UNU-IIGH and extended in November 2010, is the inclusion of a collaboration in PhD programme. Collaboration in the MPH programme between UNU-IIGH and the University of Medical Sciences and Technology (UMST) Khartoum, Sudan was signed on 19 August, 2009. An MoU between UNU-IIGH and the B.P. Koirala Institute of Health Sciences (BPKIHS), Nepal for UNU-IIGH to assist BPKIHS in its MPH was signed on 1 Dec 2009. The PhD programme jointly run by UNU-IIGH and UKM since 2007 will be further enhanced to cover wider areas of global health. UNU-IIGH in collaboration with Hamdan bin

Mohamed e-University, UAE, has agreed to offer modules of the Casemix Online Training Programme in the Master of Hospital Management. UNU-IIGH is planning to start its own Master in Community Health Science in collaboration with UKM in 2013. A Comprehensive Proposal (CP) for a joint Master in Health Informatics between UNU-IIGH and UNU-IIST planned for 2013 will be submitted to the Academic Committee in April, 2013.

This programme is led by Dr. Mohamed Salleh Mohamed Yasin, the Director and supported by other professional staff of UNU-IIGH.

Formal academic training programmes at Master and PhD levels and informal academic activities such as forum and seminar will be conducted in collaboration with established higher learning institutions.

The approach is through collaborative research and capacity development activities with local and international partners. Workshops, seminars and conferences will be organized at local, regional and international levels.

## PROJECTS/ACTIVITIES

### 1) **Development of a Compendium of the United Nations Documents on Mental Health, Psychological, and Emotional Well-being**

There has been no analysis focusing on mental health and psychological/emotional well-being in the UN resolutions and other key UN documents while this would be a critical foundation for the future mental well-being activities in the UN system.

*Related Programme:* Newly emerging, Re-emerging, chronic and non-communicable diseases & Mental Health issues

### 2) **Functional Status and Quality of Life of Community Dwelling Post-stroke Survivors and the Cost-effectiveness Analysis of a Home-based Care Provider and Assisting Exercise Programme (with UKM Medical Centre)**

Stroke or cerebrovascular disease is the third most common cause of mortality after coronary heart disease and cancer in western countries and is the most single cause of severe disability in people living at home. The World Health Organization (WHO) estimated that approximately 20.5 million people suffered from stroke in the year 2001, with mortality being 5.5 million worldwide. The figure is predicted to escalate due to the increase in the prevalence of hypertension, the primary cause of stroke. Despite rehabilitation, many stroke survivors are facing the lifelong consequences of stroke directly as a result of stroke or secondary due to reduced mobility or immobility following stroke. Deterioration of functional activity, especially walking ability is a major problem, resulting in a loss of activities of daily living (ADL), independency and social isolation, which eventually affect quality of life. No studies were found to date which measure functional status of Malaysian stroke survivors in a longer term. In order to better understand the long-term consequences of stroke, it is important to examine how stroke changes peoples' function and life over time. This study aims to quantify the functional status and quality of life of stroke survivors one year and more after stroke, ascertain the physical and psychosocial complications which affect the functional status and the quality of life, design a structured multidisciplinary home therapy programme and finally assess the feasibility and effectiveness of the therapy programme on the study population.

*Related Programme:* Accessibility, Efficiency and Quality of Care in Health

### 3) **The Development of Open Source Software and Grouper for Casemix Costing Software: Benefitting Health Practitioners to Enhance Efficiency and Quality of Health Delivery System in Hospitals in Developing Countries**

Casemix is a system that measures hospital performance, aiming to reward initiatives that increase the efficiency in hospitals. It also serves as an information tool that allows policy makers understand the nature and complexity of healthcare delivery system. Casemix grouper is a software package that used to implement all the data variables information for

this system. It is used to gather all information from various levels of variables (e.g. age, gender, severity of illness) and analyze the result to get a complete report. To generate this report, Diagnosis Related Groups (DRGs) is the best-known system that is used in this financial model. It classifies acute inpatient episodes into a number of manageable categories based on clinical condition and resource consumption. The same illness which is treated at different stages of services will determine the performance quality of the hospital. This information is coded by the Health Information Managers in order to allocate a DRG. Each DRG is allocated a 'weight', which is dependent on the average cost of inputs such as services by clinicians, nurses and hospital managers required to achieve the appropriate patient outcome. The facility is reimbursed a predetermined amount for each patient episode.

*Related Programme: Information Technology in Health*

#### 4) **The Global Disease Vulnerability Project.**

The global vulnerability to disease project (VyGIL) aims at developing an interactive global vulnerability tool for water-related diseases, in collaboration with UNU-INWEH, UNU-EHS, UCLA and others. The project has been launched in Malaysia with a proof-of-concept project entitled 'An approach to identify risk of and vulnerability to Dengue fever and Chikungunya in Malaysia for the purpose of mitigation and management.' Ethical clearance for the Malaysian project has been obtained from McMaster University, National University of Malaysia and Ministry of Health Malaysia. This initial study will look into the influences of physical, human and disease factors on the prevalence and distribution of Dengue and Chikungunya cases in Malaysia.

*Related Programme: Climate Change in Health*

#### 5) **The Utilization of Open Source Software in Health Care System in Developing Countries**

Developing and customizing an open source health information system will allow collaborative development of its core functionality vis-a- vis the patient health record (PHR). The health information system is developed on modularity basis. Three functionality modules namely, Electronic Medical Record (EMR), Hospital Information System (HIS) and Health Information System shall be integrated in this health information system. The software source code will be accessible for anyone to inspect, modify and validate. Leveraging on the open source community to develop the system will ensure that its development cost is low while ensuring fast adoption by the healthcare institutions in developing countries due to its free of charge nature.

*Related Programme: Information Technology in Health*

## **UNU POSTGRADUATE PROGRAMMES**

### **1) Master in Community Health Science**

A revised Proof of Concept (PoC) to offer a joint Master between UNU-IIGH and UKM planned for 2013 was resubmitted and had been approved by the Academic Committee in May 2012. A Comprehensive Proposal (CP) is being drafted for submission to the committee in April 2013.

### **2) Master in Health Informatics**

The PoC paper to offer a joint Master in Health Informatics between UNU-IIGH and UNU-IIST planned for 2013 was submitted to the Academic Committee in November, 2011. A scoping workshop which involved stakeholders to review the curriculum was conducted from 21st - 22nd March 2012 in UNU-IIST, Macao. A Comprehensive Proposal (CP) is being drafted for submission to the Academic Committee in April 2013.

### **3) Master in Public Health**

The present collaborations in the Master in Public Health programme with National University of Malaysia; University of Science and Technology, Sanaa, Yemen; University of Medical Sciences and Technology, Khartoum, Sudan and B.P. Koraila Institute of Health Sciences, Nepal, aimed at producing health leaders in developing countries are still on-going.

## **TWINNING PROGRAMMES**

### **Identifying twin partners in Indonesia**

An MoU with Universitas Andalas , Indonesia was signed in April 2012, formalizing the joint collaboration with a partner university . Two workshops had been conducted to assist the partner university to set up its Casemix Centre. A Scoping Workshop was also conducted to draw up the centre's strategic plan. The twinning prospect with Universitas Andalas (UAI), Indonesia is still pending as there are now new government regulations related to foreign universities operating in Indonesia which raises doubts in funding etc.

## **POLICY BRIDGING / THINK TANK FUNCTION EFFORTS**

### **1) Megascience Framework Study for Sustained National Development : Health and Medicine**

UNU-IIGH was commissioned a 9 month study on a “Megascience Framework Study for Sustained National Development: Health and Medicine “by the Academy of Science, Malaysia. The purpose and objectives of the study focused primarily on Science, Technology and Innovation (STI) as a means to achieve the desired health and economic outcomes for Malaysia. It will be used as a source of reference for policy makers to come out with a blueprint for Malaysian Health towards 2050. The final report was submitted early 2011 and since then UNU-IIGH had been called to several ministerial discussions in 2012.

*Related Programme:* Accessibility, Efficiency and Quality of Care in Health

## **EVENT PROGRAMMES**

### **1) Conference/Symposium: 3 - 4 October 2011: Symposium on Universal Coverage** (Public event)

Prof Dr Syed Aljunid delivered a paper entitled 'Models for Universal Coverage: Can the private sector contribute?' The symposium was organised by Monash University Malaysia.

#### ***Location***

Kuala Lumpur, Malaysia

#### ***Contact***

Prof Dr Syed Aljunid

### **2) Conference/Symposium: 19 - 22 October 2011: 27th Patient Classification System International Case-mix Conference** (Public event)

Prof Dr Syed Aljunid delivered a paper entitled 'The UNU-CBGs. Development and deployment of real international open source Casemix grouper for resource challenged countries'. Other papers presented were on ' Analysis of the FONDO NACIONAL DE RECURSOS reimbursement in Uruguay using UNU-CBG Casemix System' , ' Can Teaching Hospitals Benefit From Casemix System? ' , ' Outcome of Using DEA to Evaluate Efficiency of Teaching Hospitals in Malaysia' , ' Feasibility of Implementing Casemix System to Support APEX Programme of HUSM in Malaysia using UNU-CBG Casemix Grouper' and 'Can Clinical Pathways Enhance the Implementation of Casemix System? A Case Study in a Teaching Hospital in Malaysia'.

#### ***Location***

Montreal, Canada

#### ***Contact***

Prof Dr Syed Aljunid

3) **Workshop: 25 - 29 October 2011: Workshop 4: Revisions & Updates on CBG Cost-weight, Hospital Case-mix Index, Base Rate and INA-CBG Tariff** (Public event)

The technical working group on costing participated in the said workshop. A total of 98 participants attended this workshop.

***Location***

Jakarta, Indonesia

***Contact***

Prof Dr Syed Aljunid

***Co-organizers***

Ministry of Health Indonesia

4) **29 Oct 2011 - 3 November 2012: IAEA Meeting on Global Radiation Medicine: Educational Challenges for Academia** (Public event)

Prof Syed Aljunid presented a paper entitled 'Global health system in the radiation-society interaction context: potential role of United Nations University'.

***Location***

Vienna, Austria

***Contact***

Prof Dr Syed Aljunid

5) **Postgraduate Related Event: 7 - 10 November 2011: Meeting on Master in Health Informatics Programme Development at UNU-IIST.** (Public event)

Director of UNU-IIGH, SRF and RF (IT in Health) participated in a collaborative meeting to further discuss the development of a joint academic programme between UNU-IIGH and UNU-IIST. The Master programme would be offered in 2013.

***Location***

Macao SAR, China

***Contact***

Dr Nurhizam Safie

***Co-organizers***

UNU-IIGH and UNU-IIST

6) **Conference/Symposium: 10 - 12 November 2011: Panel Session of the 21st Asia Pacific Cancer Conference** (Public event)

Prof Syed Aljunid presented a paper on " Innovative Financing for Cancer Care: Role of Pay for Performance in Cancer Care".

***Location***

Kuala Lumpur

***Contact***

Prof Dr Syed Aljunid

7) **Workshop; 15 - 19 November 2011: Workshop 5: Finalization of INA-CBG Tariff and Adjustment Factors** (Public event)

This workshop was attended by staff of National Casemix Centre (NCC), Indonesia and selected hospital staff who had also attended the 4th workshop. A total of 104 participants attended this workshop. The Casemix experts from UNU-IIGH presented the preliminary results of hospital base rate and cost-weights as these scientific parameters were necessary to generate the INA-CBG Tariff. The culminating activity in this workshop was a Round Table Discussion (RTD) on the development of the national tariff attended by people working on social protection and senior officers of the MOH and JAMKESMAS.

***Associated Programme***

Accessibility, Efficiency and Quality of Care in Health System

***Location***

Bandung, Indonesia

***Contact***

Prof Dr Syed Aljunid

***Co-organizer***

Ministry of Health Indonesia

8) **Seminar; 21 - 22 November 2011: International Seminar on Socioeconomic and Mental Health Burden of HIV/AIDS in Developing Countries.** (Public event)

Prof Syed presented a paper entitled "Socio-economic Impact of HIV/ AIDs and Mental Health".

***Location***

Kuala Lumpur

***Contact***

Prof Dr Syed Aljunid

9) **Conference/Symposium; 22 - 24 November 2011: 3rd International Conference on Rural Medicine (ICORM3) 2011.** (Public event)

Prof Syed presented a paper entitled "Future challenges in health financing in Malaysia". Prof Jamal presented a paper on "Global climate change: Implication for public health policy".



**Location**

Kota Kinabalu, Malaysia

**Contact**

Prof Dr Jamal Hisham Hashim

**Co-organizers**

UNU-IIGH and Universiti Sabah Malaysia

10) **23 - 25 November 2011: Meeting with the Institute for Social Provision, Ministry of Health, Paraguay** (Public event)

RF (IT in Health) was invited to a meeting by the Institute for Social Provision, Ministry of Health, Paraguay to further discuss the role of UNU-IIGH in assisting the Ministry in the open source hospital and health information systems development. GNU Solidario will assist UNU-IIGH in terms of technical support (software programming localisation).

**Location**

Asuncion, Paraguay

**Contact**

Dr Nurhizam Safie

**Co-organizers**

Institute for Social Provision, Paraguayan Ministry of Health and GNU Solidario

11) **Conference/Symposium; 26 Nov 2011 - 1 December 2011: International Traditional Healers Training and Conference on Traditional Medicine** (Public event)

The Director of UNU-IIGH delivered a key note speech entitled 'From Nature to Medicine : Threats and Challenges'. Prof Syed presented a paper entitled "Traditional Medicine and Global Health: Is there really a synergy".

**Location**

Penang

**Contact**

Prof Dr Syed Aljunid

**Co-organizers**

UNU-IIGH and Universiti Sains Malaysia

12) **Conference/Symposium; 29 Nov 2011 - 2 December 2011: Workshop on Using Case-mix System for Health Financing and Management in AITEC AFRIHEALTH Conference.** (Public event)

SRF and RF (IT in Health) participated in the International AITEC Afrihealth Conference and conducted workshops on "Use of Casemix System for Health Financing Developing

Countries” and “Open Source Healthcare Information System”. During the mission, meetings were held with senior officers of Ministry of Health, Kenya, and National Hospital Insurance Fund of Ministry of Medical Services, Kenya, to introduce Casemix System and Open Source Health Information System. Prof Syed Aljunid also presented a paper entitled "Software in Casemix System". A workshop on plan for implementation of Casemix system in developing countries for health financing was also conducted.

***Location***

Nairobi, Kenya

***Contact***

Dr Nurhizam Safie

***Co-organizers***

AITEC Africa

13) **Conference/Symposium: 5 - 7 December 2011: Casemix Workshop/International Conference on Sustainable Development of Natural Resources in Africa** (Public event)

Director of UNU-IIGH, SRF, RFs (IT in Health and Climate Change & Health) participated in this conference. SFR and RF (IT in Health) conducted a workshop on “Introduction to Casemix System for Health Financing”. Participants of the workshops were senior officers of National Health Financing Scheme of Ghana, Ministry of Health Ghana and academics of University of Ghana.

***Location***

Accra, Ghana

***Contact***

Prof Dr Syed Aljunid

***Co-organizers***

UNU-INRA & UNU-IIGH

14) **Seminar; 14 - 15 December 2011: The 5th EIA and Auditing Seminar.** (Public event)

Prof Jamal presented a paper on “Environmental health impact assessment and current practices in Malaysia”.

***Location***

Universiti Teknologi Mara (UiTM ), Malaysia

***Contact***

Prof Dr Jamal Hisham Hashim

15) **Workshop; 26 - 31 December 2011: Workshop in Islamic Republic of Iran (Introduction to Casemix System for Social Health Insurance) and Visit to Social Health Insurance and MOH of I.R. of Iran** (Public event)

Professor Dr. Syed Aljunid, Senior Research Fellow and Mr. Hamzah, IT Consultant on Casemix were on a five-day mission to Islamic Republic of Iran to introduce UNU-IIGH Casemix system to Social Security Organisation and Ministry of Health Iran. During the mission, Prof Syed Aljunid and Mr. Hamzah conducted a workshop on Casemix/DRG System for Health Financing at the headquarters of the Social Security Organization (SSO) of Iran.

***Associated Programme***

Accessibility, Efficiency and Quality of Care in Health System

***Location***

Iran

***Contact***

Prof Dr Syed Aljunid

***Co-organizer***

Ministry of Health, Iran

**16) Conference/Symposium: 11 - 12 January 2012: OSWC (Open Source World Conference).** (Public event)

UNU-IIGH headed by Dr. Mohamed Salleh Yasin, Director of the Institute, together with Prof. Dr. Syed Aljunid (SRF), Dr. Nurhizam Safie, (RF) participated in the 2012 OSWC (Open Source World Conference) . Dr Salleh presented a paper on “Role of UNU-IIGH in Research and Capacity Building in Open Source” while Dr Nurhizam presented a paper entitled “Open Source HIS: Sustainable Solutions for Developing Countries” and finally, Dr. Syed Aljunid presented a paper on “Casemix System on Open Source Platform: Ensuring Sustainability in Social Insurance Scheme” . Dr Nurhizam also presented a paper on " Free Hospital Information System - Sustainable Solution for Developing Countries". During the event, UNU-IIGH and GNU Solidario, agreed to a partnership plan to deploy GNU Health, the Open Source Health and Hospital Information System, globally. A workshop on "e-Health in Emerging Economies" was also conducted by UNU-IIGH.

***Associated Programme***

Information Technology in Health

***Location***

Granada, Spain

***Contact***

Dr Nurhizam Safie

***Co-organizers***

GNU Solidario & UNU-IIGH

17) **Conference/Symposium: 30 Jan 2012 - 4 February 2012: 4th e-Health and Environment Conference in the Middle East in conjunction with the Hamdan Bin Mohammed e University (HBMeU) 2012 Annual Congress** (Public event)

UNU-IIGH headed by Dr. Mohamed Salleh Yasin, Director of the Institute together with Prof. Dr. Syed Aljunid (SRF), Dr. Nurhizam Safie (RF) and Mr. Hidzuan Hashim (Programmer), participated in the 4th e-Health and Environment Conference in the Middle East in conjunction with the Hamdan Bin Mohammed e University (HBMeU) 2012 Annual Congress. The theme of the conference was "Building an Innovative and Competitive Vision for e-Health and Environment in the 21st Century". As a partner institution, UNU-IIGH played a major part in the conference. Professor Dr. Aljunid was one of the panelists during the debate on "Patient Safety: Innovations, Cost and Quality Dilemma". Dr. Nurhizam assisted by Mr. Hidzuan Hashim delivered a presentation on "Delivering e-learning Strategy in Competitive e-health Sector of Developing Countries" in the "e-Health in UAE and Developing Countries" concurrent session. UNU-IIGH team conducted a post-conference workshop on "Open Source Hospital Information System (HIS): Sustainable Solution for Developing Countries".

***Location***

Dubai, UAE

***Contact***

Dr Nurhizam Safie

***Co-organizers***

Hamdan Bin Mohamed eUniversity and UNU-IIGH

18) **Workshop: 2 February 2012: Post-Conference Workshop on Open Source Health Information Systems** (Public event)

UNU-IIGH conducted a Post-Conference Workshop on Open Source Health Information Systems at Hamdan Bin Mohammed-e-University Annual Congress 2012. There were more than 30 participants mainly from the Middle East.

***Location***

Dubai, UAE

***Contact***

Dr Nurhizam Safie

19) **Workshop: 14 - 16 February 2012: Workshop 1 : Introduction to Casemix and UNU-CBG Software** (Public event)

A total of 69 participants representing 17 clinical departments, ancillary departments (nursing, laboratory and radiology) and support/administrative department (finance and human resource) of HUSM, academic staff from the School of Medical Sciences, School of Dental Sciences and School Health Sciences attended the training workshop. Lecture-discussion learning methodology was utilized during the 1st day of the workshop, while on the last 2 days the experts utilized hands-on exercises on coding and use of UNU-CBG Case-

mix grouper. The Casemix tools (UNU-CBG Grouper Software and UNU Digital Coding Tool) were installed in the participants' laptop during the exercise.

***Associated Programme***

Accessibility, Efficiency and Quality of Care in Health System

***Location***

USM Hospital Kota Bharu, Kelantan, Malaysia

***Contact***

Prof Dr Syed Aljunid

***Co-organizer***

University of Science Malaysia Medical Center (HUSM)

20) **Conference/Symposium: 18 - 20 February 2012: International Conference on Water Quality with Specific Reference on Arsenic.** (Public event)

UNU-IIGH was a co-organizer of this international conference where the main organizer was the Public Health Engineering Department, Government of West Bengal. The aim of the Conference was to bring together experts on water quality and arsenic contamination from around the world to share their experiences and to discuss and propose mitigation measures to overcome this global problem. The Research Fellow on Climate Change and Health presented a paper entitled "Health Impacts of Arsenicosis from Groundwater Exposure."

***Location***

Kolkata, India

***Contact***

Prof Jamal Hisham Hashim

***Co-organizers***

Public Health Engineering Department, Government of West Bengal & UNU-IIGH

21) **Conference/Symposium: 19 - 23 February 2012: Global Risk Forum One Health Summit.** (public event)

Prof Syed Aljunid presented a paper on the "Efficient Investment in Health Information System for Cost-Effective Agenda for One Health".

***Location***

Davos, Switzerland

***Contact***

Prof Dr Syed Aljunid

22) **Workshop; 23 - 26 February 2012: Hands-on workshop on environmental epidemiology: application in environmental health impact assessment (EHIA)**  
(Public event)

Prof Jamal conducted a workshop on "Overview of the guidance document on HIA in EIA".

***Location***

Johor, Malaysia

***Contact***

Prof Dr Jamal Hisham Hashim

23) **Workshop; 27 Feb 2012 - 1 March 2012: Workshop 6: Introduction to New INA-CBG Grouper and Casemix Groups and Latest Update on INA-CBG Tariff** (Public event)

The workshop was attended by four technical working groups coming from participating hospitals and National Casemix Centre (NCC), Indonesia. A total of 84 participants attended the workshop. The workshop was to highlight that the UNU-CBG was known for its uniqueness and was characterized as universal ( it would cover all types of patient care); dynamic ( it could bear robust data; as an advanced grouper), it had the capability to adapt to the future changes in classification of diagnosis and procedures.

***Associated Programme***

Accessibility, Efficiency and Quality of Care in Health System

***Location***

Bandung, Indonesia

***Contact***

Prof Dr Syed Aljunid

***Co-organizer***

Ministry of Health Indonesia

24) **Conference/Symposium; 5 - 9 March 2012: UNU-MERIT Design and Evaluation of Innovation in Developing Countries.** (Public event)

Dr. Harleen Kaur (RF) was invited to participate and delivered a lecture entitled 'Cluster & ICT Related Policy in Malaysia and other Asian Countries' for the UNU-MERIT Design and Evaluation of Innovation in Developing Countries Programme.

***Location***

Bangkok, Thailand

***Contact***

Dr Harleen Kaur

***Co-organizer***

UNU-MERIT

**25) Postgraduate Related Event; 21 - 22 March 2012: Master in Health Informatics Scoping Workshop in UNU-IIST, Macao SAR.** (Public event)

UNU-IIGH and UNU-IIST invited various stakeholders from several Asian countries for a scoping workshop to further discuss and design the curriculum of a proposed joint master programme between UNU-IIGH and UNU-IIST. UNU-IIGH team was led by Dr. Salleh and accompanied by Prof. Dr. Syed Aljunid, Dr. Nurhizam Safie, RF. Dr. Saperi Sulong, Dr. Sharifa Ezat. Dr. Maryati Yusoff from UKM and Prof. Effendy from UMT were invited to represent Malaysia. A Comprehensive Proposal (CP) is being prepared for submission to the Academic Committee in April 2013.

***Associated Programme***

Leadership Development Programme in Global Health

***Location***

UNU-IIST, Macao

***Contact***

Dr Nurhizam Safie

***Co-organizers***

UNU-IIST & UNU-IIGH

**26) Workshop; 22 - 24 March 2012: First Crash Course on Case-mix at Universitas Andalas (UNAND).** (Public event)

A total of 19 participants attended the workshop. The objective of this crash course on Casemix was to conduct capacity building on Casemix system to the UNAND's Casemix team. The consultants presented and discussed on the introduction of Casemix system and all components of Casemix system, including coded data, costing data, clinical pathway, data requirement and digital coding tool & UNU-CBG software. The UNU-IIGH consultants provided extensive technical assistance to the UNAND team on this activity.

***Associated Programme***

Accessibility, Efficiency and Quality of Care in Health System

***Location***

Padang, Indonesia

***Contact***

Prof Dr Syed Aljunid

***Co-organizer***

Universitas Andalas, Indonesia

27) **Conference/Symposium: 24 March 2012: 2nd Global Conference: Trauma: Theory and Practice.** (Public event)

Dr Atsuro Tsutsumi presented a paper entitled 'Mental Health Prevalence in Women Two and a Half years after the Death of a Child in the 2008 Sichuan Earthquake'.

***Location***

Prague, Czech Republic

***Contact***

Dr Atsuro Tsutsumi

***Co-organizer***

Inter-Disciplinary.Net

28) **Workshop: 26 - 29 March 2012: Workshop 7: Case-mix Group Special Procedures.**  
(Public event)

98 participants from the MOH Indonesia, participating hospitals, social security agencies and specialty societies, attended the workshop. Almost 50% of the participants were medical specialists. It was expected that at the end of the workshop, with the guidance of Casemix team, each medical discipline would be able to come up with list of special procedures to be included in the Casemix groups. UNU-IIGH presented the results of simulation exercise using 2009 (using commercial grouper) and 2010 (using UNU Grouper) Casemix index (CMI and hospital base rates (HBR) data.

***Associated Programme***

Accessibility, Efficiency and Quality of Care in Health System

***Location***

Bandung, Indonesia

***Contact***

Prof Dr Syed Aljunid

***Co-organizers***

Ministry of Health Indonesia

29) **Conference/Symposium: 29 March 2012: The 32nd Meeting of the Japan Society for Veterinary Epidemiology.** (Public event)

Dr Atsuro Tsutsumi delivered paper entitled 'Inhibitory Factors for economic activities among farmers affected 2010 foot-and-mouth disease outbreak in Miyazaki'.

***Location***

Omiya, Japan

***Contact***

Dr Atsuro Tsutsumi



30) **30 Mar 2012 - 1 April 2012: The First Pharmaco-economics and Outcome Research Conference 2012.** (Public event)

Prof Syed Aljunid presented a paper entitled 'Malaysian Pharmaco-economics Guideline: Transferability and Generalizability of Health Economic Evaluation Data'. A workshop entitled " Cost Analysis Using Step-down Approach: Pharmacy/Drug Unit Cost" was also conducted

***Location***

Kuala Lumpur, Malaysia

***Contact***

Prof Dr Syed Aljunid

31) **1 April 2012: 11th Annual Scientific Meeting of the International Association for Dental Research (IADR) Malaysia.** (Public event)

Dr Nurhizam presented a paper entitled 'Dental Education online – Affordable Solutions via Open Source'.

***Location***

Kuala Lumpur, Malaysia

***Contact***

Dr Nurhizam Safie

32) **2 - 3 April 2012: High-Level Meeting on Happiness and Wellbeing.** (Public event)

Dr Atsuro Tsutsumi attended this high-level meeting which gathered experts to work together to identify the measures, accounts and financial mechanisms required for a happiness-based economic model to be available for incorporation into national policies. The meeting follows UN General Assembly resolution A/65/L.86, introduced by Bhutan with support from 68 Member States and unanimously adopted by the UN, which calls for a “holistic approach to development” aimed at promoting sustainable happiness and wellbeing.

***Location***

New York, USA

***Contact***

Dr Atsuro Tsutsumi

33) **Workshop: 3 - 7 April 2012: Second Crash Course on Casemix at UNAND.** (Public event)

A total of 19 participants attended this course. The objective of this second crash course Casemix was to conduct capacity building on Casemix system to UNAND Casemix team. This second crash course on case-mix is a continuation of the first crash course. The course was for five days and the consultants presented and discussed topics on: procedure coding, cost

analysis in casemix system, data analysis in Casemix system, clinical pathway, development of national tariff and Casemix research. The UNU-IIGH consultants provided extensive technical assistance to the UNAND team on this activity.

***Associated Programme***

Accessibility, Efficiency and Quality of Care in Health System

***Location***

Padang, Indonesia

***Contact***

Dr Amrizal Muhammad Nur

***Co-organizer***

Universitas Andalas, Indonesia

**34) Conference/Symposium: 14 April 2012: Public Health Symposium of the Annual Scientific Meeting of National Heart Association of Malaysia.** (Public event)

Prof Syed delivered a lecture entitled 'Achieving Universal Coverage for Chronic Non-Communicable Diseases: Is it realistic?'

***Location***

Kuala Lumpur

***Contact***

Prof Dr Syed Aljunid

**35) Workshop: 18 - 19 April 2012: Introduction to Casemix System for Quality and Efficiency.** (Public event)

The workshop provided an overview of Casemix system. Minimum data set for Casemix system was discussed in detail including requirements for diagnoses and procedures coding using ICD classification system, benefit of using Casemix system as a tool to support quality assurance programme. The advantages of using Casemix system for prospective provider payment mechanism under Social Health Insurance Programmes Softwares currently available to support implementation of Casemix system were demonstrated including the recently launched UNU-CBG Casemix grouper which is a universal, dynamic and advanced grouper software. The workshop was attended by around 30 participants from Jordan, Kuwait, Lebanon, Iraq and Saudi Arabia.

***Associated Programme***

Accessibility, Efficiency and Quality of Care in Health System

***Location***

Amman, Jordan

***Contact***

Dr Zafar Ahmed

***Co-organizers***

Ministry of Health Jordan and Association of Arab Universities

36) **Workshop: 22 - 25 April 2012: Workshop 2: The Implementation of Casemix System in HUSM.** (Public event)

A total of 30 participants participated in this workshop. These included both the clinical and administrative staff from the Hospital Universiti Sains Malaysia as well as the coders from the medical record department. On the first day of the workshop, the consultants carried out the installation of the Data Pro Tool version 2.0 on 40 computers in the computer laboratory of the Hospital Universiti Sains Malaysia. The main purpose of this exercise was to facilitate the coding process using this tool.

***Associated Programme***

Accessibility, Efficiency and Quality of Care in Health System

***Location***

Kota Bharu, Kelantan, Malaysia

***Contact***

Dr Amrizal Muhammad Nur

***Co-organizer***

University of Science of Malaysia Medical Center (HUSM)

37) **Workshop: 23 - 27 April 2012: Workshop 8: CMG Special Prostheses, IT Training and Special Meeting with National Casemix Centre (NCC), Indonesia.** (Public event)

A total of 97 participants attended the workshop. The workshop started with presentation from NCC on their plan regarding the new tariff after the simulation exercise done by the Casemix team. The simulation exercise will guide NCC in deciding about the new tariff. The UNU-IIGH consultants provided extensive technical assistance to the NCC on this activity.

***Associated Programme***

Accessibility, Efficiency and Quality of Care in Health System

***Location***

Bandung, Indonesia

***Contact***

Dr Amrizal Muhammad Nur

***Co-organizer***

Ministry of Health Indonesia

38) **Conference/Symposium: 25 April 2012: 13th World Congress on Public Health Association.** (Public event)

Dr Atsuro Tsutsumi presented a paper entitled 'Mental Health Morbidity in Women Thirty Months After the Death of a Child in the 2008 Sichuan Earthquake'.

***Location***

Addis Ababa, Ethiopia

***Contact***

Dr Atsuro Tsutsumi

***Co-organizers***

World Federation of Public Health Associations and Ethiopian Public Health

39) **Workshop; 29 - 30 April 2012: Workshop 9: CMG Special Drugs.** (Public event)

A total of 152 participants attended the workshop (15 from NCC and 147 from hospitals). The two-day workshop with NCC team involved discussion about the evaluation of the proposed tariff after the simulation exercise done by the Casemix Consultant and NCC Team. The Deputy Director of NCC and all NCC team decided to include some adjustment factors such as; regionalisation, tariff for severity level one and special tariff for special hospital.

***Associated Programme***

Accessibility, Efficiency and Quality of Care in Health System

***Location***

Bandung, Indonesia

***Contact***

Prof Dr Syed Aljunid

***Co-organizer***

Ministry of Health Indonesia

40) **18 - 22 May 2012: Expert Scientific Meeting on Mental Health after Foot-and-Mouth Outbreak.** (Public event)

Dr Tsutsumi was invited to attend an expert meeting on mental health and training in Tokyo organized by National Institute of Mental Health, Japan . This meeting was to discuss further national research activities on mental health responding to disasters to make it as a national guideline.

***Location***

Tokyo, Japan

***Contact***

Dr Atsuro Tsutsumi

41) **Postgraduate Related Event; 21 - 23 May 2012: The 6th Postgraduate forum on Health Systems & Policies.** (Public event)

UNU-IIGH, UKM, Naresuan University and Universitas Gajah Mada University, Indonesia co-organized the postgraduate forum and was supported by The State Government of Malacca, World Youth Assembly and World Youth Foundation. 180 participants registered and over 50 papers were presented.

***Associated Programme***

Leadership Development Programme in Global Health

***Location***

Malacca, Malaysia

***Contact***

Prof Dr Syed Aljunid

***Co-organizers***

UNU-IIGH, UKM, Naresuan University, Thailand and Universitas Gajah Mada, Indonesia

42) **Conference/Symposium; 24 - 26 May 2012: The 108th Annual Meeting of the Japanese Society of Psychiatry and Neurology.** (Public event)

This biggest academic conference on psychiatry in Japan, the Japan organised by Society for Neurology and Psychiatry Annual Meeting was held in Sapporo. Dr Tsutsumi made a joint oral presentation on mental health in emergency settings with a Japanese expert and exchanged mutual expertise.

***Location***

Sapporo, Japan

***Contact***

Dr Atsuro Tsutsumi

43) **Conference/Symposium; 25 May 2012: The 108th Annual Meeting of the Japanese Society of Psychiatry and Neurology.** (Public event)

Dr Atsuro Tsutsumi delivered a paper entitled 'Mental health and psychosocial support programme after the Sichuan Earthquake in China'.

***Location***

Sapporo, Japan

***Contact***

Dr Atsuro Tsutsumi

44) **Conference/Symposium: 8 - 9 June 2012: The Third Chinese Congress on Non-Communicable Disease.** (Public event)

UNU-IIGH was requested to make a presentation on our programme at the Congress and discussed future collaboration on mental health research with China Medical School.

***Location***

Beijing, China

***Contact***

Dr Atsuro Tsutsumi

45) **Workshop; 2 - 6 July 2012: Workshop 10: CMG Special Investigations, IT Course and Meeting with the National Center for Casemix(NCC) MOH Indonesia** (Public event)

SRF and RF of UNU-IIGH conducted a five-day workshop on Casemix system for Special Investigations. A total of 151 participants from MOH Indonesia, participating hospitals, staff from social security agencies and specialty societies attended the workshop. The goal of the workshop was to be able to come up with the list of investigations, which would become part of the CMG Special Investigation. An IT course for NCC members that were directly involved in IT was also conducted.

***Location***

Bogor, Indonesia

***Contact***

Dr Amrizal Muhammad Nur

46) **Conference/Symposium; 9 July 2012: International Accreditation Congress.** (Public event)

SRF presented a keynote paper in this international congress organised by the Razi Resalat Accreditation Company in Iran. The title of the paper was "The Role of Casemix System in Hospital Accreditation". The aim of the Congress was to provide updates and sharing of successful experiences in the area of accreditation of health care providers with the aim of improving the quality standard and safety of health services in the Iran. Following the congress, SRF conducted a workshop to introduce Casemix system in Iran which was attended by public and private sector healthcare workers.

***Location***

Tehran, Islamic Republic of Iran

***Contact***

Prof Dr Syed Aljunid

47) **Lecture: 16 - 17 July 2012: Mission to Padang: Lecture on Health Economics.**

(Public event)

SRF and RF undertook a mission on to deliver health economics lectures at the Faculty of Public Health, Andalas University of Padang, Indonesia. The objective of this mission was to provide technical assistance in the development of human resource capacity building to conduct research and in implementing the master's degree programme in Public Health specializing in Hospital Management.

***Location***

Padang, Indonesia

***Contact***

Dr Amrizal Muhammad Nur

48) **Workshop: 17 - 19 July 2012: Workshop 3 and 4: Installation and Maintenance of UNU-IIGH Software and Clinical Costing in Case-mix in Univesiti Sains Malaysia.**

(Public event)

Casemix consultants from UNU-IIGH conducted two workshops simultaneously as part of the Capacity Building Training Programme Workshops for the Development and Implementation of Casemix System in HUSM. A total of 60 participants attended these workshops. The consultants started with the lecture on the "Introduction to Costing Analysis in Healthcare". This was to provide participants an overview on the impact and importance of costing in healthcare. The experts presented an overview of top-down costing as well as the template to be used in gathering data when using top down methodology. Another methodology in costing called "activity based costing" was also presented to the participants. The applications of clinical pathways costing and how this could easily be integrated in Casemix costing for certain high risk, high cost cases only was also included. These workshops were a combination of lectures and hands-on methodology applying the two costing techniques mentioned above.

***Location***

Kelantan, Malaysia

***Contact***

Prof Dr Syed Aljunid

49) **Conference/Symposium: 19 - 22 July 2012: The 9th West China Psychiatric Forum.**

(Public event)

Dr Tsutsumi was invited as an international expert to be involved in a symposium of the forum and discussed future collaboration on mental health research with the West China Psychiatric Association.

***Location***

Chengdu, China

**Contact**

Dr Atsuro Tsutsumi

50) **Workshop: 23 - 27 July 2012: Workshop 11: CMG Special Sub-Acute and Special Meeting with National Case-mix Centre (NCC), Indonesia.** (Public event)

SRF and RF conducted a 5-day workshop on Casemix system and a total of 104 participants from MOH Indonesia, participating hospitals, social security agencies and specialty societies attended the workshop. The goal of this workshop was to conduct special meetings with NCC specifically on their evaluation regarding the list of procedures, drugs, prosthesis and new INA-CBG tariff.

**Location**

Jakarta, Indonesia

**Contact**

Dr Amrizal Muhammad Nur

51) **Conference/Symposium: 2 August 2012: The 2nd ISA Forum of Sociology.** (Public event)

Dr Atsuro Tsutsumi delivered a paper entitled 'Mental Health Morbidity in Women Thirty Months after the Death of a Child in the 2008 Sichuan Earthquake'.

**Location**

Buenos Aires, Argentina

**Contact**

Dr Atsuro Tsutsumi

**Co-organizer**

International Sociological Association

52) **8 - 12 August 2012: Mission in Aceh, Indonesia.** (Public event)

The United Nations University International Institute for Global Health (UNU-IIGH) team consisting of SRF, RF and a PhD candidate went on a five-day mission to Aceh, Indonesia through the invitation of The Honorable Governor Dr. Abdullah Zaini. The aim of the mission was to explore the possibility of utilizing UNU-CBG as a tool to reform the JKA (Social Health Insurance of Aceh) reimbursement mechanism in Aceh. The meeting was presided by the Governor and attended by several hospital directors and senior staff of JKA. Apart from the meeting with the Governor, the UNU-IIGH team attended several meetings with the health care stakeholders. The purpose of the meeting was to discuss on the development and implementation of JKA tariff to be used in hospital reimbursement.

**Location**

Aceh, Indonesia



**Contact**

Prof Dr Syed Aljunid

53) **Conference/Symposium: 20 August 2012: The 13th Conference of the International Society for Veterinary Epidemiology and Economics.** (Public event)

Dr Atsuro Tsutsumi delivered a paper entitled 'Collaborative response to 2010 Foot-and-Mouth disease outbreak in Miyazaki, Japan'. It highlighted the findings of veterinary and psychiatry experts who analyzed the mental health of veterinarians, farmers and citizens and barriers against restarting farming.

**Location**

Maastricht, Netherlands

**Contact**

Dr Atsuro Tsutsumi

54) **Workshop; 27 - 30 August 2012: Workshop 5: Clinical Pathways for the Implementation of Casemix.** (Public event)

SRF and UNU-IIGH Casemix consultants conducted the 5th workshop for the implementation of Casemix system at Hospital Universiti Sains Malaysia held at the Health Campus in Kubang Kerian, Kota Baru, Kelantan. The workshop was entitled "Clinical Pathways in Casemix System". A total of 80 participants participated in this workshop. These included all levels of staff from clinical and support departments such as physicians, surgeons, paediatricians, ophthalmologists, psychiatrists, pathologists, pharmacists, nurses, physiotherapists and medical record officers. The main objective of the workshop was to introduce the concept of clinical pathways in relation to Casemix system. To effectively and efficiently transfer the knowledge, the experts utilized a mixture of technical lectures, hands-on method and group work activities approach.

**Location**

Kelantan, Malaysia

**Contact**

Prof Dr Syed Aljunid

55) **Conference/Symposium: 2 - 4 September 2012: International Society for Pharmacoeconomics and Outcomes Research (ISPOR) 5th Asia-Pacific Conference** (Public event)

SRF of UNU-IIGH participated in a cost modeling workshop and chaired a podium presentation in the 5th ISPOR Asia-Pacific Conference. The theme of the Conference was "Evidence Requirements by Different Stakeholders for Health Care Decisions in Asia-Pacific.

**Location**

Taipei, Taiwan

**Contact**

Prof Dr Syed Aljunid

**56) Workshop: 3 - 4 September 2012: Training Workshop on Efficiency in Health Care.** (Public event)

The workshop was held in the UNU-IIGH Building. A total of 12 participants attended the workshop. The objectives of the workshop were to provide the participants an introduction to the overall concepts of efficiency and use of techniques for measuring efficiency in healthcare. Moreover, the participants had the opportunity to know how these two measurement tools on efficiency namely Stochastic Frontier Analysis (SFA), and Data Envelopment Analysis (DEA) could be applied in health care.

**Location**

Kuala Lumpur, Malaysia

**Contact**

Prof Dr Syed Aljunid

**57) Conference/Symposium: 8 - 12 September 2012: 14th Asia Pacific Congress of Paediatrics (APCP) and 4th Asia Pacific Congress of Pediatric Nursing (APCPN)** (Public event)

SRF and RF of UNU-IIGH, Casemix Consultant and PhD candidates attended the "14th Asia Pacific Congress of Pediatrics (14th APCP 2012) & 4th Asia Pacific Congress of Pediatric Nursing (APCPN)". The conference was organized by Asian Pacific Paediatric Association hosted by Malaysia Paediatric Association and supported by Sarawak Convention Bureau. The theme of the conference is "Towards Equity in Child Health". About 1,300 delegates from 39 countries participated in the conference. UNU-IIGH team presented two symposium papers and two posters in the conference.

**Location**

Sarawak, Malaysia

**Contact**

Dr Amrizal Muhammad Nur

**58) Workshop: 10 - 14 September 2012: Workshop on Open Source Hospital Information Systems Development.** (Public event)

The UNU-IIGH was entrusted to conduct a workshop on Open Source Hospital Information Systems Development under the Malaysian Technical Cooperation Programme - Ministry of Foreign Affairs Malaysia. This programme is in line with UNU-IIGH's goal of information dissemination and capacity building in developing countries towards the achievement of the Millennium Development Goals, among which is accessible quality healthcare for everyone. The workshop was attended by 16 participants from 9 countries, namely Indonesia, Myanmar, Laos, the Philippines, Cambodia, Tajikistan, Sudan, Kenya and Morocco.

**Location**

Kuala Lumpur, Malaysia

**Contact**

Dr Nurhizam Safie

**Co-organizers**

MTCP Unit, Ministry of Foreign Affairs Malaysia

59) **Seminar; 12 - 14 September 2012: International Seminar on Provider Payment System: International Experience and Challenges for its Implementation in Indonesia** (public event)

Senior Research Fellow was invited as one of the speakers for the seminar to talk on the Payment Mechanism in Malaysia in the International Seminar on Provider Payment System. The seminar aimed to provide a deeper understanding on various provider payment mechanisms implemented in other countries and to serve as a guide in crafting policy reforms in payment mechanism in Indonesia within the context of National Social Security System (SJSN) 2004. The seminar was also conducted as a kick off activity in preparation towards achieving Universal Coverage and for the implementation of a single fund approach in managing health insurance through the enactment of Law No. 24/2011 on Social Security Agency, which a new PT Askes (Health Insurance Company) would be the main implementer.

**Location**

Jakarta, Indonesia

**Contact**

Prof Dr Syed Aljunid

60) **Training; 21 September 2012: Signing of Memorandum of Agreement with Hospital University Sains Malaysia (HUSM)**. (Public event)

A MOA was signed between UNU-IIGH and HUSM. The MOA was to facilitate a series of training workshops under the Capacity Building Programme for Development and Implementation of a Casemix System in HUSM. UNU-IIGH was represented by the Director and SRF.

**Location**

Penang, Malaysia

**Contact**

Dr Mohamed Salleh

61) **Workshop; 24 - 25 September 2012: Training Workshop on the Development and Implementation of Clinical Pathways**. (Public event)

This two-day workshop attracted a total of 20 participants from MOH, public hospitals, and academia. The objectives of the workshop were the following: to understand the basic

concepts of Clinical pathways;; to gain skills in the process of developing Clinical Pathways to identify the benefits as well as challenges and issues in implementing clinical pathways and to appreciate the outcome of the implementation of clinical pathways at UKMMC.

***Location***

UNU-IIGH, Kuala Lumpur, Malaysia

***Contact***

Dr Amrizal Muhammad Nur

62) **Workshop: 24 - 28 September 2012: Workshop 12: Finalization of New INA-CNG Tariff, IT Course and Meeting with the National Case-mix Centre (NCC).** (Public event)

The general objective of this workshop was to finalise the New INA-CBGs tariff. This 5-day workshop was conducted by SRF and RF of UNU-IIGH and was attended by seventeen (17) members of the National Center for Casemix (NCC) MOH, Indonesia. This workshop was an urgent request from the Head of the NCC in order for them to submit the new tariff to the decision makers for approval prior to submission to the Indonesian Parliament.

***Location***

Jakarta, Indonesia

***Contact***

Prof Dr Syed Aljunid

63) **Workshop: 30 Sep 2012 - 3 October 2012: Workshop 6: Coded Data Analysis in Hospital Universiti Sains Malaysia.** (Public event)

SRF, RF and a Casemix Consultant of UNU-IIGH conducted a workshop on coded data analysis at HUSM. 49 participants attended the workshop. These included all levels of staff from clinical and support department such as physicians, surgeons, paediatricians, ophthalmologists, optometricians, psychiatrists, neurosurgeons, pathologists, pharmacists, nurses, physiotherapists, finance officers and medical record officers.

***Location***

Kota Bharu, Kelantan, Malaysia

***Contact***

Prof Dr Syed Aljunid

64) **Conference/Symposium: 2 - 3 October 2012: 2nd International Public Health Conference 2012/19th National Public Health Conference.** (Public event)

This conference is one of the biggest conferences in Public Health in Malaysia. Dr Tsutsumi was invited as a guest speaker and made a presentation on "Global mental health for achieving MDGs and for post MDGs – perspectives from United Nations".

Dr Atsuro Tsutsumi delivered a paper entitled 'Global Mental Health for Achieving MDGs and for post MDGs – Perspectives from United Nations'.

***Location***

Kuala Lumpur, Malaysia

***Contact***

Dr Atsuro Tsutsumi

65) **Workshop; 8 - 11 October 2012: Trainers Training Workshop on Psychological First Aid (PFA).** (Public event)

National Institute of Mental Health (NIMH), Japan and UNU-IIGH jointly organized this training workshop. Certificates for Trainers of PFA were awarded to the participants after satisfactory completion of the workshop. Only those who possess the certificate can provide official training on PFA in Japan.

***Location***

Tokyo, Japan

***Contact***

Dr Atsuro Tsutsumi

66) **Conference/Symposium; 9 Oct 2012 - 9 November 2012: Indonesian Hospital Association (PERSI) Congress 2012.** (Public event)

Prof Syed Aljunid presented paper entitled 'INA-CBG for Sustainable Universal Coverage'.

***Location***

Jakarta, Indonesia

***Contact***

Prof Dr Syed Aljunid

67) **Conference/Symposium; 15 - 18 October 2012: The International Society for Environmental Epidemiology-East Asia Chapter (ISEE- EAC) 2012 Conference.** (Public event)

The main organizers of this conference are the United Nations University-International Institute for Global Health (UNU-IIGH) and the Malaysian Society for Environmental Epidemiology (MySEE). The programme began with a pre-conference workshop on Indoor Environment and Health-with Special Reference to East Asia on 15th October, followed by 2 days of the main conference and a day trip to Putrajaya. Besides Malaysia, 95 participants came from Taiwan, South Korea, the Philippines, Indonesia, Brunei, Iran, China and Japan. Apart from the keynote address, there were 6 plenary talks and over 50 free papers presented.

***Location***

Kuala Lumpur, Malaysia

**Contact**

Prof Dr Jamal Hisham Hashim

**Co-organizers**

Universiti Kebangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM) and the Malaysian Institute of Road Safety Research (MIROS)

68) **Conference/Symposium; 17 - 19 October 2012: 28th PCSI Conference.** (Public event)

Prof Syed Aljunid presented paper entitled 'UNU Grouper: Addressing the need of Casemix system in developing countries'. Prof Syed Aljunid also presented a paper entitled 'Role of International Groupers in Casemix System'. Two other papers entitled 'Casemix For Provider Payment in Indonesia: Knowledge, Perception and Experience of Healthcare Workers', 'Data quality related to ungroupable cases: A pilot study for pre-implementation of Casemix system in Hospital University Sains Malaysia' were also presented.

**Location**

Avignon, France

**Contact**

Prof Dr Syed Aljunid

69) **Workshop; 22 - 25 October 2012: Workshop 13: Special Meeting with National Case-mix Center (NCC), Stakeholders, AUSAID staff and IT Training Workshop** (Public event)

The general objective of this workshop was to finalize and to reconcile all pending issues pertaining to the tariff. Hence, a three-day special meeting was held with the NCC, stakeholders and AusAID and was attended by twenty-five (25) members of the NCC. The experts discussed the following topics: i) Unbundling in INA-CBG for Top-Up payment by Prof. Dr. Syed Aljunid and ii) Costly Procedure, Investigations, Drugs and Prostheses by the Dr Amrizal.

**Location**

Indonesia

**Contact**

Prod Dr Syed Aljunid & Dr Amrizal Muhammad Nur

70) **Training; 23 - 24 October 2012: Short Course on Open Source Hospital Information Systems Development.** (Public event)

UNU-IIGH conducted a two-day short course on Open Source Hospital Information Systems Development with the aim of building human resource capacity on Open Source Technology in developing countries. The course was attended by 47 participants, mainly from the Ministry of Health, Malaysia, public and private hospitals, universities as well as non-

governmental organisations. The focus of the short course was on functional and technical applications and development of OPTIMIST GNU Health, a hospital information system. The facilitators of this short course were among the experts from UNU-IIGH in the field of health economic and Casemix system, hospital information systems, hospital enterprise resource planning and business process in healthcare.

***Location***

Kuala Lumpur, Malaysia

***Contact***

Dr Nurhizam Safie

71) **2 - 3 November 2012: Informal Consultation with Member States and UN Agencies on a Development of Global Mental Health Action Plan 2013-2020** (Public event)

The World Health Assembly adopted Resolution WHA65.4 on “Global burden of mental disorders and the need for a comprehensive, coordinated response from health and social sectors at the country level”. In response to that, WHO started to work on the development of a draft on Global Mental Health Action Plan 2013-2020. Dr Tsutsumi was invited as an international expert to join the consultation meeting on to develop it.

***Location***

Geneva, Switzerland

***Contact***

Dr Atsuro Tsutsumi

72) **Conference/Symposium; 3 - 4 November 2012: The 27th Annual Conference of Japan Association for International Health.** (Public event)

Dr Koffi delivered a paper entitled 'Flood disasters in South East Asia: Lessons learned from the human and economic loss' and 'Assessment of the Expanded Programme on Immunization in a context of Socio-political crisis in Cote d'Ivoire in 2010'. Dr Tsutsumi delivered paper entitled 'Mental Health and Development: Integrating Mental Health into All Development Efforts including MDGs' and delivered a paper entitled 'Global Mental Health and the United Nations'.

***Location***

Okayama, Japan

***Contact***

Dr Atsuro Tsutsumi. Dr Koffi Isidore Kouadio

73) **Conference/Symposium: 3 - 4 November 2012: The 27th Annual Meeting of the Japan Association for International Health.** (Public event)

The Japan Association for International Health is the biggest and active professional and academic association on International Health. Dr Tsutsumi delivered an oral presentation on "Global Mental Health and the United Nations".

***Location***

Tokyo, Japan

***Contact***

Dr Atsuro Tsutsumi

74) **7 November 2012: MOU between UNU-IIGH and National Center of Neurology and Psychiatry(NCNP).Japan.** (Public event)

UNU-IIGH and NCNP signed a MOU to cooperate on several fields of mental health and for further collaboration. The Director Dr Mohamed Salleh and Dr Atsuro Tsutsumi from UNU-IIGH and the president of NCNP, Dr Higuchi and the Director, Dr Kim were in attendance. Upon request from NCNP, the Director Dr Salleh and Dr Tsutsumi delivered lectures on "The role and work of UNU-IIGH and UN and Mental Health".

***Location***

Tokyo, Japan

***Contact***

Dr Atsuro Tsutsumi

75) **Workshop; 20 - 22 November 2012: Workshop 7: Costing Data Analysis in Hospital Universiti Sains Malaysia (HUSM).** (Public event)

RF and a Casemix Consultant of UNU-IIGH conducted a workshop on costing data analysis at HUSM. A total of 45 invited participants including all levels of staff from clinical and support department such as physicians, surgeons, paediatricians, ophthalmologists, optometricians, psychiatrists, neurosurgeons, pathologists, pharmacists, nurses, physiotherapists, finance officers and medical record officers attended the workshop.

***Location***

Kota Bharu, Kelantan, Malaysia

***Contact***

Dr Amrizal Muhammad Nur



76) **Workshop: 21 - 22 November 2012: Third Asia Pacific Pharmacy Education Workshop, ITB Bandung, Indonesia 21-22nd November.** (Public event)

Director of UNU-IIGH and SRF attended this workshop. Director of UNU-IIGH presented a keynote paper in the Workshop entitled Quality Assurance and Accreditation Aspects of Pharmacy Education in Malaysia. SRF presented a plenary paper on 'Role of Pharmacists in Implementation of Casemix System/UNU-CBG in Provider Payment in Social Health Insurance'.

***Location***

Bandung, Indonesia

***Contact***

Prof Dr Syed Aljunid

***Co-organizers***

Management and Science University of Malaysia, Institute Technology Bandung, Indonesia and UNU-IIGH

77) **Workshop: 22 - 23 November 2012: National Case-mix Seminar at Universitas Andalas (UNAND).** (Public event)

SRF and RF conducted a workshop on INA-CBG costing methodology and presented a paper on 'Capacity building for Casemix implementation in developing countries' in the seminar session. A total of 145 participants attended the seminar. Most of them were from the MOH, private and public hospitals as well as academic institutions.

***Location***

Padang, Indonesia

***Contact***

Prof Dr Syed Aljunid

78) **Conference/Symposium: 29 - 30 November 2012: The First International Conference on Electronic Health 2012.** (Public event)

Prof Syed Aljunid and Dr. Nurhizam Safie attended this conference. Prof Syed Aljunid was invited as one of the panel members in the Round-table Group Discussion. The topic of the discussion was "State of Information Systems Integration in the Context of Patient-Centered Healthcare". Prof. Dr. Ali Reza Montazemi from the DeGroote School of Business, McMaster University, chaired the session. Professor Syed Aljunid also conducted a workshop entitled "Using the Casemix system for Healthcare Quality and Efficiency". Besides that, Dr. Nurhizam Safie presented a workshop on "Open Source Hospital Information Systems for Developing Countries".

***Location***

Tehran, Iran

**Contact**

Dr Nurhizam Safie

**Co-organizers**

Medical Council of Islamic Republic of Iran and UNU-IIGH

**79) Conference/Symposium: 4 - 5 December 2012: 6th Malaysia Software Engineering Conference. (Public event)**

Professor Syed Aljunid and Dr. Nurhizam Safie attended this conference. The theme of the conference was "Towards a Dynamic Society through sustainable & High Quality Software" and Prof Syed Aljunid was invited as the first keynote speaker. The keynote speech was entitled "Promoting the Use of Open Source Software in Health Systems of Developing Countries: Challenges and Opportunities". In addition to the keynote speaker session, Professor Syed Aljunid and Dr. Nurhizam organised a collaborative meeting with the representatives of the public universities to further discuss the research collaborative initiatives on open source healthcare information systems development.

**Associated Programme**

Information Technology in Health

**Location**

Bangi, Malaysia

**Contact**

Dr Nurhizam Safie

**Co-organizers**

Faculty of Information Science and Technology, Universiti Kebangsaan Malaysia (UKM) and UNU-IIGH

**80) 20 December 2012: Collaborative Research Meeting in Neurospective model for healthy longevity among Malaysian elderly. (Public event)**

UNU-IIGH in collaboration with Universiti Putra Malaysia, Universiti Kebangsaan Malaysia, Universiti Teknologi Mara and Ministry of Health Malaysia, conducted the above research funded by Ministry of Higher Education Malaysia under the Long Term Research Grant Scheme. UNU-IIGH was given the task to lead and conduct the sub-study on "Quantifying the Direct and Indirect Cost of Cognitive Impairment among the elderly in both community and institutional settings". Data will be collected from household surveys and costing analysis will be conducted in six selected hospitals and nursing homes in various part of Malaysia. This is a three-year project starting from June 2012- June 2015.

**Location**

Institute of Gerontology, UPM Serdang, Malaysia

**Contact**

Prof Dr Syed Aljunid

## PUBLICATIONS

1. David Baguma, Jamal H Hashim, Syed M Aljunid, Michael Hauser, Helmut Jung, Willibald Loiskandl (2012). Safe water, household income and health challenges in Ugandan homes that harvest rainwater. *Water Policy*, 14: 6. 977-990.
2. David Baguma, Jamal Hashim, Syed Aljunid (2012). Health care efficiency and climate change implications linked to reproductive health in developing countries. *BMC Health Services Research*, 12: 07. Doi: 10.1186 /1472-6963-12-S1-07.
3. David Baguma, Jamal H Hashim, Syed M Aljunid (2012). Health systems, policies and infant mortality in developing countries. *BMC Public Health*, 12: Doi:10.1186 /1471-2458-12-S2-A23
4. Syed Mohamed Aljunid, Samrit Srithamrongsawat, Wen Chen, Seung Jin Bae, Raoh-Fang Pwu, Shunya Ikeda, Ling Xu (2012). Health-Care Data Collecting, Sharing and Using in Thailand, China Mainland, South Korea, Taiwan, Japan, and Malaysia. *Value in Health*, 15: S 132-S138.
5. Kurubaran Ganasegaran, Sami AR Al-Dubai, Ahmed M Qureshi, Al-abeed Aa Al-abad, Rizal AM and Syed M Aljunid (2012). Social and psychological factors affecting eating habits among university students in a Malaysian medical school: a cross sectional study. *Nutrition Journal*, 11: 48: Doi: 10.1186/1475-2891-11-48.
6. Isidore K Kouadio, Syed Mohamed Aljunid and Hitoshi Oshitani (2012). Enhancing the response outcome of Infectious Disease treatment following natural Disasters: Letter to the Editor. *Expert Reviews Anti Infection Therapy*, 10(5) 531-532.
7. Harleen Kaur, Ritu Chauhan, Mohd. Afshar Alam, Syed Aljunid, and Mohd Salleh (2012). SpaGRID: A Spatial Grid Framework for High Dimensional Medical Databases in E. Corchado et al. (Eds.): HAIS 2012, Part I, Lecture Notes in Computer Science 7208: 690–704. © Springer-Verlag Berlin Heidelberg 2012.
8. Isidore K Kouadio, Syed Aljunid, Taro Kamigaki, Karen Hammad, Hitoshi Oshitani (2012). Infectious Diseases Following Disasters: Prevention and Control Measures. *Expert Reviews Anti Infection Therapy*, 10(1) 95-104.
9. Hasanain Faisal Ghazi, Zaleha Md Isa, Syed Aljunid, Shamsul Azhar Shah, Azmi Mohd Tamil and Mohammed A Abdalqader (2012). The negative impact

- of living environment on intelligence quotient of primary school children in Baghdad City, Iraq: a cross-sectional study. *BMC Public Health*, 12:562-569.
10. Nor Azlin MN, Noor Azah A, Sharifa Ezat A, Saperi S and Syed Aljunid (2012). Rehabilitation for patients after stroke in a tertiary hospital: is it early and intensive enough? *International Journal of Therapy and Rehabilitation*, 19(11): 603-609.
  11. Nor Azlin Mohd Nordin, Syed Mohamed Aljunid, Noor Azah Aziz, Amrizal Muhammad Nur and Saperi Sulung (2012). Direct Medical Cost of Stroke: Findings from a Tertiary Hospital in Malaysia. *Med J Malaysia*, 67 (5): 468-472.
  12. Ahmed Hassan Amara and Syed Mohamed Aljunid (2012). Local pharmaceutical production as means to improve access to essential medicines in developing countries. *International Journal of Pharmacy and Pharmaceutical Sciences*, 4 (4): 233-240.
  13. Hasanain Faisal Ghazi, Zaleha Md. Isa, Syed Aljunid, Azmi Mohd. Tamil and Mohammed A. Abdalqader (2012). Nutritional Status, Nutritional Habit and Breakfast Intake in Relation to IQ among Primary School Children in Baghdad City, Iraq *Pakistan Journal of Nutrition*, 11 (4): 379-382.
  14. Natra MS, Sharifa Ezat WP, Syed MA, Mohd Rizal MA and Saperi S (2012). Quality of Life in Malaysian Colorectal Cancer Patient: A Preliminary Result. *Asia Pacific Journal of Cancer Prevention*, 13 : 1-6.
  15. Andrea Ban, Aniza Ismail, Roslan Harun, Azahirafairud Abdul Rahman, Saperi Sulung and Syed Mohamed Aljunid (2012). Impact of clinical pathway on clinical outcomes in the management of COPD exacerbation. *BMC Pulmonary Medicine*, 12:27-35.
  16. Aniza Ismail, Saperi Sulung, Syed Mohamed Aljunid, Nor Hamdan Mohd Yahaya, Husyairi Harunarashid, Oteh Maskon, Andrea Ban, Roslan Harun, Ismail Mohd. Saiboon and Ikafaizura Mohd. Nor (2012). Clinical Pathways: Development and Implementation at a Tertiary Hospital in Malaysia. *International Journal of Public Health Research*, 2 ( 2): 153-160.
  17. Syed Aljunid (2012). Health leadership programme for universal coverage in developing countries: Roles of UNU-IIGH. *Journal of Community Health*, Supplement (1): 8.
  18. Natrah MS, Sharifa Ezat WP, Syed Aljunid, Mohd Rizal AM, Saperi S, Ismail S, Fuad I and Muhd Azrif MA (2012). Economic evaluation of monoclonal antibody in the management of colorectal cancer. *Journal of Community*

Health, Supplement (1): 61.

19. Syed Abdul Mutalib Al Junid, Syed Aljunid, Saperi Sulong, Syed Mohamad Hamzah, Amrizal Muhammad Nur and Hasrul Reeza Mustafa (2012). Cloud computing: Feasibility of developing web-based UNU Casemix Grouper. In proceeding of BEIAC 2012 - 2012 IEEE Business, Engineering and Industrial Applications Colloquium, :399-402.
20. Syed Aljunid (2012). Developing sub-acute, non-acute and special groups in the universal grouper. BMC Health Services Research, 12(Suppl 1):13.
21. Harleen Kaur, Ritu Chaihan and Syed Mohamed Aljunid (2012). Data mining cluster analysis on the influence of health factors in Casemix data. BMC Health Services Research, 12(Suppl 1):03.
22. Namaitijian Maimaiti , Zafar Ahmed, Amrizal M Nur, Zaleha Md Isa, Saperi S and Syed Aljunid (2012). Estimating clinical and economic burden of pneumococcal meningitis in Malaysia using Casemix data. BMC Health Services Research, 12(Suppl 1):04.
23. Azam Rahimi, Saperi Sulong, Mohamed Amin Embi and Syed Mohamed Aljunid (2012). Evaluation of introduction to UNU-Casemix grouper & IT in Casemix system workshop for health staff in Indonesia. BMC Health Services Research, 12(Suppl 1):05.
24. David Baguma, Jamal Hisham Hashim and Syed Mohamed Aljunid (2012). Health care efficiency and climate change implications linked to reproductive health in developing countries. BMC Health Services Research, 12(Suppl 1):07.
25. Irwan Saputra, Syed Mohamed Aljunid and Amrizal M Nur (2012). Development of package payment based on UNU-CBGs Casemix system for provider payment in Aceh Health Insurance, Indonesia. BMC Health Services Research, 12(Suppl 1):08.
26. Kamal Kasra, Amrizal M Nur and Syed Mohamed Aljunid (2012). The impact of Casemix system on quality of patient care in a Class B hospital in west Sumatera Province, Indonesia. BMC Health Services Research, 12(Suppl 1):09.
27. Reeza H, Zafar A, Hamzah AJ and Syed Aljunid (2012). Using alternative programming algorithms and techniques for optimizing performance of the Casemix software. BMC Health Services Research, 12(Suppl 1):010.
28. Sharifa Ezat WP, Azimatun Noor Aizuddin, Zakiah Zainuddin, Mohd Rizal Abd Manaf and Syed Aljunid (2012). Catastrophic Health Expenditure and its

- influencing factors in Malaysia. BMC Health Services Research, 12(Suppl 1):P2.
29. Natrah MS, Sharifa Ezat, Syed M Aljunid, Mohd Am Rizal, Saperi S, Fuad I and Muhd MA Azrif (2012). Economic evaluation of monoclonal antibody in the management of colorectal cancer in Malaysia. BMC Health Services Research, 12(Suppl 1):P3.
  30. Noraziani Khamis, Sharif Ezat WP, Syed Aljunid and Zafar Ahmed (2012). A comparative study of cost and quality of life among Skeletal Related Events (SRE) and non-SRE among breast and prostate cancer patients in Malaysia. BMC Health Services Research, 12(Suppl 1):P4.
  31. Aznida FAA, Nor Azlin MN, Amrizal MN, Saperi S and Syed Aljunid (2012). The cost of treating an acute ischaemic stroke event and follow-up at a teaching hospital in Malaysia: a Casemix costing analysis. BMC Health Services Research, 12(Suppl 1): P6.
  32. Saad Ali Jadoo Alazawi, Syed Aljunid, Seher Nur Sulkus, Zafar Ahmed and Sharifa Ezat WP (2012). Peoples' expectations from healthcare providers – a Turkish perspective. BMC Health Services Research, 12(Suppl 1):P7.
  33. Tuti N Mohd-Dom, Syed Aljunid, Rizal M Manaf, Khairiyah A Muttalib and Ahmad SM Asari (2012). Periodontal status and provision of periodontal services in Malaysia: are we meeting population needs? BMC Health Services Research, 12(Suppl 1):P8.
  34. Nor Azlin Mohd Nordin, Amrizal M Nur, Saperi Sulong and Syed Aljunid (2012). Estimating cost of in-patient medical care for stroke using Casemix data. BMC Health Services Research, 12(Suppl 1):P10.
  35. Roszita Ibrahim, Sa'adon Samian, Mzali MZ, Amrizal MN, Syed M Aljunid (2012). Cost of Magnetic Resonance Imaging (MRI) and Computed Tomography (CT) scan in UKMMC. BMC Health Services Research, 12(Suppl 1):P11.
  36. Aznida Firzah Abdul Aziz, Nor Azah Aziz, Saperi Sulong, and Syed Mohamed Aljunid (2012). The post discharge stroke care services in Malaysia: a pilot analysis of self-reported practices of family medicine specialists at public health centres. BMC Public Health, 12(Suppl 2):A1.
  37. Nor Azlin Mohd Nordin, Noor Azah Aziz, Saperi Sulong and Syed Mohamed Aljunid (2012). Home-based carer-assisted therapy for people with stroke: findings from a randomised controlled trial. BMC Public Health, 12(Suppl 2):A2.

38. Tuti Ningseh Mohd Dom, Syed Mohamed Aljunid, Mohd Rizal Abd Manaf, Khairiyah Abd Muttalib, Ahmad Sharifudin Mohd Asari, Yuhaniz Ahmad Yaziz, Noorlin Ishak, Hanizah Abd Aziz, and Nordin Kasan (2012). Patient-reported outcomes after one year of periodontal treatment at public specialist dental clinics in Peninsular Malaysia. *BMC Public Health*, 12(Suppl 2):A4.
39. Nor Azlin Mohd Nordin, Noor Azah Aziz, Saperi Sulong, and Syed Mohamed Aljunid. (2012). Function and quality of life following stroke rehabilitation: have our stroke patients gained optimum recovery? *BMC Public Health*, 12(Suppl 2):A7.
40. Isidore Koffi Kouadio, Hasanain Faisal Ghazi and Syed Mohamed Aljunid (2012). Human impact and financial loss of floods in Southeast Asia, from 2007 to 2011. *BMC Public Health*, 12(Suppl 2):A9.
41. Arpah Abu Bakar, Angappan Regupathi, Syed Mohamed Aljunid and Mohd Azahadi Omar (2012). Factors affecting demand for individual health insurance in Malaysia. *BMC Public Health*, 12(Suppl 2):A10.
42. Isidore Koffi Kouadio, Hasanain Faisal Ghazi, Namaitijiang Maimaiti, Azam Rahimi and Syed Mohamed Aljunid (2012). Potential of mobile technology in meeting the public health needs in developing countries. *BMC Public Health*, 12(Suppl 2):A13.
43. Shanthi Varatharajan, M Majdah, Syed Aljunid, Won-Sun Chen, A Mukarramah, Chee-Meng Yong (2012). Cervical cancer in Malaysia: can we improve our screening and preventive practice? *BMC Public Health*, 12(Suppl 2):A17.
44. Hasanain Faisal Ghazi, Zaleha Md Isa, Mohammed A AbdalQader, Isidore Koffi Kouadio, Azam Rahimi, Namaitijiang Maimaiti and Syed Mohamed Aljunid (2012). Carbonated drinks, chips intake and their relation to Intelligence Quotient (IQ) among primary school children in Baghdad city, Iraq. *BMC Public Health*, 12(Suppl 2):A19.
45. Azuana Ramli, Syed Mohamed Aljunid, Saperi Sulong and Faridah Aryani Mohd Yusof (2012). Selection of HMG-coenzyme A reductase inhibitors using multi-attribute scoring tool. *BMC Public Health*, 12(Suppl 2):A21.
46. David Baguma, Jamal Hisham Hashim and Syed Mohamed Aljunid (2012). Health systems, policies and infant mortality in developing countries. *BMC Public Health*, 12(Suppl 2): A23.
47. Gulifeiya Abuduxike, Syed Mohamed Aljunid and Saperi Sulong (2012). Main challenges in developing biotechnology industry in Malaysia: perspectives

- from the innovative biotechnology firms. BMC Public Health, 12(Suppl 2):A25.
48. Tuti Ningseh Mohd Dom, Shahida Mohd Said, Aznida Firzah Abdul Aziz, Mohd Rizal Abdul Manaf and Syed Mohamed Aljunid (2012). Periodontal disease as an indicator of chronic non-communicable diseases: evidence from literatures. BMC Public Health, 12(Suppl 2):A26.
  49. Namaitijiang Maimaiti, Zaleha Md Isa, Azam Rahimi, Isidore Koffi Kouadio, Hasanain Faisal Ghazi and Syed Mohamed Aljunid (2012). Incidence of bacterial meningitis in South East Asia region. BMC Public Health, 12(Suppl 2):A30.
  50. Nor Haty Hassan, Syed Mohamed Aljunid and Peter Davis (2012). Information needs as perceived by caregivers and patients following stroke: a qualitative systematic review. BMC Public Health, 12(Suppl 2):A36.
  51. Azimatun Noor Aizuddin, Saperi Sulong and Syed Mohamed Aljunid (2012). Factors influencing willingness to pay for healthcare. BMC Public Health, 12(Suppl 2):A37.
  52. Natrah Mohd, Sharifa Ezat, Syed Mohamed Aljunid, Mohd Rizal Abdul Manaf, Saperi Sulong, Ismail Sagap and Muhd Azrif (2012). Cost analysis of colorectal cancer (CRC) management in UKM Medical Centre using clinical pathway. BMC Public Health, 12(Suppl 2):A40.
  53. Er AC, Toriman ME, Rozita Hod, Sharifah Mastura Syed Abdullah, Mazrura Sahani, Hidayatulfathi Othman, Saperi Sulong, Amrizal Muhd Nur, Nor Rohaizah Jamil & Lee Qiao Yun (2012). A costing methodology for dengue. The Social Sciences, 7(1): 20-23.
  54. Gulifeya Abuduxike and Syed Mohamed Aljunid (2012). Development of Health Biotechnology in Developing Countries. Can Private Sector be the Prime movers? Biotechnology Advances. Doi: 10.1016/j.biotechadv.2012.05.002.
  55. Isidore K Kouadio, Syed Aljunid, Taro Kamigaki, Karen Hammad, Hitoshi Oshitani (2012). Infectious Diseases Following Disasters: Prevention and Control Measures. Expert Reviews Anti Infection Therapy, 10(1) 95-104.
  56. Natra MS, Sharifa Ezat WP, Syed MAJunid, Mohd Rizal MA and Saperi S (2012). Quality of Life in Malaysian Colorectal Cancer Patient: A Preliminary Result. Asia Pacific Journal of Cancer Prevention, 13 : 1-6.
  57. Hasanain Faisal Ghazi, Zaleha Md. Isa, Syed Aljunid, Azmi Mohd. Tamil1 and Mohammed A. Abdalqader (2012). Nutritional Status, Nutritional Habit and



- Breakfast Intake in Relation to IQ among Primary School Children in Baghdad City, Iraq . *Pakistan Journal of Nutrition*, 11 (4): 379-382.
58. Syed Aljunid, Gulifeiya Abuduxike, Zafar Ahmed, Saperi Sulong, Amrizal Muhd Nur and Adrian Goh (2011). Impact of routine PCV7 (Prevenar) vaccination of infants on the clinical and economic burden of pneumococcal disease in Malaysia. *BMC Infectious Diseases*, 11:248-259.
59. Viroj Tangcharoensathien, Walaiporn Patcharanarumol, Por Ir, Syed Mohamed Aljunid, Ali Ghufon Mukti, Kongsap Akkhavong, Eduardo Banzon, Dang Boi Huong, Hasbullah Thabrany and Anne Mills (2011). Health Financing Reforms in South East Asia: challenges in achieving universal coverage. *Lancet*, 377: 863-873.
60. Giang Vinh Le, Ken Takahashi, Eun-Kee Park, Vanya Delgermaa, Chulho Oak, Ahmad Munir Qureshi and Syed Mohamed Aljunid (2011). Asbestos use and asbestos-related diseases in Asia: Past, present and future. *Respirology*, 16: 767-775.
61. SM Aljunid, SM Hamzah, SA Mutalib, AM Nur, N Shafie and S Sulong (2011). The UNU- CBGs: development and deployment of a real international open source Case-mix grouper for resource challenged countries. *BMC Health Services Research*, 11 (Suppl 1):A4 <http://www.biomedcentral.com/1472-6963/11/S1/A4> .
62. SM Aljunid, A Ismail and S Sulong (2011). Can Clinical Pathways enhance the implementation of a Case-mix system? A case study in a teaching hospital in Malaysia. *BMC Health Services Research*, 11(Suppl 1):A6 <http://www.biomedcentral.com/1472-6963/11/S1/A46>.
63. Maihebureti Abuduli, Sharifa Ezat WP, Syed Aljunid. (2011). Role of Traditional and Complementary Medicine In Universal Coverage. *Malaysian Journal of Public Health Medicine*, 11(2): 1-5.
64. Sharifa Ezat W.P Norin Rahayu Samsuddin, Sharifah Noor Akmal Syed Hussain, Shamsul Azhar Shah and Syed Mohamed Aljunid (2011). HPV Positivity and its' Influencing Factors among Invasive Cervical Cancer Women in Malaysia. *International Journal of Public Health Research*,1(1).
65. Aniza I, Putri N, Azimatun Noor A, Amrizal M, Saperi S, Aljunid SM. (2011). Comparing Cost For Elective Lower Segment Caesarean Section Costing Using Top-Down And Activity Based Costing Methods. *Malaysian Journal of Public Health Medicine*, 11(1): 36-46.

66. Wang H-S, Sthiannopkao S, Du J, Chen Z-J, Kim K-W, Mohamed Salleh M Y, Jamal H H, Wong C K-C and Wong M-H (2011). Daily intake and human risk assessment of organochlorine pesticides (OCPs) based on Cambodian market basket data. *J Hazard. Mater*, 192: 1441-1449.

## MANUALS

1. Syed Aljunid, Amrizal M Nur, Zafar Ahmed, Sharifa Ezat, Syed Hamzah Aljunid, Hasrul Reeza and Saperi Sulong (2012). UNU-CBG Grouper v 2.0 User Manual for Indonesia Case Base Group (INA-CBG).
2. Syed Aljunid, Amrizal M Nur, Zafar Ahmed, Sharifa Ezat, Syed Hamzah Aljunid, Hasrul Reeza and Saperi Sulong (2012). Clinical Coding Manual for Indonesia Case Base Group (INA-CBG).
3. Syed Aljunid, Amrizal M Nur, Zafar Ahmed, Sharifa Ezat, Syed Hamzah Aljunid, Hasrul Reeza and Saperi Sulong (2012). Manual on Clinical Costing for Indonesia Case Base Group (INA-CBG).
4. Syed Aljunid, Amrizal M Nur, Zafar Ahmed, Sharifa Ezat, Syed Hamzah Aljunid, Hasrul Reeza and Saperi Sulong (2012). Source code of UNU Grouper for Indonesia Case Base Group (INA-CBG).
5. Syed Aljunid, Amrizal M Nur, Zafar Ahmed, Sharifa Ezat, Syed Hamzah Aljunid, Hasrul Reeza and Saperi Sulong (2012). UNU-CBG Grouper Logic and Definition Manual for Indonesia Case Base Group (INA-CBG).

## BOOKS

1. Jamal H H and Zailina H (2012). Global environmental health governance for sustainable development. In J.A. Puppim de Olivera (Ed.). *Green economy and good governance for sustainable development: Opportunities, promises and concerns*. Tokyo: UNU Press.
2. WHO, WTI, WVI. "Psychological First Aid: Guide for Field Workers. (2011). National Institute of Mental Health, Tokyo. 2012. (Translation)